Pre-Final Design Concept Report

INTERSTATE 10 NEAR TERM IMPROVEMENTS
(SR 143 – SR 202L, Santan/South Mountain)

VOLUME 2 OF 3

APPENDICES A - G

ADOT CONTRACT NO. 2005-026
PROJECT NO. 010 MA 153 H8768 01L
FEDERAL NO. 010-C(213)S

Prepared For:

Arizona Department of Transportation

Prepared By:

AECOM

2777 E. Camelback Road, Suite 200
Phoenix, Arizona 85016

ON THE MOVE
PARTNERS IN PROGRESS

JANUARY 2016

APPENDIX A

SUMMARY OF COMMENTS

INTERSTATE 10 NEAR TERM IMPROVEMENTS
(SR 143 – SR 202L, Santan/South Mountain)
FEDERAL ID NO. 010-C(213)S
TRACS NO. 010 MA 153 H8768 01L

INITIAL DESIGN CONCEPT REPORT REVIEW COMMENTS

ACTION CODES: A = WILL COMPLY *B = CONSULTANT TO EVALUATE
**C = ADOT TO EVALUATE *D = DESIGN TEAM RECOMMENDS NO FURTHER ACTION

* REQUIRES A WRITTEN EXPLANATION BY CONSULTANT/DESIGNER
** REQUIRES FINAL DISPOSITION

ITEM NO.	DWG, SHT, PAGE NO.	COMMENT	DISPOSITION INIT.	DISPOSITION FINAL	RESPONSE
		Ken Akoh-Arrey, ADOT Roadway Drainage			
		Initial Design Concept Report			
1	General	I have no further comments on the IDCR.	A	A	
		Glenn Gaelick, ADOT Roadway Design			
		Initial Design Concept Report			
1	General	No comment.	A	A	
		Amjad Alzubi, ADOT Bridge Group			
		Initial Design Concept Report			
1	General	I don't have any comments on the Initial DCR.	A	A	
		David Riley, ADOT Transportation Technology Group			
		Initial Design Concept Report			
1	Dwg. T-1.2	**WB CD Ramp 'T-1':** Please consider reconfiguring this ramp from a tapered entrance to a parallel entrance design to allow the entrance to operate more efficiently.	A	A	We have reconfigured this ramp to enter westbound I-10 with a "lane-add" configuration by reducing the median shoulder width slightly, and reducing the general-purpose lane widths to 11'. The reduced lane and median shoulder widths would extend to approximately 36th Street, where the proposed striping would match the existing conditions (previous restriping on WB I-10 between 36th Street and the I-10/I-17 TI.

INTERSTATE 10 NEAR TERM IMPROVEMENTS
(SR 143 – SR 202L, Santan/South Mountain)
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INITIAL DESIGN CONCEPT REPORT REVIEW COMMENTS (continued)

ITEM NO.	DWG, SHT, PAGE NO.	COMMENT	DISPOSITION INIT.	DISPOSITION FINAL	RESPONSE
		David Riley, ADOT Transportation Technology Group (continued)			
		Initial Design Concept Report			
2	Dwg. T-1.4	**EB CD-1 Ramp:** Is there a possibility of moving this ramp approximately ¼ mile to the south? The location of this ramp could possibly allow traffic on the EB C-D Road to weave across the Ramp 'S-E' traffic to access eastbound I-10.	D	D	One of the goals of this project is to implement these operational improvements without impacting the Fairmont Commerce Center property located west of I-10 and south of Fairmont Drive. The current design places the eastbound C-D Road (on retaining wall) adjacent to the existing right-of-way line. Shifting the ramp further to the south would require the acquisition of new right-of-way from this property, along with the relocation of a number of existing utilities currently located immediately west of the existing right-of-way line. Additional traffic control measures will be evaluated during final design to discourage the weaving movement mentioned in this comment.
3	Dwg. T-1.7	**WB C-D Road Exit Ramp/Baseline Road Exit Ramp:** Consider revising the Baseline Road exit from a tapered exit to a parallel exit configuration, or as a mandatory exit from an auxiliary lane (that would start at the Elliot Road entrance ramp.	A	A	The Baseline Road exit will be revised to a parallel exit configuration. The parallel exit will extend upstream approximately ¼ mile, which will allow the traffic destined to Baseline Road to enter the parallel exit lane, leaving the two outside general-purpose lanes to depart I-10 (to the WB C-D Road) with a two lane mandatory exit. Three general-purpose lanes and one HOV lane will continue to the north on the I-10 mainline.
4	Dwg. T-1.10	**Eastbound I-10 Mainline/Elliot Road Entrance Ramp:** Consider revising the lane configuration to extend five general-purpose lanes to the south to the Warner Road exit ramp. The outside general-purpose lane would then depart the mainline as a mandatory exit from the outside general-purpose lane. The Elliot Road entrance ramp would then be a parallel entrance. This modification may provide additional capacity between Elliot Road and Warner Road.	D	D	The current design matches ADOT's current methodology for lane transitions departing a system interchange. We also would not typically drop a mainline general-purpose lane into a service interchange exit ramp.

INTERSTATE 10 NEAR TERM IMPROVEMENTS
(SR 143 – SR 202L, Santan/South Mountain)
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INITIAL DESIGN CONCEPT REPORT REVIEW COMMENTS (continued)

ITEM NO.	DWG, SHT, PAGE NO.	COMMENT	DISPOSITION INIT.	DISPOSITION FINAL	RESPONSE
		David Riley, ADOT Transportation Technology Group (continued)			
		Initial Design Concept Report			
5	Dwg. T-1.15	**I-10/US60 TI Ramp 'N-E' Entrance onto Eastbound US 60:** Consider providing a continuous two lane directional ramp for Ramp 'N-E'. This could be accomplished by dropping the outside lane on Ramp 'S-E' prior to the Ramp 'N-E' entrance. This would provide additional capacity on Ramp 'N-E' and would likely not impact the operations on Ramp 'S-E'.	A	A	We will make this adjustment to the design concept.
		Rados Gluscevic, ADOT Traffic Group			
		Initial Design Concept Report			
1	T-1.3	**I-10 EB C-D Road:** Remove sign " 60 East, Baseline Road, Guadalupe 1 ½" at approx. Sta. 8110+00	A	A	
2	T-1.3	**I-10 EB C-D Road:** Move sign structure with the signs – "60 East Mesa-Globe, Exit (Down Arrow) Only", "East Baseline Road, Guadalupe Road, (Down arrow)", and "LEFT" exit panel at approx. Sta. 8118+00 to 8110+00. Change the legend of the 2nd sign to "I-10 East, TUCSON, (down arrow)". Remove "LEFT" exit sign.	A	A	
3	T-1.3	**I-10 EB C-D Road:** Add a supplemental sign at approx. Sta. 8120+00, "Baseline Road, Guadalupe Road, Right Lane"	A	A	
4	T-1.4	**I-10 EB:** Remove signs – " Baseline Road, Guadalupe, ¼ mile", "Exit 155", "LEFT" on sign structure at Sta. 8146+00	A	A	
5	T-1.3 and T-1.4	**I-10 EB:** Remove the "LEFT" or change to "Left Exit xxx" from the signs at approx. Stations, 8115+00 and 8136+00	A	A	
6	T-1.15 and T-1.16	**US60 WB:** Remove the "LEFT" exit sign from the signs at approx. Stations, 125+00, 134+00, 150+00. For sign at Sta. 150+00 use "EXIT XX" instead.	A	A	
7	T-1.6	**I-10 EB:** Add signs – " I-10 East, Tucson" (with down arrow)" to sign structure at approx. Sta. 8197+50; Remove "Exit155" sign	A	A	
8	T-1.5	**I-10 EB C-D Road:** Remove signs and structure at approx. Sta. 8187+50; "Baseline Road, Guadalupe, ¼ mile", "Exit 155"	A	A	
9	General	**General:** For all signs for "Rental Car Return" remove the symbols for "Car" and "Key"	A	A	
10	T-1.7	**I-10 Median:** Add sequential sign at approx. Sta. 8240+00, "Elliott Road xx, Warner Road xx" for EB, and "Rental Car Return" sign for WB.	A	A	
11	T-1.3	**I-10 EB & WB C-D Road:** Add a supplemental sign at approx. Sta. 8120+00, "Baseline Road, Guadalupe Road, Right Lane"	A	A	

INTERSTATE 10 NEAR TERM IMPROVEMENTS
(SR 143 – SR 202L, Santan/South Mountain)
FEDERAL ID NO. 010-C(213)S
TRACS NO. 010 MA 153 H8768 01L

INITIAL DESIGN CONCEPT REPORT REVIEW COMMENTS (continued)

ITEM NO.	DWG, SHT, PAGE NO.	COMMENT	DISPOSITION INIT.	DISPOSITION FINAL	RESPONSE
		Rados Gluscevic, ADOT Traffic Group (continued)			
		Initial Design Concept Report			
12	T-1.12	**I-10 EB, Warner Road Bridge Structure:** Remove signs "Left Exit 161C", "202 East 2 miles". There is an existing DMS in the bridge that should be shown.	A	A	
13	T-1.12	**I-10 EB, Warner Road Bridge Structure:** Remove text "Ray Rd ¾" from other sign and move sequential sign to median at approx. Sta. 8400+00	A	A	Will also change the distance
14	T-1.8	**I-10 WB, Guadalupe Road Bridge Structure:** Remove Text "52nd St" from sign and replace with text "Mesa-Globe"	A	A	
15	T-1.7	**I-10 WB , Approx. Sta. 8228+00:** Remove Text "52nd St" from sign and replace with text "Mesa-Globe" for the sign in the middle on the structure	A	A	
16	T-1.7	**I-10 WB , Approx. Sta. 8234+00:** Remove existing signs "Exit 154", "60 East, Mesa-Globe, Second Right". Add Supplemental Sign "52nd St, Tempe, Diablo Stadium".	A	A	
17	T-1.9	**I-10 WB , Approx. Sta. 8295+00:** Add Sign "143 North , Sky Harbor (plane symbol)", "Exit XX"	A	A	
18	General	**Exit panels on the C-D Roads**	A	A	We will add within the DCR text that this design consideration needs to be determined by ADOT during final design.
19	T-1.2	**I-10 WB:** Move signs "10, 60, West, Phoenix" and "143 North to (airplane symbol)" from Sta. 8094+00 to approx. Sta. 8098+50. Remove panel "LEFT"	A	A	
20	T-1.6	**I-10 WB:** Replace sign "Exit 154" with "Exit xx" for signs at approx. Sta. 8190+00 and approx. Sta. 8200+00	A	A	
21	T-1.16	**US60 WB:** Put a sign " Broadway Road, 52nd Street, 143 to (airplane symbol)" one mile east of approx. Sta. 141+00	A	A	
22	T-1.4	**I-10 WB CD Road, Approx. Sta. 8135+00:** Remove "Tempe, Diablo Stadium", "Exit 153B"	A	A	
23	T-1.3	**I-10 WB:** Before Exit 154 split locate a sign "52nd Street, Tempe Diablo Stadium, Next Right"	A	A	
24	General	**General:** Review text sizes for signs. Signs on C-D roads can have a text size of 13.3". Mainline text size has to be minimum 16"	A	A	Will reduce C-D Roads sign size
25	T-1.2	**I-10 WB, Sta. 8085+00:** Consider installing sequential sign in the median. Add HOV sign at Sta. 8100+00 on the back or delete sign. It doesn't work with the geometry.	A	A	Will delete the sign

INTERSTATE 10 NEAR TERM IMPROVEMENTS
(SR 143 – SR 202L, Santan/South Mountain)
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INITIAL DESIGN CONCEPT REPORT REVIEW COMMENTS (continued)

ITEM NO.	DWG, SHT, PAGE NO.	COMMENT	DISPOSITION INIT.	DISPOSITION FINAL	RESPONSE
		Rados Gluscevic, ADOT Traffic Group (continued)			
		Initial Design Concept Report			
26	General	**I-10 WB & EB, Warner Road Bridge Structure:** Consider removing "Guadalupe" destination from signs.	D	D	Will need to be discussed further and decided during final design
27	T-1.16 & T-1.17	**US60 WB:** Modify all signs with "Broadway Rd, 52nd St, 143 to (airport symbol)" should switch order to show the airport first.	A	A	
28	T-1.7	**I-10 WB:** All signs for Exit 154 split should have "Mesa-Globe" instead of "52nd St".	A	A	
29	T-1.16 & T-1.17	**US60:** Consider replacing existing signs if adding a new sign due to non-compliance to MUTCD of other signs.	A	A	Will replace sign panels within the project limits.
30	T-1.13	**I-10 EB:** Move sign "Ray Road, Exit (down arrow)" to approximate Sta. 8388+00.	A	A	
31	T-1.9	**I-10 EB:** Remove "3/4 MILE" from sign at approximate Sta. 8300+00.	A	A	
		Abishek Dayal, Valley Metro			
		Initial Design Concept Report			
1	Page 7	Last paragraph, right had side: Change BRT to RAPID.	A	A	
2	Page 8	5th paragraph, left hand side: Change (532) to (533).	A	A	
3	Page 8	8th paragraph: No funding is committed for the route, suggest removing.	A	A	
4	Page 8	9th paragraph: This route is not happening, please remove.	A	A	
		Jami Erickson, City of Phoenix Water Services			
		Initial Design Concept Report			
1	Page 9	We have reviewed the IDCR and have no major comments. Only minor comment – can you please correct the spelling of my name in Table 1?	A	A	

INTERSTATE 10 NEAR TERM IMPROVEMENTS
(SR 143 – SR 202L, Santan/South Mountain)
FEDERAL ID NO. 010-C(213)S
TRACS NO. 010 MA 153 H8768 01L

INITIAL DESIGN CONCEPT REPORT UTILITY COMPANY REVIEW COMMENTS

ACTION CODES: A = WILL COMPLY *B = CONSULTANT TO EVALUATE
**C = ADOT TO EVALUATE *D = DESIGN TEAM RECOMMENDS NO FURTHER ACTION

* REQUIRES A WRITTEN EXPLANATION BY CONSULTANT/DESIGNER
** REQUIRES FINAL DISPOSITION

ITEM NO.	DWG, SHT, PAGE NO.	COMMENT	DISPOSITION INIT.	DISPOSITION FINAL	RESPONSE
		Jolie Donahue, SRP Customer Improvements			
		Initial Design Concept Report			
1	General	SRP has multiple potential conflicts in the area, exact locations to be determined with next review. A Land cost disposition memo regarding the location of poles along W. Fairmont Drive & I-10 was sent for this one specific location on June 2, 2015 per request. All additional land documents will be sent after future reviews.	A	A	
		Keith Pellien, SRP Line Asset Management			
		Initial Design Concept Report			
1	Volume 1, Page 9	On Page 9, the Utility Contacts shows the wrong address for Keith Pellien & Floyd Hardin. Please correct and also please remove Cincie Bannerman contact information for this project as she is not assigned to it.	A	A	
2	Volume 3, Sheets T-2.5, T-2.6, T-2.7, T-2.9, T-2.14,T-2.15	All proposed NEW highway street lights must meet electrical clearances located at the various SRP Transmission crossings located along the project.	A	A	
3	Volume 3, Sheet T-2.6	South of Baseline Rd on the east side of I-10, there are (3) 3' conduits being proposed that are in the area of a 230kV pole. Please show a detail of the proposed trench/bore, depth and the distance from the 230 kV pole (P-135). This will be need to be evaluated because of the proposed type of work and the stability of the 230kV pole.	A	A	

APPENDIX B

LOCAL AGENCY CORRESPONDENCE

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APPENDIX C

DESIGN EXCEPTION REQUEST

U.S. Department of Transportation
Federal Highway Administration

ARIZONA DIVISION

4000 North Central Avenue
Suite 1500
Phoenix, Arizona 85012-3500
(602) 379-3646
Fax: (602) 382-8998
http://www.fhwa.dot.gov/azdiv/index.htm

July 18, 2016

In Reply Refer To:

NHPP-010-C(213)S, H8768
I-10, SR 143 to SR 202L Santan Fwy
Near Term Improvements

Mr. Greg Byres, State Roadway Engineer
Arizona Department of Transportation
1801 W. Jefferson, Suite 120, MD 102M
Phoenix, Arizona 85007

Dear Mr. Byres:

We have received the Arizona Department of Transportation's letter dated June 3, 2016 requesting approval of design exceptions from the Federal Highway Administration for the subject project. The deficiencies requiring design exceptions are the following:

1. High Occupancy Vehicle (HOV) and general-purpose lane widths for the 1-10 westbound mainline between 36th Street and Broadway Road;
2. Median shoulder width for the 1-10 westbound mainline at the 40th Street Tl Underpass (UP) and the 48th Street UP;
3. Westbound C-D Road shoulder widths at the Broadway Road Tl UP;
4. Vertical curve stopping sight distance (sag) on the eastbound C-D Road at one location;
5. Vertical curve stopping sight distance (sag) on the l-10/US60 Tl Ramp 'W-N' at one location;
6. Horizontal stopping sight distance on the eastbound C-D Road at one location;
7. Horizontal stopping sight distance on the westbound C-D Road at one location;
8. Horizontal stopping sight distance on the westbound C-D Road Ramp 'T-2' at one location;
9. Horizontal stopping sight distance on the l-10/US60 Tl Ramp W-N' at one location;
10. Horizontal stopping sight distance on the 1-10/US60 Tl Ramp 'N-E' at one location;
11. Horizontal stopping sight distance on the new eastbound Baseline Road Ramp 'F' at two locations.

We have fully reviewed and considered the request for design exceptions and the supporting information. The substandard lane widths, median shoulder widths, C-D road shoulder widths and stopping sight distances that would result would most likely not be corrected for a consider time period or may remain permanently . However, we agree that it is not practical or prudent to require replacement of major bridge structures, major drainage facilities, or to acquire substantial new right-of-way in order to achieve full design standards throughout. Further, these

deficiencies are relatively minor and are not out of character with other segments of the Freeway System in Metropolitan Phoenix that has had additional widening in an urban area. Lastly, this project will improve system operations and safety, and will increase system reliability. The benefits of these operational improvements to the traveling public outweigh the disadvantages of creating minor reductions in travel lanes, sight distances and shoulder widths that are described.

For the reasons above, the FHWA concurs with the request for design exceptions on this project. Having granted our concurrence, we urge ADOT to consider including the mill and fill of a new friction course to better delineate lane lines on this project. Of concern is that delineation will be critical in this segment, and any remaining stripe obliteration marks may be a distraction to drivers.

If you have any question regarding this design exception approval, please contact Aryan Lirange at 602-382-8973.

Sincerely yours,

Thomas P. Petterson

for Karla S. Petty
Division Administrator

ccc:
Ron McCally, MD EM01
Trent Kelso, MD EM01
Velvet Mathew, EM01
Reed Henry, MD 615E
ALirange
TD:cdm

ADOT
Infrastructure Delivery and Operations

Douglas A. Ducey, Governor
John S. Halikowski, Director
Dallas Hammit, State Engineer
Steve Boschen, Division Director

June 3, 2016

Karla Petty
Division Administrator
Federal Highway Administration
4000 North Central Ave, Suite 1500
Phoenix, AZ 85012-1906

ATTN: Tom Deitering

Subject: Design Exception Request
Interstate 10 Near-Term Improvements
(SR 143 – SR 202L, Santan/South Mountain)
010 MA 153 H8768 01L
010-C(213)S

Dear Mr. Deitering;

This widen existing roadway project is currently programmed in the FY 2017-2021 ADOT Tentative Five Year Transportation Facilities Construction Program. Design is currently programmed in FY 2016 with construction programmed in FY 2019.

Design Exceptions are requested for freeway lane width (11'), mainline shoulder width, vertical curve stopping sight distance, and horizontal stopping sight distance at numerous locations throughout the project limits per the attached Design Exception Request Memorandum.

The five year crash evaluation concludes that it does not appear that existing geometrics contributed to the reported crashes on the Interstate 10, Maricopa Freeway between MP 151.85 and MP 153.90 during the five year evaluation period.

Based on the Highway Safety Manual (HSM), 1st Edition, Volume 3, 2014, the proposed design exceptions will not significantly affect the operation of the freeway. HSM Equation 18-25 calculates a Crash Modification Factor (CMF) of 1.038 (3.8%) when reducing the freeway lane widths from 12' to 11'. The HSM does not specifically identify a CMF for roadway vertical stopping sight distance or horizontal stopping sight distance for directional ramp roadways. Please note design exceptions for vertical stopping sight distance (sag condition) will no longer apply with the new design exception process.

A Design Concept Report (DCR) will address operational and safety needs of this capacity improvement project. The DCR will include 15% design plans and will address all current AASHTO design criteria for this project, and include this design exception request.

Please advise if further action is required on the above matter.

Sincerely,

Greg Byres, P.E.
State Roadway Engineer

Attachments: 1. Design Exception Request Memorandum
2. Crash Analysis Report, April 26, 2016.

cc: Project Manager, Ron McCally MD EM01
Project Management, Trent Kelso MD EM01
Project Management, Velvet Mathew MD EM01
Deputy State Roadway Engineer, Reed Henry MD 615E

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May 18, 2016

TO: GREG BYRES, P.E., MD 611E
State Roadway Engineer

THRU: REED HENRY, P.E., MD 615E
Deputy State Roadway Engineer

THRU: RON MCCALLY, MD 614E
Project Manager
Project Management

FROM: STEVEN WILCOX, P.E.
Design Manager
AECOM

SUBJECT: DESIGN EXCEPTION REQUEST
Project 010 MA 153 H8768 01L
Interstate 10 Near-Term Improvements
(SR 143 – SR 202L, Santan/South Mountain)

The following Interstate 10 (I-10) roadway projects are included in the ADOT Tentative Five Year Transportation Facilities Construction Program (2017-2021) and the Maricopa County Regional Transportation Plan Freeway Program (RTPFP):

- Broadway Rd. - Baseline Rd., EB; Design EB Collector Distributor (CD) Road, NTIS: $2,650,000 in FY 2016.
- Broadway Rd. - Baseline Rd., WB; Design WB Braided Ramp, NTIS: $2,830,000 in FY 2016.
- Baseline Rd. - Ray Rd., EB; Design EB General Purpose Lane, NTIS: $2,170,000 in FY 2016.
- Baseline Rd. - Ray Rd., WB; Design WB General Purpose Lane, NTIS: $1,390,000 in FY 2016.
- 32nd St. – SR 202L, Santan, Phase 1; Construction: $143,970,000 in FY 2019.
- Alameda Dr. and Guadalupe Rd.; Design & Construct Pedestrian Bridge, NTIS: $9,100,000 in FY 2019.

These projects would construct new Collector-Distributor Roads along eastbound and westbound I-10 between the I-10/SR143 system traffic interchange (TI) and Baseline Road, and provide additional general-purpose lanes on I-10 in each direction of travel between Baseline Road and Ray Road in accordance with the Regional Transportation Plan Freeway Program (RTPFP). This project would also provide one additional general-purpose lane on I-10 in the westbound direction of travel by restriping the existing pavement between 36th Street and 48th Street.

Traffic demand is causing the I-10 corridor and adjacent local arterial street system to become increasingly congested during the morning and evening peak travel periods. Future traffic volume projections indicate the congestion will continue to worsen causing further travel delays and increased travel times for those using the I-10 corridor. Increased congestion on I-10 will cause travelers to divert their trips to other freeway corridors and the local arterial street system, causing these transportation facilities to become increasingly congested as well. Improvements to the I-10 corridor are necessary to increase the freeway capacity and help alleviate increased levels of traffic congestion on all components of the overall transportation system in the study area.

The majority of traffic in this segment of the I-10 corridor consists of local and regional commuter traffic, along with regional commercial traffic. The projected average two-way traffic volume forecast for year 2035 varies from 326,700 vehicles per day (vpd) at the Broadway Curve to west end (between 19th Avenue and 7th Avenue) to 213,200 vpd at the south end of the study area (between Warner Road and Ray Road). Trucks are anticipated to account for approximately 13% of the total along this segment of the I-10 corridor.

Per the Design Exception and Design Variance Process Guide, this project is a Widen Existing Roadway project that is intended to widen the existing roadway to provide new collector-distributor roads and additional general-purpose lanes.

Design exceptions are hereby requested for:

1. High Occupancy Vehicle (HOV) and general-purpose lane widths for the I-10 westbound mainline between 36th Street and Broadway Road;
2. Median shoulder width for the I-10 westbound mainline at the 40th Street TI Underpass (UP) and the 48th Street UP;
3. Westbound C-D Road shoulder widths at the Broadway Road TI UP;
4. Vertical curve stopping sight distance (sag) on the eastbound C-D Road at one location;
5. Vertical curve stopping sight distance (sag) on the I-10/US60 TI Ramp 'W-N' at one location;
6. Horizontal stopping sight distance on the eastbound C-D Road at one location;
7. Horizontal stopping sight distance on the westbound C-D Road at one location;
8. Horizontal stopping sight distance on the westbound C-D Road Ramp 'T-2' at one location;
9. Horizontal stopping sight distance on the I-10/US60 TI Ramp 'W-N' at one location;
10. Horizontal stopping sight distance on the I-10/US60 TI Ramp 'N-E' at one location;
11. Horizontal stopping sight distance on the new eastbound Baseline Road Ramp 'F' at two locations.

The table below identifies the location by milepost, type of design exception, and discrepancies between the proposed features and requirements:

Design Feature	Type of Design Exception	Location Milepost (MP)	AASHTO Reqmt.	Existing/ Proposed Design	Discrepancy from Required Design Value
1.) I-10 westbound mainline HOV and general-purpose lane widths	AASHTO Chapter 8, Section 8.2.4, Page 8-2	151.88-152.19 152.19-153.61 153.61-153.70	12' 12' 12'	11'-12'/11' 12'/11' 12'/11'-12'	1.0' 1.0' 0'-1.0'
2.) I-10 westbound median shoulder width	AASHTO Chapter 8, Section 8.2.4, Page 8-3	152.39-152.43 153.43-153.48	10' 10'	10.5'/8.5' 11'/9'	1.5' (40th Street) 1.0' (48th Street)
3.) Westbound C-D Road shoulder widths	AASHTO Chapter 8, Section 8.2.4, Page 8-3	153.82-153.83 153.83-153.85 153.85-153.87 153.81-153.83 153.83-153.85 153.85-153.89	6' (inside) 6' (inside) 6' (inside) 10' (outside) 10' (outside) 10' (outside)	4'-6'/4'-6' 4'/4 4'-6'/4'-6' 6'-10'/6'-10' 6'/6' 6'-10'/6'-10'	0'-2.0' 2.0' 0'-2.0' 0'-4.0' 4.0' 0'-4.0'
4.) Eastbound C-D Road vertical curve stopping sight distance (sag)	AASHTO Chapter 3, Section 3.4.6, Page 3-158	155.37-155.45	520'	425'	95'
5.) I-10/US60 TI Ramp 'W-N' vertical curve stopping sight distance (sag)	AASHTO Chapter 3, Section 3.4.6, Page 3-158	155.12-155.23	541'	489'	52'
6.) I-10 Eastbound C-D Road horizontal stopping sight distance	AASHTO Chapter 3, Section 3.3.12, Page 3-106	155.32-155.45 (Outside shoulder)	520'	476'	44'

Design Feature	Type of Design Exception	Location Milepost (MP)	AASHTO Reqmt.	Existing/ Proposed Design	Discrepancy from Required Design Value
7.) I-10 Westbound C-D Road horizontal stopping sight distance	AASHTO Chapter 3, Section 3.3.12, Page 3-106	155.23-155.37 (Inside Shoulder)	522'	349'	173'
8.) I-10 Westbound C-D Road Ramp 'T-2' horizontal stopping sight distance	AASHTO Chapter 3, Section 3.3.12, Page 3-106	155.24-155.34 (Outside Shoulder)	441'	335'	106'
9.) I-10/US60 TI Ramp 'W-N' horizontal stopping sight distance	AASHTO Chapter 3, Section 3.3.12, Page 3-106	155.20-155.35 (Outside Shoulder)	522'	403'	119'
10.) I-10/US60 TI Ramp 'N-E' horizontal stopping sight distance	AASHTO Chapter 3, Section 3.3.12, Page 3-106	155.38-155.48 (Outside Shoulder)	405'	331'	74'
11a.) Baseline Road Ramp 'F' horizontal stopping sight distance	AASHTO Chapter 3, Section 3.3.12, Page 3-106	155.25-155.32 (Inside Shoulder)	419'	338'	81'
11b.) Baseline Road Ramp 'F' horizontal stopping sight distance	AASHTO Chapter 3, Section 3.3.12, Page 3-106	155.35-155.45 (Outside Shoulder)	434'	429'	5'

Evaluation and justification for design exception include the following:

1.) HOV and General-Purpose Lane Widths on the I-10 Westbound Mainline (MP 151.88 - MP 153.70):

Description of Design Exception Request: The existing I-10 mainline includes a 13' median shoulder, one 12' HOV lane, 4' HOV buffer, four 12' general-purpose lanes and a 12' outside shoulder between Broadway Road and 48th Street. The existing Broadway Road entrance ramp (1 lane) is configured as a parallel entrance that transitions into an additional general-purpose lane that continues to the 40th Street exit. The I-10/SR143 TI Ramp 'S-W' enters the westbound I-10 mainline with a tapered entrance configuration that merges with the adjacent general-purpose lane. A 13' median shoulder, one 12' HOV lane, 4' HOV buffer, five 12' general-purpose lanes and a 10' shoulder is provided within this area.

The 40th Street exit ramp (2 lanes) exit is a parallel exit configuration with a mandatory exit from the outside general-purpose lane, and the second lane designed as an optional lane with the I-10 through movement. Four general-purpose lanes and one HOV lane continues to the west.

The existing lane and shoulder widths transition near the 40th Street entrance ramp gore to provide an 11' median shoulder, 11' HOV lane, and four 11' general-purpose near 36th Street. The 40th Street entrance ramp (1 lane) is configured as a parallel entrance that transitions into an additional general-purpose lane (11' wide) near 36th Street.

The Preferred Alternative (see Exhibit 1) would reduce the westbound lane and median shoulder widths west of Broadway Road to provide an 11' median shoulder, 11' HOV lane, four 11' general-purpose lanes and a 12' outside shoulder approaching the new westbound C-D Road entrance ramp gore. The westbound C-D Road entrance ramp (1 lane) would enter the I-10 mainline (east of the 48th Street UP) with a parallel entrance configuration that transitions into an additional general-purpose lane (11' wide) that continues to the west to approximately 40th Street. The reduced lane and shoulder widths would allow the Preferred Alternative roadway section (on the I-10 mainline) to pass through the north span of the existing 48th Street UP.

The Broadway Road entrance ramp (1 lane) would be configured as a parallel entrance that transitions into an additional general-purpose lane (12' wide) that continues to the 40th Street exit. The I-10/SR143 TI Ramp 'S-W' enters the westbound I-10 mainline with a tapered entrance configuration that merges with the adjacent general-purpose lane. An 11' median shoulder, one 11' HOV lane, five 11' general-purpose lanes, one 12' existing general-purpose lane, and the existing 10' outside shoulder would be provided within this area.

The 40th Street exit ramp (2 lanes) exit would be a parallel exit configuration with a mandatory exit from the outside lane, and the second lane designed as an optional lane with the I-10 through movement. Five general-purpose lanes and one HOV lane would continue to the west. An American Association of State Highway Transportation Officials (AASHTO) lane drop would be located near 40th Street thereby reducing the number of general-purpose lanes from five lanes to four lanes prior to the 40th Street entrance ramp gore. The proposed median shoulder (11'), HOV lane (11') and general-purpose lanes (11') would continue to the west on the I-10 mainline and match the existing condition near 36th Street. The 40th Street entrance ramp (1 lane) would be configured as a parallel entrance that transitions into an additional general-purpose lane that continues to the west to the I-10/I-17 TI.

By reducing the width of the median shoulder (from 12' to 11'), HOV lane (from 12' to 11'), general-purpose lanes (from 12' to 11'), and eliminating the HOV buffer, the new westbound C-D Road entrance ramp can be designed with a parallel entrance configuration that transitions into an additional general-purpose lane. The I-10 westbound mainline would have a uniform roadway section between the I-10/I-17 TI and the I-10/SR143 TI, and can be implemented within the north span of the existing 48th Street UP and within the existing pavement width between 36th Street and 48th Street. The length of the north span of the existing 48th Street UP is 87', while the span length needed to provide full lane, HOV buffer and shoulder widths would be 98'.

The results of the Preferred Alternative Design Year 2035 traffic operational analysis indicates the westbound I-10 mainline would operate at Level-of-Service (LOS) 'C' or better between 40th Street and the I-10/US60 TI during the A.M. peak travel period. The five year crash evaluation concluded the existing roadway geometry did not contribute to the reported crashes on this segment of westbound I-10 during the five year evaluation period.

Based on the Highway Safety Manual (HSM), 1st Edition, Supplement (2014), the proposed lane width design exception will not significantly affect the operation of the freeway. HSM Equation 18-25 calculates a Crash Modification Factor (CMF) of 1.038 (3.8%) when reducing the freeway lane widths from 12' to 11'.

Other Design Options Considered: A design option that was considered was retaining the existing westbound I-10 lane and shoulder widths between 40th Street and Broadway Road. The westbound C-D Road entrance ramp (1 lane) would enter the I-10 mainline with a tapered entrance configuration that merges into the adjacent general-purpose lane east of the 48th Street UP.

The results of the traffic operational analysis for this design option indicated the westbound I-10 mainline would operate at LOS 'E' during the 2035 A.M. peak travel period between the westbound C-D Road entrance ramp and the Broadway Road entrance ramp, and LOS 'D' for the other freeway segments between 40th Street and the I-10/US60 TI. This would result in signification additional congestion when compared with the Preferred Alternative. Therefore, the project stakeholders determined this design option should be eliminated from further consideration.

Recommendation: Based on the site constraints at the existing 48th Street UP, expected safety, enhanced capacity, reduced impacts to traffic during construction, design consistency throughout this segment of westbound I-10, and the costs associated with a full roadway widening at this location, the proposed design of the westbound roadway in accordance with the Final Design Concept Report (DCR) is considered the preferable treatment at this location. The proposed lane configuration does not require

pavement widening and utilizes the existing pavement width. An additional width of unpaved shoulder is available throughout this area.

Mitigation measures for the reduction in the lane widths would include the use of raised pavement markers along the lane lines, freeway lighting, and the removal/replacement of the AR-ACFC pavement to eliminate any "ghost striping". These mitigation measures are planned to be included with this project.

2.) I-10 Westbound Median Shoulder Width at the 40th Street UP (MP 152.39 - MP 152.43) and 48th Street UP (MP 153.43 - MP 153.48):

Description of Design Exception Request: As shown on Exhibit 1, the Preferred Alternative would reduce the median shoulder, HOV lane and general-purpose lane widths between approximately 36th Street and Broadway Road. The median shoulder width will be 11' in all locations except at each crossroad underpass bridge pier.

The median shoulder width would be less than the recommended 10' minimum at the following I-10 underpass structures:

- 40th Street Underpass: 1.5' less than recommended
- 48th Street Underpass: 1.0' less than recommended

The HSM Equation 18-26 calculates a CMF of 0.9335 for a 10' median shoulder and a CMF of 0.9579 for an 8.5' median shoulder (difference of 0.0244 or 2.4%), which indicates there would be a negligible difference in predicted crash rates between a 10' wide median shoulder versus an 8.5' wide median shoulder. A CMF difference of 1.6% is provided for a 9' wide median shoulder.

Other Design Option Considered: An insufficient bridge span length is available at the existing 48th Street UP (87' existing span versus 88' needed with the Preferred Alternative lane configuration) to provide the westbound I-10 pavement width needed to provide a 10' wide median shoulder at the bridge pier. The length of this design exception along the bridge pier is 211'. Reconstruction of this underpass structure would require traffic control measures that would reduce the capacity of the I-10 and SR 143 mainlines during the construction project, which would significantly increase the cost of the project and greatly inconvenience commuting and freight traffic that uses this segment of I-10.

In addition, the ultimate configuration of the I-10/SR143 TI is currently being evaluated with the I-10/I-17 Corridor Master Plan (Spine) Study. Near-term improvements to the 48th Street UP would likely conflict with the configuration of the ultimate I-10/SR143 TI, potentially resulting in significant "throw-away" costs.

The length of the design exception at the 40th Street UP bridge pier is 264'. A 10' wide median shoulder could be provided at the 40th Street UP by widening the outside shoulder by 1.5', or by reducing the paved outside shoulder width to 8.5', between the 40th Street TI exit and entrance ramp gores. The HOV and general-purpose lanes would be shifted away from the median bridge pier (by 1.5') to implement this design option. These design options, along with the widening the existing outside shoulder to shift the HOV and general-purpose lane traffic at the 40th Street TI UP, were not considered since these options would be inconsistent with the adjacent segments of the westbound I-10 mainline east and west of 40th Street.

Recommendation: Based on the existing site constraints, expected safety, enhanced capacity, reduced impacts to traffic during construction and the costs associated with providing a minimum 10' wide median shoulder at the 40th Street UP and the 48th Street UP, the proposed design of the westbound roadway in accordance with the Final Design Concept Report (DCR) is considered the preferable treatment at this location. The proposed lane configuration does not require pavement widening and utilizes the existing pavement width. An additional width of unpaved shoulder is available throughout this area.

Mitigation measures would include the use of raised pavement markers along the lane lines, freeway lighting, and the removal/replacement of the AR-ACFC pavement to eliminate any "ghost striping". These mitigation measures are planned to be included with this project.

3.) Westbound C-D Road Shoulder Widths at the Broadway Road TI UP (MP 153.71 - MP 153.48)

Description of Design Exception Request: The existing 48th Street Ramp 'B' (2 lanes) provides a directional ramp connection between the westbound I-10 mainline and northbound State Route (SR) 143. The ramp currently passes through the eastern-most span of the existing Broadway Road TI UP. The existing Ramp 'B' left and right shoulder widths are less than recommended at this location as shown on Exhibit 2.

The Preferred Alternative would disconnect the existing 48th Street Ramp 'B' roadway from the I-10 mainline. Access between westbound I-10 and northbound SR 143 would be provided with the new westbound C-D Road (2 lanes) as shown on Exhibit 1 (page 8 of 13) and Exhibit 2. Since the Broadway Road TI UP would remain in-place, the existing shoulder widths would be retained at this location. The 4' left shoulder would extend from 48th Street Ramp 'B' Station 29+50 to WB CD-1 Station 8096+65 (265' including transitions), and the 6' right shoulder would extend from 48th Street Ramp 'B' Station 29+25 to WB CD-1 Station 8097+95 (425' including transitions). The roadway width would transition to provide full shoulder widths approaching and departing the Broadway Road TI UP.

The length of the east span of the existing Broadway Road TI UP is 34', while the span length needed to provide full lane and shoulder widths would be 40'.

Other Design Option Considered: The existing Broadway Road TI UP eastern-most span length is insufficient to provide the westbound C-D Road pavement width needed to provide a 6' wide left shoulder and 10' wide right shoulder along the bridge piers. In order to provide full shoulder widths at this location, the C-D Road lane widths would be required to be reduced to 9', which would be significantly less desirable than reducing the shoulder widths proposed with the Preferred Alternative.

Another design option that was considered was the removal and replacement of the Broadway Road TI UP. Reconstruction of this underpass structure would require traffic control measures that would reduce the capacity of I-10, the SR 143 ramp and Broadway Road during the construction project, which would significantly increase the cost of the project and greatly inconvenience commuting and freight traffic that use this segment of I-10 and Broadway Road.

In addition, the ultimate configuration of the I-10/SR143 TI is currently being evaluated with the I-10/I-17 Corridor Master Plan (Spine) Study. Near-term improvements to the 48th Street UP would likely conflict with the configuration of the ultimate I-10/SR143 TI, potentially resulting in significant "throw-away" costs.

Recommendation:

Based on the existing site constraints, expected safety, enhanced capacity, reduced impacts to traffic during construction and the costs associated with a full roadway widening at this location, the proposed design of the westbound C-D Road in accordance with the Final Design Concept Report (DCR) is considered the preferable treatment at this location.

Mitigation measures would include the use of raised pavement markers along the lane lines and continuous freeway lighting throughout the project area. These mitigation measures are planned to be included with this project.

4.) Eastbound C-D Road Vertical Curve Stopping Sight Distance (Sag) (MP 155.37 - MP 155.45)

Description of Design Exception Request: The new eastbound C-D Road would generally follow a horizontal alignment that is parallel with the I-10/US60 TI Ramp 'S-E' as shown in Exhibit 3. The C-D Road will pass over the existing EB Ramp 'T-4' (ramp from I-10 mainline to Baseline Road), and then

pass beneath the I-10/US60 TI Ramp 'W-S' overpass prior to merging with the existing eastbound I-10 mainline. Due to the limited distances available between the EB Ramp 'T-4' overpass, the existing Ramp 'W-S' bridge, and the I-10 mainline, the sag vertical curve provided between the eastbound C-D Road Station 8177+00 and Station 8181+50 would provide insufficient vertical stopping sight distance (for headlight condition). As shown on Table 1, the stopping sight distance recommended for this sag vertical curve is 520' as compared with the calculated sight distance of 425' (resulting in a 48.5 mph design speed).

A review of the HSM indicates a crash modification factor is not available for stopping sight distance on sag vertical curves. The AASHTO Green Book stopping sight distance recommendations for sag vertical curves are generally intended for rural conditions where roadway lighting is not provided and vehicle headlights provide sight visibility. Since this project will include continuous freeway lighting, travelers will be provided sufficient sight distance to see potential roadway obstructions.

Other Design Option Considered: In order to provide the AASHTO recommended sight distance on the eastbound C-D Road, existing EB Ramp 'T-4' would be required to be lowered by approximately 4.5' at the eastbound C-D Road crossing. Lowering the elevation of EB Ramp 'T-4' would conflict with an existing Western Canal hydraulic structure (owned and operated by Salt River Project), which would require the hydraulic structure to be reconfigured on the west side of I-10. The project team determined it would not be feasible to modify the canal structure with this project.

Recommendation: Based on the existing site constraints, expected safety and enhanced capacity, the proposed design of the eastbound C-D Road in accordance with the Final Design Concept Report (DCR) is considered the preferable treatment at this location.

Mitigation measures would include the use of continuous freeway lighting throughout the project area which is planned to be included with this project.

5.) I-10/US60 TI Ramp 'W-N' Vertical Curve Stopping Sight Distance (Sag) (MP 155.12 - MP 155.23)

Description of Design Exception Request: The I-10/US60 TI Ramp 'W-N' will be realigned to improve the design speed (from 50 mph to 55 mph) and to allow traffic to remain on the existing ramp during the new ramp construction. (see Exhibit 4). Due to the roadway geometry needed to support Ramp 'W-N' and the new westbound C-D Road, the sag vertical curve on Ramp 'W-N' between Station 193+75 and Station 200+25 would provide insufficient vertical stopping sight distance (for headlight condition). As shown on Table 1, the stopping sight distance that is required for the sag vertical curve is 541', while the stopping sight distance provided is 489' (resulting in a 51.6 mph design speed).

A review of the HSM indicates a crash modification factor has not been developed for sag vertical curves on directional ramp roadways that do not achieve AASHTO stopping sight distance recommendations. Since the stopping sight distance requirements are meant for rural roadway conditions where continuous roadway lighting is not typically provided, we feel that this condition can be mitigated by installing continuous roadway lighting with this project.

Other Design Option Considered: The project team evaluated the possibility of lowering the westbound C-D Road in order to lower the elevation of Ramp 'W-N' approaching I-10. Lowering the elevation of the westbound C-D Road would require a new drainage lift station to drain the portion of the C-D Road that would be depressed below the elevation of the adjacent infield detention basins. Due to the sensitivity of the existing drainage system hydraulics, and intergovernmental agreements with the City of Tempe and Salt River Project restricting downstream discharges from I-10 to the Tempe Drain, it would not be feasible to lower the existing detention basins. The project team determined a new drainage lift station would be undesirable from a capital cost and ongoing maintenance perspective.

Recommendation: Based on the existing site constraints, expected safety, enhanced capacity, reduced impacts to traffic during construction the proposed design of the westbound C-D Road in accordance with the Final Design Concept Report (DCR) is considered the preferable treatment at this location.

Mitigation measures would include the use of continuous freeway lighting throughout the project area which is planned to be included with this project.

6.) Eastbound C-D Road Horizontal Stopping Sight Distance (MP 155.32 - MP 155.45)

Description of Design Exception Request: The eastbound C-D Road would provide less than the AASHTO recommended horizontal sight distance between Station 8173+90.23 and Station 8181+43.11 since a concrete half barrier would be placed adjacent to the roadway shoulder within this area (see Exhibit 5). The concrete half barrier would be introduced in advance of the bridge over EB Ramp 'T-4' and continue until the C-D Road passes beneath the existing Ramp 'W-S' bridge (where an existing bridge pier is located within the recovery area).

Table 2 includes a summary of the calculated SD_S with the associated design speed for the eastbound C-D Road at this location. The calculated design speed that would be provided is 52.1 mph within this area. In order to achieve the desired minimum design speed of 55 mph, the outside shoulder width would have to be 13.1'.

This extra shoulder width would potentially introduce a safety issue by enticing drivers to use the C-D Road shoulder as a passing lane, and would be inconsistent with the design of directional ramp roadways throughout the Regional Freeway System. The wider shoulder would also increase the construction cost for the widened bridge structure and roadway section within this area.

A review of the HSM indicates a crash modification factor has not been developed for directional ramp roadways that do not achieve AASHTO horizontal stopping sight distance recommendations. While the sight distance formula considers a 2' object height, another vehicle is the most likely object that needs to be detected on the roadway. Most vehicles can still be seen by other drivers over the top of the barrier.

Other Design Option Considered: The project team evaluated the possibility of revising the horizontal alignment of the eastbound C-D Road. This option was determined to not be feasible due to the location of two existing Ramp 'W-N' bridge piers that are located near the I-10 connection.

Another design option was evaluated that would reduce the left shoulder width (from 6' to 2.9') to develop a 13.1' outside shoulder, but was determined to cause adverse geometry and pavement marking features.

Recommendation: Based on the existing site constraints, expected safety, enhanced capacity, reduced impacts to traffic during construction the proposed design of the westbound C-D Road in accordance with the Final Design Concept Report (DCR) is considered the preferable treatment at this location.

Mitigation measures would include the use of continuous freeway lighting throughout the project area and the use of an advisory speed sign placed in advance of the horizontal curve. Both of these mitigation measures would be included with this project.

7.) Westbound C-D Road Horizontal Stopping Sight Distance (MP 155.23 - MP 155.37)

Description of Design Exception Request: The westbound C-D Road would provide less than the AASHTO recommended horizontal sight distance within the left lane of the ramp between Station 8169+43.94 and Station 8177+01.25 since a concrete half barrier would be placed adjacent to the roadway shoulder within this area (see Exhibit 6). The concrete half barrier would be introduced near the back of the I-10 mainline gore (Station 8184+00) and continue throughout the length of the C-D Road due to existing and new bridge pier locations and roadway grading requirements.

Table 2 includes a summary of the calculated SD_S with the associated design speed for the westbound C-D Road. The calculated design speed that would be provided is 42.6 mph within this area. In order to achieve the desired minimum design speed of 55 mph, the inside shoulder width would have to be 20.8'.

However, the horizontal offset that is available between the edge of the roadway shoulder and an existing HOV directional ramp bridge pier cap is approximately 3.6'.

This extra-wide shoulder would also potentially introduce a safety issue by enticing drivers to use the C-D Road shoulder as a passing lane, and would be inconsistent with the design of directional ramp roadways throughout the Regional Freeway System. The wider shoulder would also increase the construction cost for the widened bridge structure and roadway section within this area.

A review of the HSM indicates a crash modification factor has not been developed for directional ramp roadways that do not achieve AASHTO horizontal stopping sight distance recommendations. While the sight distance formula considers a 2' object height, another vehicle is the most likely object that needs to be detected on the roadway. Most vehicles can still be seen by other drivers over the top of the barrier.

Other Design Option Considered: The project team evaluated the possibility of revising the horizontal alignment of the westbound C-D Road. However, this option was not feasible due to the location of the existing directional ramp bridge piers and right-of-way restrictions at the Galleria Palms apartment complex.

Recommendation: Based on the existing site constraints, expected safety, enhanced capacity, reduced impacts to traffic during construction the proposed design of the westbound C-D Road in accordance with the Final Design Concept Report (DCR) is considered the preferable treatment at this location.

Mitigation measures would include the use of continuous freeway lighting throughout the project area and the use of an advisory speed sign placed in advance of the horizontal curve. Both of these mitigation measures would be included with this project.

8.) Westbound C-D Road Ramp 'T-2' Horizontal Stopping Sight Distance (MP 155.24 - MP 155.34)

Description of Design Exception Request: The westbound C-D Road Ramp 'T-2' would provide less than the AASHTO recommended horizontal sight distance between Station 25+24.87 and Station 33+19.62 since a concrete half barrier and sound wall would be placed adjacent to the roadway shoulder within this area (see Exhibit 7). The sound wall is necessary for noise mitigation for the Galleria Palms apartment complex, and the placement of the wall adjacent to the ramp shoulder was determined during the condemnation process for the apartment complex property.

Table 2 includes a summary of the calculated SD_S with the associated design speed for the eastbound C-D Road. The calculated design speed that would be provided is 42.0 mph within this area. In order to achieve the desired minimum design speed of 50 mph, the shoulder width of the C-D Road would have to be 21.6'.

This extra-wide shoulder would potentially introduce a safety issue by enticing drivers to use the ramp shoulder as a passing lane, and would be inconsistent with the design of directional ramp roadways throughout the Regional Freeway System. The wider shoulder would also increase the construction cost for the widened roadway section within this area, and would introduce the potential for additional compensation to the property owner by shifting the roadway closer to the property line.

A review of the HSM indicates a crash modification factor has not been developed for ramp roadways that do not achieve AASHTO horizontal stopping sight distance recommendations.

Other Design Option Considered: The project team evaluated the possibility of revising the ramp horizontal alignment. However, this option was not feasible due to the agreements made between ADOT and the property owner during the condemnation process for the Galleria Palms apartment complex property.

Recommendation: Based on the existing site constraints, expected safety, enhanced capacity, reduced impacts to traffic during construction the proposed design of the westbound C-D Road in accordance with the Final Design Concept Report (DCR) is considered the preferable treatment at this location.

Mitigation measures would include the use of continuous freeway lighting throughout the project area and the use of an advisory speed sign placed in advance of the horizontal curve. Both of these mitigation measures would be included with this project.

9.) I-10/US60 TI Ramp 'W-N' Horizontal Stopping Sight Distance (MP 155.20 - MP 155.35)

Description of Design Exception Request: The I-10/US60 TI Ramp 'W-N' will be realigned to improve the design speed (from 50 mph to 55 mph) and to allow traffic to remain on the existing ramp during the new ramp construction. (see Exhibit 8). Ramp 'W-N' would provide less than the AASHTO recommended horizontal sight distance for the right ramp lane between Station 198+36.10 and Station 210+83.42 since a concrete half barrier would be placed adjacent to the roadway shoulder within this area. The concrete half barrier would be introduced near Station 210+83.42 due to roadway grading requirements and the bridge over the westbound C-D Road.

Table 2 includes a summary of the calculated SD_S with the associated design speed for Ramp 'W-N'. The calculated design speed that would be provided is 46.8 mph within this area. In order to achieve the desired minimum design speed of 55 mph, the shoulder width for Ramp 'W-N' would have to be widened to 20.8'.

This extra-wide shoulder would potentially introduce a safety issue by enticing drivers to use the C-D Road shoulder as a passing lane, and would be inconsistent with the design of directional ramp roadways throughout the Regional Freeway System. The wider shoulder would also increase the construction cost for the widened bridge structure and roadway section within this area.

A review of the HSM indicates a crash modification factor has not been developed for directional ramp roadways that do not achieve AASHTO horizontal stopping sight distance recommendations. While the sight distance formula considers a 2' object height, another vehicle is the most likely object that needs to be detected on the roadway. Most vehicles can still be seen by other drivers over the top of the barrier.

Other Design Option Considered: The project team evaluated the possibility of revising the horizontal alignment of the ramp. However, this option was not feasible due to the impacts a revised alignment would have on the westbound CD Ramp 'T-2' and the Galleria Palms apartment complex property.

Recommendation: Based on the existing site constraints, expected safety, enhanced capacity, reduced impacts to traffic during construction the proposed design of the westbound C-D Road in accordance with the Final Design Concept Report (DCR) is considered the preferable treatment at this location.

Mitigation measures would include the use of continuous freeway lighting throughout the project area and the use of an advisory speed sign placed in advance of the horizontal curve. Both of these mitigation measures would be included with this project.

10.)I-10/US60 TI Ramp 'N-E' Horizontal Stopping Sight Distance (MP 155.38 - MP 155.48)

Description of Design Exception Request: Ramp 'N-E' would provide less than the AASHTO recommended horizontal sight distance for the right ramp lane between Station 17+11.07 (D/B CL) and Station 25+16.02 (New CL) since an existing concrete half barrier will be retained along the roadway shoulder (see Exhibit 9). The existing concrete half barrier is located along the outside shoulder for the full length of the ramp. The design intent for the ramp widening associated with the Preferred Alternative is to widen the existing ramp (currently 1 lane) to provide a two lane directional ramp by widening the pavement toward the inside of the existing roadway.

APPENDIX D

AASHTO CONTROLLING DESIGN CRITERIA REPORT

PROJECT 10 MA 149 H8768 01L

I-10 NEAR-TERM IMPROVEMENTS

SR 143 – SR 202L, Santan/South Mountain

AASHTO CONTROLLING DESIGN CRITERIA REPORT

July 2015

ARIZONA DEPARTMENT OF TRANSPORTATION

INTERMODAL TRANSPORTATION DIVISION

ROADWAY ENGINEERING GROUP

ROADWAY PREDESIGN SECTION

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LIST OF EXISTING FEATURES REQUIRING DESIGN EXCEPTIONS

The following is a list of the existing design features requiring design exceptions:

(Note: The analysis of all design elements of the following roadways have been compared with the recommended AASHTO Controlling Design Criteria to identify geometric elements that do not comply with the AASHTO 2004 "Green" Book criteria.)

I-10 MAINLINE (EB & WB)

The existing median shoulder is less than the recommended 10' minimum as follows:

1. EB Sta. 8152+93 to Sta. 8163+46 (MP 154.95 to 155.15): 6' less than the recommended.
2. EB Sta. 8163+46 to Sta. 8165+56 (MP 155.15 to 155.19): varies 0' to 6' less than the recommended.
3. WB Sta. 8153+15 to Sta. 8165+99 (MP 154.96 to 155.20): 6' less than the recommended.
4. WB Sta. 8165+99 to Sta. 8168+17 (MP 155.20 to 155.28): – Varies 0' to 6' less than the recommended.

These existing shoulder width features previously obtained design exceptions and variances in March 2000 for Project No. 60 MA 172 H 4525 01C.

I-10/US60 TI

HOV Ramp:

The existing shoulder width is less than the recommended 6' (inside) as follows:

1. Sta. 7143+79.91 to Sta. 7188+95.74: 2' less than recommended.

The existing shoulder width is less than the recommended 10' (outside) as follows:

1. Sta. 7143+79.91 to Sta. 7165+60.00: 4' less than recommended.

These existing shoulder width features previously obtained design exceptions and variances in March 2000 for Project No. 60 MA 172 H 4525 01C.

BROADWAY ROAD TI:

Ramp K (EB Entrance):

The vertical curve stopping sight distance is less than the recommended 425' as follow:

1. VPI Sta. 7+50.00: 74' less than recommended for 50 mph (Sag vertical curve).

BASELINE ROAD TI:

Ramp EB T-4 (EB Exit to Baseline Road):

The vertical curve stopping sight distance is less than the recommended 360' as follow:

1. VPI Sta. 14+50.00: 36' less than recommended for 45 mph (Sag vertical curve).

ELLIOT ROAD TI:

Ramp D (EB Entrance):

The superelevation rate is less than the recommended minimum on the following horizontal curve:

1. HPI Sta. 2+41.44: 0.045 ft/ft less than the minimum for 35 mph.

APPENDIX

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
MAIN LINE SUMMARY (DIVIDED)

PROJECT NUMBER:	10 MA 149 H8768 01L	ROUTE:	I-10
PROJECT LOCATION:	SR 143 - SR 202L, Santan	BEGINNING MP:	153.4
HIGHWAY SECTION:	Phoenix - Casa Grande Highway	ENDING MP:	160.8
FUNCTIONAL CLASSIFICATION:	INTERSTATE		

LANE AND SHOULDER WIDTH

	EXISTING (Feet)	AASHTO RECOMMENDED MINIMUM (Feet)
LANE WIDTH:	12	12
INSIDE SHOULDER WIDTH:	10-13 (1)	10
OUTSIDE SHOULDER WIDTH:	10-12	10

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: 60 MPH

THE POSTED SPEED LIMIT IS: 65 MPH

TERRAIN IS: LEVEL

GRADES

EXISTING MAXIMUM GRADE IS: 2.8123%

AASHTO ALLOWABLE MAXIMUM GRADE IS: 3.0000%

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020'/ft

AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020'/ft

TRAFFIC VOLUMES AND FACTORS

Existing 2004 ADT (VPD)	Design Year 2030 ADT (VPD)	TRAFFIC FACTORS K=	D=	T=
See Attachment No. 4				

REMARKS

(1) EB Sta. 8153+93 to Sta. 8165+56 - 6' to 0' less than minimum. Design exception was obtained with project 60 MA 172 H 4525 01C
WB Sta. 8153+15 to Sta. 8168+17 - 6' to 0' less than minimum. Design exception was obtained with project 60 MA 172 H 4525 01C

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
MAINLINE EB & WB - CONTINUED

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Post Construction Clearance	AASHTO Minimum Allowable Clearance
See Attachment No. 3				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
See Attachment No. 5							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
See Attachment No. 1							

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (Ft/Ft)	EXISTING SPEED (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
See Attachment No. 2						

REMARKS

N

ATTACHMENT NO. 1

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

Direction: I-10 Eastbound (1 way with Sta.)

VPI Station	Curve Length (Ft)	Grades (%)		Existing SDs (Ft)	AASHTO Minimum SDs (Ft)	Existing Speed (mph)	Design Speed (mph)
		Approach	Departure				
8023+79.60	0	0.2195	0.3624	>1500	645	>90	65
8031+90.90	0	0.3624	0.3493	82,366	645	>90	65
8049+00.00	1,050	0.3493	-0.2512	2,322	645	>90	65
8061+50.00	1,050	-0.2512	0.3631	>1500	645	>90	65
8071+38.72	0	0.3631	0.2561	10,084	645	>90	65
8073+92.50	0	0.2561	0.3133	>1500	645	>90	65
8086+72.50	1,035	0.3133	-0.2675	2,375	645	>90	65
8097+30.50	1,035	-0.2675	2.5744	1,530	645	>90	65
8107+89.00	1,035	2.5744	-0.4006	866	645	77	65
8117+75.00	0	-0.4006	-0.3174	>1500	645	>90	65
8136+50.00	1,000	-0.3174	0.4380	>1500	645	>90	65
8141+50.00	0	0.4380	0.4195	58,324	645	>90	65
8150+75.00	480	0.4195	1.6919	>1500	645	>90	65
8157+50.00	800	1.6919	-0.4186	911	645	80	65
8164+50.00	400	-0.4186	0.8729	>1500	645	>90	65
8173+00.00	600	0.8729	1.5300	>1500	645	>90	65
8180+00.00	800	1.5300	0.6199	1,586	645	>90	65
8192+55.00	1,200	0.6199	2.8123	3,425	645	>90	65
8208+00.00	1,200	2.8123	0.4000	1,036	645	87	65
8225+00.00	1,000	0.4000	1.4720	>1500	645	>90	65
8236+81.31	1,000	1.4720	0.9488	2,562	645	>90	65
8256+81.31	1,600	0.9488	-0.1116	1,818	645	>90	65
8283+81.31	799	-0.1116	-0.4500	3,588	645	>90	65
8303+81.31	800	-0.4500	-0.6000	7,593	645	>90	65
8318+81.31	800	-0.6000	-0.2500	>1500	645	>90	65
8338+81.31	800	-0.2500	-0.6860	2,875	645	>90	65
8351+81.31	800	-0.6860	-0.3000	>1500	645	>90	65
8371+81.31	0	-0.3000	-0.3500	21,580	645	>90	65
8391+81.31	0	-0.3500	-0.4000	21,580	645	>90	65
8411+81.31	800	-0.4000	-0.6000	5,795	645	>90	65
8431+81.31	0	-0.6000	-0.5500	>1500	645	>90	65
8451+81.31	0	-0.5500	-0.5000	>1500	645	>90	65
8461+81.31	800	-0.5000	-0.8000	3,997	645	>90	65
8472+00.00	0	-0.8000	0.0000	>1500	645	>90	65

ATTACHMENT NO. 1

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

Direction: I-10 Westbound (1 way against Sta.)

VPI Station	Curve Length (Ft)	Grades (%)		Existing SDs (Ft)	AASHTO Minimum SDs (Ft)	Existing Speed (mph)	Design Speed (mph)
		Approach	Departure				
8023+79.60	0	0.2200	0.3624	>1500	645	>90	65
8031+90.90	0	0.3624	0.3493	82,366	645	>90	65
8049+00.00	1,050	0.3493	-0.2512	2,322	645	>90	65
8061+50.00	1,050	-0.2512	0.2512	>1500	645	>90	65
8074+00.00	0	0.2512	0.3085	>1500	645	>90	65
8087+00.00	1,050	0.3085	-0.2633	2,412	645	>90	65
8097+30.50	1,050	-0.2633	2.5349	1,592	645	>90	65
8108+50.00	1,050	2.5349	-0.4000	879	645	76	65
8118+50.00	0	-0.4000	-0.2516	>1500	645	>90	65
8136+50.00	1,000	-0.2516	0.4380	>1500	645	>90	65
8141+50.00	0	0.4380	0.4195	58,324	645	>90	65
8150+75.00	480	0.4195	1.6919	>1500	645	>90	65
8157+50.00	800	1.6919	-0.4186	911	645	79	65
8164+50.00	400	-0.4186	0.8729	>1500	645	>90	65
8173+00.00	600	0.8729	1.5300	>1500	645	>90	65
8180+00.00	800	1.5300	0.6199	1,586	645	>90	65
8192+55.00	1,200	0.6199	2.8123	3,425	645	>90	65
8208+00.00	1,200	2.8123	0.4000	1,036	645	84	65
8225+00.00	1,000	0.4000	1.4720	>1500	645	>90	65
8236+81.31	1,000	1.4720	0.9488	2,562	645	>90	65
8256+81.31	1,600	0.9488	-0.1106	1,819	645	>90	65
8283+81.31	799	-0.1102	-0.4500	3,575	645	>90	65
8303+81.31	800	-0.4500	-0.6000	7,593	645	>90	65
8318+81.31	800	-0.6000	-0.2500	>1500	645	>90	65
8338+81.31	800	-0.2500	-0.6860	2,875	645	>90	65
8351+81.31	800	-0.6860	-0.3000	>1500	645	>90	65
8371+81.31	0	-0.3000	-0.3500	21,580	645	>90	65
8391+81.31	0	-0.3500	-0.4000	21,580	645	>90	65
8411+81.31	800	-0.4000	-0.6000	5,795	645	>90	65
8431+81.31	0	-0.6000	-0.5500	>1500	645	>90	65
8451+81.31	0	-0.5500	-0.5000	>1500	645	>90	65
8461+81.31	800	-0.5000	-0.8000	3,997	645	>90	65
8472+00.00	0	-0.8000	-0.7996	>1500	645	>90	65

ATTACHMENT NO. 2

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION			EXISTING SPEED (MPH)	DEGREE OF CURVE	
	Maximum (Ft/Ft)	Existing (Ft/Ft)	Minimum (Ft/Ft)		Maximum	Existing
8107+05.03	0.060	0.046	0.041	65	3° -27'	1° -30'
8255+08.88	0.060	NC	NC	65	3° -27'	0°-15'
8315+27.66	0.060	NC	NC	65	3° -27'	0°-15'

REMARKS

ATTACHMENT NO. 3

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Post Construction Clearance	AASHTO Minimum Allowable Clearance
Broadway Road TI UP (# 1211)	153.47	N/A	16.97'	16'
Southern Avenue WB OP (# 2777)	154.62	N/A	15.34'	14.5'
Southern Avenue EB OP (# 1144)	154.62	N/A	16.56'	14.5'
I-10/US60 TI Southern Avenue HOV OP (# 2702)	154.62	N/A	25.55'	16'
I-10/US60 TI Ramp S-E Over Southern Ave (# 2305)	154.62	N/A	15.84'	14.5'
I-10/US60 TI Ramp S-E Over I-10 (# 2347)	154.93	N/A	17.24'	16'
I-10/US60 TI WB60-EB10 Ramp (# 2368)	155.00	N/A	18.59'	16'
I-10/US60 TI HOV Ramp (# 2700)	155.14	N/A	16.93'	16'
Baseline Road TI OP (# 2349)	155.64	N/A	17.11'	16'
Baseline Road TI WB C-D Road OP (# 2348)	155.64	N/A	17.67'	16'
Guadalupe Road UP (# 2725)	155.65	N/A	16.33'	16'
Elliot Road TI UP (# 2306)	157.69	N/A	16.67'	16'
Warner Road TI UP (# 2016)	158.69	N/A	16.58'	16'
Ray Road TI UP (# 2017)	159.70	N/A	16.59'	16'
Chandler Boulevard TI UP (# 2721 & 2722)	160.87	N/A	17.13'	16'

REMARKS

ATTACHMENT NO. 4

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA

TRAFFIC VOLUMES AND FACTORS

Begin MP	Section Begins At	End MP	Section Ends At	Existing 2014 WB ADT (VPD)	Existing 2014 EB ADT (VPD)	Design Year 2030 WB ADT (VPD)	Design Year 2030 EB ADT (VPD)	TRAFFIC FACTORS K=	D=	T=
152.4	40th Street	153.5	SR143	131,600	121,200			9%	50%	9%
153.5	SR143	153.8	Broadway Rd	113,000	108,000			9%	50%	9%
153.8	Broadway Rd	155.4	US60	151,200	143,000			9%	50%	9%
155.4	US60	156.0	Baseline Rd	74,200	74,000			9%	50%	9%
156.0	Baseline Rd	157.8	Elliot Rd	115,300	114,000			9%	50%	9%
157.8	Elliot Rd	158.8	Warner Rd	102,100	101,200			9%	50%	9%
158.8	Warner Rd	159.8	Ray Rd	95,400	95,200			9%	50%	9%
159.8	Ray Rd	160.8	202L/Chandler Blvd	86,800	87,500			9%	50%	9%

Note: Design Year 2030 traffic volumes are based on No-Build conditions and include HOV volumes.

ATTACHMENT NO. 5

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Broadway Road TI UP (# 1211)	153.47	94	94	Yes	Yes	HS-17.8	HS-20
Southern Avenue WB OP (# 2777)	154.62	64.5	74 (2)	Yes	Yes	HS-20+	HS-20
Southern Avenue EB OP (# 1144)	154.62	100.5	110 (2)	Yes	Yes	HS-20+	HS-20
I-10/US60 TI Southern Avenue HOV OP (# 2702)	154.62	44	56 (3)	Yes	Yes	HS-20+	HS-20
I-10/US60 TI Ramp S-E Over Southern Ave (# 2305)	154.62	56	56	Yes	Yes	HS-20.5	HS-20
I-10/US60 TI Ramp S-E Over I-10 (# 2347)	154.93	72	72	Yes	Yes	HS-21.7	HS-20
I-10/US60 TI WB60-EB10 Ramp (# 2368)	155.00	30	28	Yes	Yes	HS-22.2	HS-20
I-10/US60 TI HOV Ramp (# 2700)	155.14	52	56 (3)	Yes	Yes	HS-20+	HS-20
Baseline Road TI OP (# 2349)	155.64	186	186	Yes	Yes	HS-20	HS-20
Baseline Road TI WB C-D Road OP (# 2348)	155.64	44	40	Yes	Yes	HS-20	HS-20
Guadalupe Road UP (# 2725)	155.65	32	32	Yes	Yes	HS-20	HS-20
Elliot Road TI UP (# 2306)	157.69	120	120	Yes	Yes	HS-21.67	HS-20
Warner Road TI UP (# 2016)	158.69	80	81-85 (4)	Yes	Yes	HS-20	HS-20
Ray Road TI UP (# 2017)	159.70	124	124	Yes	Yes	HS-20	HS-20
Chandler Boulevard TI UP (# 2721 & 2722)	160.87	116	116	Yes	Yes	HS-25	HS-20

REMARKS

(2) Final DCR for the US60 Design Build stated a design exception was obtained for the 4' left shoulder

(3) Final DCR for the US60 Design Build stated a design exception was obtained for the reduced shoulder widths

(4) If the Warner Road structure is reconstructed with the project, the bridge width would require a minimum 2-4 foot offset from travel lane to curb/barrier face

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp D

PROJECT NUMBER:	10 MA 149 H8768 01L	**MAINLINE MILEPOST:**	153.5
PROJECT LOCATION:	SR 143 - SR 202L, Santan		
HIGHWAY SECTION:	Phoenix - Casa Grande Highway		
INTERCHANGE:	SR143/48th Street TI (I-10)		
RAMP DESIGNATION:	Ramp D (1)		
DESCRIPTION:	EB Entrance Ramp (S-E loop ramp) - Directional Loop		

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
26.5 - 28.5 (2)	21	22	160

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 25 mph in loop; Ramp Body = 50 mph; Ramp Gore Area = 50 mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
0.2670	2.9468	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
21,500		

REMARKS

(1) "As-Built" Name - Current Ramp designation would be Ramp F or Ramp S-E (SR143 / I-10) per the ADOT "Roadway Design Guidelines"
(2) One lane loop ramp

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
48th Street TI Ramp D - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

	Existing Bridge	Recommended Bridge	Bridge Rail Geometry	Bridge Rail Structure	Existing Structural	Recommended Structural
Not Applicable						

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
8+00.00	-2.9468	0.2670	500	686	425	65	50
27+40.25	0.2670	-1.1111	500	1,033	425	85	50
31+90.25	-1.1111	1.2450	400	1,107	425	89	50

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (1) (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (1) (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
1+14.84	0.100	0.02 - 0.056 (2)	0.078	25	45°-28'	18°-04'-50"
3+87.23	0.100	0.056 - 0.10 (2)	0.096	25	45°-28'	28°-38'-52"
6+85.69	0.100	0.100	0.100	25	45°-28'	34°-32'-52"
21+50.29	0.100	0.033	0.031	50	8°-15'	1°-32'-52"
36+48.72	0.100	0.046 (3)	0.049	50	8°-15'	2°-30'

REMARKS

(1) Existing design was with e_{max} = 10%. Minimum superelevation rate is based on AASHTO (2004) Exhibit 3-28.
(2) Design Exception will not be requested because the Superelevation is considered to be in substantial conformance with the AASHTO requirements.
(3) Ramp superelevation controlled by existing mainline superelevation

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
CROSS ROAD

PROJECT NUMBER:	10 MA 149 H8768 01L	**MAINLINE MILEPOST:**	153.8
PROJECT LOCATION:	SR 143 - SR 202L, Santan		
HIGHWAY SECTION:	Phoenix - Casa Grande Highway		
INTERCHANGE:	Broadway Road TI (I-10)		
FUNCTIONAL CLASSIFICATION:	Urban Arterial		
Intersection Sta.	8094+21.58 I-10 Med cl = 20+00.13 Broadway Road Cst cl (IR-10-3(315 & 309))		

LANE AND SHOULDER WIDTH

	EXISTING (Feet) WB	EXISTING (Feet) EB	AASHTO RECOMMENDED MINIMUM (Feet)
LANE WIDTH:	11 - 12 (1)	11 - 12 (1)	10
INSIDE (left) SHOULDER WIDTH:	0 - 2	0 - 2	0
OUTSIDE (right) SHOULDER WIDTH:	0 - 2	0 - 2	0
MEDIAN WIDTH:	4		0

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: 45 MPH

THE POSTED SPEED LIMIT IS: WB 45 MPH - EB 45 MPH

TERRAIN IS: LEVEL

GRADES

	EXISTING MAXIMUM GRADE IS (%) Ascending	EXISTING MAXIMUM GRADE IS (%) Decending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Ascending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Descending
EB	4.3226	3.9907	6.0	6.0
WB	3.9907	4.3226	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft

AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K =
		D =
ADT (VPD)	ADT (VPD)	T =

REMARKS

(1) 3 travel lanes and 1 left-turn lane between interchange ramps in both Eastbound and Westbound direction of travel

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Broadway Road - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Broadway Road TI UP (# 1211)	153.47	N/A	16.97'	16'

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Broadway Road TI UP (# 1211)	153.47	94	94	Yes	Yes	HS-17.8 **	HS-20

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
12+48.16	0.1000	4.3226	400	422	360	48	45
20+23.16	4.3226	-3.9907	1000	509	360	54	45
29+73.16	-3.9907	0.2714	400	419	360	48	45
37+98.16	0.2714	-0.1133	400	3,005	360	>90	45

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
6+04.11	0.040	0.015 (1)	0.033	45	8°-03'	4°-05'-23"
27+60.79	0.040	0.040	0.039	45	8°-03'	6°-00'
41+33.02	0.040	0.015 (1)	0.033	45	8°-03'	4°-00'

REMARKS

(1) Design Exception will not be requested because the Superelevation is considered to be in substantial conformance with the AASHTO requirements.

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp F

PROJECT NUMBER:	10 MA 149 H8768 01L	**MAINLINE MILEPOST:**	153.4
PROJECT LOCATION:	SR 143 - SR 202L, Santan		
HIGHWAY SECTION:	Phoenix - Casa Grande Highway		
INTERCHANGE:	Broadway Road TI (I-10)		
RAMP DESIGNATION:	Ramp F [1]		
DESCRIPTION:	WB Broadway Rd to WB I-10 Entrance		

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
34 - 24 [2]	21	22	471

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 50 mph; Ramp Gore Area = 50 mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
2.4653	3.5178	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
11,200		

REMARKS

(1) "As-Built" Name - Current Ramp designation would be Ramp A per the ADOT "Roadway Design Guidelines"
(2) Two lane ramp tapers to one lane

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Broadway Road TI Ramp F - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
6+90.00	0.3993	-0.3625	400	1,616	425	>90	50
10+90.00	-0.3625	0.5516	400	>1500	425	>90	50
26+75.00	0.3655	3.5178	400	592	425	59	50
31+25.00	3.5178	-2.4653	500	425	250	48	35

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum [1] (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum [3] (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
6+15.00	0.100	0.023	0.023	50	8°-15'	0°-50'
11+75.11	0.100	0.077	0.077	45	10°-37'	5°-30'
20+17.89	0.100	0.099	0.099	40	13°-58'	12°-00'
29+73.41	0.100	0.088	0.087	35	19°-38'	12°-00'
34+93.98	0.040	0.025 [2]	0.030	35	15°-26'	6°-00'

REMARKS

(1) Existing design was with e_{max} = 10%. Minimum superelevation rate is based on AASHTO (2004) Exhibit 3-28.
(2) Superelevation controlled by cross road - slope flattened to accommodate 52nd street intersection

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp B

PROJECT NUMBER:	10 MA 149 H8768 01L	**MAINLINE MILEPOST:**	153.9
PROJECT LOCATION:	SR 143 - SR 202L, Santan		
HIGHWAY SECTION:	Phoenix - Casa Grande Highway		
INTERCHANGE:	Broadway Road TI (I-10)		
RAMP DESIGNATION:	Ramp B (1)		
DESCRIPTION:	WB I-10 Exit to NB SR143 - Directional		

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 3
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
34 (2)	27	29	949

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Gore(SR143) = 45 mph; Ramp Body = 50 mph; Ramp Gore(I-10) = 50 mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
3.9503	4.0000	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
26,500		

REMARKS

(1) "As-Built" Name - Current Ramp designation would be Ramp C or Ramp W-N (I-10 / SR143) per the ADOT "Roadway Design Guidelines"
(2) Two lane Ramp

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Broadway Road TI Ramp B - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
See I-10 Mainline Summary - WB Exit OP (Ramp B over Ramp F)	153.10	N/A	16.67'	16'
I-10 Off Ramp Underpass NB (# 1284)	153.47	N/A	16.97'	16'
Broadway Road TI UP (# 1211)				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
See I-10 Mainline Summary - WB Exit OP (Ramp B over Ramp F)	153.10	36 (2)	40	Yes	Yes	HS-23.9	HS-20
I-10 Off Ramp Underpass NB (# 1284)	153.47	94	94	Yes	Yes	HS-17.8	HS-20
Broadway Road TI UP (# 1211)							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
	0.2200	0.6248	300	>1500	425	>90	50
5+80.00	0.6248	4.0000	500	642	425	62	50
10+00.00	4.0000	-3.9503	800	466	425	51	50
16+52.50	-3.9503	1.5721	650	505	425	55	50
25+75.00	1.5721	1.9388	291	>1500	425	>90	50
35+35.45							

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (1) (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (1) (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
	0.100	0.081 (2)	0.082	45	10°-37'	6°-00'
7+11.29	0.100	0.023	0.021	50	8°-15'	1°-00'
21+95.82	0.100	0.042	0.040	50	8°-15'	2°-09'-57"
34+80.48	0.100	0.046	0.043	60	5°-15'	1°-30'
40+17.27						

REMARKS

(1) Existing design was with e_{max} = 10%. Minimum superelevation rate is based on AASHTO (2004) Exhibit 3-28.
(2) Design Exception will not be requested because the Superelevation is considered to be in substantial conformance with the AASHTO requirements.

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp L

PROJECT NUMBER:	10 MA 149 H8768 01L
PROJECT LOCATION:	SR 143 - SR 202L, Santan
HIGHWAY SECTION:	Phoenix - Casa Grande Highway
INTERCHANGE:	Broadway Road TI (I-10)
RAMP DESIGNATION:	Ramp L (1)
DESCRIPTION:	WB Exit I-10 to Broadway Road

MAINLINE MILEPOST: 154.2

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
22 - 40 (2)	21	22	1,140

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 50 mph; Ramp Gore Area = 50 mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
1.5010	3.9971	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
11,000		

REMARKS

(1) "As-Built" Name - Current Ramp designation would be Ramp C per the ADOT "Roadway Design Guidelines"
(2) One lane ramp tapers to three lanes at cross road

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Broadway Road TI Ramp L - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
12+00.00	-1.5010	3.9971	300	271	250	36	35
19+00.00	3.9971	-0.3153	600	548	425	56	50

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (1) (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (1) (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
16+38.63	0.100	0.073	0.072	45	10°-37'	5°-00'
28+63.10	0.100	0.046	0.043	60	5°-15'	1°-30'

REMARKS

(1) Existing design was with e_{max} = 10%. Minimum superelevation rate is based on AASHTO (2004) Exhibit 3-28.

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp K

PROJECT NUMBER: 10 MA 149 H8768 01L — **MAINLINE MILEPOST:** 153.7
PROJECT LOCATION: SR 143 - SR 202L, Santan
HIGHWAY SECTION: Phoenix - Casa Grande Highway
INTERCHANGE: Broadway Road TI (I-10)
RAMP DESIGNATION: Ramp K (1)
DESCRIPTION: EB Entrance - Broadway Road to I-10

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
36 - 22 (2)	21	22	949

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 50 mph; Ramp Gore Area = 50 mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
1.7441	3.5450	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft — AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
15,000		

REMARKS

(1) "As-Built" Name - Current Ramp designation would be Ramp D per the ADOT "Roadway Design Guidelines"
(2) Two lane ramp tapers to one lane

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Broadway Road TI Ramp K - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)	
3+50.00	1.6627	-3.5450	400	407	250	47	35	
7+50.00	-3.5450	1.7441	400	351	425	43	50	**

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (1) (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (1) (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
6+74.19	0.100	0.060	0.058	35	19°-38'	6°-00'
14+52.84	0.100	0.046	0.040	50	8°-15'	2°-00'
23+05.18	0.100	0.046	0.043	60	5° - 15'	1°-32'-20"

REMARKS

(1) Existing design was with e_{max} = 10%. Minimum superelevation rate is based on AASHTO (2004) Exhibit 3-28.
** Design Exception

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
CROSS ROAD

PROJECT NUMBER: 10 MA 149 H8768 01L — **MAINLINE MILEPOST:** 156.0
PROJECT LOCATION: SR 143 - SR 202L, Santan
HIGHWAY SECTION: Phoenix - Casa Grande Highway
INTERCHANGE: Baseline Road TI (I-10)
FUNCTIONAL CLASSIFICATION: Urban Arterial
Intersection Sta. 8210+33.62 I-10 Med cl = 20+00.00 Baseline Road Cst cl (NH-10-3(317))

LANE AND SHOULDER WIDTH

	EXISTING (Feet) WB	EB	AASHTO RECOMMENDED MINIMUM (Feet)
LANE WIDTH:	11 (1)	11 (1)	10
INSIDE (left) SHOULDER WIDTH:	0	0	0
OUTSIDE (right) SHOULDER WIDTH:	4	4	0
MEDIAN WIDTH:	8		0

DESIGN SPEED
THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: 45 MPH
THE POSTED SPEED LIMIT IS: 40 MPH
TERRAIN IS: LEVEL

GRADES

	EXISTING MAXIMUM GRADE IS (%) Ascending	Decending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Ascending	Descending
WB	0.4542	0.3198	6.0	6.0
EB	0.3198	0.4542	6.0	6.0

CROSS SLOPE
EXISTING CROSS SLOPE IS: 0.020 '/ft
AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2025	K =
		D =
ADT (VPD)	ADT (VPD)	T =

REMARKS
(1) 2 left-tum lanes and 3 travel lanes between interchange ramps in both Westbound and Eastbound direction of travel

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Baseline Road - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
12+00.00	0.3198	-0.3231	400	1,878	360	>90	45
19+00.00	-0.3231	-0.1500	0	>1500	360	>90	45
25+00.00	-0.1500	-0.4542	0	3,547	360	>90	45

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	Existing (Ft/Ft)	Minimum (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	Existing
N/A			Tangent			

REMARKS

2

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp A

PROJECT NUMBER:	10 MA 149 H8768 01L	**MAINLINE MILEPOST:**	156.2
PROJECT LOCATION:	SR 143 - SR 202L, Santan		
HIGHWAY SECTION:	Phoenix - Casa Grande Highway		
INTERCHANGE:	Baseline Road TI (I-10)		
RAMP DESIGNATION:	Ramp A (1)		
DESCRIPTION:	WB Exit Ramp		

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
24 - 54 (2)	21	22	7,633

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 45 mph; Ramp Gore Area = 45 mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
N/A	3.5145	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
18,100		

REMARKS

(1) "As-Built" Name - Current Ramp designation would be Ramp C per the ADOT "Roadway Design Guidelines"
(2) One lane ramp tapers to four lanes at cross road

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Baseline Road TI Ramp A - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
2+00.00	1.6557	3.5145	200	3,547	250	>90	35
9+25.00	3.5145	1.0580	600	739	360	68	45

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (1) (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (1) (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
5+88.58	0.100	0.020	0.020	45	10°-37'	0°-45'

REMARKS

(1) Existing design was with e_{max} = 10%. Minimum superelevation rate is based on AASHTO (2004) Exhibit 3-28.

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp B

PROJECT NUMBER:	10 MA 149 H8768 01L	**MAINLINE MILEPOST:**	156.2
PROJECT LOCATION:	SR 143 - SR 202L, Santan		
HIGHWAY SECTION:	Phoenix - Casa Grande Highway		
INTERCHANGE:	Baseline Road TI (I-10)		
RAMP DESIGNATION:	Ramp B (1)		
DESCRIPTION:	EB Entrance Ramp		

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
24 - 30 (2)	21	22	2,858

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 45 mph; Ramp Gore Area = 45 mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
4.0248	N/A	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
17,500		

REMARKS

(1) "As-Built" Name - Current Ramp designation would be Ramp D per the ADOT "Roadway Design Guidelines"
(2) Two lane ramp tapers to one lane

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Baseline Road TI Ramp B - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
1+75.00	2.0000	4.0248	200	1,465	250	>90	35
7+40.00	4.0248	1.0720	600	665	360	67	45

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (1) (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (1) (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
3+66.29	0.100	0.028	0.028	40	13°-58'	2°-00'
16+82.13	0.100	0.020 (3)	0.026	45	10°-37'	1°-30'

REMARKS

(1) Existing design was with e_{max} = 10%. Minimum superelevation rate is based on AASHTO (2004) Exhibit 3-28.
(2) Ramp superelevation controlled by existing mainline superelevation
(3) No design exception required. Ramp will be adjusted with this project

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp C

PROJECT NUMBER:	10 MA 149 H8768 01L
PROJECT LOCATION:	SR 143 - SR 202L, Santan
HIGHWAY SECTION:	Phoenix - Casa Grande Highway
INTERCHANGE:	Baseline Road TI (I-10)
RAMP DESIGNATION:	Ramp C (1)
DESCRIPTION:	EB Exit Ramp - From merge of Ramp EB-T4 and Ramp W-S (US60/I-10)
MAINLINE MILEPOST:	155.9

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 3
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
36 - 54 (2)	27	29	4,578

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 45 mph; Ramp Gore Area = 45 mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
2.4102	1.9971	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
13,100		

REMARKS

(1) "As-Built" Name - Current Ramp designation would be Ramp B per the ADOT "Roadway Design Guidelines"
(2) Two lane ramp tapers to four lanes at cross road

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Baseline Road TI Ramp C - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
10+50.00	2.4189	-2.4102	500	473	360	52	45
15+40.00	-2.4102	1.9971	300	324	250	41	35

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (1) (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (1) (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
3+74.12	0.100	0.020	0.020	45	10°-37'	1°-00'
12+05.16	0.100	0.028	0.020	45	10°-37'	1°-15'

REMARKS

(1) Existing design was with e_{max} = 10%. Minimum superelevation rate is based on AASHTO (2004) Exhibit 3-28.

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp D

PROJECT NUMBER:	10 MA 149 H8768 01L	**MAINLINE MILEPOST:**	155.8
PROJECT LOCATION:	SR 143 - SR 202L, Santan		
HIGHWAY SECTION:	Phoenix - Casa Grande Highway		
INTERCHANGE:	Baseline Road TI (I-10)		
RAMP DESIGNATION:	Ramp D (1)		
DESCRIPTION:	WB Entrance Ramp - Merge with WB C-D Road		

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
30-24 (2)	21	22	3,814

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 45 mph; Ramp Gore Area = 45 mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
2.8980	5.12	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9% D = N/A
ADT (VPD) 14,800	ADT (VPD)	T = 9%

REMARKS

(1) "As-Built" Name - Current Ramp designation would be Ramp A per the ADOT "Roadway Design Guidelines"
(2) Two lane ramp tapers to one lane at WB-CD road
Restriped tapered entrance to be an auxiliary lane to Ramp N-E exit ramp at US60

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Baseline Road TI Ramp D - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)	
6+25.00	2.4110	-5.1200	650	432	360	49	45	
10+00.00	-5.1200	2.8980	100	96	250	17	35	**

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (1) (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (1) (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
1+75.05	0.100	0.020	0.020	45	7°-45'	1°-00'
8+52.97	0.100	0.020	0.020	40	13°-15'	1°-30'

REMARKS

** Design Exception
(1) Existing design was with e_{max} = 10%. Minimum superelevation rate is based on AASHTO (2004) Exhibit 3-28.

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
EB Ramp T4

PROJECT NUMBER:	10 MA 149 H8768 01L	**MAINLINE MILEPOST:**	155.2
PROJECT LOCATION:	SR 143 - SR 202L, Santan		
HIGHWAY SECTION:	Phoenix - Casa Grande Highway		
INTERCHANGE:	Baseline Road TI (I-10)		
RAMP DESIGNATION:	Ramp EB - T4 (1)		
DESCRIPTION:	Connects I-10/US60 Ramp W-S and EB Baseline Road Exit		

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
26.5	21	22	1,904

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Gore Area (I-10) = 50 mph; Ramp Body = 45 mph; Ramp Gore Area (Ramp W-S) = 45 mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
-5.4138	-2.5619	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
35,600		

REMARKS

(1) Single lane ramp that merges with I-10/US60 TI Ramp W-S to develop a 2 lane ramp

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
EB Ramp T4 - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
I-10/US60 TI WB60-EB10 Ramp (# 2368)	154.93	N/A	18.59'	16'

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
I-10/US60 TI WB60-EB10 Ramp (# 2368)	154.93	72	72	Yes	Yes	HS-21.7	HS-20

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)	
14+50.00	-0.4331	5.4138	400	324	360	42	45	**
21+75.00	5.4138	-2.5619	950	507	360	54	45	

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (1) (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (1) (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
7+86.68	0.100	0.073	0.072	50	8°-15'	4°-00'
17+07.87	0.100	0.084	0.083	50	8°-15'	5°-00'
26+72.60	0.100	0.059	0.057	50	8°-15'	3°-00'

REMARKS

** Design Exception

(1) Existing design was with e_{max} = 10%. Minimum superelevation rate is based on AASHTO (2004) Exhibit 3-28.

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
WB CD Road

PROJECT NUMBER: 10 MA 149 H8768 01L
MAINLINE MILEPOST: 156.1
PROJECT LOCATION: SR 143 - SR 202L, Santan
HIGHWAY SECTION: Phoenix - Casa Grande Highway
INTERCHANGE: CD Road
RAMP DESIGNATION: WB CD Road
DESCRIPTION: WB CD Road between Baseline Road and I-10/US60 Ramp N-E

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
33 - 45 [1]	21	22	1,522

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Gores = 50 mph; Ramp Body = 50 mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
0.5093	2.6874	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft
AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2025	K =
		D = N/A
ADT (VPD)	ADT (VPD)	T =
37,800		

REMARKS

(1) 2 lane exit ramp to US60 ramp N-E, tapers to 1 lane at the return entrance to I-10

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
WB CD Road - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Baseline Road TI WB C-D Road OP (# 2348)	155.64	N/A	17.67'	16'

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Baseline Road TI WB C-D Road OP (# 2348)	155.64	44	40	Yes	Yes	HS-20	HS-20

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
8180+50.00	1.1506	-0.5093	400	850	425	76	50
8184+25.00	-0.5093	1.0500	340	>1500	425	>90	50
8187+45.00	1.0500	1.3978	300	>1500	425	>90	50
8189+50.00	0.2017	2.6874	800	1,623	425	>90	50
8208+50.00	2.6874	0.3751	1150	1,036	425	84	50

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
8177+56.15	0.060	NC **	0.040	50	6°-45'	2°-30'
8183+94.06	0.060	0.050	0.050	50	6°-45'	3°-45'
8188+25.90	0.060	Varies **	0.042	50	6°-45'	2°-45'
8192+52.08	0.060	NC	NC	50	6°-45'	0°-30'
8207+26.38	0.060	NC	NC	50	6°-45'	0°-30'
8214+85.15	0.060	NC	NC	50	6°-45'	0°-30'

REMARKS

** Design Exception will not be requested because the Ramp will be upgraded under this project.

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
CROSS ROAD

PROJECT NUMBER:	10 MA 149 H8768 01L	**MAINLINE MILEPOST:**	156.80
PROJECT LOCATION:	I-10 Corridor Study		
HIGHWAY SECTION:	Phoenix - Casa Grande Highway		
INTERCHANGE:	Guadalupe Road		
FUNCTIONAL CLASSIFICATION:	Urban Arterial		
Intersection Sta.	8262+81.83 I-10 Med cl = 15+00.00 Guadalupe Rd Cst cl		

LANE AND SHOULDER WIDTH

	EXISTING (Feet) EB	EXISTING (Feet) WB	AASHTO RECOMMENDED MINIMUM (Feet)
LANE WIDTH:	12	12	10
INSIDE SHOULDER WIDTH:	0	0	0
OUTSIDE SHOULDER WIDTH:	2-4	2-4	0
MEDIAN WIDTH:	0		0

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: 25 MPH

THE POSTED SPEED LIMIT IS: 25 MPH
TERRAIN IS: LEVEL

GRADES

	EXISTING MAXIMUM GRADE IS (%) Ascending	EXISTING MAXIMUM GRADE IS (%) Decending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Ascending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Descending
EB	2.4408	5.4552	6.0	6.0
WB	5.4552	2.4408	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft

AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2025	K =
		D =
ADT (VPD)	ADT (VPD)	T =

REMARKS

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
CROSS ROAD - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Guadalupe Road UP (# 2725)	155.65	N/A	16.33'	16'

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Guadalupe Road UP (# 2725)	155.65	32	32	Yes	Yes	HS-20	HS-20

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
15+00.00	2.4408	-5.4552	650	421	250	47	35

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
9+30.19	0.040	0.018 **	0.033	<25	37°-12'	16°-22'-13"
19+38.18	0.040	0.020	NC	25	37°-12'	2°-00'

REMARKS

** Design Exception will not be requested because the Cross Road will not be impacted under this project.

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
CROSS ROAD

PROJECT NUMBER:	10 MA 149 H8768 01L	**MAINLINE MILEPOST:**	157.8
PROJECT LOCATION:	SR 143 - SR 202L, Santan		
HIGHWAY SECTION:	Phoenix - Casa Grande Highway		
INTERCHANGE:	Elliot Road TI (I-10)		
FUNCTIONAL CLASSIFICATION:	Urban Arterial		
Intersection Sta.	8317+47.45 I-10 Med cl = 20+00.00 Elliot Rd Cst cl		

LANE AND SHOULDER WIDTH

	EXISTING (Feet) EB	EXISTING (Feet) WB	AASHTO RECOMMENDED MINIMUM (Feet)
LANE WIDTH:	11 (1)	11 (1)	10
INSIDE SHOULDER WIDTH:	0	0	0
OUTSIDE SHOULDER WIDTH:	3	3	0
MEDIAN WIDTH:	4		0

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: 45 MPH

THE POSTED SPEED LIMIT IS: 40 MPH
TERRAIN IS: LEVEL

GRADES

	EXISTING MAXIMUM GRADE IS (%) Ascending	EXISTING MAXIMUM GRADE IS (%) Decending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Ascending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Descending
EB	2.4898	3.2253	6.0	6.0
WB	3.2253	2.4898	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft

AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2025	K =
		D =
ADT (VPD)	ADT (VPD)	T =

REMARKS

(1) 3 travel lanes and 2 left-turn lanes in both directions of travel between the ramp terminals. 2 right-turn lanes at westbound entrance ramp.

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
CROSS ROAD - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Elliot Road TI UP (# 2306)	157.69	N/A	16.67'	16'

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Elliot Road TI UP (# 2306)	157.69	120	120	Yes	Yes	HS-21.67	HS-20

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
8+94.68	-0.8000	1.6054	300	856	360	76	45
14+25.00	1.6054	2.4898	200	>1500	360	>90	45
20+60.00	2.4898	-3.2253	730	525	360	55	45

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (1) (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (1) (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
9+85.62	0.040	NC	NC (2)	45	8°-04'	0°-45'
15+10.64	0.040	NC	NC (2)	45	8°-04'	0°-45'
23+11.86	0.040	NC	NC (2)	45	8°-04'	0°-45'
28+43.45	0.040	NC	NC (2)	45	8°-04'	0°-45'

REMARKS

(1) Existing design was with e_{max} = 4%. Minimum superelevation rate is based on AASHTO (1990) Table III-8 with e_{max} = 4%.
(2) Normal crown = 0.020 (Ft/Ft)

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp A

PROJECT NUMBER: 10 MA 149 H8768 01L
MAINLINE MILEPOST: 157.5
PROJECT LOCATION: SR 143 - SR 202L, Santan
HIGHWAY SECTION: Phoenix - Casa Grande Highway
INTERCHANGE: Elliot Road TI (I-10)
RAMP DESIGNATION: Ramp A
DESCRIPTION: NB Entrance Ramp

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
28 - 22 (1)	21	22	1,904

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 50 (2) mph; Ramp Gore Area = 50 (2) mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
0.0000	3.7302	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft
AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
21,600		

REMARKS

(1) 2 lane ramp tapers to 1 lane at I-10 gore
(2) Project M-514-8(1), TRACS No. 010 MA 157 H2383 03C, City of Tempe Project No. 896281, Ramp Design speed is 45mph

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp A - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
1+25.00	-0.8096	0.4231	200	>1500	360	>90	45
4+40.00	0.0000	3.7302	420	497	360	53	45
8+50.00	3.7302	1.7000	200	631	250	61	35

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
2+39.12	0.060	0.020 **	0.039	45	8°-55'	3°-00'

REMARKS

** Design Exception will not be requested because the Superelevation will be upgraded under this project.

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp B

PROJECT NUMBER:	10 MA 149 H8768 01L	**MAINLINE MILEPOST:**	158.0
PROJECT LOCATION:	SR 143 - SR 202L, Santan		
HIGHWAY SECTION:	Phoenix - Casa Grande Highway		
INTERCHANGE:	Elliot Road TI (I-10)		
RAMP DESIGNATION:	Ramp B (1)		
DESCRIPTION:	NB Exit Ramp		

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
22-40 (2)	21	22	1,426

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 50 (3) mph; Ramp Gore Area = 50 (3) mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
4.4171	N/A	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
8,400		

REMARKS

(1) "As-Built" Name - Current Ramp designation would be Ramp C per the ADOT "Roadway Design Guidelines"
(2) One-lane ramp tapers to three lanes at cross road
(3) Project M-514-8(1), TRACS No. 010 MA 157 H2383 03C, City of Tempe Project No. 896281, Ramp Design speed is 45mph

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp B - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
1+75.00	-1.3314	-4.4171	200	450	250	53	35
7+00.00	-4.4171	-0.4380	460	500	360	56	45

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
9+96.58	0.060	0.020 **	0.046	45	8°-55'	4°-00'
16+17.03	0.060	0.020 **	0.020	50	6°-53'	1°-00'

REMARKS

** Design Exception will not be requested because the Superelevation will be upgraded under this project.

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp C

PROJECT NUMBER:	10 MA 149 H8768 01L	**MAINLINE MILEPOST:**	157.6
PROJECT LOCATION:	SR 143 - SR 202L, Santan		
HIGHWAY SECTION:	Phoenix - Casa Grande Highway		
INTERCHANGE:	Elliot Road TI (I-10)		
RAMP DESIGNATION:	Ramp C (1)		
DESCRIPTION:	SB Exit Ramp		

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
22-52 (2)	21	22	11,453

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 50 (3) mph; Ramp Gore Area = 50 (3) mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
2.5491	0.4200	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
22,200		

REMARKS

(1) "As-Built" Name - Current Ramp designation would be Ramp B per the ADOT "Roadway Design Guidelines"
(2) One lane ramp tapers to four lanes at cross road
(3) Project M-514-8(1), TRACS No. 010 MA 157 H2383 03C, City of Tempe Project No. 896281, Ramp Design speed is 45mph

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp C - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
11+35.00	-0.4200	2.5491	400	651	360	65	45
17+50.00	2.5491	1.2650	200	940	250	83	35

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
6+52.08	0.060	0.020	NC (1)	45	8°-55'	0°-30'

REMARKS

(1) Normal crown = 0.020 Ft/Ft

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp D

PROJECT NUMBER:	10 MA 149 H8768 01L	**MAINLINE MILEPOST:**	158.0
PROJECT LOCATION:	SR 143 - SR 202L, Santan		
HIGHWAY SECTION:	Phoenix - Casa Grande Highway		
INTERCHANGE:	Elliot Road TI (I-10)		
RAMP DESIGNATION:	Ramp D		
DESCRIPTION:	SB Entrance Ramp		

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
28-22 (1)	21	22	2,286

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 50 (2) mph; Ramp Gore Area = 50 (2) mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
N/A	4.0000	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
9,400		

REMARKS

(1) 2 lane ramp tapers to 1 lane at I-10 gore
(2) Project M-514-8(1), TRACS No. 010 MA 157 H2383 03C, City of Tempe Project No. 896281, Ramp Design speed is 45mph

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp D - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
2+00.00	-2.0000	-4.0000	200	640	250	62	35
7+10.00	-4.0000	-0.5500	400	524	360	55	45

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
2+41.44	0.060	-0.020 **	0.025	35	16°-50'	2°-30'
9+68.45	0.060	0.020 (1)	0.035	45	8°-55'	2°-30'
13+48.25	0.060	0.020	0.020	45	8°-55'	1°-00'

REMARKS

** Design Exception
(1) Design Exception will not be requested because the Superelevation will be upgraded under this project.

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
CROSS ROAD

PROJECT NUMBER:	10 MA 149 H8768 01L
PROJECT LOCATION:	SR 143 - SR 202L, Santan
HIGHWAY SECTION:	Phoenix - Casa Grande Highway
INTERCHANGE:	Warner Road TI (I-10)
FUNCTIONAL CLASSIFICATION:	Urban Arterial
Intersection Sta.	8371+06.47 I-10 Med cl = 20+00.00 Warner Rd Cst cl

MAINLINE MILEPOST: 158.8

LANE AND SHOULDER WIDTH

	EXISTING (Feet) EB	EXISTING (Feet) WB	AASHTO RECOMMENDED MINIMUM (Feet)
LANE WIDTH:	11 (1)	11 (1)	10
INSIDE SHOULDER WIDTH:	0	0	0
OUTSIDE SHOULDER WIDTH:	1.5 (2)	1.5 (2)	0
MEDIAN WIDTH:	0		0

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: 45 MPH

THE POSTED SPEED LIMIT IS: 40 - 45 (3) MPH
TERRAIN IS: LEVEL

GRADES

	EXISTING MAXIMUM GRADE IS (%) Ascending	EXISTING MAXIMUM GRADE IS (%) Decending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Ascending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Descending
EB	3.0000	4.5700	6.0	6.0
WB	4.5700	3.0000	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft

AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2025	K =
		D =
ADT (VPD)	ADT (VPD)	T =

REMARKS

(1) 2 travel lanes and 2 left-turn lanes eastbound. 2 travel lanes and 1 left-turn lane westbound
(2) Recommended minimum offset from travel way to curb or barrier is 2'-4' on structure.
(3) 45mph east of I-10, 40 mph west of I-10

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
CROSS ROAD - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Warner Road TI UP (# 2016)	158.69	N/A	16.58'	16'

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Warner Road TI UP (# 2016)	158.69	80 **	81-85	Yes	Yes	HS-20	HS-20

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
10+75.00	-0.6260	3.0000	400	493	360	53	45
21+00.00	3.0000	-4.5700	1000	534	360	55	45
30+83.00	-4.5700	-0.7097	400	461	360	50	45

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
8+72.48	0.060	0.045	0.045	35	16°-50'	6°-21'-58"
11+54.75	0.060	0.045-NC (2)	0.025	35	16°-50'	2°-39'-53"
15+03.54	0.060	NC (2)	0.020	45	8°-55'	1°-08'-30"
24+73.63	0.060	NC (2)	0.020	45	8°-55'	1°-00'
29+14.55	0.060	NC (2)	0.020	45	8°-55'	1°-00'

REMARKS

** Design Exception will not be requested because the Structure will not be impacted under this project.
(2) Normal Crown = 0.020 (Ft/Ft)

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp A

PROJECT NUMBER:	10 MA 149 H8768 01L	**MAINLINE MILEPOST:**	159.0
PROJECT LOCATION:	SR 143 - SR 202L, Santan		
HIGHWAY SECTION:	Phoenix - Casa Grande Highway		
INTERCHANGE:	Warner Road TI (I-10)		
RAMP DESIGNATION:	Ramp A (1)		
DESCRIPTION:	SB Entrance Ramp		

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
28-22 (2)	21	24	3,814

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 50 (3) mph; Ramp Gore Area = 50 (3) mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
N/A	-4.9600	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
7,200		

REMARKS

(1) "As-Built" Name - Current Ramp designation would be Ramp D per the ADOT "Roadway Design Guidelines"
(2) 2 lane ramp tapers to 1 lane at I-10 gore
(3) Project IR-10-3(192) - Ramp Design speed is 45mph

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp A - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
1+50.00	-3.0000	-4.9600	200	651	250	62	35
6+00.00	-4.9600	-0.2932	400	388	360	45	45

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
3+62.00	0.060	0.021	0.020	40	11°-49'	1°-30'
8+89.39	0.060	0.024	0.020	50	6°-53'	0°-45'
16+83.29	0.060	0.020	0.020	50	6°-53'	1°-00'

REMARKS

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp B

PROJECT NUMBER: 10 MA 149 H8768 01L
PROJECT LOCATION: SR 143 - SR 202L, Santan
HIGHWAY SECTION: Phoenix - Casa Grande Highway
INTERCHANGE: Warner Road TI (I-10)
RAMP DESIGNATION: Ramp B [1]
DESCRIPTION: NB Exit Ramp

MAINLINE MILEPOST: 159.0

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
28-22 [2]	21	22	7,645

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 50 [3] mph; Ramp Gore Area = 50 [3] mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
4.7020	N/A	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft
AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
6,800		

REMARKS

(1) "As-Built" Name - Current Ramp designation would be Ramp C per the ADOT "Roadway Design Guidelines"
(2) One lane ramp tapers to two lanes at cross road
(3) Project IR-10-3(192) - Ramp Design speed is 45mph

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp B - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
1+50.00	-2.0000	-4.7020	200	499	250	57	35
6+50.00	-4.7020	-0.2251	400	402	360	48	45

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
7+36.42	0.060	0.020	0.020	55	5°-24'	0°-45'
13+80.52	0.060	0.020	0.020	50	6°-53'	1°-00'

REMARKS

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp C

PROJECT NUMBER:	10 MA 149 H8768 01L	**MAINLINE MILEPOST:**	158.5
PROJECT LOCATION:	I-10 Corridor Study		
HIGHWAY SECTION:	Phoenix - Casa Grande Highway		
INTERCHANGE:	Warner Road TI (I-10)		
RAMP DESIGNATION:	Ramp C (1)		
DESCRIPTION:	NB Entrance Ramp		

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
22-28 (2)	21	22	5,736

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 50 (3) mph; Ramp Gore Area = 50 (3) mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
0.4400	2.5559	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9% D = N/A
ADT (VPD) 13,500	ADT (VPD)	T = 9%

REMARKS

(1) "As-Built" Name - Current Ramp designation would be Ramp A per the ADOT "Roadway Design Guidelines"
(2) 2 lane ramp tapers to 1 lane at I-10 gore
(3) Project IR-10-3(192) - Ramp Design speed is 45mph

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp C - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
11+15.66	-0.4400	2.5559	400	641	360	63	45
18+40.66	2.5559	2.0000	200	2,041	250	>90	35

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
1+48.79	0.060	0.020	0.020	50	6°-53'	1°-00'
8+76.82	0.060	0.024	NC (1)	50	6°-53'	0°-45'

REMARKS

(1) Normal crown = 0.020 Ft/Ft

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp D

PROJECT NUMBER: 10 MA 149 H8768 01L
PROJECT LOCATION: SR 143 - SR 202L, Santan
HIGHWAY SECTION: Phoenix - Casa Grande Highway
INTERCHANGE: Warner Road TI (I-10)
RAMP DESIGNATION: Ramp D (1)
DESCRIPTION: SB Exit Ramp
MAINLINE MILEPOST: 158.6

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
22-40 (2)	21	22	2,847

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 50 (3) mph; Ramp Gore Area = 50 (3) mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
4.0325	0.4310	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft
AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
13,200		

REMARKS

(1) "As-Built" Name - Current Ramp designation would be Ramp B per the ADOT "Roadway Design Guidelines"
(2) One lane ramp tapers to 3 lanes at cross road
(3) Project IR-10-3(192) - Ramp Design speed is 45mph

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp D - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
5+81.64	-0.4310	0.4295	100	>1500	360	>90	45
10+56.64	0.4295	4.0325	400	497	360	56	45
14+56.64	4.0325	2.0000	200	631	250	66	35

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
2+00.08	0.060	0.020	0.020	50	6°-53'	1°-00'
12+06.28	0.060	0.028	0.025	40	11°-49'	2°-00'

REMARKS

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
CROSS ROAD

PROJECT NUMBER:	10 MA 149 H8768 01L
PROJECT LOCATION:	SR 143 - SR 202L, Santan
HIGHWAY SECTION:	Phoenix - Casa Grande Highway
INTERCHANGE:	Ray Road TI (I-10)
FUNCTIONAL CLASSIFICATION:	Urban Arterial
Intersection Sta.	8423+74.34 I-10 Med cl = 20+00.00 Ray Rd Cst cl

MAINLINE MILEPOST: 159.8

LANE AND SHOULDER WIDTH

	EXISTING (Feet) EB	EXISTING (Feet) WB	AASHTO RECOMMENDED MINIMUM (Feet)
LANE WIDTH:	11	11	10
INSIDE (left) SHOULDER WIDTH:	0	0	0
OUTSIDE (right) SHOULDER WIDTH:	5 (1)	5 (1)	0
MEDIAN WIDTH:	4		0

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: 45 MPH

THE POSTED SPEED LIMIT IS: 40 - 45 (2) MPH

TERRAIN IS: LEVEL

GRADES

	EXISTING MAXIMUM GRADE IS (%) Ascending	EXISTING MAXIMUM GRADE IS (%) Decending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Ascending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Descending
WB	3.8000	1.8085	6.0	6.0
EB	1.8085	3.8000	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft

AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2025	K =
		D =
ADT (VPD)	ADT (VPD)	T =

REMARKS

(1) 5' Bike lane / Shoulder
(2) 40 mph west of I-10, 45 mph east of I-10

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
CROSS ROAD - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Ray Road TI UP (# 2017)	159.70	N/A	16.59'	16'

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Ray Road TI UP (# 2017)	159.70	124	124	Yes	Yes	HS-20	HS-20

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
6+50.00	-0.5833	1.8085	600	1,430	360	>90	45
20+00.00	1.8085	-3.8000	1000	620	360	61	45
29+23.00	-3.8000	-0.9000	600	930	360	78	45

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	Minimum (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
N/A			Tangent			

REMARKS

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp A

PROJECT NUMBER:	10 MA 149 H8768 01L	**MAINLINE MILEPOST:**	159.6
PROJECT LOCATION:	SR 143 - SR 202L, Santan		
HIGHWAY SECTION:	Phoenix - Casa Grande Highway		
INTERCHANGE:	Ray Road TI (I-10)		
RAMP DESIGNATION:	Ramp A		
DESCRIPTION:	NB Entrance Ramp		

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
22-28 (1)	21	24	1,528

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 50 mph; Ramp Gore Area = 50 mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
0.8760	3.1208	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
18,500		

REMARKS

(1) 2 lane ramp tapers to one lane at I-10 gore

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp A - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
5+55.38	-0.8760	1.6800	200	565	425	59	50
9+02.88	1.6000	3.1208	245	>1500	425	>90	50
12+55.38	3.1208	1.5806	200	801	250	72	35

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
2+61.50	0.060	0.020	0.020	50	6°-53'	1°-00'
6+36.70	0.100 (1)	0.093	0.090 (1)	60	5°-15'	3°-45' (2)

REMARKS

(1) Existing design was with e_{max} = 10%. Minimum superelevation rate is based on AASHTO (2004) Exhibit 3-28.
(2) Original curve was 4°-00' and was revised to 3°-45' with recent I-10-C-202 project that added auxiliary lanes.

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp B

PROJECT NUMBER:	10 MA 149 H8768 01L	**MAINLINE MILEPOST:**	160.0
PROJECT LOCATION:	SR 143 - SR 202L, Santan		
HIGHWAY SECTION:	Phoenix - Casa Grande Highway		
INTERCHANGE:	Ray Road TI (I-10)		
RAMP DESIGNATION:	Ramp B (1)		
DESCRIPTION:	NB Exit Ramp		

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
28-22 (2)	21	24	2,871

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 50 mph; Ramp Gore Area = 50 mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
3.6229	N/A	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
9,900		

REMARKS

(1) "As-Built" Name - Current Ramp designation would be Ramp C per the ADOT "Roadway Design Guidelines"
(2) One lane ramp tapers to two lanes at cross road

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp B - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
2+00.00	-1.6200	-3.6229	200	639	250	66	35
8+20.00	-3.6229	-1.3672	440	1,377	425	>90	50
11+75.00	-1.5746	-0.4139	200	>1500	425	>90	50

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
9+04.44	0.060	0.020 (1)	0.021	60	5°-15'	0°-45'

REMARKS

(1) Design Exception will not be requested because the Superelevation is considered to be in substantial conformance with the AASHTO requirements.

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp C

MAINLINE MILEPOST: 159.3

PROJECT NUMBER:	10 MA 149 H8768 01L
PROJECT LOCATION:	SR 143 - SR 202L, Santan
HIGHWAY SECTION:	Phoenix - Casa Grande Highway
INTERCHANGE:	Ray Road TI (I-10)
RAMP DESIGNATION:	Ramp C [1]
DESCRIPTION:	SB Exit Ramp

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
22-52 [2]	21	22	949

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 50 mph; Ramp Gore Area = 50 mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
2.1567	0.4539	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	ADT (VPD)	DESIGN YEAR	ADT (VPD)	TRAFFIC FACTORS
2014	17,500	2030		K = 9% D = N/A T = 9%

REMARKS

(1) "As-Built" Name - Current Ramp designation would be Ramp B per the ADOT "Roadway Design Guidelines"
(2) One lane ramp tapers to four lanes at cross road

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp C - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
12+56.58	-0.4539	2.1567	600	1,142	425	>90	50
18+56.58	2.1567	0.9790	400	1,116	425	>90	50

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
2+00.08	0.060	0.020	0.020	50	6°-53'	1°-00'
8+51.56	0.100 [1]	0.093	0.093 [1]	60	5°-15'	4°-00'
16+50.70	0.100 [1]	0.100	0.099 [1]	55	6°-32'	6°-00'

REMARKS

(1) Existing design was with e_{max} = 10%. Minimum superelevation rate is based on AASHTO (2004) Exhibit 3-28.

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp D

PROJECT NUMBER:	10 MA 149 H8768 01L
PROJECT LOCATION:	SR 143 - SR 202L, Santan
HIGHWAY SECTION:	Phoenix - Casa Grande Highway
INTERCHANGE:	Ray Road TI (I-10)
RAMP DESIGNATION:	Ramp D
DESCRIPTION:	SB Entrance Ramp

MAINLINE MILEPOST: 160.0

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
28-22 (1)	21	22	1,438

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 50 mph; Ramp Gore Area = 50 mph

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
N/A	3.8787	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
9,800		

REMARKS

(1) 2 lane ramp tapers to one lane at I-10 gore

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Ramp D - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
2+00.00	-1.5050	-3.8787	200	555	250	57	35
8+35.00	-3.8787	-0.3995	600	719	425	66	50

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (1) (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (1) (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
10+90.29	0.100	0.093	0.093	60	5°-15"	4°-00'

REMARKS

(1) Existing design was with e_{max} = 10%. Minimum superelevation rate is based on AASHTO (2004) Exhibit 3-28.

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
MAIN LINE SUMMARY: I-10/US60 TI Ramp S-E and Ramp W-N

PROJECT NUMBER:	10 MA 149 H8768 01L	**ROUTE:**	US60
PROJECT LOCATION:	SR 143 - SR 202L, Santan	**BEGINNING MP:**	172.00
HIGHWAY SECTION:	Phoenix - Globe Highway (US60)	**ENDING MP:**	173.65
FUNCTIONAL CLASSIFICATION:	INTERSTATE (Directional Ramps)		

LANE AND SHOULDER WIDTH

	EXISTING (Feet)	AASHTO RECOMMENDED MINIMUM (Feet)
LANE WIDTH:	12	12
HOV LANE WIDTH:	12	12
HOV BUFFER WIDTH:	0	
INSIDE SHOULDER WIDTH:	4-10 (1)	10
OUTSIDE SHOULDER WIDTH:	10-12	10

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: 50 MPH (S-E)
50 MPH (W-N)

THE POSTED SPEED LIMIT IS: S-E (Not Posted)
W-N (Not Posted)

TERRAIN IS: LEVEL

GRADES

EXISTING MAXIMUM GRADE IS: 3.36% S-E
4.67% W-N

AASHTO ALLOWABLE MAXIMUM GRADE IS: 6.0000%

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020'/ft

AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020'/ft

TRAFFIC VOLUMES AND FACTORS

	Existing 2014	Design Year 2030	TRAFFIC FACTORS		
	ADT (VPD)	ADT (VPD)	K = 9%	D = N/A	T = 9%
Ramp S-E	47,500			N/A	
Ramp W-N	53,500			N/A	

REMARKS

(1) Design Exception was obtained with the US60 HOV Lane Design Build Project

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
US60 MAINLINE - CONTINUED: I-10/US60 TI Ramp S-E and Ramp W-N

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Post Construction Clearance	AASHTO Minimum Allowable Clearance
See Attachment No. 3				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
See Attachment No. 5							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
See Attachment No. 1							

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (1) (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (1) (Ft/Ft)	EXISTING SPEED (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
Ramp S-E						
268+70.86 Design Build	0.060	NC (1,2)	0.020	50	6°-53'	1°-00' (2)
278+91.71 Design Build	0.060	0.059 (1,2)	0.051	50	6°-53'	4°-00' (2)
96+52.79	0.100	0.092	0.092	50	8°-15'	6°-00'
110+70.16 Design Build	0.100	NC	NC	50	8°-15'	0°-30'
122+74.13	0.100	0.034	0.031	55	6°-32'	1°-15'
139+91.58	0.100	0.058	0.055	60	5°-15'	2°-00'
Ramp W-N						
102+90.96	0.100	0.092	0.092	50	8°-15'	6°-00'
122+98.98	0.100	0.034	0.031	55	6°-32'	1°-15'
140+17.96	0.100	0.058	0.055	60	5°-15'	2°-00'

REMARKS

(1) Existing design was with e_{max} = 10%. Minimum superelevation rate is based on AASHTO (2004) Exhibit 3-26 and 3-28.
(2) US60 Design Build increased the 0°-30' curve to 1°-00' curve. Design Build project also increased the existing 3°-00' curve to 4°-00' curve while maintaining the existing superelevation. If one uses e_{max} = 6%, the existing superelevation rate meets criteria for 50mph

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ATTACHMENT NO. 1

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

Direction: US60 Eastbound (Ramp S-E - one way with stationing)

VPI Station	Curve Length (Ft)	Grades (%)		Existing SDs (Ft)	Minimum SDs (Ft)	Existing Speed (mph)	Design Speed (mph)
		Approach	Departure				
277+00.00DB	450	0.6994	3.3600	877	425	80	50
83+25.00	800	3.3600	1.5082	983	425	84	50
96+00.00	900	1.5082	0.2502	1,308	425	>90	50
122+50.00	1,200	0.2502	-2.5760	957	425	80	50
142+50.00	1,000	-2.5760	-0.7243	11,070	425	>90	50

DB = Design Build Project

Direction: US60 Westbound (Ramp W-N - One way against Stationing)

VPI Station	Curve Length (Ft)	Grades (%)		Existing SDs (Ft)	Minimum SDs (Ft)	Existing Speed (mph)	Design Speed (mph)
		Approach	Departure				
100+50.00	600	-0.7137	4.6737	482	425	51	50
108+50.00	1,000	4.6737	0.2500	698	425	68	50
122+50.00	1,050	0.2500	-2.5000	908	425	81	50
142+00.00	1,000	-2.5000	-0.5570	6,070	425	>90	50

ATTACHMENT NO. 3

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Post Construction Clearance	AASHTO Minimum Allowable Clearance
I-10/US60 TI Southern Avenue HOV OP (# 2702)	154.62	N/A	25.55'	16'
I-10/US60 TI Ramp S-E Over Southern Ave (# 2305)	154.62	N/A	15.84'	14.5
I-10/US60 TI Ramp S-E Over I-10 (# 2347)	154.93	N/A	17.24'	16'
I-10/US60 TI WB60-EB10 Ramp (# 2368)	155.00	N/A	18.59'	16'
I-10/US60 TI HOV Ramp (# 2700)	155.14	N/A	16.93'	16'
Priest Drive WB OP (# 2351)	172.37	N/A	17.46'	16'
Priest Drive EB OP (# 2350	172.37	N/A	17.38'	16'
Hardy Drive UP(# 1376) [4]	172.90	N/A	15.56'	

REMARKS

(1) Less than recommended minimum. US60 DCR for Design Build requested Design Exception

ATTACHMENT NO. 5

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
I-10/US60 TI Southern Avenue HOV OP (# 2702)	154.62	44 (1) **	56 (1) **	Yes	Yes	HS-20+	HS-20
I-10/US60 TI Ramp S-E Over Southern Ave (# 2305)	154.62	56	56	Yes	Yes	HS-20.5	HS-20
I-10/US60 TI Ramp S-E Over I-10 (# 2347)	154.93	72	72	Yes	Yes	HS-21.7	HS-20
I-10/US60 TI WB60-EB10 Ramp (# 2368)	155.00	30	28	Yes	Yes	HS-22.2	HS-20
I-10/US60 TI HOV Ramp (# 2700)	155.14	52 (2)	56 (2)	Yes	Yes	HS-20+	HS-20
Priest Drive WB OP (# 2351)	172.37	98.2	98	Yes	Yes	HS-20	HS-20
Priest Drive EB OP (# 23500	172.37	113 (3) **	127 (3) **	Yes	Yes	HS-20 [3]	HS-20
Hardy Drive UP(# 1376) (4)	172.90	40	40	No	No	HS-30	HS-20

REMARKS
** Design Exception will not be requested because US60 Design Build DCR has requested Design Exception for reduced shoulder widths.
(1) Recommended structure width 10' rt shld(6' exst), 12' lane, 6' lt shld(4' exst), barrier, 6' lt shld(4' exst), 12' lane, 10' rt shld(6' exst).
(2) Recommended structure width 10' rt shld(10' exst), 12' lane, 6' lt shld(4' exst), barrier, 6' lt shld(4' exst), 12' lane, 10' rt shld(10' exst).
(3) Approximate average width -- bridge has been widened under US60 Design-Build Project. Structural capacity is based on ORIGINAL structure.
(4) Consideration should be given to replace existing bridge rails.

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
I-10 / US60 TI Ramp W-S

PROJECT NUMBER: 10 MA 149 H8768 01L
PROJECT LOCATION: SR 143 - SR 202L, Santan
HIGHWAY SECTION: Phoenix - Casa Grande Highway
INTERCHANGE: I-10 / US60 TI
RAMP DESIGNATION: Ramp W-S
DESCRIPTION: WB Exit Ramp US60 to SB I-10 - Directional
MAINLINE MILEPOST: 156.0

PAVEMENT WIDTH
CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH

Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
30	21	22	661

DESIGN SPEED
THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Gore (W-N) = 45 mph; Ramp Body = 45 mph; Ramp Gore (EB T-4) = 45 mph (1)

GRADES

EXISTING MAXIMUM GRADE IS (%)		AASHTO ALLOWABLE MAXIMUM GRADE (%)	
Ascending	Decending	Ascending	Descending
3.2834	5.5069	6.0	6.0

CROSS SLOPE
EXISTING CROSS SLOPE IS: 0.020 '/ft
AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
26,500		

REMARKS

(1) Current ADOT RDG recommends design speed = 55mph. Posted Advisory Speed is 40mph

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
I-10 / US60 TI Ramp W-S - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
I-10/US60 TI HOV Ramp (# 2700)	155.14	N/A	16.93'	16'
I-10/US60 TI Ramp S-E Over I-10 (# 2347)	154.93	N/A	17.24'	16'
I-10/US60 TI WB60-EB10 Ramp (# 2368)	155.00	N/A	18.59'	16'

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
I-10/US60 TI HOV Ramp (# 2700)	155.14	52 (1)	56 (1)	Yes	Yes	HS-20	HS-20
I-10/US60 TI Ramp S-E Over I-10 (# 2347)	154.93	72	72	Yes	Yes	HS-21.7	HS-20
I-10/US60 TI WB60-EB10 Ramp (# 2368)	155.00	30	28	Yes	Yes	HS-22.2	HS-20

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
15+00.00	0.7043	3.2834	500	1,019	425	80	50
29+50.00	3.2834	-5.5069	1300	565	360	56	45
42+50.00	-5.5069	2.6034	850	458	360	53	45
63+00.00	2.6034	1.4410	400	1,128	425	>90	50

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (2) (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (2) (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
2+42.40	0.100	0.034	0.034	45	10°-37'	2°-00'
32+20.38	0.100	0.094	0.097	45	10°-37'	8°-45'
50+21.96	0.100	0.023	0.021	50	8°-15'	1°-00'
61+84.54	0.100	NC (3)	0.020	50	8°-15'	0°-45'

REMARKS
(1) Recommended structure width 10' rt shld(10' exst), 12' lane, 6' lt shld(4' exst), barrier, 6' lt shld(4' exst), 12' lane, 10' rt shld(10' exst).
(1) US60 Design Build DCR has requested Design Exception for reduced shoulder widths
(2) Existing design was with e_{max} = 10%. Minimum superelevation rate is based on AASHTO (2004) Exhibit 3-28.
(3) Normal crown = 0.020 Ft/Ft

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
I-10 / US60 TI Ramp N-E

PROJECT NUMBER: 10 MA 149 H8768 01L
PROJECT LOCATION: SR 143 - SR 202L, Santan
HIGHWAY SECTION: Phoenix - Casa Grande Highway
INTERCHANGE: I-10 / US60 TI
RAMP DESIGNATION: Ramp N-E
DESCRIPTION: NB Exit Ramp I-10 to EB US60 - Directional
MAINLINE MILEPOST: 155.6

PAVEMENT WIDTH
CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
24-30	21	22	849

DESIGN SPEED
THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Gore = 50 mph; Ramp Body = 50 mph; Ramp Gore Area = 50 mph (1)

GRADES

EXISTING MAXIMUM GRADE IS (%) Ascending	EXISTING MAXIMUM GRADE IS (%) Decending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Ascending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Descending
2.8533	0.2046	6.0	6.0

CROSS SLOPE
EXISTING CROSS SLOPE IS: 0.020 '/ft
AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
26,300		

REMARKS
(1) Current ADOT RDG recommends design speed = 55mph

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
I-10 / US60 TI Ramp N-E - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
I-10/US60 TI Ramp NE Over Western Canal (# 2367)	155.01	N/A	N/A	N/A

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
I-10/US60 TI Ramp NE Over Western Canal (# 2367)	155.01	28	28	Yes	Yes	HS-20	HS-20

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
11+00.00 DB	0.2000	-0.2000	200	2,798	425	>90	50
15+00.00 DB	-0.2000	-2.8533	600	707	425	69	50
12+50.00	-2.8533	0.2046	900	1,205	425	>90	50

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum [1] (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum [1] (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
12+50.24 DB	0.100	0.028	0.026	50	8°-15'	1°-15'
11+28.93	0.100	0.097	0.096	50	8°-15'	6°-45'
19+66.10	0.100	0.055	0.053	50	8°-15'	2°-45'

REMARKS

(1) Existing design was with emax = 10%. Minimum superelevation rate is based on AASHTO (2004) Exhibit 3-28.

Note: DB - US60 HOV Lane Design Build Project

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
I-10 / US60 TI Ramp HOV

PROJECT NUMBER: 10 MA 149 H8768 01L
MAINLINE MILEPOST: 154.9
PROJECT LOCATION: SR 143 - SR 202L, Santan
HIGHWAY SECTION: Phoenix - Casa Grande Highway
INTERCHANGE: I-10 / US60 TI
RAMP DESIGNATION: Ramp HOV
DESCRIPTION: I-10 to US60 HOV Ramp - Directional

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
22-26 [1]	21	22	989

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Gore (I-10) = 55 mph; Ramp Body = 55 mph; Ramp Gore (US60) = 55 mph

GRADES

	EXISTING MAXIMUM GRADE IS (%) Ascending	EXISTING MAXIMUM GRADE IS (%) Decending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Ascending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Descending
S-E	4.0000	0.9199	6.0	6.0
W-N	0.9199	4.0000	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft
AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

	YEAR 2014 ADT (VPD)	DESIGN YEAR 2030 ADT (VPD)	TRAFFIC FACTORS
			K = 9%
			D = N/A
			T = 9%
HOV Ramp S-E	12,400		
HOV Ramp W-N	12,000		

REMARKS

(1) I-10/US60 TI HOV Directional Ramps S-E and W-N

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
I-10 / US60 TI Ramp HOV - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
I-10/US60 TI Southern Avenue HOV OP (# 2702) [1]	154.62	N/A	15'-10"	16'
I-10/US60 TI HOV Ramp (# 2700) [2]	155.14	N/A	17'-2.5"	16'
I-10/US60 TI WB60-EB10 Ramp (# 2368)	155.00	N/A	18'-6"	16'

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
I-10/US60 TI Southern Avenue HOV OP (# 2702) [1]	154.62	44 (1)	56 (1)	Yes	Yes	HS-20+	HS-20
I-10/US60 TI HOV Ramp (# 2700) (2)	155.14	52 (2)	56 (2)	Yes	Yes	HS-20+	HS-20
I-10/US60 TI WB60-EB10 Ramp (# 2368)	155.00	30	28	Yes	Yes	HS-22.2	HS-20

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
S-E (1ww)							
7154+72.00	1.8025	4.0000	310	1,208	495	>90	55
7165+85.00	4.0000	-0.9199	1300	1,110	495	86	55
7177+83.00	-0.9199	1.3017	300	755	495	71	55
7181+65.00	1.1533	0.1329	170	755	495	71	55
W-N (1wa)							
7154+50.00	1.8025	4.0000	270	1,110	495	86	55
7165+85.00	4.0000	-0.9199	1300	755	495	71	55
7177+83.00	-0.9199	1.3017	300	755	495	71	55
7181+65.00	1.1533	0.1329	170	1,131	495	>90	55

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
7173+77.05	0.080	0.080	0.080	55	5°-58'	5°-43'-46"

REMARKS

(1) Recommended structure width 10' rt shld(6' exst), 12' lane, 6' lt shld(4' exst), barrier, 6' lt shld(4' exst), 12' lane, 10' rt shld(6' exst).
(1) US60 Design Build DCR has requested Design Exception for reduced shoulder widths
(2) Recommended structure width 10' rt shld(10' exst), 12' lane, 6' lt shld(4' exst), barrier, 6' lt shld(4' exst), 12' lane, 10' rt shld(10' exst).
(2) Design exceptions were obtained with project 60 MA 172 H 4525 01C

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Priest Drive

PROJECT NUMBER: 10 MA 149 H8768 01L
PROJECT LOCATION: SR 143 - SR 202L, Santan
HIGHWAY SECTION: Phoenix - Globe Highway (Superstition Freeway)
INTERCHANGE: Priest Drive TI (US60)
FUNCTIONAL CLASSIFICATION: Urban Arterial
Intersection Sta. POC 121+32.57 Ramp S-E Cst cl = 20+00.00 Priest Dr Cst cl

MAINLINE MILEPOST: 172.4

LANE AND SHOULDER WIDTH

	EXISTING (Feet) NB	EXISTING (Feet) SB	AASHTO RECOMMENDED MINIMUM (Feet)
LANE WIDTH:	11 (1)	11 (1)	10
INSIDE (left) SHOULDER WIDTH:	0	0	0
OUTSIDE (right) SHOULDER WIDTH:	5.5	5.5	0
MEDIAN WIDTH:	3		0

DESIGN SPEED
THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: 45 MPH
THE POSTED SPEED LIMIT IS: 45 MPH
TERRAIN IS: LEVEL

GRADES

	EXISTING MAXIMUM GRADE IS (%) Ascending	EXISTING MAXIMUM GRADE IS (%) Decending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Ascending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Descending
NB	0.0000	2.4000	6.0	6.0
SB	2.4000	0.0000	6.0	6.0

CROSS SLOPE
EXISTING CROSS SLOPE IS: 0.020 '/ft
AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2025	K =
		D =
ADT (VPD)	ADT (VPD)	T =

REMARKS

(1) 2 left-turn lanes Southbound, and 3 travel lanes between interchange ramps in both Northbound and Southbound directions of travel. Outside lane width = 16.5'

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Priest Drive - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
17+75.00	-1.0251	-2.4000	200	885	360	77	45
19+75.00	-2.4000	-0.7546	200	>1500	360	>90	45

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	Minimum (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
N/A			Tangent			

REMARKS

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Priest Drive TI Ramp C

PROJECT NUMBER: 10 MA 149 H8768 01L
MAINLINE MILEPOST: 172.7
PROJECT LOCATION: SR 143 - SR 202L, Santan
HIGHWAY SECTION: Phoenix - Globe Highway (Superstition Freeway)
INTERCHANGE: Priest Drive TI (US60)
RAMP DESIGNATION: Ramp C
DESCRIPTION: WB Exit Ramp

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
22-40 [1]	21	22	661

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 50 mph; Ramp Gore Area = 50 mph

GRADES

EXISTING MAXIMUM GRADE IS (%) Ascending	EXISTING MAXIMUM GRADE IS (%) Decending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Ascending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Descending
2.0000	0.4513	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft
AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
14,400		

REMARKS

[1] One lane ramp tapers to three lanes at cross road

SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Priest Drive TI Ramp C - Continued

VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
10+50.00	0.4513	-2.0000	400	640	425	65	50

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum [1] (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum [1] (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
5+14.59	0.100	0.034	0.034	40	13°-58'	2°-30'
18+10.11	0.100	0.058	0.048	55	6°-32'	2°-00'

REMARKS

(1) Existing design was with e_{max} = 10%. Minimum superelevation rate is based on AASHTO (2004) Exhibit 3-28.

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SUMMARY OF AASHTO CONTROLLING DESIGN CRITERIA
Priest Drive TI Ramp D

PROJECT NUMBER: 10 MA 149 H8768 01L
PROJECT LOCATION: SR 143 - SR 202L, Santan
HIGHWAY SECTION: Phoenix - Globe Highway (Superstition Freeway)
INTERCHANGE: Priest Drive TI (US60)
RAMP DESIGNATION: Ramp D
DESCRIPTION: EB Entrance Ramp
MAINLINE MILEPOST: 172.7

PAVEMENT WIDTH

CASE (1 OR 2 OR 3): 2
TRAFFIC CONDITIONS (A OR B OR C): C

TOTAL PAVEMENT WIDTH Existing (Feet)	AASHTO Recommended Minimum (Feet)	AASHTO Maximum (Feet)	Minimum Ramp Inside Radius (Feet)
28 - 22 [1]	21	22	N/A

DESIGN SPEED

THE AASHTO RECOMMENDED MINIMUM DESIGN SPEED OF THE HIGHWAY IS: Ramp Terminal = 35 mph; Ramp Body = 50 mph; Ramp Gore Area = 50 mph

GRADES

EXISTING MAXIMUM GRADE IS (%) Ascending	EXISTING MAXIMUM GRADE IS (%) Decending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Ascending	AASHTO ALLOWABLE MAXIMUM GRADE (%) Descending
0.3860	1.3600	6.0	6.0

CROSS SLOPE

EXISTING CROSS SLOPE IS: 0.020 '/ft AASHTO ALLOWABLE RANGE IS: 0.015'/ft - 0.020 '/ft

TRAFFIC VOLUMES AND FACTORS

YEAR	DESIGN YEAR	TRAFFIC FACTORS
2014	2030	K = 9%
		D = N/A
ADT (VPD)	ADT (VPD)	T = 9%
13,300		

REMARKS

(1) two lane ramp tapers to one lane at US60 gore

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VERTICAL CLEARANCE

STRUCTURE	MILEPOST	Preconstruction Clearance	Postconstruction Clearance	AASHTO Minimum Allowable Clearance
Not Applicable				

STRUCTURES

STRUCTURE	MILEPOST	Existing Bridge Width	Recommended Bridge Width	Bridge Rail Geometry Adequate?	Bridge Rail Structure Adequate?	Existing Structural Capacity	Recommended Structural Capacity
Not Applicable							

VERTICAL ALIGNMENT AND STOPPING SIGHT DISTANCE

VPI STATION	Approach Grade (%)	Departure Grade (%)	Length of Curve (Feet)	Existing Sight Distance (Feet)	Recommended Sight Distance (Feet)	Existing Speed (MPH)	Recommended Design Speed (MPH)
2+91.46	-0.3785	0.4006	317	>1500	250	>90	35
12+00 DB	0.3860	-1.3600	300	768	550	72	50

HORIZONTAL ALIGNMENT, SUPERELEVATION, AND STOPPING SIGHT DISTANCE

HPI STATION	SUPERELEVATION Maximum (Ft/Ft)	SUPERELEVATION Existing (Ft/Ft)	SUPERELEVATION Minimum (Ft/Ft)	Existing Speed (MPH)	DEGREE OF CURVE Maximum	DEGREE OF CURVE Existing
N/A	0.060	0.020	NC (1)	55	5°-24'	N/A

REMARKS

(1) Normal crown = 0.020 Ft/Ft
Note: DB - US60 HOV Lane Design Build Project

ROADWAY ENGINEERING GROUP
ROADWAY PREDESIGN SECTION

PAGE _ OF _

DATE: 1/7/2015

TO: **AMIN AMAN**
BRIDGE GROUP
BRIDGE TECHNICAL SECTION,

FEDERAL REFERENCE NO: N/A TRACS NO: H8768 01L
HIGHWAY: I-10
LOCATION: Phoenix, AZ
MP LIMITS: 153.47 TO: 160.87
PROJECT DESCRIPTION: I-10 Near Term Improvements (SR 143 to SR 202L, US 60 to Hardy)

FROM: Christopher A. Labye, PE
AECOM, 2325 E Camelback Rd Ste 200
Phoenix, AZ 85016

SUBJECT: **BRIDGE EVALUATION REQUEST**

Please evaluate the following structures per AASHTO guidelines:

ROUTE NO.	MILEPOST	STR. NO. AND NAME	BRIDGE LENGTH	BRIDGE ROADWAY WIDTH	BRIDGE RAIL / BARRIER TYPE	BRIDGE RAIL / BARRIER GEOM. OK	BRIDGE RAIL / BARRIER STRUC OK	AC OVERLAY THICKNESS (EXISTING)	AC OVERLAY REMOVE (MINIMUM)	AC OVERLAY REPLACE/NEW (MAXIMUM)	VERTICAL CLEARANCE (MINIMUM) NB/EB	VERTICAL CLEARANCE (MINIMUM) SB/WB	BRIDGE LOAD RATING	BRIDGE SUFFICIENCY RATING
I-10	153.47	**1211** Broadway Rd TIUP	**331**	**92**	**Concrete Barrier**	**Yes**	**Yes**	**0"**			**17.85'**	**16.97'**	**HS20**	**78.74**
		Comments:												
I-10	154.62	**1144** Southern Ave OP EB	**139**	**76.4**	**Concrete Barrier**	**Yes**	**Yes**	**0"**			**16.92'**	**16.56'**	**HS20+**	**F 84.40**
		Comments: The road underneath the bridge is a low point with a pump station neaby. The catch basins look OK. Middle box girder structure has been replaced by Str. # 2702. WB box girders have been assigned a different Str. # 2777. EB box girders have kept the same Str. # 1144. SH												
I-10	154.62	**2305** Ramp S-E Over Southern Ave	**139**	**56**	**Concrete Barrier**	**Yes**	**Yes**	**0"**			**16.11'**	**15.84'**	**HS20+**	**F 89.20**
		Comments:												
I-10	154.62	**2702** HOV Southern Ave OP	**151**	**44**	**Concrete Barrier**	**Yes**	**Yes**	**1"**	**1"**	**1"**	**26.83'**	**25.55'**	**HS20+**	**F 94.00**
		Comments: This structure has replaced only a middle box of Str. #1144. the minimum underclearance were controlled by str # 2777 for both directions Existing AC overlay on bridge deck should be removed full depth, bare concrete deck top be inspected, repaired if needed and then be overlaid with 1" thick appropriate asphaltic overlay and friction course.												
I-10	154.62	**2777** Southern Ave OP WB	**139**	**88**	**Concrete Barrier**	**Yes**	**Yes**	**1"**	**1"**	**1"**	**26.83'**	**25.55'**	**HS20+**	**F 67.60**
		Comments: This structure was part of Str. # 1144. EB box girders have kept the same Str. # 1144. Middle box girder has been replaced by Str. # 2702. WB box girders have been assigned a different Str. # 2777. Existing AC overlay on bridge deck should be removed full depth, bare concrete deck top be inspected, repaired if needed and then be overlaid with 1" thick appropriate asphaltic overlay and friction course.												
I-10	154.93	**2347** Ramp S-E Over I-10	**1097**	**72**	**Concrete Barrier**	**Yes**	**Yes**	**1"**	**1"**	**1"**	**17.34'**	**17.24'**	**HS20+**	**93.42**
		Comments: Existing AC overlay on bridge deck should be removed full depth, bare concrete deck top be inspected, repaired if needed and then be overlaid with 1" thick appropriate asphaltic overlay and friction course.												

ROADWAY ENGINEERING GROUP
ROADWAY PREDESIGN SECTION

DATE: 1/7/2015

TO: **AMIN AMAN**
BRIDGE GROUP
BRIDGE TECHNICAL SECTION,

FEDERAL REFERENCE NO: N/A TRACS NO: H8768 01L
HIGHWAY: I-10
LOCATION: Phoenix, AZ
MP LIMITS: 153.47 TO: 160.87
PROJECT DESCRIPTION: I-10 Near Term Improvements (SR 143 to SR 202L, US 60 to Hardy)

FROM: Christopher A. Labye, PE
AECOM, 2325 E Camelback Rd Ste 200
Phoenix, AZ 85016

SUBJECT: **BRIDGE EVALUATION REQUEST**

Please evaluate the following structures per AASHTO guidelines:

ROUTE NO.	MILEPOST	STR. NO. AND NAME	BRIDGE LENGTH	BRIDGE ROADWAY WIDTH	BRIDGE RAIL / BARRIER TYPE	BRIDGE RAIL / BARRIER GEOM. OK	BRIDGE RAIL / BARRIER STRUC OK	AC OVERLAY THICKNESS (EXISTING)	AC OVERLAY REMOVE (MINIMUM)	AC OVERLAY REPLACE/NEW (MAXIMUM)	VERTICAL CLEARANCE (MINIMUM) NB/EB	VERTICAL CLEARANCE (MINIMUM) SB/WB	BRIDGE LOAD RATING	BRIDGE SUFFICIENCY RATING
I-10	155.00	**2368** Ramp W-S Over I-10	**2107**	**30**	**Concrete Barrier**	**Yes**	**Yes**	**1"**	**1"**	**1"**	**21.18'**	**21.18'**	**HS20+**	**96.00**
		Comments: The controlled minimum vertical clearances, as measured under the structure, is 21.18' over the Ramp S-E traffic Existing AC overlay on bridge deck should be removed full depth, bare concrete deck top be inspected, repaired if needed and then be overlaid with 1" thick appropriate asphaltic overlay and friction course.												
I-10	155.01	**2367** Ramp NE Over Western Canal	**99**	**28**	**Concrete Barrier**	**Yes**	**Yes**	**0"**					**HS20+**	**98.00**
		Comments:												
I-10	155.01	**5411** Western Canal RCBC 2-14'X5'												
		Comments: Culvert not at grade												
I-10	155.14	**2700** I-10 to US 60 HOV Ramp UP	**1215**	**52**	**Concrete Barrier**	**Yes**	**Yes**	**0"**			**17.25'**	**16.93'**	**HS20+**	**98.00**
		Comments: Minimum vertical clearance, as measured under the structure, is 17.16' over I-10 WB lanes												
I-10	155.64	**2348** Baseline TIOP WB CD	**152**	**44**	**Concrete Barrier**	**Yes**	**Yes**	**0"**			**17.79'**	**17.71'**	**HS20+**	**97.00**
		Comments: Retaining wall top coping at the NE corner has deflected 2"												
I-10	155.64	**2349** Baseline Road TIOP	**152**	**187**	**Concrete Barrier**	**Yes**	**Yes**	**1"**	**1"**	**1"**	**17.21'**	**17.11'**	**HS20+**	**97.00**
		Comments: Existing AC overlay on bridge deck should be removed full depth, bare concrete deck top be inspected, repaired if needed and then be overlaid with 1" thick appropriate asphaltic overlay and friction course.												

ROADWAY ENGINEERING GROUP
ROADWAY PREDESIGN SECTION

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DATE: 1/7/2015

TO: **AMIN AMAN**
BRIDGE GROUP
BRIDGE TECHNICAL SECTION,

FEDERAL REFERENCE NO: N/A TRACS NO: H8768 01L
HIGHWAY: I-10
LOCATION: Phoenix, AZ
MP LIMITS: 153.47 TO: 160.87
PROJECT DESCRIPTION: I-10 Near Term Improvements (SR 143 to SR 202L, US 60 to Hardy)

FROM: Christopher A. Labye, PE
AECOM, 2325 E Camelback Rd Ste 200
Phoenix, AZ 85016

SUBJECT: **BRIDGE EVALUATION REQUEST**

Please evaluate the following structures per AASHTO guidelines:

ROUTE NO.	MILEPOST	STR. NO. AND NAME	BRIDGE LENGTH	BRIDGE ROADWAY WIDTH	BRIDGE RAIL / BARRIER TYPE	BRIDGE RAIL / BARRIER GEOM. OK	BRIDGE RAIL / BARRIER STRUC OK	AC OVERLAY THICKNESS (EXISTING)	AC OVERLAY REMOVE (MINIMUM)	AC OVERLAY REPLACE/NEW (MAXIMUM)	VERTICAL CLEARANCE (MINIMUM) NB/EB	VERTICAL CLEARANCE (MINIMUM) SB/WB	BRIDGE LOAD RATING	BRIDGE SUFFICIENCY RATING
I-10	156.75	**2725** Guadalupe Road UP	**286**	**32**	**Concrete Barrier**	**Yes**	**Yes**	**0"**			**17.62'**	**16.37'**	**HS20+**	**95.96**
		Comments:												
I-10	157.68	**5414** RCBC 2-10'x4'												
		Comments: Culvert not at grade												
I-10	157.69	**2306** Elliot Road TIUP	**267**	**120**	**Concrete Barrier**	**Yes**	**Yes**	**0"**			**17.99'**	**17.95'**	**HS20+**	**74.96**
		Comments:												
I-10	158.06	**5416** RCBC 2-10'x3'												
		Comments: Culvert not at grade												
I-10	158.35	**5418** RCBC 2-10'x4'												
		Comments: Culvert not at grade												
I-10	158.65	**5420** RCBC 3-10'x5'												
		Comments: Culvert not at grade												

ROADWAY ENGINEERING GROUP
ROADWAY PREDESIGN SECTION

PAGE _ OF _

DATE: 1/7/2015

TO: **AMIN AMAN**
BRIDGE GROUP
BRIDGE TECHNICAL SECTION,

FEDERAL REFERENCE NO: N/A TRACS NO: H8768 01L
HIGHWAY: I-10
LOCATION: Phoenix, AZ
MP LIMITS: 153.47 TO: 160.87
PROJECT DESCRIPTION: I-10 Near Term Improvements (SR 143 to SR 202L, US 60 to Hardy)

FROM: Christopher A. Labye, PE
AECOM, 2325 E Camelback Rd Ste 200
Phoenix, AZ 85016

SUBJECT: **BRIDGE EVALUATION REQUEST**

Please evaluate the following structures per AASHTO guidelines:

ROUTE NO.	MILEPOST	STR. NO. AND NAME	BRIDGE LENGTH	BRIDGE ROADWAY WIDTH	BRIDGE RAIL / BARRIER TYPE	BRIDGE RAIL / BARRIER GEOM. OK	BRIDGE RAIL / BARRIER STRUC OK	AC OVERLAY THICKNESS (EXISTING)	AC OVERLAY REMOVE (MINIMUM)	AC OVERLAY REPLACE/NEW (MAXIMUM)	VERTICAL CLEARANCE (MINIMUM) NB/EB	VERTICAL CLEARANCE (MINIMUM) SB/WB	BRIDGE LOAD RATING	BRIDGE SUFFICIENCY RATING
I-10	158.69	2016 Warner Road TIUP	267	80	Concrete Barrier	Yes	Yes	0"			17.20'	17.02'	HS20+	F 75.99
		Comments:												
I-10	158.69	6792 RCBC 4-10'X8'												
		Comments: Culvert not at grade												
I-10	159.70	2017 Ray Road TIUP	267	124	Single Rail w/ Parapet	Yes	Yes	0"			16.64'	16.59'	HS20+	78.36
		Comments:												
I-10	160.87	2721 Chandler Blvd TIUP	321	116	Single Rail w/ Parapet	Yes	Yes	0"			17.23'	17.13'	HS20+	F 73.39
		Comments: Structure 2722 will be combined with Structure 2721. Collision damage on concrete parapet at the SW corner												

Evaluation Completed by: Masudur Rahman Date: 1/7/2015

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ROADWAY ENGINEERING GROUP
ROADWAY PREDESIGN SECTION

PAGE _ OF _

DATE: 1/7/2015

TO: **AMIN AMAN**
BRIDGE GROUP
BRIDGE TCHNICAL SECTION,

FEDERAL REFERENCE NO: N/A TRACS NO: H8768 01L
HIGHWAY: US 60
LOCATION: Phoenix, AZ
MP LIMITS: 172.37 TO: 172.90
PROJECT DESCRIPTION: I-10 Near Term Improvements (SR 143 to SR 202L, US 60 to Hardy)

FROM: Christopher A. Labye, PE
AECOM, 2325 E Camelback Rd Ste 200
Phoenix, AZ 85016

SUBJECT: **BRIDGE EVALUATION REQUEST**

Please evaluate the following structures per AASHTO guidelines:

ROUTE NO.	MILEPOST	STR. NO. AND NAME	BRIDGE LENGTH	BRIDGE ROADWAY WIDTH	BRIDGE RAIL / BARRIER TYPE	BRIDGE RAIL / BARRIER GEOM. OK	BRIDGE RAIL / BARRIER STRUC OK	AC OVERLAY THICKNESS (EXISTING)	AC OVERLAY REMOVE (MINIMUM)	AC OVERLAY REPLACE/NEW (MAXIMUM)	VERTICAL CLEARANCE (MINIMUM) NB/EB	VERTICAL CLEARANCE (MINIMUM) SB/WB	BRIDGE LOAD RATING	BRIDGE SUFFICIENCY RATING
US 60	172.37	2350 Priest Drive OP EB	133	108	Concrete Barrier	Yes	Yes	2"	2"	1"	17.50'	17.68'	HS20	89.41
		Comments: Existing AC overlay on bridge deck should be removed full depth, bare concrete deck top be inspected, repaired if needed and then be overlaid with 1" thick appropriate asphaltic overlay and friction course.												
US 60	172.37	2351 Priest Drive OP WB	134	96.4	Concrete Barrier	Yes	Yes	2"	2"	1"	17.45'	17.62'	HS20	91.67
		Comments: Existing AC overlay on bridge deck should be removed full depth, bare concrete deck top be inspected, repaired if needed and then be overlaid with 1" thick appropriate asphaltic overlay and friction course.												
US 60	172.90	1376 Hardy Drive UP	205	40	Concrete Barrier	Yes	Yes	0"			15.79'	15.56'	HS20	F 80.00
		Comments:												

Evaluation Completed by: Masudur Rahman Date: 1/7/2015

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Table 2 includes a summary of the calculated SD_S with the associated design speed for the Ramp 'N-E'. The calculated design speed that would be provided is 43.9 mph within this area. In order to achieve the desired minimum design speed of 50 mph, the shoulder width of ramp would have to be widened to 17.8'.

This extra-wide shoulder would potentially introduce a safety issue by enticing drivers to use the C-D Road shoulder as a passing lane, and would be inconsistent with the design of directional ramp roadways throughout the Regional Freeway System. The wider shoulder would also increase the construction cost for the widened bridge structure and roadway section within this area, and would conflict with the Western Canal and an existing Salt River Project (SRP) 69 kV transmission line power pole.

A review of the HSM indicates a crash modification factor has not been developed for directional ramp roadways that do not achieve AASHTO horizontal stopping sight distance recommendations. While the sight distance formula considers a 2' object height, another vehicle is the most likely object that needs to be detected on the roadway. Most vehicles can still be seen by other drivers over the top of the barrier.

Other Design Option Considered: No other design options were considered for this ramp due to existing constraints at the Western Canal and the existing Salt River Project (SRP) 69 kV transmission line power pole.

Recommendation: Based on the existing site constraints, expected safety, enhanced capacity, reduced impacts to traffic during construction the proposed design of the westbound C-D Road in accordance with the Final Design Concept Report (DCR) is considered the preferable treatment at this location.

Mitigation measures would include the use of continuous freeway lighting throughout the project area and the use of an advisory speed sign placed in advance of the horizontal curve. Both of these mitigation measures would be included with this project.

11a.) Baseline Road Ramp 'F' Horizontal Stopping Sight Distance (MP 155.25 - MP 155.32)

Description of Design Exception Request: Baseline Road Ramp 'F' would provide less than the AASHTO recommended horizontal sight distance between Station 15+28.06 and Station 18+94.69 since a concrete half barrier would be placed adjacent to the roadway shoulder within this area (see Exhibit 10). The concrete half barrier would be introduced near the back of the eastbound C-D Road gore due to the EB Ramp 'T-4' overpass and roadway grading/retaining wall requirements.

Table 2 includes a summary of the calculated SD_S with the associated design speed for this segment of Baseline Road Ramp 'F'. The calculated design speed would be provided is 43.5 mph within this area. In order to achieve the desired minimum design speed of 50 mph, the shoulder width would have to be widened to 9.4'.

This extra-wide shoulder would be inconsistent with the design of directional ramp roadways throughout the Regional Freeway System. The wider shoulder would also increase the construction cost for the widened bridge structure and roadway section within this area.

A review of the HSM indicates a crash modification factor has not been developed for directional ramp roadways that do not achieve AASHTO horizontal stopping sight distance recommendations. While the sight distance formula considers a 2' object height, another vehicle is the most likely object that needs to be detected on the roadway. Most vehicles can still be seen by other drivers over the top of the barrier.

Other Design Option Considered: The project team evaluated the possibility of revising the horizontal alignment of this ramp. However, this option was not feasible due existing roadway constraints and agreements made between ADOT and the property owner during the acquisition process for the Corporate Fountains office complex property.

Recommendation: Based on the existing site constraints, expected safety, enhanced capacity, reduced impacts to traffic during construction the proposed design of the westbound C-D Road in accordance with the Final Design Concept Report (DCR) is considered the preferable treatment at this location.

Mitigation measures would include the use of continuous freeway lighting throughout the project area and the use of an advisory speed sign placed in advance of the horizontal curve. Both of these mitigation measures would be included with this project.

11b.) Baseline Road Ramp 'F' Horizontal Stopping Sight Distance (MP 155.35 - MP 155.45)

Description of Design Exception Request: Baseline Road Ramp 'F' would provide less than the AASHTO recommended horizontal sight distance between Station 21+26.27 and Station 26+67.81 since a concrete half barrier would be placed adjacent to the roadway shoulder within this area (see Exhibit 10). The concrete half barrier would be provided for the full length of the ramp due to the EB Ramp 'T-4' overpass and roadway grading and retaining wall requirements.

Table 2 includes a summary of the calculated SD_S with the associated design speed for this segment of Baseline Road Ramp 'F'. The calculated design speed that would be provided is 49.7 mph within this area. In order to achieve the desired minimum design speed of 50 mph, the shoulder width would have to be widened to 10.3'.

This shoulder width would be inconsistent with the design of directional ramp roadways throughout the Regional Freeway System. The wider shoulder would also increase the construction cost for the widened bridge structure and roadway section within this area.

A review of the HSM indicates a crash modification factor has not been developed for directional ramp roadways that do not achieve AASHTO horizontal stopping sight distance recommendations. While the sight distance formula considers a 2' object height, another vehicle is the most likely object that needs to be detected on the roadway. Most vehicles can still be seen by other drivers over the top of the barrier.

Other Design Option Considered: The project team evaluated the possibility of reducing the ramp lane width to 11.5' and widening the outside shoulder to 10.5' within this area. However, the design team recommends the use of standard ramp lane and shoulder widths consistent with the other roadways within the project area.

Recommendation: Based on the expected safety, enhanced capacity, reduced impacts to traffic during construction the proposed design of the westbound C-D Road in accordance with the Final Design Concept Report (DCR) is considered the preferable treatment at this location.

Mitigation measures would include the use of continuous freeway lighting throughout the project area and the use of an advisory speed sign placed in advance of the horizontal curve. Both of these mitigation measures would be included with this project.

Overall Recommendation:

A design exception for each of the aforementioned items is hereby requested.

Approved: _____

State Roadway Engineer

Date: 6/6/16

APPENDIX E

FINAL PROJECT ASSESSMENT

I-10 GUADALUPE ROAD PEDESTRIAN BRIDGE &

PATHWAY FROM SOUTH MOUNTAIN PARK TO TEMPE CITY LINE





Final Project Assessment

I-10, Guadalupe Road Pedestrian Bridge & Pathway from South Mountain Park to Tempe City Line

January 2008

PROJECT NO: 010 MA 156 H6952 01C
FEDERAL AID NO: TEA 010-C(011)A



U.S. Department of Transportation
Federal Highway Administration

Prepared For:
Transportation Enhancement & Scenic Roads Section
Intermodal Transportation Division
Arizona Department of Transportation

ADOT

PROJECT NO. 010 MA 156 H6952 01C

FEDERAL AID NO. TEA 010-C(011) A

I-10, GUADALUPE ROAD PEDESTRIAN BRIDGE & PATHWAY FROM SOUTH MOUNTAIN PARK TO TEMPE CITY LINE

FINAL

PROJECT ASSESSMENT

JANUARY 2008

PREPARED FOR:

TRANSPORTATION ENHANCEMENT & SCENIC ROADS SECTION

INTERMODAL TRANSPORTATION DIVISION

ARIZONA DEPARTMENT OF TRANSPORTATION

PREPARED BY:

AZTEC ENGINEERING

4561 EAST MCDOWELL ROAD • PHOENIX, AZ 85008

U.S. Department of Transportation
Federal Highway Administration

ADOT

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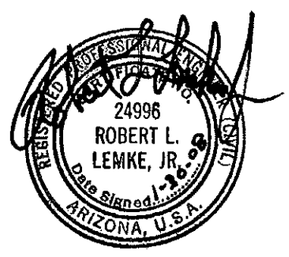


EXECUTIVE SUMMARY

Project 010 MA 156 H6952 01C, I-10, Guadalupe Road Pedestrian Bridge & Pathway from South Mountain Park to Tempe City Line is located in Maricopa County on I-10 at milepost 156. The study limits are from the entrance to South Mountain Park, south on 48th Street, then east on Guadalupe Road, over I-10 and continuing to the Tempe City Line, a distance of approximately 5,300 feet.

This project will be an extension of the Maricopa County Regional Trail System, the Sun Circle/Maricopa Trail and as such, will be evaluated with consideration of equestrian usage. The scope of this report is to evaluate the feasibility and constructability of installing a path connecting South Mountain Park on the west end, to the existing trail adjacent to the Highline Canal on the east end.

At present there is no defined path between the end points of the project. In some locations there are existing sidewalks. The existing I-10, Guadalupe Road bridge does not have sufficient width to support the proposed pathway. There are no major utility conflicts. However, some street lights, power and banner poles and telephone pedestals will need to be relocated. There are no major drainage structures within the project limits. There are drainage facilities along Guadalupe Road that will require protection during construction.

The path is proposed to be on the north side of the Park Entrance Road, west side of 48th Street, north side of Guadalupe Road to Pointe Parkway East, then on the south side over I-10, and continuing on the south side to the connection with the Sun Circle/Maricopa Trail at the Highline Canal. The path is proposed to be constructed of 4-inch stabilized decomposed granite (SDG) in order to provide a stable, firm and slip-resistant surface that can be used by pedestrians, bicyclists and horses. The SDG will provide contrast to the adjacent materials.

The proposed path over I-10 will be constructed on a new, structurally independent bridge immediately south of the existing bridge that utilizes the existing pier in the median of I-10. The path will traverse two signalized intersections, one at Guadalupe Road and Pointe Parkway East and the other at Guadalupe Road and Avenida del Yaqui. Both intersections will have pedestrian/equestrian facilities which will be Americans with Disabilities Act (ADA) compliant.

No new right-of-way will be required for the implementation of the project; however, temporary construction easements may be necessary.

The estimated project cost for the proposed improvements are $4,337,800. This cost includes construction, design, and inflation.

A. INTRODUCTION:

Project 010 MA 156 H6952 01C [TEA 010-C(011) A], I-10, Guadalupe Road Pedestrian Bridge & Pathway from South Mountain Park to Tempe City Line, is a Transportation Enhancement project located in the City of Phoenix and the Town of Guadalupe, in Maricopa County. The project extends from the entrance to South Mountain Park at 48th Street, south on 48th Street to Guadalupe Road then northeasterly along Guadalupe Road, turning easterly at the intersection with Pointe Parkway (Pkwy) East, over Interstate 10 (I-10), to the Tempe City Line; a total distance of approximately 5,300 feet. The project is funded, in part, by the Federal Highway Administration (FHWA), the Arizona Department of Transportation (ADOT) and Maricopa County. Federal Congestion Mitigation and Air Quality Improvement Program (CMAQ) funds will be used to construct this project. Maricopa Association of Governments (MAG) may provide additional funding. Maricopa County will be responsible for the maintenance of the pathway. The purpose of the project is to provide pedestrian connectivity between the Town of Guadalupe, City of Tempe and the City of Phoenix's South Mountain Park. The project will assist in completing a portion of the Sun Circle Trail, part of Maricopa County Regional Trail, and will connect with an existing trail system in South Mountain Park. In addition, the proposed enhancements will not only allow for better traffic and pedestrian control, but will expand upon the constructed sidewalk and landscaping scheme along Avenida del Yaqui, the principal north-south transportation corridor in the Town of Guadalupe. See conceptual project plans for the location and vicinity information (Appendix B).

B. BACKGROUND DATA:

The Guadalupe Road Underpass (UP) replacement project was completed in 2000. Due to funding constraints, the Guadalupe Road UP did not include provisions for a multi-use facility crossing. This crossing was identified as an important segment of the Sun Circle Trail, a partially completed multi-use facility that is a component of MAG's Bikeway and Trail System. To provide for a multi-use connection at the Guadalupe Road UP location, a foundation was constructed in 2000 to accommodate a future multi-use-only bridge to be constructed parallel to the automobile bridge. The future multi-use connection was also identified as an important linkage for equestrian users to access equestrian facilities in South Mountain Park.

The new multi-use UP will be highly visible to I-10 westbound motorist entering the Phoenix metropolitan area. This provides an opportunity for a public art component to be incorporated or attached to the bridge structure. Public art could include coloration of the structure, textured designs, iconography, or mosaic patterns similar to the aesthetic treatments employed on highway structures elsewhere in Phoenix and the surrounding communities. Both the communities of Guadalupe and Phoenix could be consulted for design input to generate alternatives that embody the culture and values of their respective populations. During final design, opportunities for a public art component can be identified during stakeholder and public meetings.

This multi-use project will be part of the extensive local and regional system of non-motorized multi-use facilities. In the immediate vicinity, this facility will connect the communities of Phoenix (Ahwatukee), Guadalupe, and Tempe. Each of these communities has unique cultural identities, attributes, and characters. This project represents an opportunity for aesthetic or artistic elements that define these communities to be incorporated into the project design. Possible treatments or artistic elements that could be incorporated into project design include the selection of materials, pavement surfaces and accents, and architectural landscape features and art components. Although the current scope for these elements is limited, additional artistic elements and treatments can be explored during final design. These aesthetic components could be identified during stakeholder meetings and funding sources for these items would be researched during final design.

The new multi-use facility will provide a connection between the various destinations and anchors that exist in the project area. These include improved access to the civic, cultural, and commercial facilities along Avenida del Yaqui in Guadalupe (the Mercado, El Tianguis Market, Town Hall, public library, community center, Yaqui Temple), the park facilities in the surrounding area (Celaya, Benedict, Biehn Colony, Kiwanis and South Mountain parks), the Pointe Resort and Phantom Horse Golf Club, the existing pedestrian and non-motorized transportation network (various bicycle lanes in the vicinity, such as those along Warner, Priest, and Hardy, city sidewalks, and the paths along the Highline Canal), and the surrounding homes and apartment complexes. The new multi-use facility, in conjunction with the existing pedestrian and bicycle infrastructure, will improve non-motorized access to these places and points of interest, and improve the pedestrian circulation of the area.

The new multi-use pedestrian UP will provide panoramic views of the surrounding landscape for pathway users. Views will include the prominent geophysical features of the area such as South Mountain, Tempe Butte, and distant views of Superstition Mountains on clear days. The views will also include the surrounding city landscapes and views of downtown Tempe and Guadalupe. These views, although important, will be somewhat constrained by the use of quarter-inch mesh that is mandated for safety reasons on pedestrian bridge enclosures. This safety feature is necessary to prevent objects from being dropped onto the interstate, and is a requirement of the design standards adopted by the ADOT Bridge Group.

The existing Guadalupe Road is a 30 foot wide minor collector roadway. It begins in the City of Phoenix, passing through the Town of Guadalupe and extends into the City of Tempe. Existing curb and gutter on Guadalupe Road is present along the east and west side of I-10, with the curb stopping east of I-10 at approximate sta. 25+00. Guadalupe Road crosses over I-10 on an existing two span 32 foot wide AASHTO Girder bridge.

The posted speed limits are 25 MPH along Guadalupe Road to the east of the Pointe Pkwy East intersection to the Tempe City Line and 45 MPH west toward 48th Street. There are two traffic signals, one at the intersection of Guadalupe Road and Pointe Pkwy East and the other at the intersection of Guadalupe Road and Avenida del Yaqui. The terrain is level with the exception of the grade approaching the I-10 bridge from the east, which is +5%. The average project elevation is 1270 feet.

The estimated combined eastbound and westbound Average Daily Traffic (ADT) for 2004 on Guadalupe Road is approximately 14,000 Vehicles per Day (VPD). The estimated combined northbound and southbound ADT for 2005 on I-10 is 172,000 VPD.

There are no major drainage structures within the project limits. However, there are drainage facilities along Guadalupe Road that will require protection during construction.

Immediately east of the project, the westbound on-street bicycle lane in Tempe ends at South Parkside Lane on the north side of Guadalupe Road and the eastbound bicycle lane starts east of Hardy Drive which is further to the east.

A "Blue Stake" information request indicates that the following utility companies may have facilities within or near the project limits:

Utility Company	Contact Name	Phone Number	Facility
AGL Networks	Dan Bradley	602-471-4986	Fiber Optic - Underground
Cox Communication	Sandy Lambly	623-328-4071	CATV
Citynet Arizona	Jim Sleeper	602-327-5102	Fiber Optic
Sprint Communication	Dispatch	800-521-0579	Fiber Optic
Level 3	Dispatch	877-366-8344	Fiber Optic
QLN	ELM	480-964-7282	Fiber Optic
El Paso Natural Gas	Dennis Segars	602-438-4229	6-inch Line
Southwest Gas	Dan Vance	480-730-3675	2-inch & 6-inch Lines
SRP	Roger Schwanke	602-236-8026	Aerial Lines & Irrigation
City of Phoenix	Rudy Ramirez	602-722-4014	Traffic Signal, Water & Sewer
XO Communication	Dispatch	801-364-1063	Fiber Optic
City of Tempe	Marti Montero	480-350-8207	Traffic Signal, Water & Sewer
ADOT	Scott Vollrath	602-316-0281	Fiber Optic, Electric & Storm Drain
MCDOT	Steve Poole	602-506-8660	Traffic Signal

During a 5-year period from January 1, 2001 to December 31, 2005, there were a total of 46 traffic accidents reported within the project limits from 48th Street on Guadalupe Road to the Tempe City Line. There were no pedestrian or bicycle related collisions reported within the project limits.

The existing right-of-way width varies throughout the length of the project. The Table below identifies the right-of-way width and owner in each segment:

Location	Width	Owner
48th Street, excluding 8-foot easement for bicycle/pedestrians	88-foot	City of Phoenix
Guadalupe Rd – 48th Street to Pointe Pkwy East excluding 25-foot easement for the Sun Circle/Maricopa Trail	110-foot	ADOT
Guadalupe Rd – Pointe Pkwy East to Calle Sahuaro	161-foot to 73-foot	ADOT
Guadalupe Rd – Calle Sahuaro to Avenida del Yaqui	73-foot	ADOT
Guadalupe Rd – Avenida del Yaqui to Tempe City Line	40-foot 70-foot (110-foot total)	Town of Guadalupe Maricopa County
Highline Canal	80-foot	Bureau of Reclamation

C. PROJECT SCOPE:

This project will be an extension of the regional Sun Circle/Maricopa Trail and as such, will be evaluated with consideration of equestrian usage. The scope of this report is to evaluate the feasibility and constructability of installing a path connecting South Mountain Park on the west end, to the existing trail adjacent to the Highline Canal on the east end.

This report will identify existing conditions, a recommended alternative other alternatives considered that were eliminated from consideration, development considerations, landscaping, and an estimated cost. The path will be constructed of 4-inch stabilized decomposed granite (SDG) in order to provide a stable, firm and slip-resistant surface that can be used by pedestrians, bicyclists and horses. The SDG will provide contrast to the adjacent materials. Some type of edge treatment will be required to contain the SDG. Either ribbon steel with stakes or the proposed retaining walls may be utilized. A discussion of types of pathway materials is provided in Section D.4 – Development Considerations, Other. The driveway/alley pavement section is proposed as 4-inch Asphalt Concrete (AC) on 6-inch Aggregate Base (AB). The proposed path over I-10 will be constructed on a new, structurally independent bridge immediately south of the existing bridge utilizing the existing pier in the median of I-10.

All existing sidewalk ramps do not meet current ADOT standards, and there are no detectable warning strips. All existing sidewalk ramps and new ramps, as required, will meet the ADOT and Americans with Disabilities Act (ADA) standards/guidelines. All protective railings will meet the latest code requirements. Equestrian gathering areas will be provided at all signalized intersections.

The project is divided into three pathway segments. The segments are as follows:

Segment	Description
1	South Mountain Park entrance to Guadalupe Road at Pointe Pkwy East
2	Guadalupe Road/Pointe Pkwy East to Calle Sahuaro, including the bridge over I-10
3	Calle Sahuaro to Tempe City Line

The conceptual project plans are presented in Appendix B. The recommended alignment is shown diagonally hatched. The plans also identify where a potential 5-foot wide landscape strip can be accommodated as shown in a dotted pattern.

C.1 - SEGMENT 1 - SOUTH MOUNTAIN PARK ENTRANCE TO GUADALUPE ROAD AT POINTE PARKWAY EAST

Segment 1 is comprised of three sections: the Guadalupe Road Entrance to South Mountain Park, 48th Street, and Guadalupe Road from the intersection with 48th Street to the intersection of Pointe Pkwy East, as depicted in Figure 1:



Figure 1 - Segment 1

C.1.1 - EXISTING CONDITIONS

C.1.1.1 - Park Entrance Road

The south side of the entrance road has landscaping (trees and shrubs) and roadside boulders. There is an electrical transformer cabinet approximately 8-foot from the edge of the existing roadway just south of the guard shack. The existing sidewalk ramps are not ADA compliant. There are no detectable warning strips. The Park Entrance Road lies within City of Phoenix right-of-way.

The north side is clear; there is an existing pipe rail barrier with a top rail configuration. This side is used for equestrian access adjacent to the entrance road. There is an existing golf cart path that crosses the entrance road (see Figure 2).


Figure 2 - North Side of Park Entrance

C.1.1.2 - 48th Street

The west side of 48th Street has an existing 8-foot wide concrete sidewalk directly behind the curb (see Figure 3). There are street signs, a tree, and a split rail fence. The right-of-way line is at the back of curb and there is an 8-foot wide bicycle and pedestrian easement beyond.



Figure 3 - West Side of 48th Street

The east side has an existing 4-foot wide meandering sidewalk (see Figure 4). There is an existing irrigation system immediately adjacent to the sidewalk and on the east side, along with electrical transformer cabinets on the west side. There are mature trees and shrubs. There is no sidewalk ramp directly opposite the northern edge of the Park Entrance Road.


Figure 4 -
East Side of 48th Street

C.1.1.3 - Guadalupe Road – 48th Street to Pointe Pkwy East

Guadalupe Road at the intersection with 48th Street is not signalized and is on a 500-foot radius horizontal curve. There is a sight distance concern as a vehicle travels at 45 MPH or higher on this curve and a person crosses the intersection in a wheelchair. Because of this potential safety issue, no alternatives on the south side of Guadalupe Road were considered.

On the north side of Guadalupe Road there is an existing 8-foot wide sidewalk within the 25-foot wide dedicated easement for the Sun Circle/Maricopa Trail. The trail easement is beyond the 110-foot (55-foot each side of centerline) roadway right-of-way. There are trees and shrubs with an irrigation system on the south side of the sidewalk (see Figure 5). There are also electrical transformer cabinets very close to the edge on the south side of the sidewalk. There is an ornamental headwall 6-foot behind the roadway curb as part of the golf cart underpass (see Figure 6). The underpass is used as a means for the golfers/golf carts to get under Guadalupe Road. This underpass is used by motorized vehicles and therefore eliminated as a possible means for path users to cross Guadalupe Road. East of the headwall there are street light poles and traffic signal poles at the intersection with Pointe Pkwy East.



Figure 5 - Existing Sidewalk in Sun Circle/Maricopa Trail Easement


Figure 6 -Ornamental Headwall Beyond

C.1.2 - RECOMMENDED ALTERNATIVE

C.1.2.1 - Park Entrance Road

The recommended alternative is to align an 8-foot wide SDG path on the north side of the Park Entrance Road and connect to the existing sidewalk ramp. This will allow sufficient space for a 5-foot wide landscape strip along the north side of the entrance road. The existing pipe rail will be replaced with three bollards spaced 5-foot on center. The new bollards will align with the existing trail in the Park. This alternative utilizes the existing Sun Circle/Maricopa Trail right-of-way.

C.1.2.2 - 48th Street

The recommended alternative is to replace the existing 8-foot wide concrete sidewalk on the west side with an 8-foot wide SDG path and install new concrete sidewalk ramps at Guadalupe Road and 48th Street on both sides of the intersection. The proposed 8-foot path width will maintain the existing easement. Tree trimming will be required to provide the additional vertical clearance for equestrian use. The path width needs to be reduced to 7-foot with a concrete curb behind the ramp at the sidewalk ramp.

C.1.2.3 - Guadalupe Road – 48th Street to Pointe Pkwy East

The recommended alternative is to construct a separate 10-foot wide meandering SDG path south of the existing sidewalk on the north side of Guadalupe Road. The path will be in either the ADOT roadway right-of-way or the Sun Circle/Maricopa Trail dedicated easement. The separate path will allow the option for the trail users of either the existing concrete sidewalk or the SDG path. Some of the tree limbs will need to be cut back. In the vicinity of Sta. 12+00, transition to a new 8-foot wide SDG path to connect to the existing sidewalk. Remove the existing ornamental headwall to provide sufficient space for the 10-foot wide path. A new retaining wall will be required to retain the required fill material and to provide pedestrian/equestrian protection. This wall will be designed and constructed with a facing to match the existing wall. The wall will have an expanded metal mesh screen fence atop. East of the headwall, remove the existing landscaping to improve sight distance. Remove the existing street light pole and construct a new ramp and crosswalk on the south side of the intersection with Pointe Pkwy East. An equestrian gathering area is desirable at this signalized intersection to allow space for riders to wait for the crossing phase in the traffic signal cycle. New pedestrian signal heads will be required. A second pedestrian/equestrian activated push button mounted at least 6-foot above the path will be required. Any landscaping removed west of the golf cart underpass will be replaced "in kind."

C.1.3 - OTHER ALTERNATIVES CONSIDERED

An alternative on the south side of the Park Entrance Road was evaluated. It utilized the golf cart path as a means to cross the entrance road and then required the extension of the sidewalk to 48th Street. This alternative was dropped from consideration due to a statement provided by the private property owner to avoid sharing of the golf cart path with pathway users.

An 8-foot wide path alternative on the east side of 48th Street was evaluated. It required the removal of two to three trees and shrubs, removal of the existing 4-foot wide sidewalk, and relocation of the irrigation system. Given this additional construction, the east side was dropped from consideration. In addition, removal of the trees will eliminate the privacy and buffering effect presently provided to the residents in the adjacent complex.

As previously mentioned, no south side alternatives were considered because of the potential safety issue at the 48th Street and Guadalupe Road intersection. Also, no use of the underpass was considered because of the motorized vehicular travel.

C.1.4 - SEGMENT 1 SUMMARY

The recommended alternative for Segment 1 is:

- Use the north side of the Park Entrance Road.
- Cross the entrance road on the west side of 48th Street.
- Replace the existing 8-foot concrete sidewalk on the west side with an 8-foot SDG path.
- Cross 48th Street on the north side of the intersection with Guadalupe Road.
- Create a new 10-foot SDG path south of the existing sidewalk that provides the users with optional surfaces.
- Replace any landscaping disturbed by the new path, cross over the golf cart underpass.
- Transition to a new crosswalk on the south side of the Pointe Pkwy East intersection including an equestrian gathering area on the west side.

C.2 - SEGMENT 2 - GUADALUPE ROAD / POINTE PARKWAY EAST TO CALLE SAHUARO

Segment 2 is comprised of three sections: the section of Guadalupe Road from the intersection with Pointe Pkwy East to the I-10 Bridge, the I-10 Bridge, and Guadalupe Road from the east end of the bridge to Calle Sahuaro as depicted in Figure 7:



Figure 7 – Segment 2

No north side alternatives were considered in Segment 2 because the existing center pier for the original proposed trail structure is located on the south side and to avoid mid-block crossings of Guadalupe Road.

C.2.1 - EXISTING CONDITIONS

C.2.1.1 - Pointe Pkwy East to the I-10 Bridge

On the southeast corner of the intersection of Guadalupe Road and Point Pkwy East there are a few decorative boulders, utility cabinets, a traffic signal pole, and landscaping (see Figure 8). On the south side of Guadalupe Road and west of the existing I-10 Bridge, there are trees and shrubs, a street light, ornamental lighting, multiple water meter vaults, landscape boulders, and a masonry screen wall within the ADOT right-of-way. The entrance road into the Pinnacle at South Mountain apartment complex has a landscaped center median (see Figure 9). There are no sidewalk ramps on the existing road. At places, the masonry screen wall is less than 8 feet behind the curb (see Figure 10).


Figure 8 – Southeast Corner of Guadalupe Rd at Pointe Pkwy East


Figure 9 – Apartment Entrance Road


Figure 10 – Masonry Screen Wall Beyond

C.2.1.2 - I-10 Bridge

The existing two-span structure consists of a precast, prestressed concrete AASHTO Type VI girder superstructure (see Figure 11). The abutments are supported on 4-foot diameter drilled shafts and spread footings support the existing pier columns. The precast girders have dapped ends, which are supported by a recessed pier cap providing an integral appearance. The existing bridge profile is on a 650-foot crest vertical curve. The existing bridge cross slope is 2% crowned at the centerline of Guadalupe Road.

The two spans are equal, with a length of 140-foot 6-inch measured from the centerline of bearing at the abutments to the centerline of the pier. The total length of the underpass structure is 286-foot measured from the back faces of the abutment back walls. The existing structure depth is 6-foot 9-inch. According to the as-built drawings, the minimum vertical clearance between the structure and I-10 is 16-foot 6-inch. There are two guide signs attached to the bridge in the westbound direction (see Figure 12) and one guide sign in the eastbound direction.

Based on field survey information, the existing center pier for the originally proposed trail structure is located 6-foot 7 ½-inches to the south of the existing barrier face on Guadalupe Road (see Figure 13). This survey information places the as-constructed location of the column slightly farther south than shown in the record drawings for the original project. The pier column section is 6-foot by 2-foot 6-inch and extends 13-foot vertically from the spread footing support. The upper 7-foot of the pier column includes removable lean concrete and PVC sleeves protecting the reinforcing steel for possible use with the proposed construction.

The north side of the bridge has a 5-foot 8 ½-inch sidewalk. On the outer edge of the sidewalk, atop the parapet wall, there is an existing pedestrian fence (see Figure 14).

C.2.1.3 - East of the I-10 Bridge to Calle Sahuaro

East of the I-10 Bridge the roadway is on approximately 25-foot of fill at the bridge abutment and the roadway profile meets original existing ground at Calle Sahuaro.

The south side of the roadway has a 32-inch high concrete barrier at 16-foot right of the centerline with a side slope behind the barrier slightly steeper than 2:1 (see Figure 15). Most of the adjacent properties on the south side are located at the toe of slope and one has a concrete block privacy wall that is on the right-of-way line (see Figure 16). At the eastern end of the existing concrete barrier there is a concrete flume that appears to be non-functional. There


Figure 11 – Existing Guadalupe Rd. Bridge over I-10



Figure 12 – I-10 Directional Guide Signs


Figure 13 – Existing Center Pier in I-10 Median


Figure 14 – Looking Through Existing Pedestrian Fence

are no signs of any erosion at the downstream end to the flume. It is believed the storm water continues down the roadway until it reaches Calle Sahuaro. There is a water main on the south side at the toe of slope that runs from Calle Bella Vista to Calle Sahuaro.

There are catch basins on both sides of the road just east of the bridge that drain from the south to the north and then to the toe of the northern slope. There is a culvert (42-inch x 29-inch) at a 45 degree skew under the embankment that drains from Calle Maravilla on the south side to a point approximately 150-foot west of Calle Sahuaro on the north side. The ADOT right-of-way width reduces from 161-foot at the east bridge abutment to 73-foot at Calle Sahuaro. A potential ponding problem was observed this study phase and should be evaluated during final design.



Figure 15 – Concrete Barrier East of Bridge



Figure 16 – Slope Adjacent to Block Wall

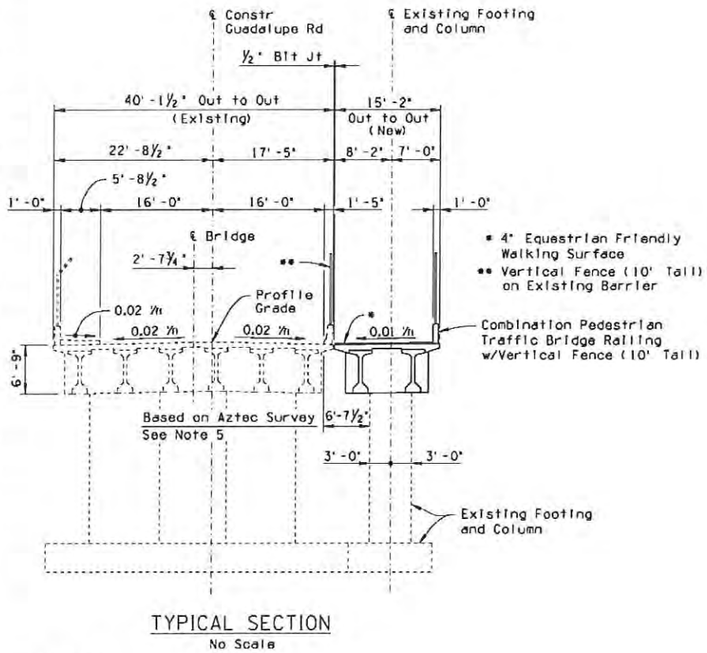
C.2.2 - RECOMMENDED ALTERNATIVE

C.2.2.1 - Pointe Pkwy East to the I-10 Bridge

On the southeast corner of the intersection, locate an 8-foot SDG path starting at the back of the existing sidewalk ramp then continue easterly adjacent to the masonry screen wall on the south side to avoid the trees, shrubs, and water meter vaults. At this intersection construct an approximate 375 square foot gathering area adjacent to the existing sidewalk ramps. Pedestrian/equestrian activated push buttons, mounted at 3.5-foot and 6-foot above the path, will be required. An existing street light will need to be relocated. At the apartment entrance road install sidewalk ramps near Guadalupe Road on both sides of the entry. This will require removal of a 4-foot to 5-foot section of the entrance road median to provide an unobstructed driveway crossing. East of the driveway the path would be located directly behind the curb. At a few points the path width will be restricted to less than 8 feet because of limited width between the masonry privacy wall and the existing curb. A non-standard retaining wall may be necessary at the back edge of the path to insure no additional load is introduced on the existing masonry screen wall. Near the west abutment of the new I-10 Bridge the masonry screen wall will be removed to provide the necessary access to the new structure. In this area, the path will be widened to match the width of the path on the bridge. A small section of expanded metal mesh screen fence will be required between the existing masonry screen wall and the new bridge.

C.2.2.2 - I-10 Bridge

The recommended alternative to support the path in this section is a structurally independent bridge widening. The new structure will utilize the existing pier column and foundation previously constructed in the I-10 median to the south of the existing Guadalupe Road Bridge. The new widening and the existing bridge will be separated by a ½-inch bituminous joint. The new bridge will have the same span lengths and abutment support as the existing bridge and will also be designed for vehicular loading should its function be changed in the future. The widening is proposed to be 15-foot 2-inches which will result in a 14-foot 2-inch wide path surface. The geometric configuration of the widening was controlled by the as-built location of the existing pier column and foundation. AZTEC survey information revealed that the column is constructed approximately 1-foot 3-inches south of the planned location that would have provided a 12-foot path adjacent to the existing bridge. ADOT Bridge Group will be designing the structure and requested that any adjustments made to accommodate the true column location minimize the eccentric loadings on the foundation. For this reason, the south half of the path was maintained per the original layout and the north half of the path was simply extended to match the existing edge of deck. The resulting width can accommodate a future lane and sidewalk configuration should the function of the widening be changed in the future. A vertical expanded metal mesh screen fence will be required on both sides of the path. The fence along the south edge of the widening will be supported on the new SD 1.04 Combination Pedestrian-Traffic Bridge Railing. The fence along the north side of the path will be mounted on top of the existing 32" roadway barrier after the existing chain link fence is removed. The top of the new fencing will be a minimum of 10-feet above the finished bridge surface. A key consideration for the recommendation of a structurally independent widening was the need to separate roadway vibrations from the path for equestrian use. In addition, widening with a 1% cross slope toward the existing bridge allows the new structure to maintain the minimum 16-foot 6-inch vertical clearance over I-10.



TYPICAL SECTION
No Scale

NOTES:

1. Use AASHTO Type VI Girders to match existing.
2. Combination Ped/Traffic Railing on outside.
3. 10' Tall Vertical Fencing.
4. 1% Cross Slope to maintain 16'-6" Vertical Clear (Maintaining 2% Cross Slope would result in approximate 16'-0" to 16'-1" Vertical Clear.
5. All dimensions shall be field verified prior to commencing Final Design.
6. All dimensions are as shown in I-28-02 Record Drawings for Project IM-10-3 (333)P (unless noted otherwise).

The structure type for the new bridge will be further evaluated through the development of a Bridge Selection Report during the final design process. During final design, the following bridge elements should be further explored for consideration including exposed surfaces of the retaining walls for aesthetic treatments, architectural treatments of bridge fencing and barriers, and an equestrian demounting area on both sides of the bridge.

C.2.2.3 - East of the I-10 Bridge to Calle Sahuaro

On the south side, behind the existing concrete barrier, place a 10-foot wide SDG path and a new inlet to collect the stormwater runoff from the bridge. It may be possible to connect the new inlet to the existing inlet. A transition near the east abutment will be required to provide the 10-foot path. Add a 3-foot 6-inch expanded metal mesh screen fence on the roadway side of the existing barrier to achieve a 72-inch height above the path surface. An 880-foot long retaining wall on the southern edge of the path will be required to accommodate this typical section. The wall will vary in height between 2 and 7 feet the majority of the wall will be approximately 6 feet high. The top of the retaining wall will be 6-inches higher than the path. Place a 5-foot 6-inch expanded metal mesh screen fence on top of the retaining wall. Just east of Calle Maravilla, at approximately Sta. 22+40, the proposed retaining wall is in close proximity to an existing water line. As the water line approaches Calle Sahuaro it enters ADOT right-of-way. The exact location of the water line, both horizontally and vertically, needs to be determined in the final design phase. It may require modification of the retaining wall foundation to eliminate the need to relocate the water line. The retaining wall also crosses an existing storm drain, gas line and concrete flume. The concrete flume will be removed and the concrete barrier extended. The exact end of the retaining wall and barrier will be determined in final design. A trench drain is proposed immediately adjacent to the retaining wall just north of the 42-inch x 29-inch CMP to drain into the ditch at the headwall. This trench drain will intercept the surface runoff created by several hundred feet of pathway.

C.2.3 - OTHER ALTERNATIVES CONSIDERED

No north side alternatives were considered in Segment 2 because of the location of the existing center pier and to avoid mid-block crossings of Guadalupe Road.

Several options to achieve a 10-foot wide path were investigated west of the I-10 Bridge. The options included removing the wall, locating the path directly behind the wall on the apartment complex side, eliminating the southern curb lane and bicycle lane on Guadalupe Road, and lastly, placing the path at the toe of slope. These options are shown in Appendix C. Each option identifies the advantages/disadvantages and additional cost of each compared to the recommended alternative. Of the four alignments Optional Alignment C is the most desirable for the following reasons:

- Lowest additional cost over the base recommendation to achieve a 10-foot wide path.
- Most of the screen wall can remain in place. Two small segments will be reconstructed along the existing screen wall alignment.
- Avoids all the utility cabinets at the intersection of Guadalupe Road and Point Pkwy East.
- Provides a clear visual approach to the bridge.

C.2.4 - SEGMENT 2 SUMMARY

The recommended alternative for Segment 2 is:

- The alignment remains on the south side of Guadalupe Road.
- Provide equestrian gathering area on the southeast corner of the Guadalupe Road/Pointe Pkwy East intersection.
- Construct an 8-foot wide SDG path with some locations where the width is reduced to 7-foot.
- Construct a 14'-2" (inside clear dimension) independent bridge for the path utilizing the existing pier foundation previously constructed in the median of I-10.
- East of the bridge, construct a 10-foot wide SDG path to avoid the need to relocate an existing water main.
- Continue the path behind the existing barrier along Guadalupe Road to the intersection of Calle Sahuaro.

C.3 - SEGMENT 3 - CALLE SAHUARO TO TEMPE CITY LINE

Segment 3 is comprised of three sections: the section of Guadalupe Road from Calle Sahuaro to west of the intersection with Avenida del Yaqui, the Avenida del Yaqui intersection, and east of the intersection with Avenida del Yaqui to Tempe City Line as depicted in Figure 17:



Figure 17 – Segment 3

No north side alternatives were considered in Segment 3 because the existing sidewalk terminus in Tempe is located on the south side and to avoid additional crossings of Guadalupe Road.

C.3.1 - EXISTING CONDITIONS

C.3.1.1 - Calle Sahuaro to Avenida del Yaqui

The existing roadway is generally 40-foot wide with no curb and gutter. The area beyond the edge of pavement is approximately 16-foot wide and graded relatively flat with native material on both sides. As Guadalupe Road heads east the two-lane section quickly transitions to three lanes at Avenida del Yaqui.

On the south side of Guadalupe Road there are overhead power poles, an overhead cable TV line, one banner pole, and an underground communication line with two telephone pedestals (see Figure 18). All of the properties on the south side have 4-foot high chain link fences which are privately owned. The property near Sta. 30+00 has a driveway with access gates near or on the ADOT right-of-way line.


Figure 18 – Existing Poles and Telephone Pedestals

In the vicinity of Sta. 31+00, immediately behind the sidewalk is a sloped concrete area that meets and/or extends beyond the right-of-way line (see Figure 19). The existing 5-foot sidewalk is ADA compliant however, the 4-foot sloped concrete area from the back of the sidewalk to the steps is non-ADA compliant because the cross slope exceeds 2%.


Figure 19 – Sloped Concrete Area

C.3.1.2 - Avenida del Yaqui Intersection

The Guadalupe Road/Avenida del Yaqui intersection is signalized. There are three lanes as Guadalupe approaches from the west of the intersection. A northbound left turn lane, an eastbound through lane and a southbound right turn lane. The lane configuration on the eastern approach of the intersection is a mirror image of the western approach with three lanes; a single westbound lane, southbound left turn lane, and a northbound right turn lane.

On the southwest corner of the intersection, there is a 20-foot catch basin with a 5-foot wide sidewalk that extends approximately 100-foot to the west. There are traffic signal poles with streetlights and pedestrian signal heads and push buttons on each corner. The signal poles are at least 2-foot behind the existing sidewalk ramps. The signal controller cabinet is on the northwest corner. The crosswalks are comprised of light colored tiles embedded into the pavement. (see Figure 20)


Figure 20 – Avenida del Yaqui intersection

C.3.1.3 - Avenida del Yaqui to Tempe City Line

On the south side of Guadalupe Road east of Avenida del Yaqui there is approximately 35-foot from the edge of roadway to the right-of-way line. Through this section the adjacent properties are privately owned with the exception of the Maricopa County Health Center. There are multiple underground utilities including two power lines, two telephone lines and a twin 36-inch storm drain with depressed inlets. A sanitary sewer runs immediately behind the edge of roadway. There are multiple points of access including a commercial entrance near Sta. 39+00 (see Figure 21). East of the commercial entrance there is a small storm water management pond that drains onto the right-of-way. The Town of Guadalupe has mentioned a severe storm flooding problem to ADOT and should be addressed during final design.

At Sta. 46+20 there is an entrance into the Guadalupe Family Health Center. In the block from Calle Vauo Nawi to the Highline Canal there are two active businesses (Paul Bunyan Firewood & El Toro Decor), and a storage lot. The active businesses generate local traffic and on-street parking (see Figure 22). A new parking lot at the Mercado also exists.


Figure 21 – Commercial Entrance


Figure 22 – Existing Parking Area


Figure 23 – Highline Canal/Sun Circle/Maricopa Trail

Based on the Maricopa County Assessor's map the Highline Canal right-of-way corridor (see Figure 23) crosses Guadalupe Road between the Town of Guadalupe and the City of Tempe limits. The canal is owned by the Bureau of Reclamation and is managed by SRP.

C.3.2 - RECOMMENDED ALTERNATIVE

C.3.2.1 - Calle Sahuaro to Avenida del Yaqui

A 10-foot wide SDG path on the south side will be constructed with a 2-foot clear area to the existing fence and a 4-foot wide potential landscape strip. Through this segment, the placement of the path includes provisions for a future 3-lane roadway to be installed. This also allows the path to be installed without any modification to the existing roadway. Three utility poles, one banner pole, and two telephone pedestals require relocation. A gated driveway will be crossed and a thickened AC pavement section will be provided. From the alley behind the commercial building on the southwest corner to the intersection with Avenida del Yaqui, the right-of-way allows for an 8-foot path. In this section the sloped concrete area will be removed and replaced with SDG to meet ADA criteria. A short section of concrete curb wall will be required to replace the existing steps. The existing concrete driveway will remain. The final designer shall evaluate the need and cost for relocating the existing utilities to the north side of Guadalupe Road.

C.3.2.2 - Avenida del Yaqui Intersection

At the intersection, the path will cross on the south side of Guadalupe Road. An equestrian gathering area will be provided on both corners. On the southwest corner there is sufficient room to locate a 400 square foot gathering area just south of the path. On the southeast corner there is sufficient room to place a gathering area to the north of the path, behind the existing sidewalk and the path. At the southeast corner of the intersection, a formal landscape planting is proposed and included in the estimated cost. A small easement from the Town may be required to install the proposed planting. Two new pedestrian/equestrian activated push buttons will be mounted at least 6-foot above the path. One for each crosswalk direction will be required.

C.3.2.3 - Avenida del Yaqui to Tempe City Line

On the south side of Guadalupe Road, a 10-foot wide SDG path will be constructed starting immediately behind the existing sidewalk ramp and curve gently to approximately 3-foot north of the existing power poles. At Sta. 38+90, the existing driveway will remain.

Just east of Calle Vauo Nawi, the path transitions from being 3-foot north of the power pole to align with a new curb and gutter 9-foot from the edge of pavement. This new curb will allow for parallel parking while controlling access so that there would be no vehicular parking across the path. Depressed curb and a thickened pavement section will be provided at the driveways. The path will connect to the existing sidewalk terminus in Tempe with a "T" type intersection including the Highline Canal path. The "T" intersection will have 10-foot radius corners to provide a smooth transition onto the canal path. Four underground utilities (two power lines and two telephone lines) will be either directly under or adjacent to the path. The final designer will have to evaluate the final SDG path alignment due to the construction of a new parking lot adjacent to the Mercado on the southeast corner of Avenida del Yaqui.

C.3.3 - OTHER ALTERNATIVES CONSIDERED

It is desirable to have the path cross Guadalupe Road at a signalized intersection. From Segment 2 to the Avenida del Yaqui intersection there is no safe location to cross Guadalupe Road therefore, no north side alternatives were considered. East of Avenida del Yaqui there is a wider area to place the path on the south side than the north and the existing sidewalk terminus in Tempe is located in the south side.

C.3.4 - SEGMENT 3 SUMMARY

The recommended alternative for Segment 3 is:

- The path remains on the south side of Guadalupe Road from Calle Sahuaro to the Tempe City Line.
- Calle Sahuaro to Avenida del Yaqui, construct a 10-foot wide SDG path with a 4-foot landscape strip between the path and roadway.
- Avenida del Yaqui to the Calle Vauo Nawi, construct a 10-foot wide SDG path with a 5-foot wide landscape strip immediately adjacent to the north side of the path.
- East of Calle Vauo Nawi, install new curb and gutter to help control access and parking. There is insufficient room to provide a landscape strip in this area.
- The path will tie into both the existing sidewalk at the Tempe City Line and to the Highline Canal path.

C.4 - CONSTRUCTABILITY REVIEW

The following table identifies, by segment, the primary constructability items associated with the recommended improvements:

Location	Issue
Segment 1	**South Mountain Park to Guadalupe Rd. at Pointe Pkwy East**
New Sidewalk Ramp on Northeast Corner at 48th Street	Requires reduced path width to stay within the existing easement.
Retaining Wall at Golf Cart Underpass	Limited/Restricted work area. Wall design to not impact existing underpass.
Pointe Pkwy East /Guadalupe Rd. Intersection	Limited sight distance.
Utilities	Remove one street light.
Segment 2	**Guadalupe Road / Pointe Pkwy East to Calle Sahuaro**
West Bridge Approach	Requires reduced path width due to Limited/Restricted work area.
Bridge West Abutment	Limited/Restricted work area.
Bridge Center Pier	Limited/Restricted work area & Traffic impacts on I-10.
Bridge East Abutment	Limited/Restricted work area.
East Bridge Approach	Limited/Restricted work area. Existing water line may require relocation. Neighborhood support.
Utilities	Relocate one Banner pole and one street light.
Segment 3	**Calle Sahuaro to Tempe City Line**
Near Sta. 31+00	Temporary support of the cut after removal of the sloped concrete area.
Utilities	Relocate one Banner pole, three utility poles and two telephone pedestals.

D. DEVELOPMENT CONSIDERATIONS:

D.1 - ENVIRONMENTAL

An environmental "fatal flaw" review was performed to determine if there are any substantial issues. During the next step in the development process, a Categorical Exclusion document would be prepared to determine if there are any special environmental, economical, or social concerns. However, ADOT and FHWA will decide on the appropriate environmental documentation prior to the start of final design. Listed below are the results of the review and recommended actions to be implemented during the next phase of the project.

D.1.1 - BIOLOGICAL RESOURCES

Due to the urban setting of this project, impacts to threatened and endangered species, sensitive species, or Arizona species of concern are not anticipated. Therefore, a biological review will be the appropriate level of documentation.

D.1.2 - INVASIVE SPECIES

To control the spread of invasive species, provisions shall be incorporated into construction plans that stipulate that all disturbed areas be seeded with plant species native to the area and that the contractor shall wash equipment prior to entering/leaving the construction site.

D.1.3 - WATER RESOURCES

There are no wetlands of riparian areas within the project limits. Because this project is located along existing urban streets and will not result in substantial changes to the topography, there are no anticipated impacts to floodplains. Based on a preliminary review of aerial photographs of the project area, no washes or bodies of water that would qualify as jurisdictional for the U.S. Army Corps of Engineers are located within the project limits. Therefore, no Section 404 permit requirements are anticipated.

A small portion of the project lies within the Federal Emergency Management Agency designated 100-year floodplain, specifically, just west of the Highline Canal. Impacts to floodplains typically occur when the topography within a floodplain is substantially modified either by placement or removal of materials within the floodplain. Because this is a pathway construction project on existing alignment, this project will not substantially modify the floodplain topography in the project area. This will be further evaluated during final design.

D.1.4 - SECTION 4(f)

There are two known Section 4(f) resources located within or adjacent to the project limits: South Mountain Park and Highline Canal. These properties will be avoided except for minor involvement with constructing an entryway at the South Mountain Park and connecting the new pathway to the existing pathway along the canal.

D.1.5 - VISUAL IMPACTS

No substantial negative visual impacts are anticipated because this project will not substantially alter either the existing landscape or the character of the project area. However, with the potential opportunities for landscaping and art to be employed with the pathway, this project may enhance the immediately surrounding communities thus providing beneficial visual impacts.

D.1.6 - NOISE IMPACTS

Because this project is a facility for non-motorized transportation, a noise analysis is not warranted.

D.1.7 - AIR QUALITY

The project area is located in the Phoenix Metropolitan Area Non-attainment Area for particulate matter, ozone, and within the Phoenix Maintenance Area for carbon monoxide. Because this project is for non-motorized transportation, it is exempt from conformity regulations and no air quality analysis is warranted.

D.1.8 - HAZARDOUS MATERIALS

A hazardous materials records check will be performed during final design to determine if hazardous material concerns exist within the project limits. This records check should minimally include a search of the State's Water Quality Assurance Revolving Fund Registry; the Arizona Hazardous Waste Treatment, Storage, and Disposal Facilities List; the Arizona Department of Environmental Quality (ADEQ) Underground Storage Tank List; the ADEQ Leaking Underground Storage Tank List; the ADEQ Drywell Registration List; the ADEQ Hazardous Material Incident Logbook; and the Arizona Directory of Active/Inactive Landfills and Closed Solid Waste Landfills. The Environmental Protection Agency databases for Resource Conservation and Recovery Act and Comprehensive Environmental Response, Compensation, and Liability Act for regulated-facilities should also be checked.

D.1.9 - RESIDENTIAL/COMMERCIAL DEVELOPMENT DISPLACEMENTS

There are homes and businesses adjacent to the project limits. However, no homes or businesses will be impacted by this project because the pathway will be constructed within existing public right-of-way. The new parking lot at the Mercado will not be impacted.

D.1.10 - TEMPORARY AND PERMANENT ACCESS

Access to adjacent public facilities, businesses, and homes will be maintained during construction. No permanent access restrictions will be imposed on this project because there will be no changes to the existing points of access within the project limits. However, there may be several, short-tem temporary access restrictions during construction while girders are being placed over I-10, and other intersection improvements are made that require restrictions due to safety considerations. The project design team will determine if there are any special events that may occur during construction.

D.1.11 - NEIGHBORHOOD CONTINUITY/COMMUNITY COHESION

This project will be beneficial to neighborhood continuity/community cohesion because it will improve the opportunities that members of the community have to visit each other and congregate in public areas such as South Mountain Park, and provide a connection to the local businesses, residences, and governmental areas. The path will provide connectivity to the Sun Circle/Maricopa Trail System.

D.1.12 - TITLE VI/ENVIRONMENTAL JUSTICE

This project is not anticipated to have disproportionate impacts on any minority or protected populations because all non-motorized users will share the benefits of the improved multi-use facility.

D.1.13 - CULTURAL RESOURCES

Cultural resources considerations were identified from the AZSITE database. With the exception of the Highline Canal, there are no historic properties or archaeological sites located within the project limits. However, the entire project limits have not been surveyed for cultural resources. The need for additional work regarding cultural resources will be determined in further coordination with the ADOT Environmental Planning Group Historic Preservation Team during final design.

D.1.14 – AGENCY AND PUBLIC INVOLVEMENT

Several major stakeholders have been a part of this project, including the Town of Guadalupe, Maricopa County, City of Phoenix, City of Tempe and the Maricopa Association of Governments. These agencies support this project.

An "open house" public meeting is appropriate for this project. This meeting would be more effective to gather input from the potentially affected public versus other methods, such as contacting people through the mail and soliciting written comments. The need for this meeting will be determined through the scoping/environmental process during final design.

D.2 - MAINTENANCE OF TRAFFIC

Detailed Traffic Control Plans will be required. Traffic Control requirements will be in accordance with Part VI of the 2003 Manual on Uniform Traffic Control Devices (MUTCD), the Arizona Supplement to the 2003 MUTCD, and the 2003 ADOT Traffic Control Design Guidelines. Traffic control must carefully consider maintaining emergency and public use on Guadalupe Road and on I-10. Coordination with the Town of Guadalupe, City of Tempe, and the City of Phoenix will be required.

Due to concern of queuing traffic on Guadalupe Road and on I-10, advanced portable changeable message signs (PCMS), variable message signs (VMS), additional enforcement officers, and the broadcast of lower powered radio messages may be utilized to inform the traveling public. Local newspapers, radio, and emergency personnel should be used to provide advance project information to the general public.

There are festivals and other public functions that will require that access be provided during construction. A detailed list of activities will be developed in cooperation with the Town of Guadalupe during final design.

D.2.1 - GUADALUPE ROAD

Temporary concrete barrier will be required on Guadalupe Road to protect the work area. Traffic control on Guadalupe Road will consist of shoulder closures and short-term lane closures with flagging. Law enforcement officers will be required at signalized intersections in advance of lane closures on Guadalupe Road.

D.2.2 - I-10

Traffic control on I-10 will require temporary concrete barrier on I-10 eastbound & westbound to protect the outside shoulder and median work area to construct the new bridge over I-10 and to complete the construction of the center pier. Shoulder closures and nighttime or weekend lane closures will be required on I-10 for work within the right-of-way. Temporary nighttime or weekend closures on I-10 will be required to construct the bridge over I-10.

Freeway traffic detours will need to be coordinated with local jurisdictions and in accordance with ADOT's current policy for allowable freeway closures. Law enforcement officers will be required in advance of lane closures, freeway closures, and at signalized intersections along detour routes on local streets.

Freeway guide signs on the south side of the existing bridge shall be relocated and maintained during construction of the new bridge over I-10.

D.2.3 - GOLF CART UNDERPASS

During the construction of the path and retaining wall at the underpass, it will be necessary to maintain usage of the golf cart path and protect users from falling debris.

D.3 - LANDSCAPE AND HARDSCAPE

D.3.1 - LANDSCAPE

The proposed landscape treatments recommended for this project will provide a unifying theme within the Town of Guadalupe. Entry into the town from the east and the town center will serve as focal points at each end of the project within the town limits. Tempe to the east will also benefit from the landscape treatments as the eastern portion of this project serves as the western entry/gateway to the City of Tempe and key recreation facilities in the southwest part of the city. Significant entries into the City of Phoenix South Mountain Park and resort destinations on the west end are also served by this project. This unique assortment of local heritage and destinations provides opportunities to capture various cultural and context sensitive themes into the project.

The Yaqui community provides a rich cultural heritage that will be emphasized in the selection of landscape plant materials, pavement surfaces, colors and textures to walls, fences and the new bridge. The adjacent mountain/recreation backdrops also provide additional themes that should be investigated in order to complement the landscape architectural features. Incorporation of public art components should also be considered. This theme for the potential public art component will be determined during the initial stages of final design by collaborating with the major stakeholders of the project. The theme will need to consider the prospective influence from the Town of Guadalupe, City of Tempe, and the City of Phoenix for implementing a unifying element throughout the project limits.

Using plants native to the Sonoran Desert will provide shade, seasonal color, and a unified theme along the path. Plant material will be carefully selected to ensure that the trail will be safe for pedestrians and horses. Plants will not block visibility for motorists or trail users and will ensure adequate overhead and side clearance for horse and rider. Water supply and future landscape maintenance will be the responsibility of the local jurisdictions. Trees are to be maintained a minimum of 10 foot to 12 foot vertical height above the pathway as they mature. Tree canopies and other selected vegetation shall also be kept a minimum of 3 foot from edges of curbs, pathways and adjacent buildings. Final design should also consider elements such as soil conditions and surface/subsurface drainage for long-term plant health sustainability.

Proposed Plant List

Trees

- Cercidium Microphyllum
- Chilopsis Linearis
- Foothills Palo Verde
- Desert Willow

Shrubs

- Justica Californica
- Calliandra Eriophylla
- Simmondsia Chinensis
- Ericameria Laricifolia
- Chuparosa
- Fairy Duster
- Jojoba
- Turpentine Bush

Accents

- Carnegiea Gigantea
- Fouquieria Splendens
- Agave Parryi
- Opuntia Basilaris
- Penstemon Parryi
- Saguaro
- Ocotillo
- Agave
- Beavertail Cactus
- Parry Penstemon

Ground Covers

- Baileya Multiradiata
- Desert Marigold

Areas on the west end of this project at 48th Street and Guadalupe Road have existing landscape and irrigation systems that will be disturbed by the construction of the path. This area will be reconstructed in a manner to blend in with the current landscape theme of the area. The existing irrigation system in this area will be revised and repaired as needed to maintain a complete and functioning system.

Areas of construction in the vicinity of the new bridge abutments and retaining walls will likely also impact existing landscape and irrigation systems. These areas will need to be restored to their existing conditions. Additional landscape screening should also be evaluated in areas where retaining walls are located adjacent to existing residential developments to the west and east of I-10.

D.3.2 - HARDSCAPE

Pavement surface treatments will utilize integral color and/or decorative pavers at key gathering points, cross walks and other focal point areas such as the eastern gateway, Town of Guadalupe city center at Avenida del Yaqui and the Sun Circle/Maricopa trail entry. Other surface treatments will consist of decomposed granite materials in landscape areas and stabilized decomposed granite within the pathway areas. The color selected for these treatments should blend with the native themes for this project and complement each other.

New structures such as retaining walls, fences and the new bridge should be considered for form, color and textural improvements with possible public art components included in these features. Other items to consider are decorative pavement at entry areas, trash receptacles, benches, and bicycle racks.

The final designer shall coordinate with the appropriate stakeholders to address landscape and hardscape operation and maintenance costs during the development of the project.

D.4 - OTHER

The recommendation to utilize a stabilized decomposed granite (SDG) pathway surface is based on research into what material will provide an ADA compliant surface and still be equestrian friendly. Bicyclists tend to prefer SDG surfaces because it eliminates the bumps at expansion joints in concrete and is a softer surface for pedestrians. It was found that horses prefer not to walk on hard surfaces such as concrete or asphalt. SDG appears to meet the path users' requirements. There are numerous products available to stabilize the decomposed granite; however, virtually all stabilizers require periodic surface treatment. At this time, a pine resin appears to perform well with the exception that surface firmness is reduced when wet. This could be a maintenance issue for Maricopa County who is responsible for maintaining the path once constructed. It is recommended that further investigation into stabilizing products be performed as part of the final design effort. The Community has endorsed the use of the SDG surface for the path.

Because more than one acre of land will be disturbed, an Arizona Pollutant Discharge Elimination System (AZPDES) General Permit will be required and a Storm Water Pollution Prevention Plan (SWPPP) will be required.

No new right-of-way will be required for the implementation of the project; however, temporary construction easements may be necessary. Further investigation into the existing right-of-way will be required during the final design phase to gain a clear understanding of the division of ownership between ADOT, City of Phoenix, Maricopa County, the Town of Guadalupe, and private properties. The existing roadway profile east of the Guadalupe Road Bridge over I-10 is slightly greater than 5%. A 1.5% grade break at the east abutment of the proposed bridge will allow a 5% grade. It has been reported by the U.S. Access Board that new regulations will be released concerning ADA requirements in the public right-of-way. These new regulations may not require facilities that follow the existing roadway profile to meet the 5% maximum grade criteria.

Joint Project Agreements (JPA) will be required between ADOT, Maricopa County, City of Phoenix, Town of Guadalupe, Maricopa Associations of Governments, and SRP/Bureau of Reclamation. There is a possibility that multi-party JPA(s) could be implemented.

SRP Power may have prior rights and therefore an allowance to cover the cost of relocating power poles has been included in the estimate. All other utilities are assumed, for estimating purposes, to be in place by permit and therefore relocation costs are not included. A final determination on Prior Rights will be developed as part of final design.

A full geotechnical investigation will be necessary to determine the existing soil properties for the bridge and retaining wall design. In addition, the final designer shall consider utilizing/salvaging any of the potentially impacted existing landscaping in the project area to minimize cost and aesthetic implications.

E. OTHER REQUIREMENTS:

The project is yet to be programmed and funded for final design and construction. A Categorical Exclusion document would typically be prepared as part of final design efforts. The project manager, in consultation with the design team, shall develop a project-customized schedule and service involvement definition that will reflect the full scope of work. Upon request, ADOT's Program and Project Management Section will provide the necessary technical support to the project team for this effort.

ADOT Bridge Group B will design the new bridge and retaining walls. A consultant will perform the Categorical Exclusion and final design of all other aspects of the project (pathway, drainage, utility relocations, (as required). The project will be designed in compliance with ADA standards/guidelines, AASHTO Standard Specification for Highway Bridges, AASHTO Policy on Geometric Design of Highways and Street, 1999 AASHTO Bicycle Guidelines, and all applicable ADOT criteria.

F. ESTIMATED COSTS:

The cost estimate for this study has been divided by segment. The costs provided reflect inclusion of all appropriate soft costs and contingencies. Eighteen months of inflation has been included based on a December 1, 2007 start of the 12 to 18-month final design effort, a two-month advertisement/award period, and six months to the mid-point of construction. The detailed estimate is presented in Appendix A.

	Segment			Project Total Cost
	1	2	3	
Total Cost	$240,350	$3,272,900	$824,550	**$4,337,800**

The landscaping costs include all landscaping/irrigation materials, inert surface materials such as decomposed granite and steel-edge restraint in landscape areas, and irrigation.

INVOLVEMENT SHEET
010 MA 156 H6952 01C/TEA 010-C(011) A

I-10, GUADALUPE ROAD PEDESTRIAN BRIDGE
& PATHWAY FROM SOUTH MOUNTAIN PARK TO TEMPE CITY LINE

ORGANIZATION	INVOLVEMENT				COMMENTS
	SIGNIFICANT	MINIMUM	NONE	UNKNOWN	ISSUES WHICH MAKE INVOLVEMENT SIGNIFICANT OR MINIMAL
PHOENIX CONSTRUCTION DISTRICT	X				CONSTRUCTION ENGINEERING AND ADMINISTRATION
PHOENIX MAINTENANCE DISTRICT	X				STAGED REVIEWS AND MAINTENANCE
TRANSPORTATION ENHANCEMENT AND SCENIC ROADS	X				PLAN REVIEW AND PROJECT ADMINISTRATION
ROADWAY DESIGN		X			PLAN REVIEW
TRANSPORTATION PLANNING		X			PLAN REVIEW, STATE STANDARDS
PAVEMENT DESIGN		X			PLAN REVIEW AND REVIEW MATERIALS RECOMMENDATIONS
GEOTECHNICAL SECTION		X			REVIEW GEOTECHNICAL DESIGN REPORT AND PLAN REVIEW
BRIDGE DESIGN	X				PREPARE BRIDGE AND RETAINING WALL DESIGN
DRAINAGE DESIGN		X			PLAN REVIEW
TRAFFIC DESIGN		X			PLAN REVIEW
ENGINEERING SURVEY			X		SURVEY BY CONSULTANTS
ENVIRONMENTAL PLANNING GROUP	X				ENVIRONMENTAL DOCUMENTATION & ENVIRONMENTAL CLEARANCE
ROADSIDE DEVELOPMENT SECTION		X			SEEDING & PLAN REVIEW, SOLE SOURCE APPROVALS, AND SWPPP
RIGHT-OF-WAY		X			RIGHT-OF-WAY CLEARANCE
UTILITIES & RAILROAD		X			PLAN REVIEW & UTILITY CLEARANCE
CONTRACTS & SPECIFICATIONS	X				PLAN REVIEW & PREPARE PS&E PACKAGE
FHWA		X			FEDERAL FUNDING , THE PROJECT WILL BE ADMINISTERED UNDER ADOT/FHWA PARTNERSHIP AGREEMENT & PLAN REVIEW
MARICOPA COUNTY	X				PLAN REVIEW, FUNDING, TRAIL MAINTENANCE
MARICOPA ASSOCIATION OF GOVERNMENTS	X				PLAN REVIEW, FUNDING
CITY OF PHOENIX	X				PLAN REVIEW, POSSIBLE LANDSCAPE MAINTENANCE
CITY OF TEMPE		X			PLAN REVIEW
TOWN OF GUADALUPE	X				PLAN REVIEW, POSSIBLE LANDSCAPE MAINTENANCE
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY		X			PLAN REVIEW

APPENDIX A

COST ESTIMATES

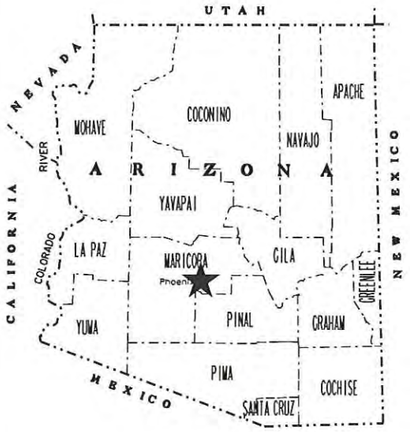
Final Project Assessment
I-10, Guadalupe Road Pedestrian Bridge
& Pathway from South Mountain Park to Tempe City Line

			Segment 1		Segment 2		Segment 3		Total	
September 2007	**Unit**	**Unit Price**	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
Removal of Asphaltic Concrete	SQ. YD.	$ 30.00	9	$ 270	9	$ 270	174	$ 5,212	192	$ 5,752
Removal of Concrete Curb & Gutter	L. FT.	$ 25.00	38	$ 950	16	$ 402	34	$ 850	88	$ 2,202
Removal of Conc. Sidewalk & Conc. Driveway	SQ. FT.	$ 4.00	2,587	$ 10,348	22	$ 90	629	$ 2,516	3,238	$ 12,954
Removal of Structures and Obstructions	L. FT.	$ 1.25	47	$ 59	51	$ 64	0	$ -	98	$ 122
Saw Cutting	L. FT.	$ 1.50	85	$ 128	107	$ 161	277	$ 416	469	$ 704
Path Excavation	CU. YD.	$ 15.00	158	$ 2,370	26	$ 390	252	$ 3,780	436	$ 6,540
Borrow	CU. YD.	$ 18.00	9	$ 162	1188	$ 21,384	0	$ -	1,197	$ 21,546
Asphalt Concrete	TON	$ 120.00	2	$ 240	2	$ 240	52	$ 6,240	56	$ 6,720
Aggregate Base	CU. YD.	$ 150.00	1	$ 215	1	$ 206	39	$ 5,850	42	$ 6,271
4" Stabilized Decomposed Granite	SQ. YD.	$ 12.00	576	$ 6,912	1424	$ 17,088	2448	$ 29,376	4,448	$ 53,376
Concrete Curb & Gutter	L. FT.	$ 20.00	38	$ 750	9	$ 180	466	$ 9,320	513	$ 10,250
Concrete Driveway	SQ. FT.	$ 6.00	0	$ -	0	$ -	301	$ 1,805	301	$ 1,805
Concrete Sidewalk Ramp	EACH	$ 4,000.00	2	$ 8,000	0	$ -	0	$ -	2	$ 8,000
Detectable Warning Strip	EACH	$ 1,500.00	3	$ 4,500	3	$ 4,500	2	$ 3,000	8	$ 12,000
Pavement Striping (Crosswalks)	L. FT.	$ 10.00	38	$ 380	38	$ 380	38	$ 380	114	$ 1,140
Retaining Walls	SQ. FT.	$ 55.00	0	$ -	7202	$ 396,110	0	$ -	7,202	$ 396,110
Retaining Wall (Underpass)	SQ. FT.	$ 80.00	640	$ 51,200	0	$ -	0	$ -	640	$ 51,200
Expanded Metal Screen Fence - Walls	SQ. FT.	$ 25.00	440	$ 11,000	7,935	$ 198,375	0	$ -	8,375	$ 209,375
Expanded Metal Screen Fence - Bridge	SQ. FT.	$ 26.00	0	$ -	5,320	$ 138,320	0	$ -	5,320	$ 138,320
Relocate Irrigation Line	L. FT.	$ 4.00	700	$ 2,800	300	$ 1,200	0	$ -	1,000	$ 4,000
Landscaping Segment 3	L. SUM	$ 264,187.00	0	$ -	0	$ -	1	$ 264,187	1	$ 264,187
New Bridge	SQ. FT.	$ 130.00	0	$ -	3920	$ 509,600	0	$ -	3,920	$ 509,600
Concrete Barrier 32"	L. FT.	$ 80.00	0	$ -	105	$ 8,400	0	$ -	105	$ 8,400
Pedestrian Traffic Signal Modifications	LS	$ -	1	$3,000	1	$ 5,000	1	$ 2,000	1	$ 10,000
Landscaping Seqment 2	L.Sum	$ 88,063.00	0	$ -	1	$ 88,063	0	$ -	1	$ 88,063
Subtotal				**$ 103,284**		**$ 1,390,423**		**$ 334,932**		**$ 1,828,638**
Miscellaneous Work (15%)	15%			$ 15,493		$ 208,563		$ 50,240		$ 274,296
Subtotal				**$ 118,776**		**$1,598,986**		**$385,171**		**$ 2,102,934**
Project Additives										
Maintenance of Traffic (Local)	5.0%			$ 5,939		$ -		$ 19,259		$ 145,121
Maintenance of Traffic (I-10)	7.5%			$ -		$ 119,924		$ -		
Construction Survey	1%			$ 1,188		$ 15,990		$ 3,852		$ 21,029
Quality Control	1%			$ 1,188		$ 15,990		$ 3,852		$ 21,029
Dust Palliative	1%			$ 1,188		$ 15,990		$ 3,852		$ 21,029
Furnish Water	1%			$ 1,188		$ 15,990		$ 3,852		$ 21,029
Erosion Control & SWPPP	1%			$ 1,188		$ 15,990		$ 3,852		$ 21,029
Subtotal				**$ 11,878**		**$ 199,873**		**$ 38,517**		**$ 250,268**
Construction & Additive Subtotal				**$ 130,654**		**$ 1,798,859**		**$ 423,689**		**$ 2,353,202**
Mobilization	12%			$ 15,678		$ 215,863		$ 50,843		$ 282,384
Construction Total				**$ 146,333**		**$ 2,014,722**		**$ 474,531**		**$ 2,635,586**
**Art Allowance	1%			$ 1,463		$ 20,147		$ 4,745		$ 26,356
Final Design	15%			$ 21,950		$ 302,208		$ 71,180		$ 395,338
Construction Engineering	15%			$ 21,950		$ 302,208		$ 71,180		$ 395,338
Construction Contingency	5%			$ 7,317		$ 100,736		$ 23,727		$ 131,779
Contingency	5%			$ 7,317		$ 100,736		$ 23,727		$ 131,779
Right-Of-Way	LS		1		1		1	$ -	1	$ -
SRP Power Relocation Allowance	LS		1	$ 2,500	1	$ 5,000	1	$ 47,500	1	$ 55,000
Total Project Cost '07 Dollars				**$ 209,000**		**$ 2,846,000**		**$ 717,000**		**$ 3,771,000**
Inflation @ 10% per Year X 1.5 years				$ 31,350		$ 426,900		$ 107,550		$ 565,650
Project Cost to Mid point of Construction				**$ 240,350**		**$ 3,272,900**		**$ 824,550**		**$ 4,337,800**

** The Base estimate for the Art Allowance has been established at 1% of the estimated project costs. If additional funds are needed the requesting Agency will be responsible for providing the funding.

APPENDIX B

PROJECT PLANS



STATE OF ARIZONA
DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION

ADOT



N
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FINAL PROJECT ASSESSMENT

PLANS NOT FOR CONSTRUCTION OR RECORDING

I-10, GUADALUPE ROAD PEDESTRIAN BRIDGE & PATHWAY FROM SOUTH MOUNTAIN PARK TO TEMPE CITY LINE

FEDERAL AID NO: TEA-010-C(011)A

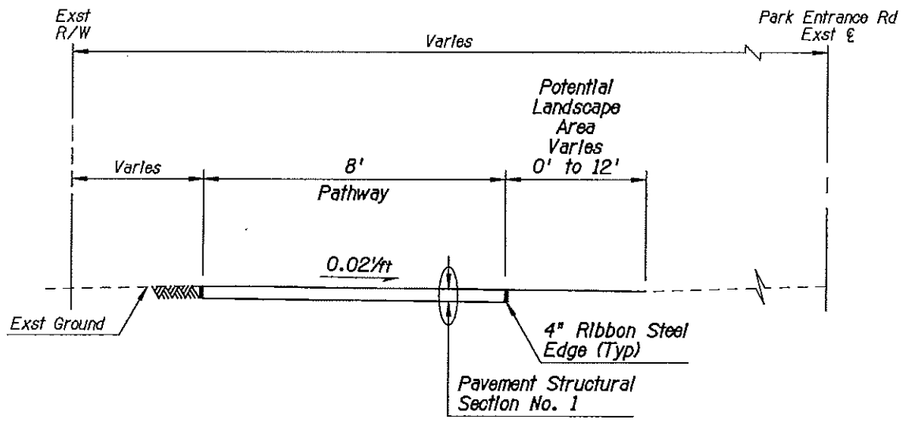
PROJECT NO: 010 MA 156 H6952 01 C

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
SAM ELTERS, P.E., STATE ENGINEER

AS BUILT DATA	AS BUILT DATE	B1 OF B26

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A	2	26	

010 MA 156



TYPICAL SECTION
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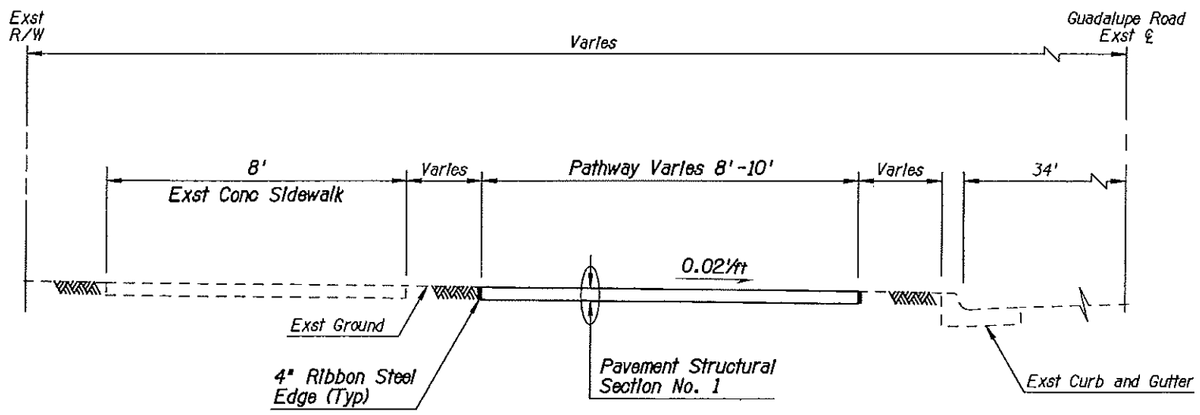
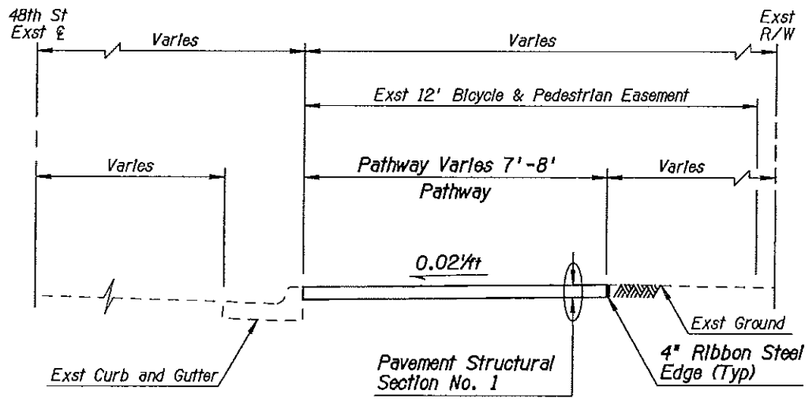
South Mountain
Park Entrance



TYPICAL SECTION
Segment 1
Guadalupe Road



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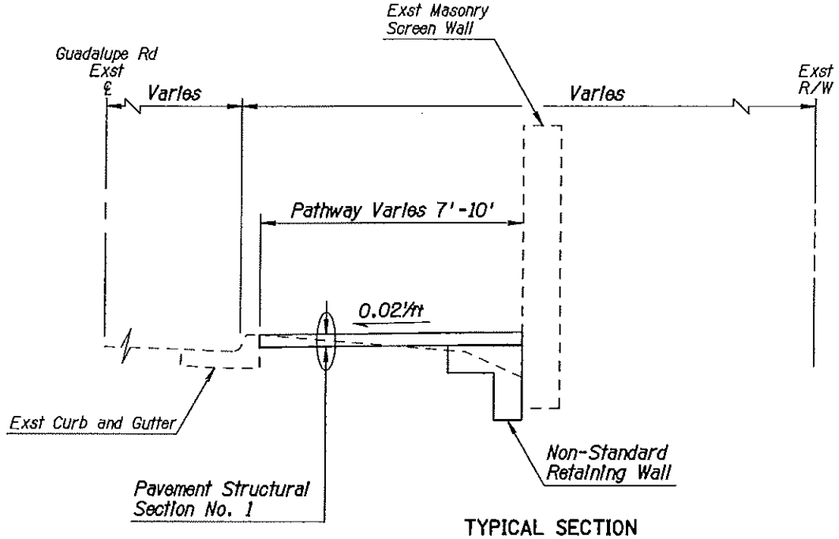
48th Street



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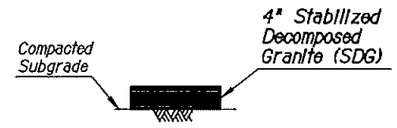
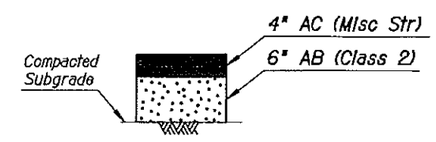
Guadalupe Road
With Masonry Screen Wall



Total Thickness = 4"

PAVEMENT STRUCTURAL SECTION NO. 1



Total Thickness = 10"

PAVEMENT STRUCTURAL SECTION NO. 2

	NAME	DATE
DESIGN	KJR	01-08
DRAWN	AEL	01-08
CHECKED	TLB	01-08

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

AZTEC
450 E. McDowell Road
Phoenix, AZ 85006-4505
Tel (602) 454-0472
Fax (602) 454-0433
www.aztec.us

DESIGN SHEET

Final Project Assessment
NOT FOR CONSTRUCTION OR RECORDING

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE-IT
OUTSIDE MARICOPA COUNTY

ROUTE 010 | LOCATION I-10, GUADALUPE RD PED BRIDGE & PATHWAY

TRACS NO. H6952 01 C | 010-C(011)A | SHEET B2 OF B26

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F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
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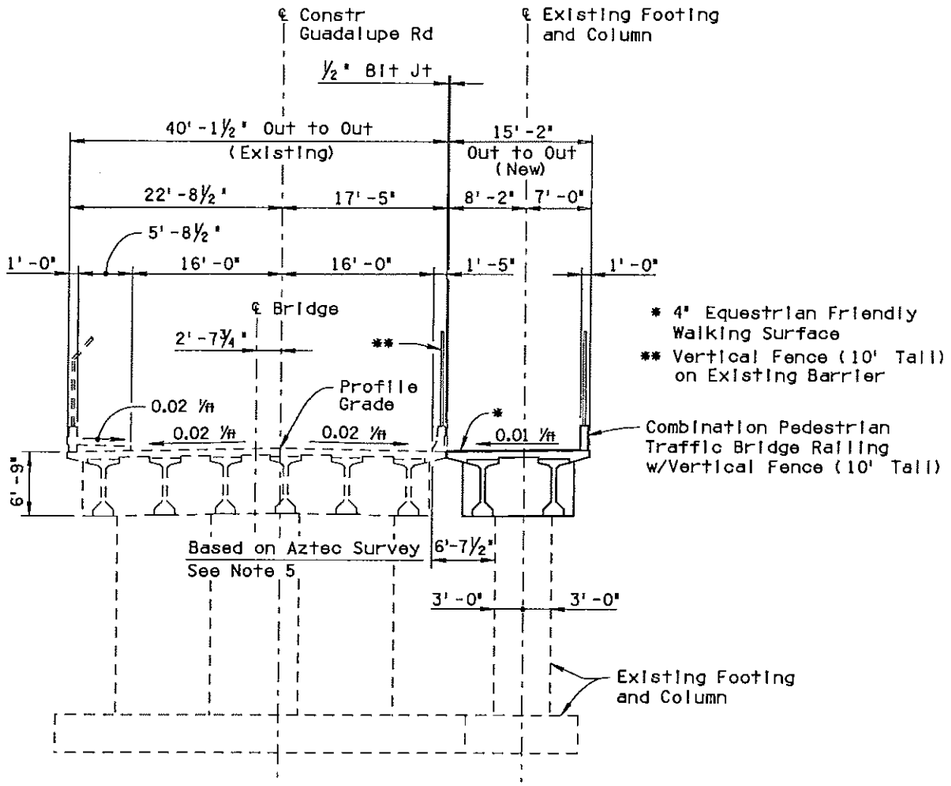
		010 MA 156			



TYPICAL SECTION

Segment 2
New Bridge

NOTES:

1. Use AASHTO Type VI Girders to match existing.
2. Combination Ped/Traffic Railing on outside.
3. 10' Tall Vertical Fencing.
4. 1% Cross Slope to maintain 16'-6" Vertical Clear (Maintaining 2% Cross Slope would result in approximate 16'-0" to 16'-1" Vertical Clear.
5. All dimensions shall be field verified prior to commencing Final Design.
6. All dimensions are as shown in 1-28-02 Record Drawings for Project IM-10-3 (333)P (unless noted otherwise).

	NAME	DATE
DESIGN	MAC	01-08
DRAWN	DES	01-08
CHECKED	MAC	01-08

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

AZTEC 4521 E. McDowell Road, Phoenix, AZ 85008-4505, Tel (602) 454-0402, Fax (602) 454-0403, www.aztecaz.com

DESIGN SHEET

Final Project Assessment

NOT FOR CONSTRUCTION OR RECORDING

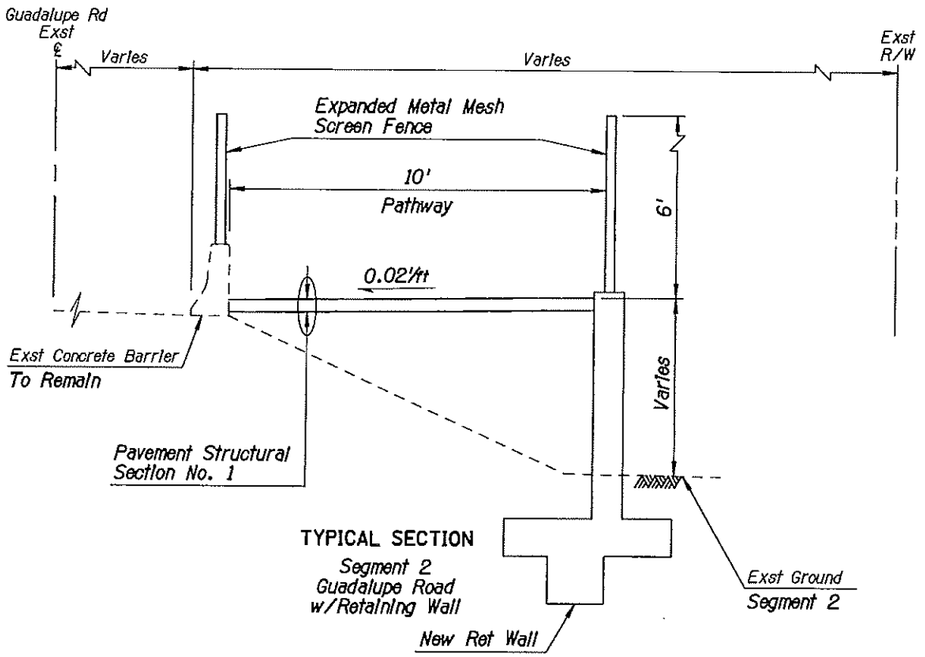
ROUTE	LOCATION	SHEET OF
010	I-10, GUADALUPE RD PED BRIDGE & PATHWAY	
TRACS NO. H6952 01 C		010-C(011)A B3 OF B26

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE-IT
OUTSIDE MARICOPA COUNTY

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

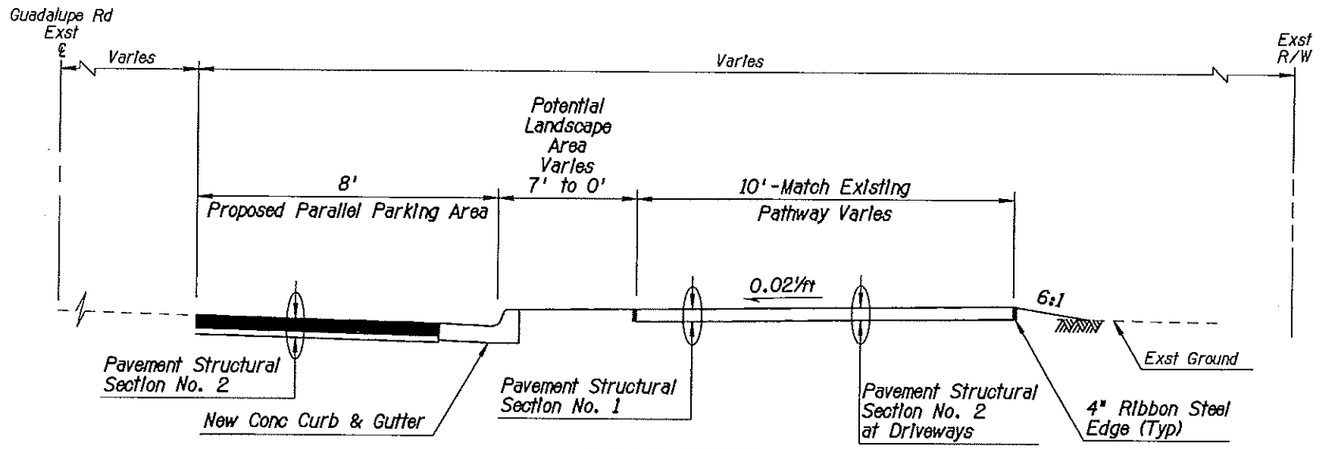
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A	4	26	

010 MA 156



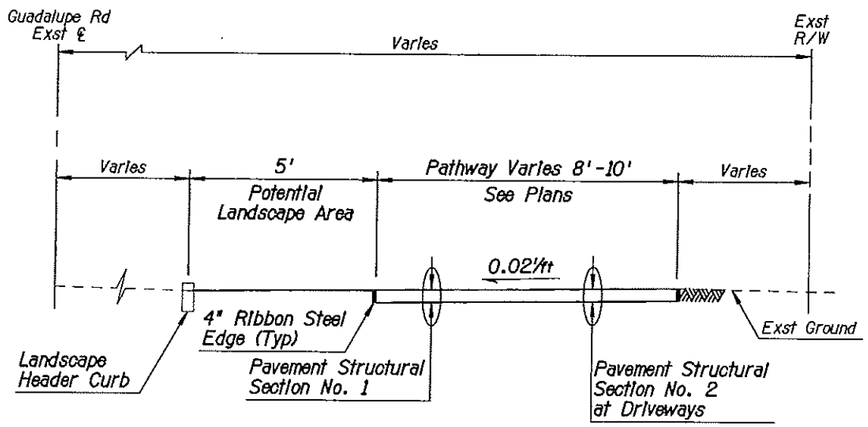
TYPICAL SECTION

Segment 2
Guadalupe Road
w/Retaining Wall



TYPICAL SECTION

Segment 3
Guadalupe Road
Calle Vauo Nawl
to Tempe City Line



TYPICAL SECTION

Segment 3
Guadalupe Road
Calle Sahuaro to
Calle Vauo Nawl

	NAME	DATE
DESIGN	KJR	01-08
DRAWN	AEL	01-08
CHECKED	TLB	01-08

AZTEC 4561 E. McDowell Road Phoenix, AZ 85008-1506 Tel (602) 454-0402 Fax (602) 454-0403 www.aztecaz.us

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

DESIGN SHEET

Final Project Assessment

NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	SHEET	OF
010	I-10, GUADALUPE RD PED BRIDGE & PATHWAY		
TRACS NO. H6952 01 C		010-C(011)A	B4 OF B26

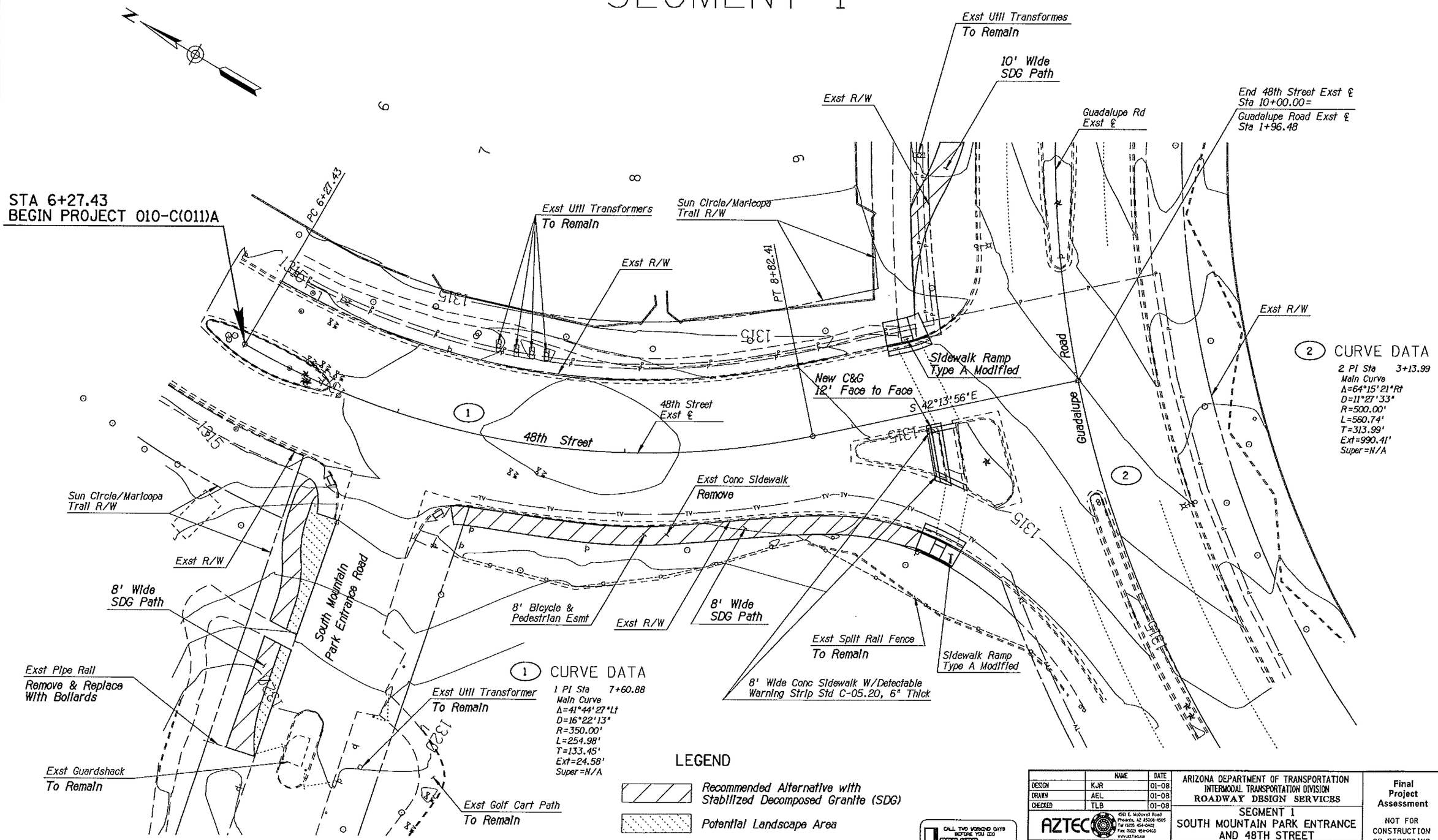
CALL TWO WORKING DAYS BEFORE YOU DIG 263-1100 1-800-STAKE-IT OUTSIDE MARICOPA COUNTY

DATE- LOCATION- REVISIONS- FINISHED PLANS- SURVEY NO.

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A	5	26	

010 MA 156

SEGMENT 1



(2) CURVE DATA
2 PI Sta 3+13.99
Main Curve
Δ=64°15'21"Rt
D=11°27'33"
R=500.00'
L=560.74'
T=313.99'
Ext=990.41'
Super=N/A

(1) CURVE DATA
1 PI Sta 7+60.88
Main Curve
Δ=41°44'27"Lt
D=16°22'13"
R=350.00'
L=254.98'
T=133.45'
Ext=24.58'
Super=N/A

LEGEND

Recommended Alternative with Stabilized Decomposed Granite (SDG)

Potential Landscape Area

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE-IT
OUTSIDE MARICOPA COUNTY

	NAME	DATE
DESIGN	KJR	01-08
DRAWN	AEL	01-08
CHECKED	TLB	01-08

AZTEC
4501 E. McDowell Road
Phoenix, AZ 85008-4505
Tel (602) 454-0402
Fax (602) 454-0403
www.aztec.us

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

SEGMENT 1
SOUTH MOUNTAIN PARK ENTRANCE
AND 48TH STREET

Final Project Assessment

NOT FOR CONSTRUCTION OR RECORDING

ROUTE 010 | LOCATION I-10, GUADALUPE RD PED BRIDGE & PATHWAY

TRACS NO. H6952 01 C | 010-C(011)A | SHEET B5 OF B26

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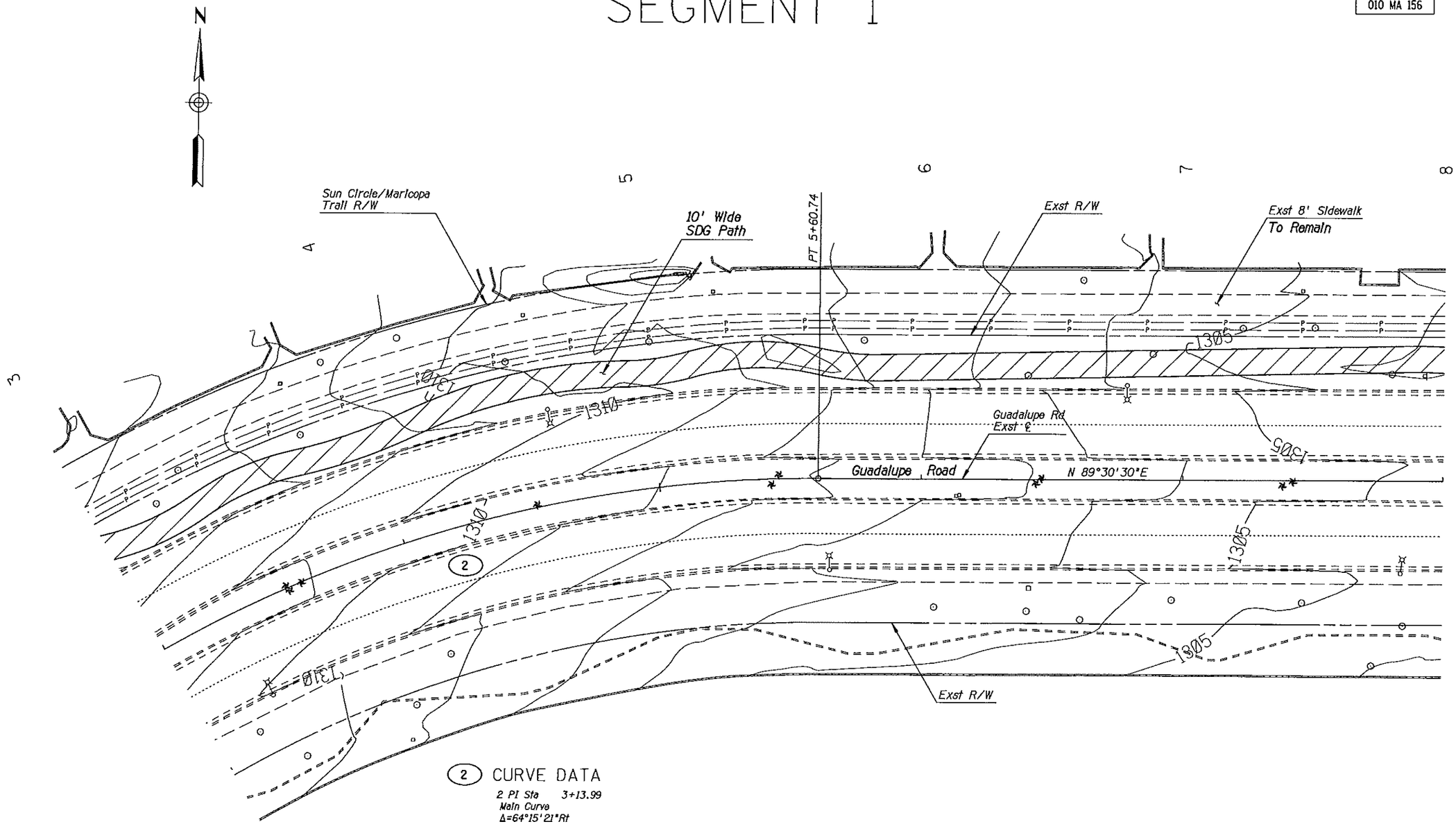
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A	6	26	
		010 MA 156			

SEGMENT 1



(2) CURVE DATA

2 PI Sta 3+13.99
Main Curve
Δ=64°15'21"Rt
D=11°27'33"
R=500.00'
L=560.74'
T=313.99'
Ext=990.41'
Super=N/A

LEGEND

Recommended Alternative with Stabilized Decomposed Granite (SDG)

CALL TWO WORKING DAYS BEFORE YOU DIG 263-1100 1-800-STAKE-IT OUTSIDE MARICOPA COUNTY

	NAME	DATE
DESIGN	KJR	01-08
DRAWN	AEL	01-08
CHECKED	TLB	01-08

AZTEC 4511 E. Watkins Road Phoenix, AZ 85008-1505 Tel (602) 454-0402 Fax (602) 454-0403 www.aztecaz.us

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

SEGMENT 1
STA 3+00 - 8+00

ROUTE 010 | LOCATION I-10, GUADALUPE RD PED BRIDGE & PATHWAY

TRACS NO. H6952 01 C | 010-C(011)A

Final Project Assessment
NOT FOR CONSTRUCTION OR RECORDING

SHEET OF B6 OF B26

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

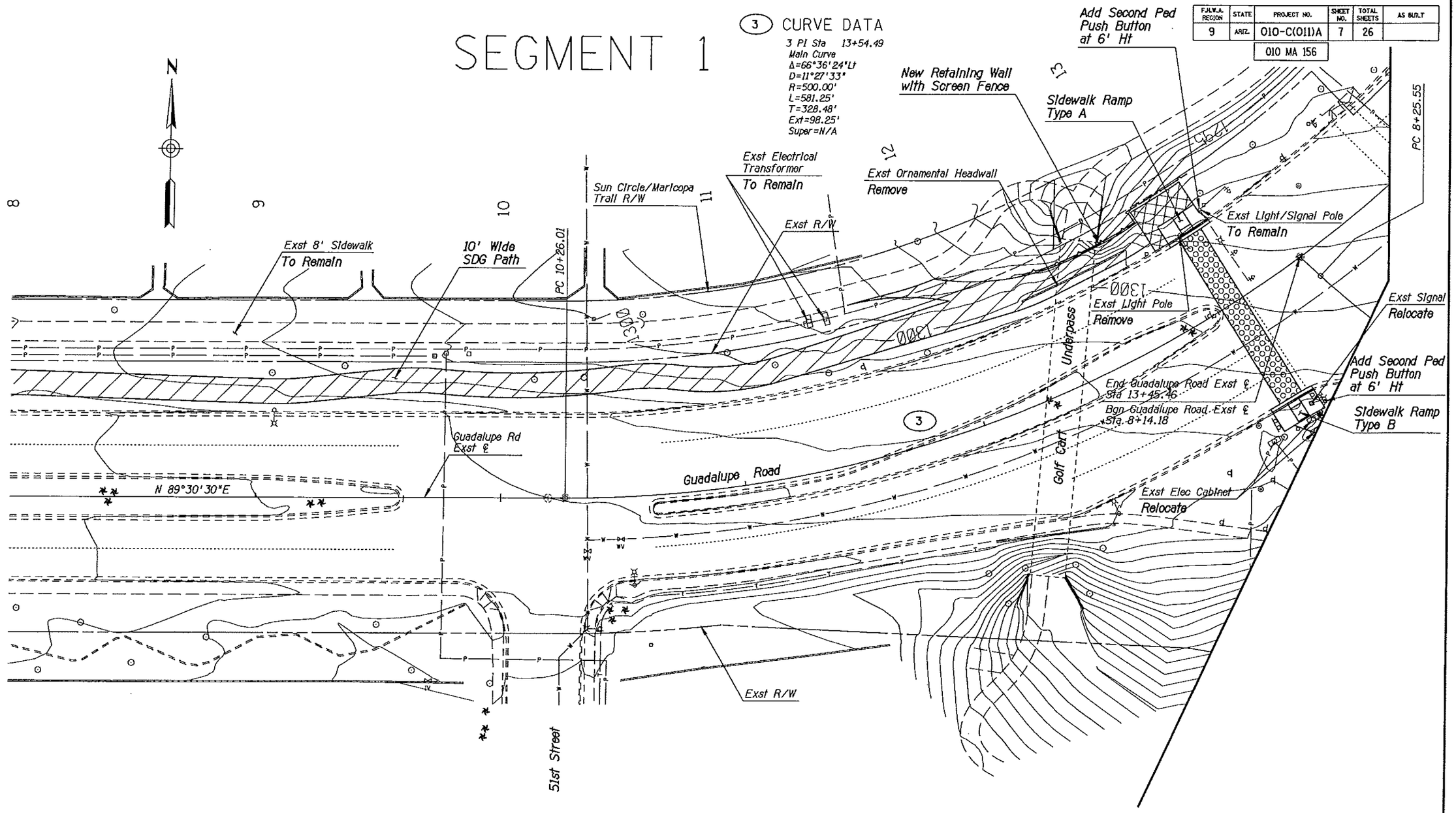
Plotted By: alinn at 11:19:42 AM 1/30/2008 r:\Phoenix\Projects\AZ02104\23\CADD\Sheets\Roadway\210423pl02.dgn

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A	7	26	
		010 MA 156			

SEGMENT 1

(3) CURVE DATA

3 PI Sta 13+54.49
Main Curve
Δ=66°36'24"Lt
D=11°27'33"
R=500.00'
L=581.25'
T=328.48'
Ext=98.25'
Super=N/A



LEGEND

- Recommended Alternative with Stabilized Decomposed Granite (SDG)
- Gathering Area (SDG)
- Crosswalk

CALL TWO WORKING DAYS BEFORE YOU DIG 263-1100 1-800-STAKE-IT OUTSIDE MARICOPA COUNTY

	NAME	DATE
DESIGN	KJR	01-08
DRAWN	AEL	01-08
CHECKED	TLB	01-08

AZTEC 1661 E. Mcdowell Road Phoenix, AZ 85006-1535 Tel (602) 454-0402 Fax (602) 454-0403 www.aztecaz.us

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

SEGMENT 1
STA 8+00 - 13+45.46

Final Project Assessment
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION		
010	I-10, GUADALUPE RD PED BRIDGE & PATHWAY		SHEET OF
TRACS NO. H6952 01 C		010-C(011)A	B7 OFB26

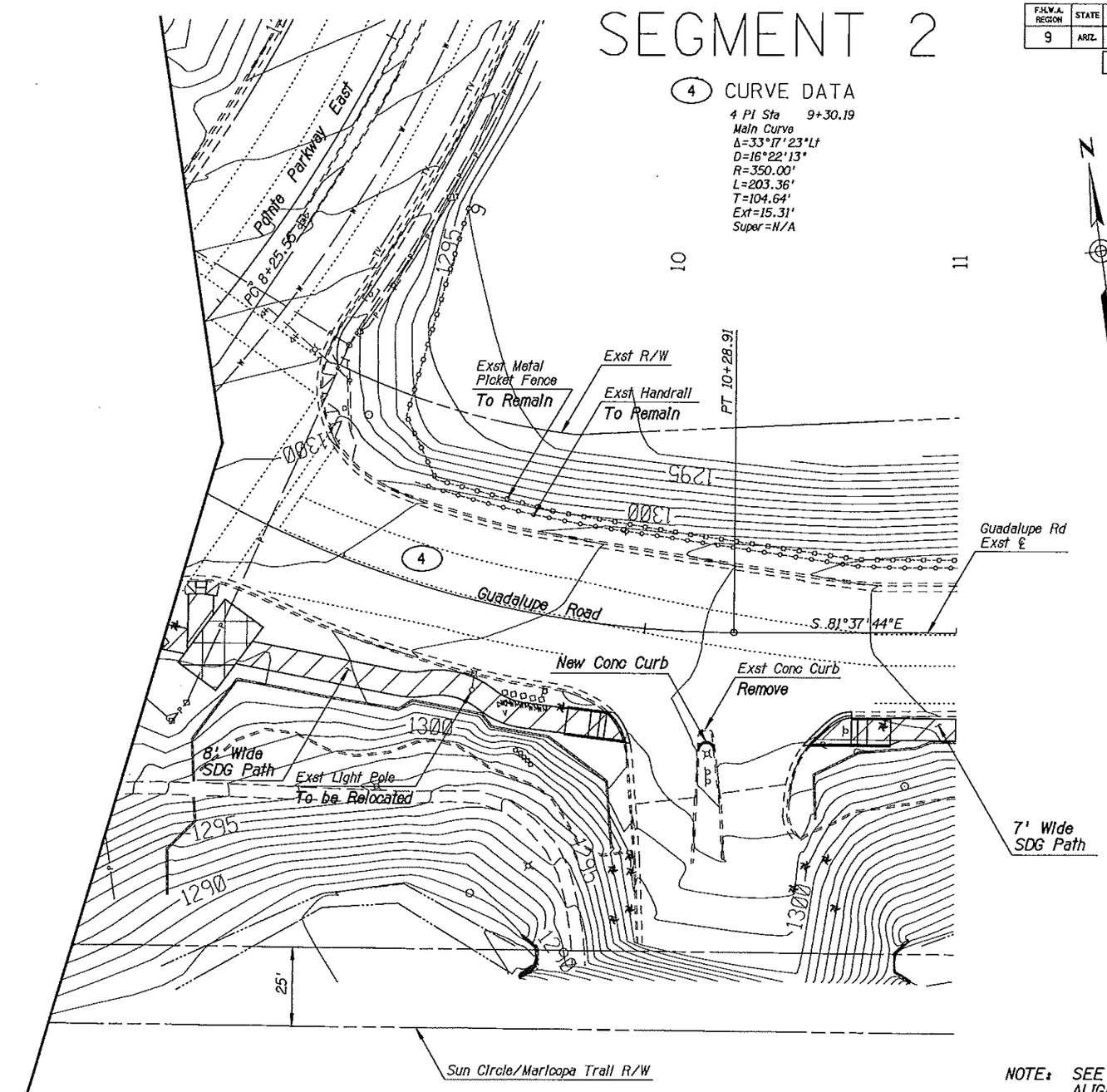
SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | SURVEY NO. | DATE-

Plotted By: alinn at 11:21:16 AM 1/30/2008 R:\Phoenix\Projects\AZ02104\23\CADD\Sheets\Roadway\210423p103.dgn

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A	8	26	
		010 MA 156			

SEGMENT 1

SEGMENT 2



NOTE: SEE APPENDIX C FOR OPTIONAL ALIGNMENTS IN THIS AREA

LEGEND

Recommended Alternative with Stabilized Decomposed Granite (SDG)

Gathering Area (SDG)

CALL TWO WORKING DAYS BEFORE YOU DIG 263-1000 1-800-STAKE-IT OUTSIDE MARICOPA COUNTY

	NAME	DATE
DESIGN	KJR	01-08
DRAWN	AEL	01-08
CHECKED	TLB	01-08

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

AZTEC 4511 E. McDowell Road Phoenix, AZ 85008-4505 TEL (602) 454-0402 FAX (602) 454-0403 www.aztecus.com

SEGMENT 2
8+14.18 - 11+00

Final Project Assessment
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	SHEET	OF
010	I-10, GUADALUPE RD PED BRIDGE & PATHWAY		
TRACS NO. H6952 01 C		010-C(011)A	B8 OF B26

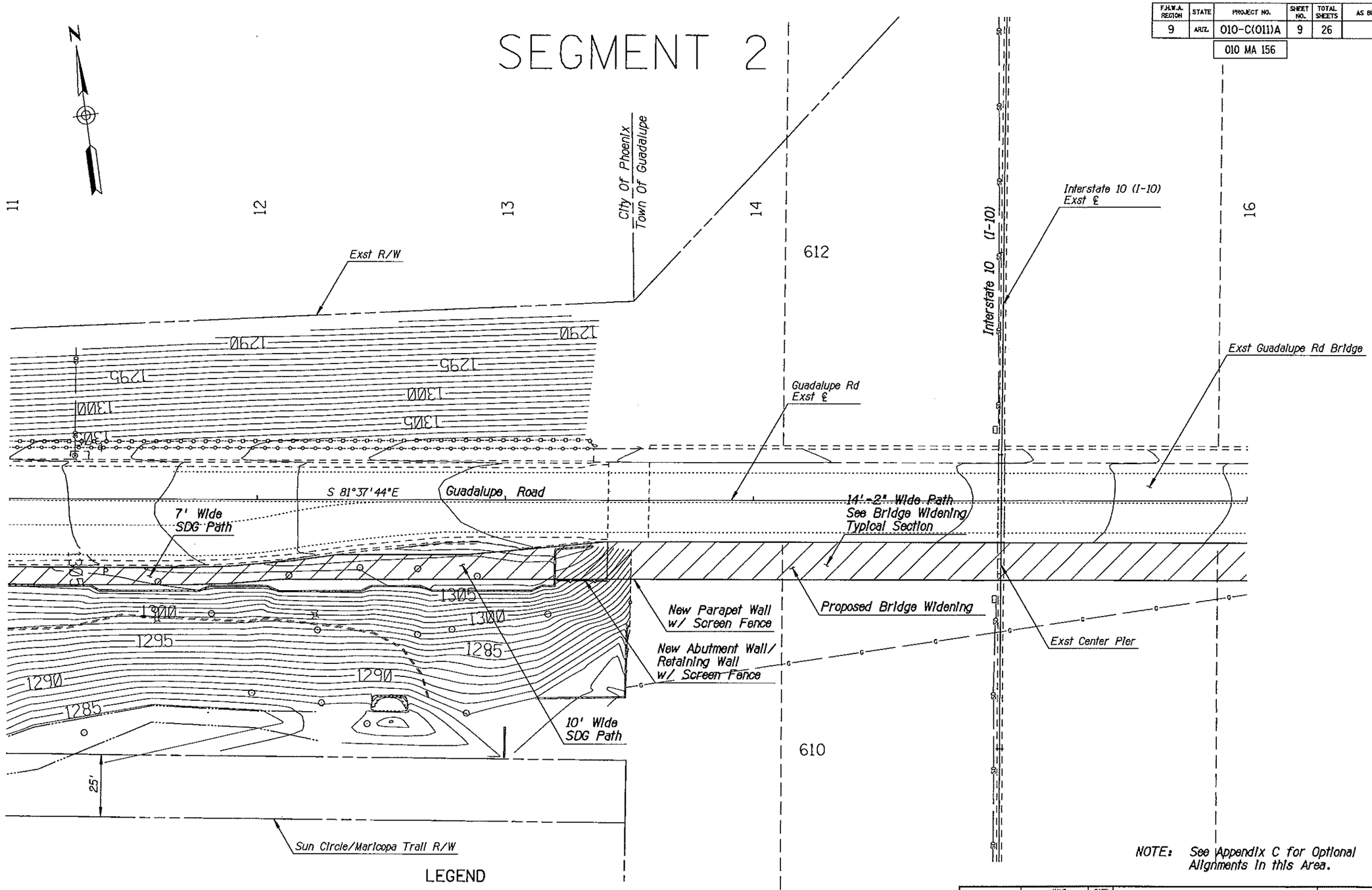
SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

Plotted By: alinn at 11:22:04 AM 1/30/2008 r:\Phoenix\Projects\AZ02104\23\CADD\Sheets\Roadway\210423pl04.dgn

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A	9	26	

010 MA 156

SEGMENT 2



NOTE: See Appendix C for Optional Alignments In this Area.

LEGEND

Recommended Alternative with Stabilized Decomposed Granite (SDG)

	NAME	DATE
DESIGN	KJR	01-08
DRAWN	AEL	01-08
CHECKED	TLB	01-08

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

AZTEC 4511 E. McDowell Road Phoenix, AZ 85008-1505 Tel (602) 454-0402 Fax (602) 454-0463 www.aztecaz.us

SEGMENT 2
STA 11+00 - 16+00

ROUTE 010 | LOCATION I-10, GUADALUPE RD PED BRIDGE & PATHWAY

TRACS NO. H6952 01 C | 010-C(011)A | SHEET B9 OF B26

Final Project Assessment
NOT FOR CONSTRUCTION OR RECORDING

CALL TWO WORKING DAYS BEFORE YOU DIG 263-1100 1-800-STAKE-IT OUTSIDE MARICOPA COUNTY

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A	10	26	
		010 MA 156			

SEGMENT 2

(5) CURVE DATA

5 PI Sta 19+25.31
Main Curve
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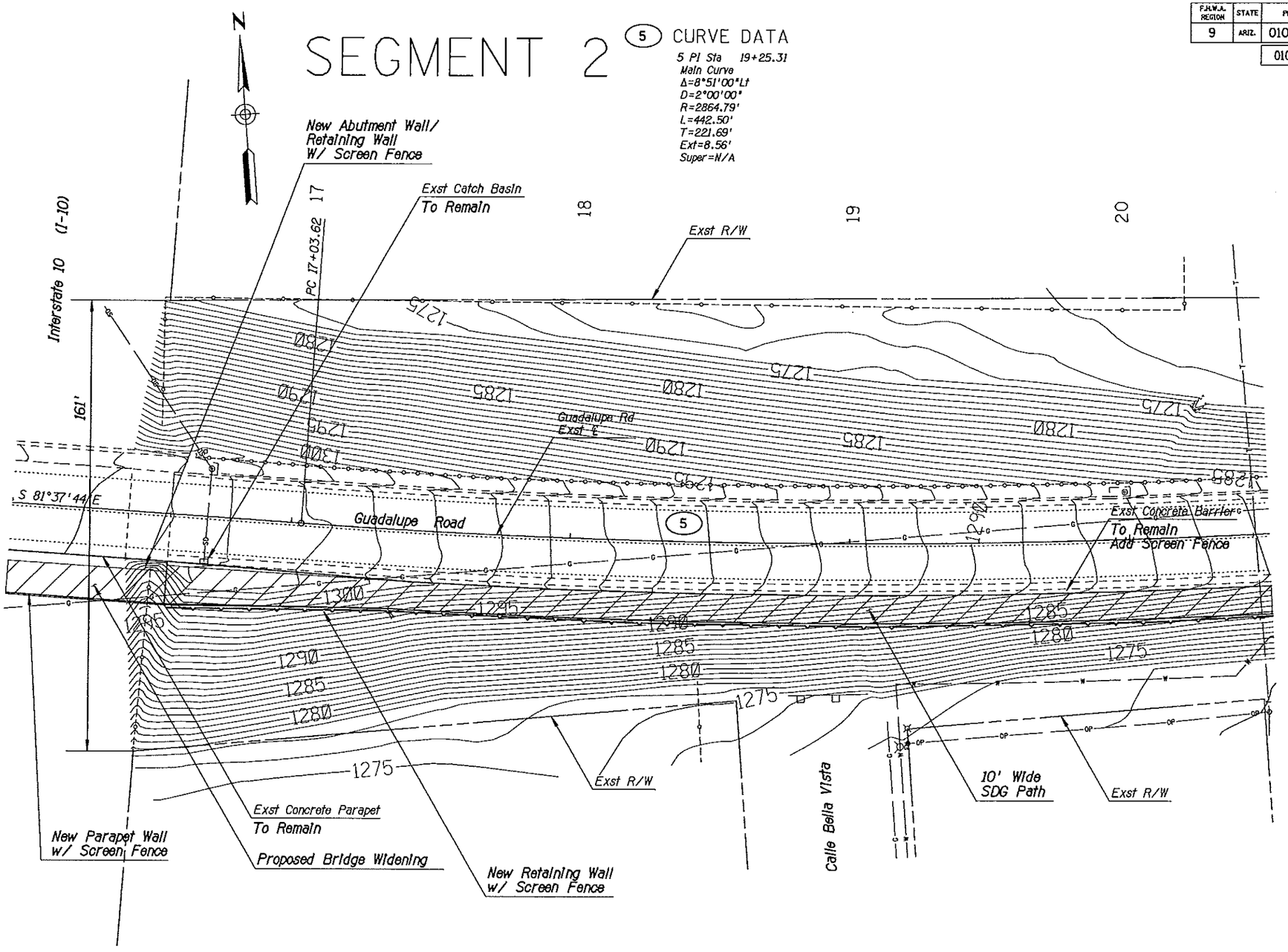
D=2°00'00"
R=2864.79'
L=442.50'
T=221.69'
Ext=8.56'
Super=N/A



LEGEND

Recommended Alternative with Stabilized Decomposed Granite (SDG)

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE-IT
OUTSIDE MARICOPA COUNTY

	NAME	DATE
DESIGN	KJR	01-08
DRAWN	AEL	01-08
CHECKED	TLB	01-08

AZTEC 4141 E. McDowell Road Phoenix, AZ 85008-1505 Tel (602) 454-0402 Fax (602) 454-0403 www.aztecaz.com

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

SEGMENT 2
16+00 - 20+50

Final Project Assessment
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	SHEET OF
010	I-10, GUADALUPE RD PED BRIDGE & PATHWAY	
TRACS NO. H6952 01 C		010-C(011)A
		B10 OF B26

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

Plotted By: alinn at 11:23:42 AM 1/30/2008 r:\Phoenix\Projects\AZ02104\23\CADD\Sheets\Roadway\210423p106.dgn

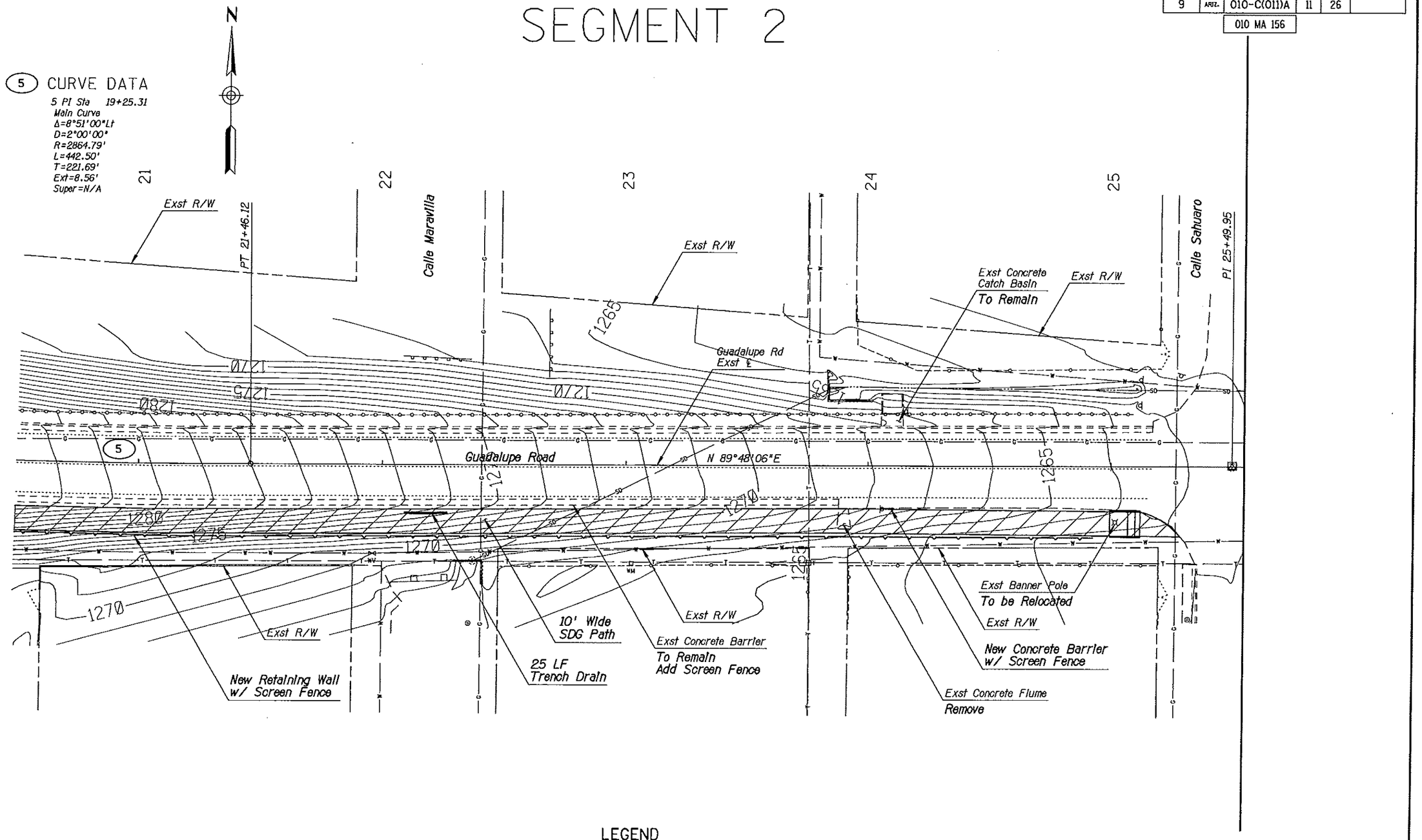
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A	11	26	

010 MA 156

SEGMENT 2

(5) CURVE DATA

5 PI Sta 19+25.31
Main Curve
Δ=8°51'00"Lt
D=2°00'00"
R=2864.79'
L=442.50'
T=221.69'
Ext=8.56'
Super=N/A



LEGEND

Recommended Alternative with Stabilized Decomposed Granite (SDG)

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1008
1-800-STAKE-IT
OUTSIDE MARICOPA COUNTY

	NAME	DATE
DESIGN	KJR	01-08
DRAWN	AEL	01-08
CHECKED	TLB	01-08

AZTEC — 4131 E. McDowell Road, Phoenix, AZ 85008-4506, Tel (602) 454-0402, Fax (602) 454-0403, www.aztecaz.com

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

SEGMENT 2
STA 20+50 - 25+50

ROUTE 010 | LOCATION I-10, GUADALUPE RD PED BRIDGE & PATHWAY

TRACS NO. H6952 01 C | 010-C(011)A

Final Project Assessment
NOT FOR CONSTRUCTION OR RECORDING

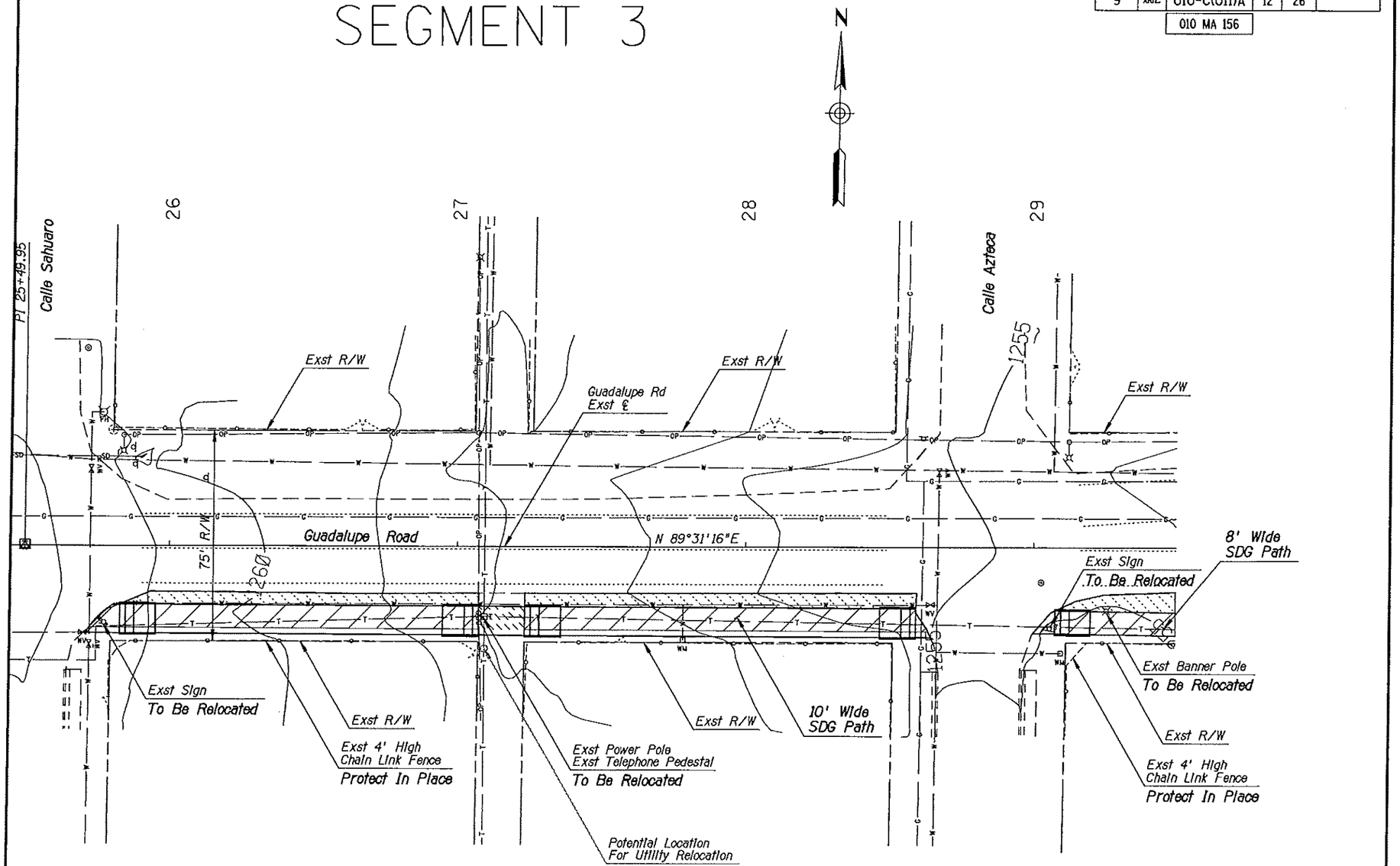
SHEET OF B11 OF B26

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

Plotted By: alinn at 11:23:52 AM 1/30/2008 F:\Phoenix\Projects\AZ02104\23\CADD\Sheets\Roadway\210423pl07.dgn

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A	12	26	
		010 MA 156			

SEGMENT 3



LEGEND

- Recommended Alternative with Stabilized Decomposed Granite (SDG)
- Potential Landscape Area
- Driveway/Alley

CALL TWO WORKING DAYS BEFORE YOU DIG 263-1100 1-800-STAKE-IT OUTSIDE MARICOPA COUNTY

	NAME	DATE
DESIGN	KJR	01-08
DRAWN	AEL	01-08
CHECKED	TLB	01-08

AZTEC 4521 E. McDowell Road Phoenix, AZ 85008-4505 Tel (602) 454-0402 Fax (602) 454-0403 www.aztecaz.com

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

SEGMENT 3
STA 25+50 - 29+50

Final Project Assessment
NOT FOR CONSTRUCTION OR RECORDING

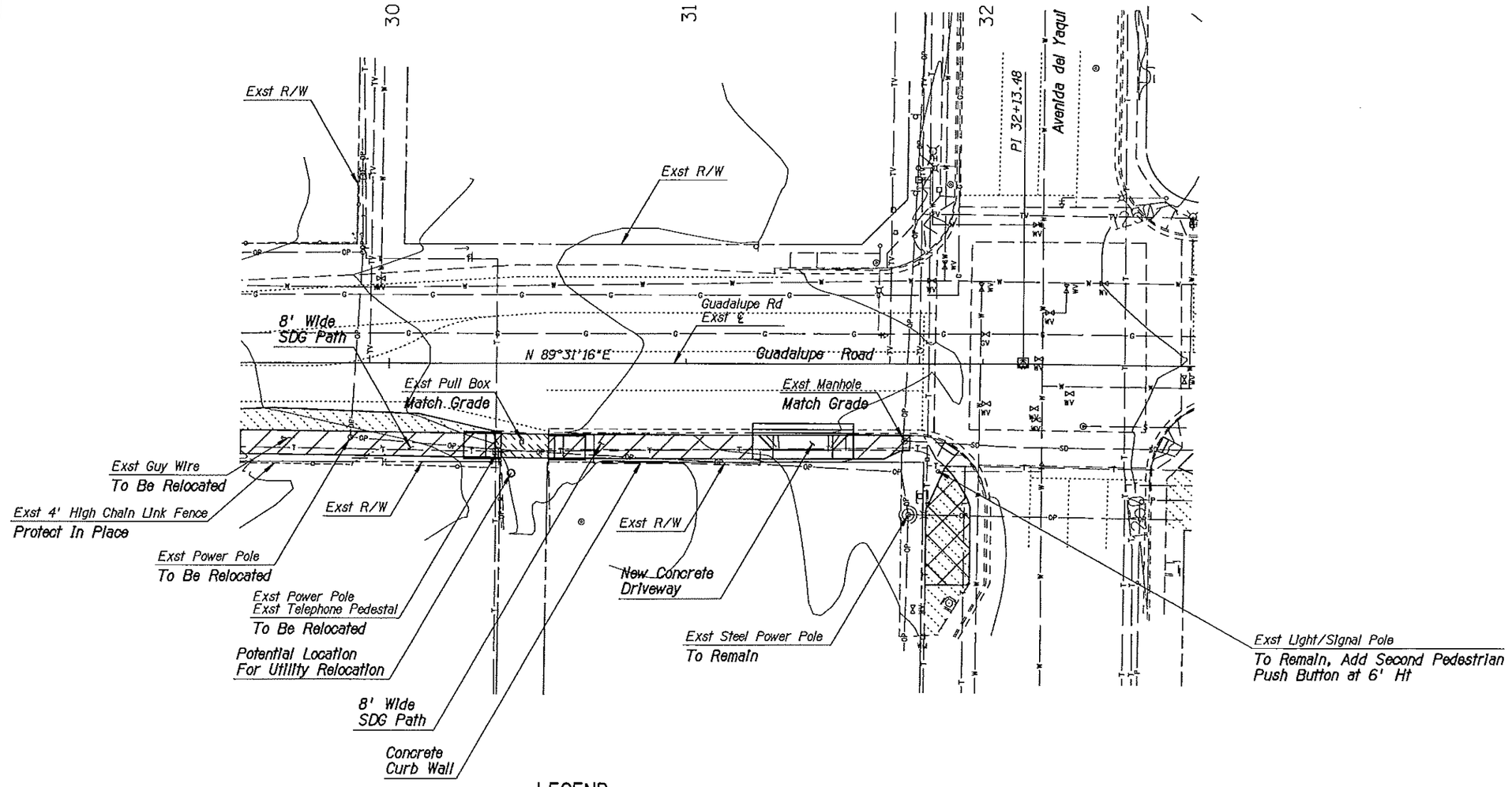
ROUTE	LOCATION	SHEET OF
010	I-10, GUADALUPE RD PED BRIDGE & PATHWAY	
TRACS NO. H6952 01 C		010-C(011)A B12 OF B26

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

Plotted By: alinn at 11:24:16 AM 1/30/2008 r:\Phoenix\Projects\AZ02104\23\CADD\Sheets\Roadway\210423p188.dgn

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A	13	26	
		010 MA 156			

SEGMENT 3



LEGEND

- Recommended Alternative
- Gathering Area
- Potential Landscape Area
- Driveway/Alley

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE-IT
OUTSIDE MARICOPA COUNTY

	NAME	DATE
DESIGN	KJR	01-08
DRAWN	AEL	01-08
CHECKED	TLB	01-08

AZTEC 4530 E. McDowell Road Phoenix, AZ 85008-1505 Tel (602) 454-0402 Fax (602) 454-0403 www.aztecaz.com

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

SEGMENT 3
STA 29+50 - 32+20

Final Project Assessment
NOT FOR CONSTRUCTION OR RECORDING

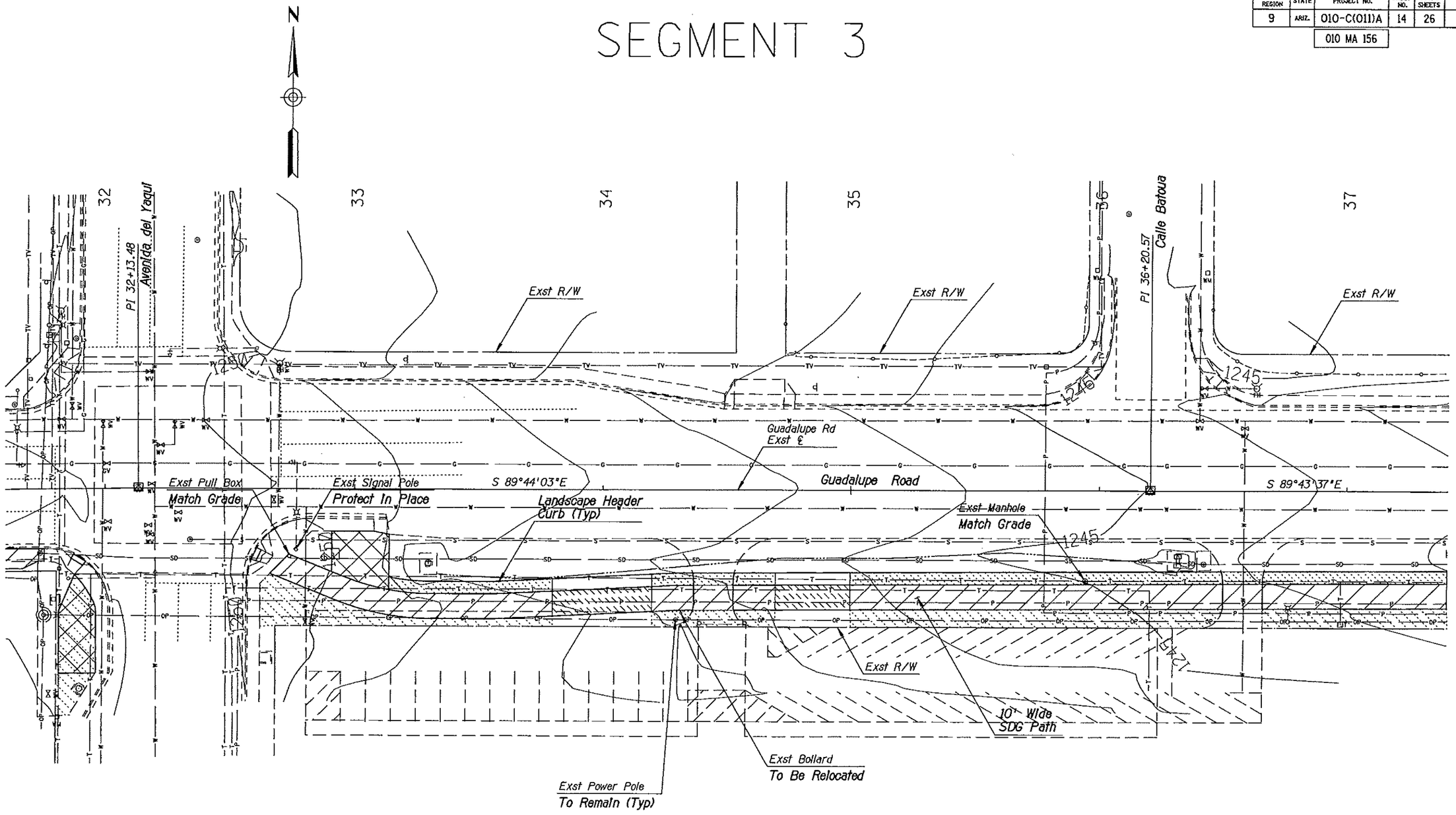
ROUTE	LOCATION	SHEET OF
010	I-10, GUADALUPE RD PED BRIDGE & PATHWAY	
TRACS NO. H6952 01 C	010-C(011)A	B13 OFB26

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A	14	26	

010 MA 156

SEGMENT 3



LEGEND

- Recommended Alternative with Stabilized Decomposed Granite (SDG)
- Gathering Area
- Potential Landscape Area
- Driveway/Alley

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE-IT
OUTSIDE MARICOPA COUNTY

	NAME	DATE
DESIGN	KJR	01-08
DRAWN	AEL	01-08
CHECKED	TLB	01-08

AZTEC
4561 E. McDowell Road
Phoenix, AZ 85008-4505
Tel (602) 454-0402
Fax (602) 454-0403
www.aztec.us

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

SEGMENT 3
STA 32+20 - 37+40

Final Project Assessment

NOT FOR CONSTRUCTION OR RECORDING

ROUTE 010

LOCATION I-10, GUADALUPE RD PED BRIDGE & PATHWAY

SHEET OF

TRACS NO. H6952 01 C

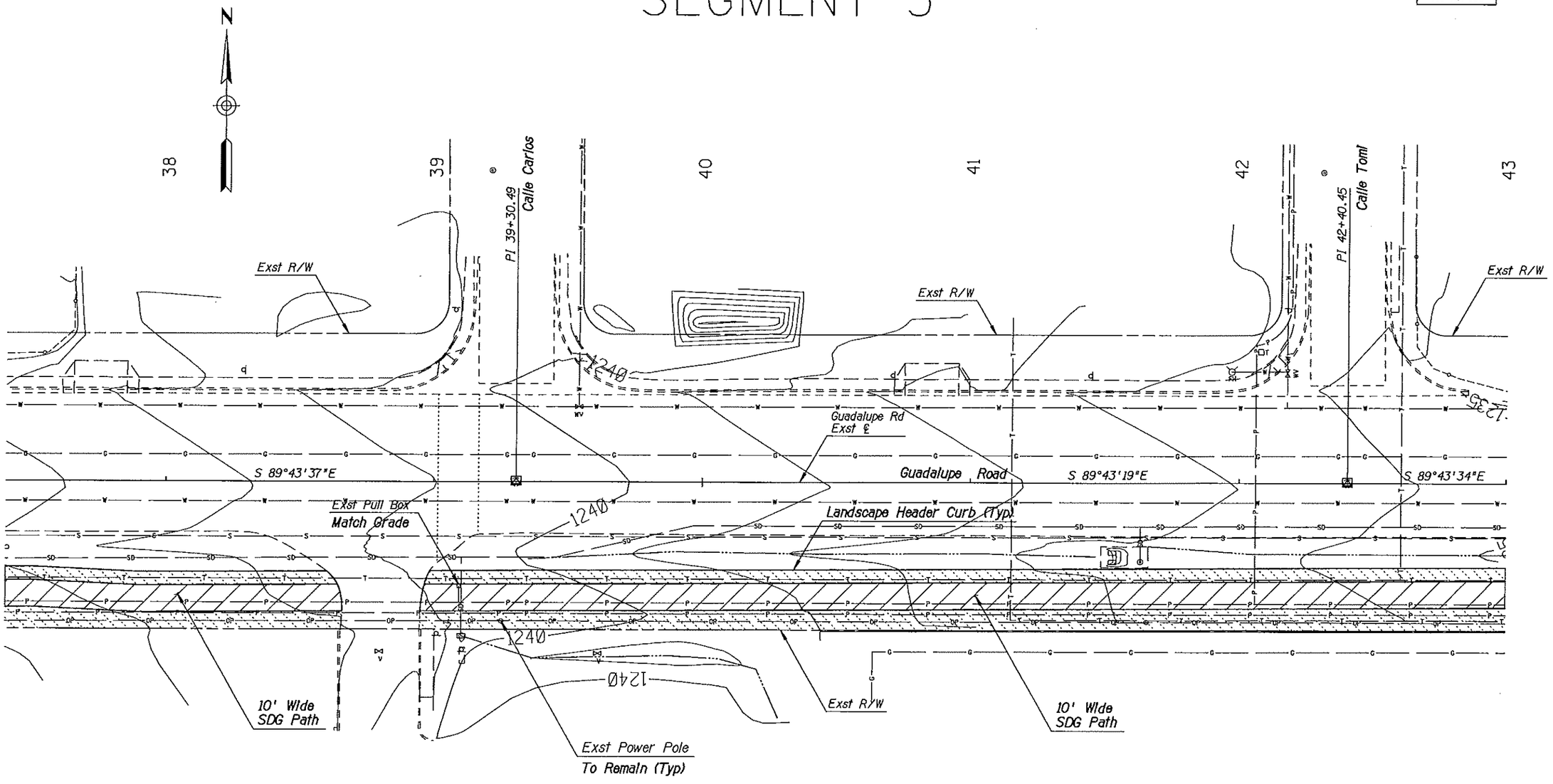
010-C(011)A

B14 OF B26

Plotted By: alinn at 1:18:31 PM 1/30/2008 r:\Phoenix\Projects\AZ02104\23\CADD\Sheets\Roadway\210423p110.dgn

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A	15	26	
		010 MA 156			

SEGMENT 3



LEGEND

Recommended Alternative with Stabilized Decomposed Granite (SDG)

Potential Landscape Area

CALL TWO WORKING DAYS BEFORE YOU DIG 258-1000 1-800-STAKE-IT OUTSIDE MARICOPA COUNTY

	NAME	DATE
DESIGN	KJR	01-08
DRAWN	AEL	01-08
CHECKED	TLB	01-08

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

AZTEC 4521 E. McDowell Road Phoenix, AZ 85008-4505 Tel (602) 454-0402 Fax (602) 454-0403 www.aztec.us

SEGMENT 3
STA 37+40 - 43+00

Final Project Assessment
NOT FOR CONSTRUCTION OR RECORDING

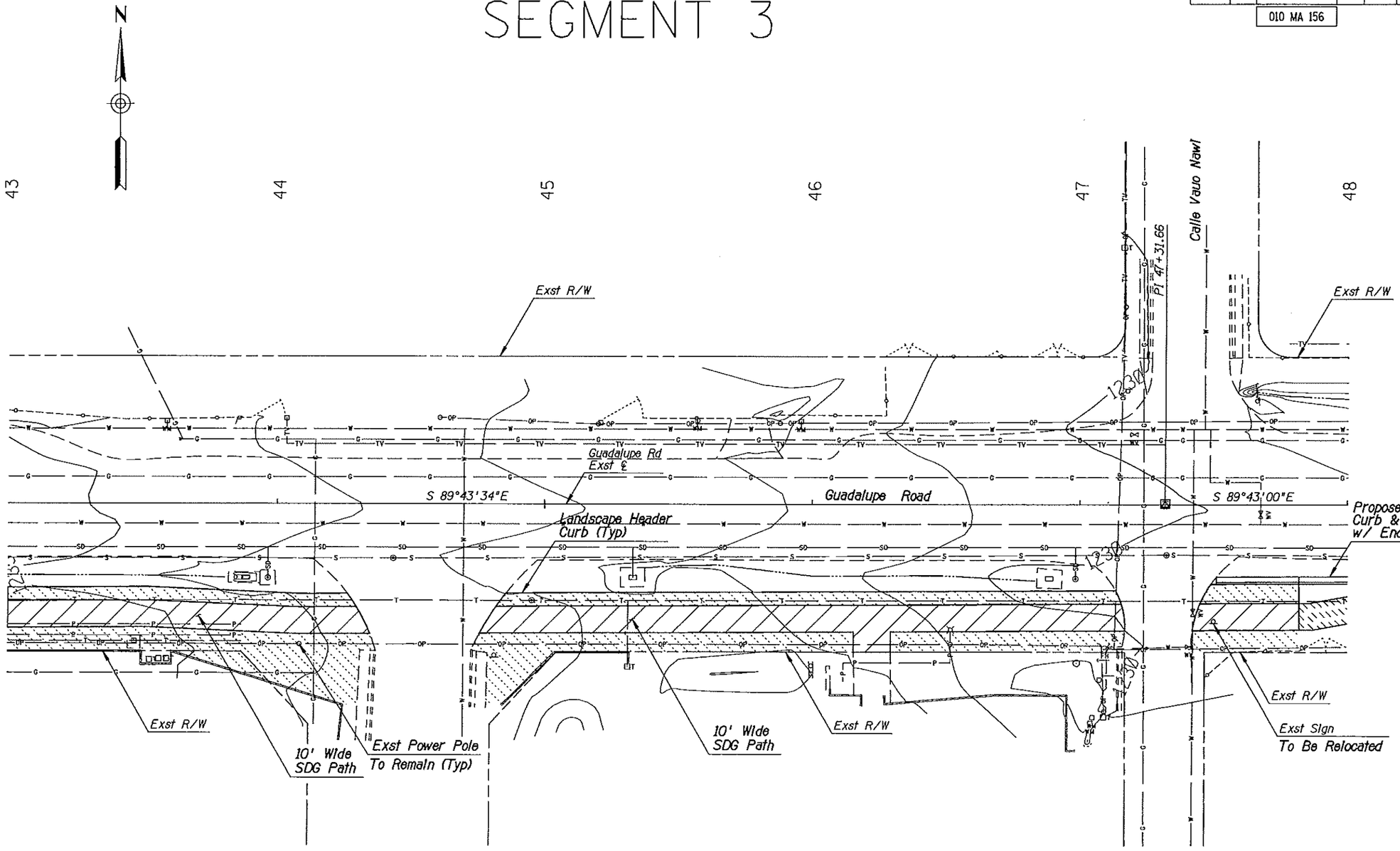
ROUTE	LOCATION	SHEET OF
010	I-10, GUADALUPE RD PED BRIDGE & PATHWAY	
TRACS NO. H6952 01 C		010-C(011)A B15 OF B26

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

Plotted By: alinn at 11:24:50 AM 1/30/2008 r:\Phoenix\Projects\AZ02104\23\CADD\Sheets\Roadway\210423p111.dgn

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A	16	26	
		010 MA 156			

SEGMENT 3



LEGEND

- Recommended Alternative with Stabilized Decomposed Granite (SDG)
- Potential Landscape Area
- Driveway/Alley

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE-IT
OUTSIDE MARICOPA COUNTY

	NAME	DATE
DESIGN	KJR	01-08
DRAWN	AEL	01-08
CHECKED	TLB	01-08

AZTEC 4511 E. McDowell Road Phoenix, AZ 85008-4505 Tel (602) 454-0402 Fax (602) 454-0403 www.aztecaz.com

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

SEGMENT 3
STA 43+00 - 48+00

Final Project Assessment
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	SHEET OF
010	I-10, GUADALUPE RD PED BRIDGE & PATHWAY	
TRACS NO. H6952 01 C		010-C(011)A B16 OF B26

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

Plotted By: alinn at 11:25:01 AM 1/30/2008 r:\Phoenix\Projects\AZ02104\23\CADD\Sheets\Roadway\210423pl12.dgn

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A	17	26	

010 MA 156

SEGMENT 3

N

48 49 50 51 52 53

Town Of Guadalupe

Highline Canal

City Of Tempe

1225

Exst R/W

Exst Manhole
To Remain

Guadalupe Road

S 89°43'00"E

Guadalupe Rd
Exst ℄

Proposed
Curb & Gutter

Taper Path from 10' to
Match Exst Sidewalk

New Parallel
Parking (Typ)

Exst Power Pole
To Remain (Typ)

Exst Power Pole
To Remain (Typ)

Exst R/W

10' Wide
SDG Path (Typ)

Exst Conc Hdwal
To Remain

New Curb & Gutter

Exst Power Pole
To Remain (Typ)

Exst Mailboxes
To be Relocated

Exst Sun Circle/Maricopa Trail

Highline Canal

Exst Sidewalk

STA 52+64.63
END PROJECT 010-C(011)A

LEGEND

- Recommended Alternative with Stabilized Decomposed Granite (SDG)
- Potential Landscape Area
- Driveway/Alley
- Parallel Parking

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE-IT
OUTSIDE MARICOPA COUNTY

	NAME	DATE
DESIGN	KJR	01-08
DRAWN	AEL	01-08
CHECKED	TLB	01-08

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

AZTEC 450 E. McDowell Road Phoenix, AZ 85006-1605 Tel (602) 454-0402 Fax (602) 454-0403 www.aztecaz.com

SEGMENT 3
STA 48+00 - 52+64.63

ROUTE 010 | LOCATION I-10, GUADALUPE RD PED BRIDGE & PATHWAY

TRACS NO. H6952 01 C | 010-C(011)A

Final Project Assessment
NOT FOR CONSTRUCTION OR RECORDING

SHEET OF
BI7 OF B26

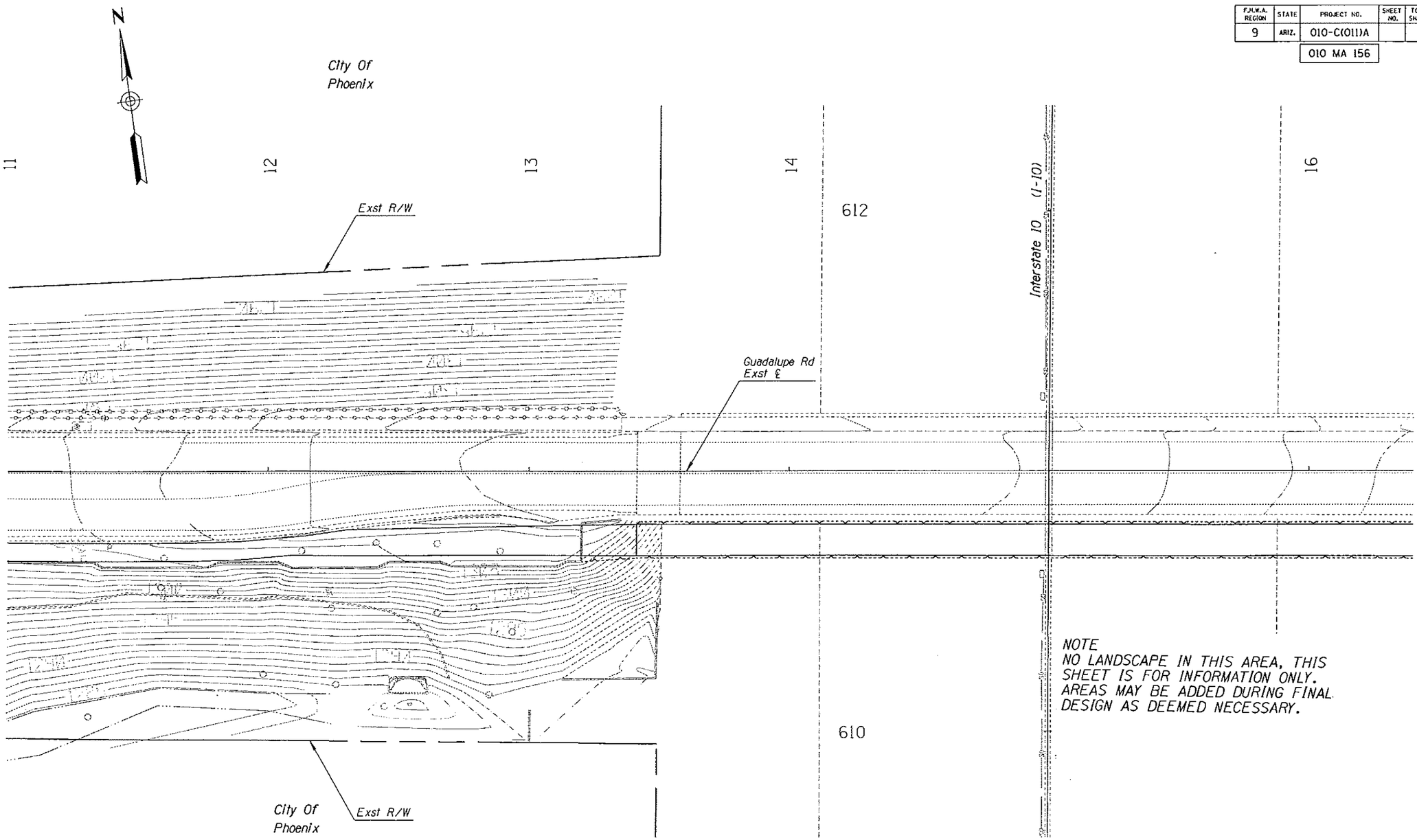
SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

Plotted By: alinn at 11:25:12 AM

1/30/2008

r:\Phoenix\Projects\AZ02104\23\CADD\Sheets\Roadway\210423pl13.dgn

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A			
		010 MA 156			



NOTE
NO LANDSCAPE IN THIS AREA, THIS SHEET IS FOR INFORMATION ONLY. AREAS MAY BE ADDED DURING FINAL DESIGN AS DEEMED NECESSARY.

PLANT SCHEDULE

Note: Tree will require approval from (ADWR) Arizona Department of water resources for use.

SYM.	SCIENTIFIC / COMMON	SIZE
TREES		
	Ceridium Microphyllum / Foothills Palo Verde	24" Box
	Populus Fremontil / Fremont Cottonwood	24" Box
SHRUBS		
	Justica Californica / Chuparosa	5 Gal
⊗	*Calliandra Eriophylla* / Fairy Duster	5 Gal
	Simmondsia Chinensis / Jojoba	5 Gal
	Ericameria Laricifolia / Turpentine Bush	5 Gal
ACCENT		
	Carneglea Gigantea / Saguaro	8' Min
✳	*Fouquieria Splendens* / Ocotillo	8 Cane
✶	*Agave Parryi* / Agave	5 Gal
	Opuntia Basilaris / Beavertrail Cactus	5 Gal
GROUNDCOVERS		
Ⓨ	*Penstemon Parryl* / Parry Penstemon	1 Gal
	Baileya Multiradiata / Desert Marigold	1 Gal
BOULDER		
	48" diameter	LG
	30" diameter	SM

Decompose Granite

SCALE: 0 20' 40' 80'

Call BLUE STAKE CENTER two working days before you dig
602-263-1100
Within Maricopa County
-OR-
1-800-STAKE-IT
(782-5348)

	NAME	DATE
DESIGN	OAD	9/07
DRAWN	LAF	9/07
CHECKED	ECC	9/07

corral dybas group, inc.
4633 n. 36th street
phoenix, arizona 85040
602-333-9823

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SECTION

Conceptual Landscape Plan
Sta 11+00 to 16+40

ROUTE	LOCATION	DWG NO.
010	I-10, GUADALUPE RD PED BRIDGE AND PATHWAY	L-01

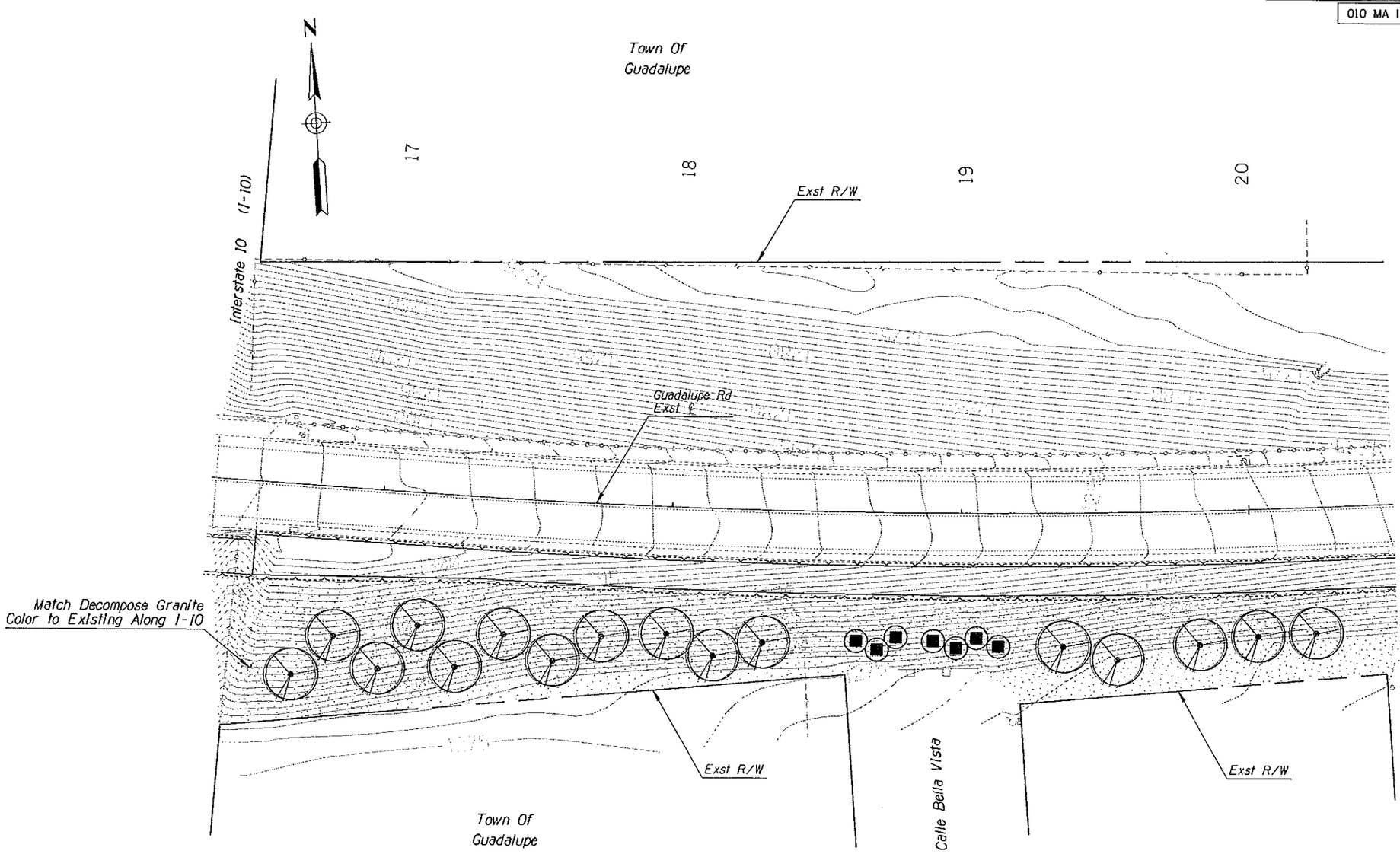
TRACS NO.			
H6952 01 C		TEA-010-C(011)A	B18 OF B26

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

1/30/2009

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A			
		010 MA 156			

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-



PLANT SCHEDULE

Note: Tree will require approval from (ADWR) Arizona Department of water resources for use.

SYM.	SCIENTIFIC / COMMON	SIZE
TREES		
	Ceridium Microphyllum / Foothills Palo Verde	24" Box
	Populus Fremontii / Fremont Cottonwood	24" Box
SHRUBS		
	Justica Californica / Chuparosa	5 Gal
⊗	*Calliandra Eriophylla* / Fairy Duster	5 Gal
	Simmondsia Chinensis / Jojoba	5 Gal
	Ericameria Laricifolia / Turpentine Bush	5 Gal
ACCENT		
	Carnegiea Gigantea / Saguaro	8' Min
✳	*Fouquieria Splendens* / Ocotillo	8 Cane
✶	*Agave Parryi* / Agave	5 Gal
	Opuntia Basilaris / Beavertrail Cactus	5 Gal
GROUNDCOVERS		
	Penstemon Parryi / Parry Penstemon	1 Gal
	Baileya Multiradiata / Desert Marigold	1 Gal
BOULDER		
	48" diameter	LG
	30" diameter	SM

Decompose Granite

SCALE: 0 20' 40' 80'

CALL BLUE STAKE CENTER two working days before you dig 602-263-1100 within Maricopa County -OR- 1-800-STAKE-IT (1-800-782-5348)

	NAME	DATE
DESIGN	OAO	9/07
DRAWN	LAF	9/07
CHECKED	ECC	9/07

corral dybas group, inc. 4633 e. 36th street phoenix, arizona 85040 602-955-9922

CDG

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SECTION

Conceptual Landscape Plan
Sta 16+40 to 20+50

ROUTE	LOCATION	DWG NO. L-02
010	I-10, GUADALUPE RD PED BRIDGE AND PATHWAY	
TRACS NO. H6952 01 C		TEA-010-C(011)A

B19 OF B26

1/30/2009
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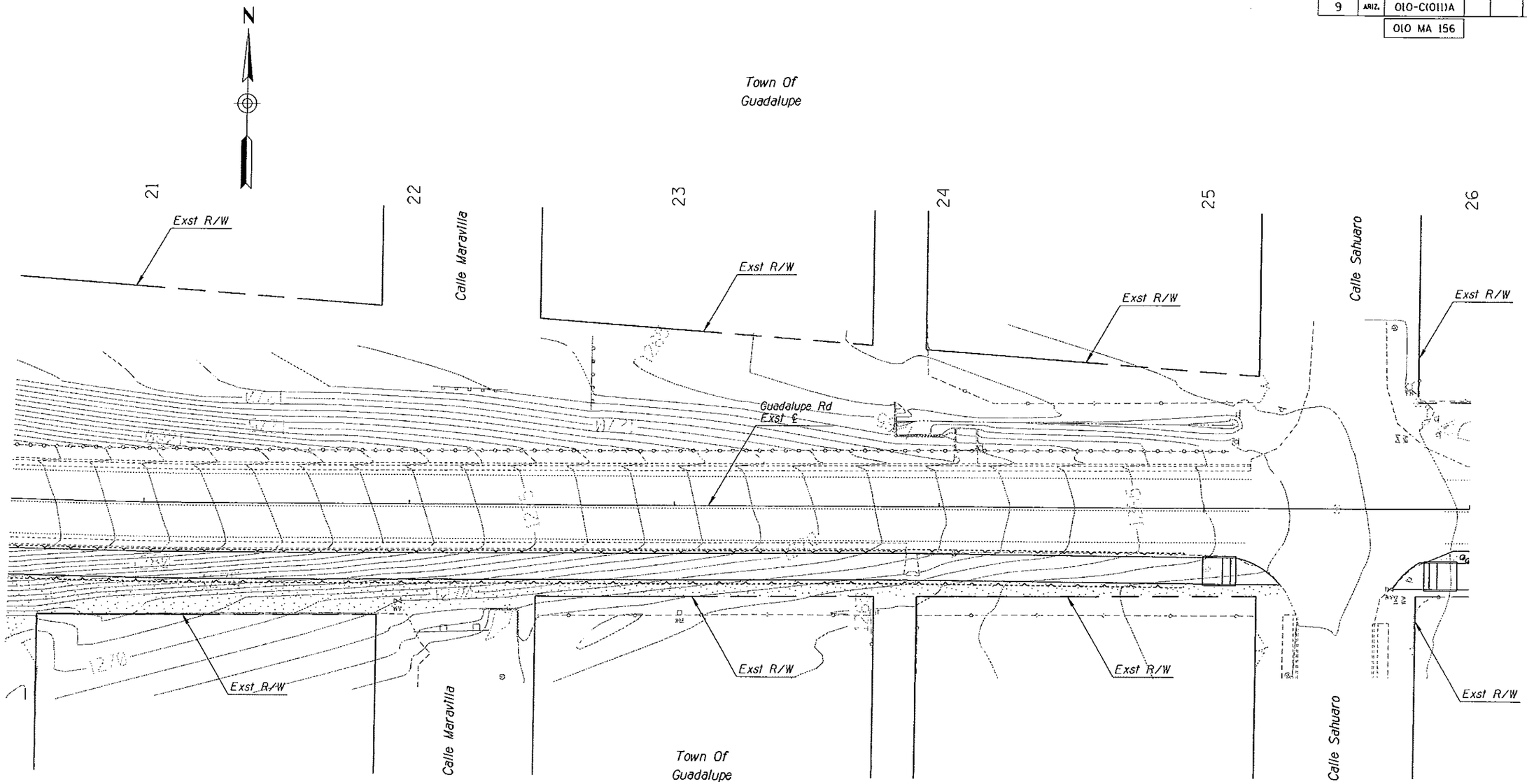
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A			
		010 MA 156			

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-



PLANT SCHEDULE

Note: Tree will require approval from (ADWR) Arizona Department of water resources for use.

SYM.	SCIENTIFIC / COMMON	SIZE
TREES		
	Ceridium Microphyllum / Foothills Palo Verde	24" Box
	Populus Fremontii / Fremont Cottonwood	24" Box
SHRUBS		
■	*Justica Californica* / Chuparosa	5 Gal
⊗	*Calliandra Eriophylla* / Fairy Duster	5 Gal
❋	*Simmondsia Chinensis* / Jojoba	5 Gal
⊘	*Ericameria Laricifolia* / Turpentine Bush	5 Gal
ACCENT		
⊙	*Carneglea Gigantea* / Saguaro	8' Min
✳	*Fouqueria Splendens* / Ocotillo	8 Cane
★	*Agave Parryi* / Agave	5 Gal
⊶	*Opuntia Basilaris* / Beavertrail Cactus	5 Gal
GROUNDCOVERS		
⊛	*Penstemon Parryi* / Parry Penstemon	1 Gal
✿	*Baileya Multiradiata* / Desert Marigold	1 Gal
BOULDER		
	48" diameter	LG
	30" diameter	SM

Decompose Granite

SCALE: 0 20' 40' 80'

Call BLUE STAKE CENTER two working days before you dig. 602-263-1100 within Maricopa County -OR- 1-800-STAKE-IT (782-5348)

	NAME	DATE
DESIGN	OAO	9/07
DRAWN	LAF	9/07
CHECKED	ECC	9/07

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SECTION

corral dybas group, inc. 4633 e. 36th street phoenix, arizona 85040 602-322-9933 cdg

Conceptual Landscape Plan
Sta 20+50 to 26+00

ROUTE	LOCATION	DWG NO. L-03
010	I-10, GUADALUPE RD PED BRIDGE AND PATHWAY	
TRACS NO. H6952 01 C		TEA-010-C(011)A B200F B26

1/30/2008
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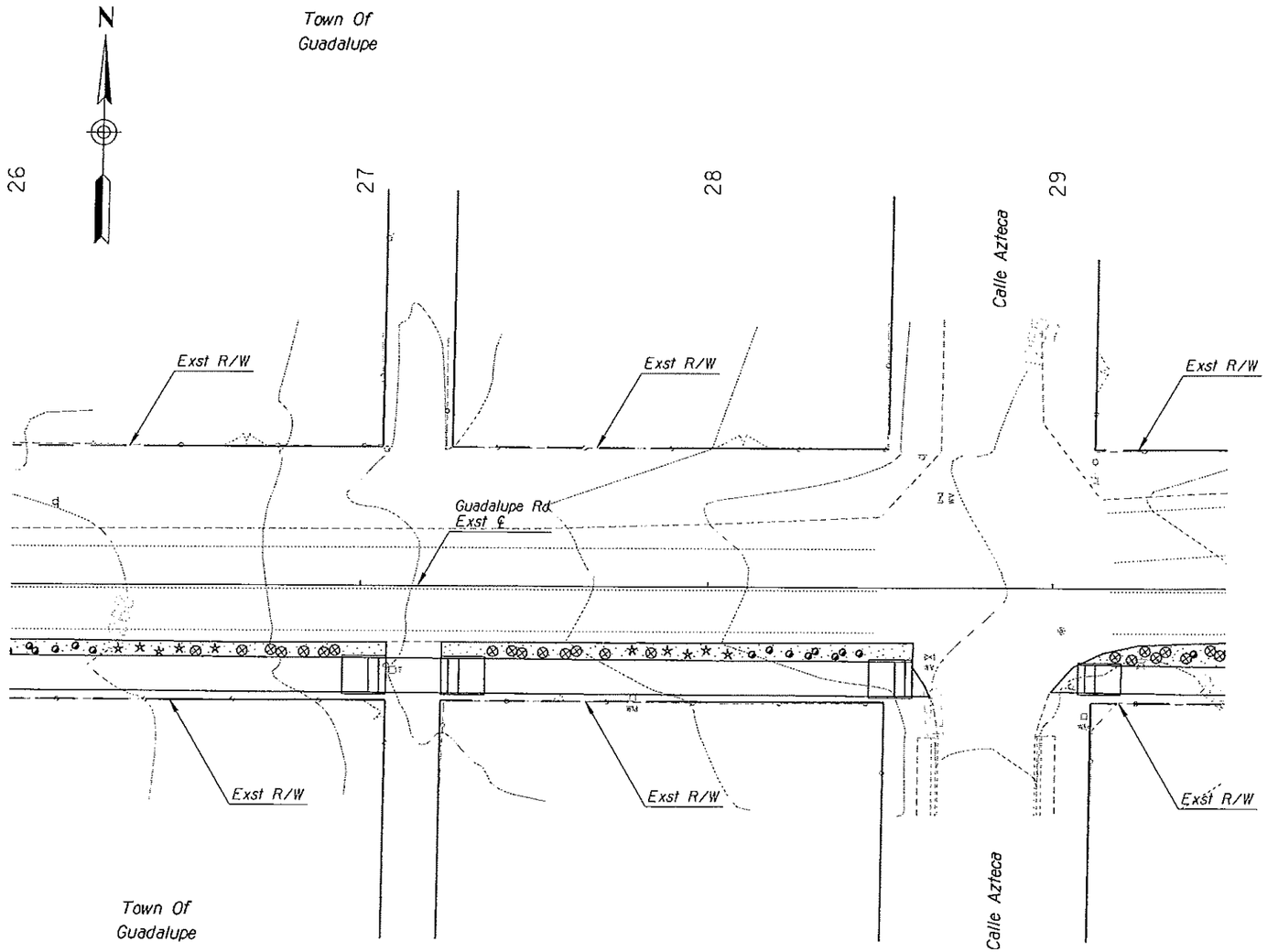
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A			
		010 MA 156			

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-



PLANT SCHEDULE

Note: Tree will require approval from (ADWR) Arizona Department of water resources for use.

SYM.	SCIENTIFIC / COMMON	SIZE
TREES		
	Ceridium Microphyllum / Foothills Palo Verde	24" Box
	Populus Fremontii / Fremont Cottonwood	24" Box
SHRUBS		
	Justica Californica / Chuparosa	5 Gal
	Calliandra Eriophylla / Fairy Duster	5 Gal
	Simmondsia Chinensis / Jojoba	5 Gal
	Ericameria Laricifolia / Turpentine Bush	5 Gal
ACCENT		
	Carneglea Gigantea / Saguaro	8' Min
	Fouquieria Splendens / Ocotillo	8 Cane
	Agave Parryi / Agave	5 Gal
	Opuntia Basilaris / Beavertrail Cactus	5 Gal
GROUNDCOVERS		
	Penstemon Parryi / Parry Penstemon	1 Gal
	Baileya Multiradiata / Desert Marigold	1 Gal
BOULDER		
	48" diameter	LG
	30" diameter	SM

Decompose Granite

SCALE: 0 20' 40' 80'

Call BLUE STAKE CENTER two working days before you dig. 602-263-1100 Within Maricopa County or 1-800-STAKE-IT (782-5348)

	NAME	DATE
DESIGN	OAO	9/07
DRAWN	LAF	9/07
CHECKED	ECC	9/07

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SECTION

corral dybas group, inc.
4633 s. 36th street
phoenix, arizona 85040
(602) 322-9822

CDG

Conceptual Landscape Plan
Sta 26+00 to 29+50

ROUTE	LOCATION	DWG NO. L-04
010	I-10, GUADALUPE RD PED BRIDGE AND PATHWAY	
TRACS NO. H6952 01 C	TEA-010-C(011)A	B21 OF B26

1/30/2008
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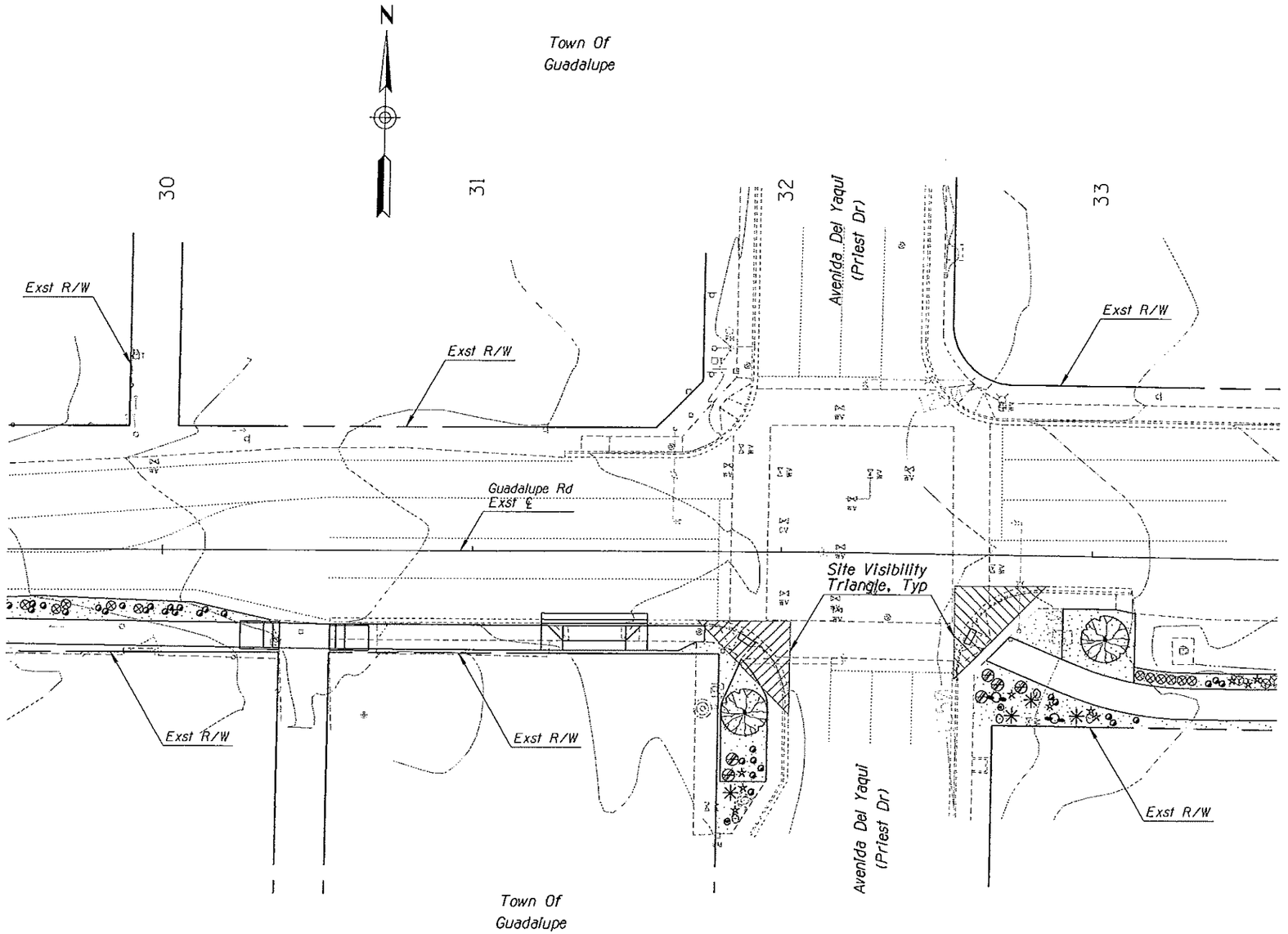
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A			
		010 MA 156			

DATE-
LOCATION-
REVISIONS-
FINISHED PLANS-
SURVEY NO.



PLANT SCHEDULE

Note: Tree will require approval from (ADWR) Arizona Department of water resources for use.

SYM.	SCIENTIFIC / COMMON	SIZE
TREES		
	Ceridium Microphyllum / Foothills Palo Verde	24" Box
	Populus Fremontii / Fremont Cottonwood	24" Box
SHRUBS		
	Justica Californica / Chuparosa	5 Gal
	Callandra Eriophylla / Fairy Duster	5 Gal
	Simmondsia Chinensis / Jojoba	5 Gal
	Ericameria Laricifolia / Turpentine Bush	5 Gal
ACCENT		
	Carnegiea Gigantea / Saguaro	8' Min
	Fouquieria Splendens / Ocotillo	8 Cane
	Agave Parryi / Agave	5 Gal
	Opuntia Basilaris / Beavertail Cactus	5 Gal
GROUNDCOVERS		
	Penstemon Parryi / Parry Penstemon	1 Gal
	Baileya Multiradiata / Desert Marigold	1 Gal
BOULDER		
	48" diameter	LG
	30" diameter	SM

Decompose Granite

SCALE: 0 20' 40' 80'

Call BLUE STAKE CENTER two working days before you dig
602-263-1100
Within Maricopa County
-or-
1-800-STAKE-IT
(1-800-782-5348)

	NAME	DATE
DESIGN	OAO	9/07
DRAWN	LAF	9/07
CHECKED	ECC	9/07

corral dybas group, inc.
4632 n. 36th street
phoenix, arizona 85040
602-222-9922

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SECTION

Conceptual Landscape Plan
Sta 29+50 to 33+60

ROUTE	LOCATION	DWG NO.
010	I-10, GUADALUPE RD PED BRIDGE AND PATHWAY	L-05
TRACS NO. H6952 01 C	TEA-010-C(011)A	B220F B26

1/30/2008
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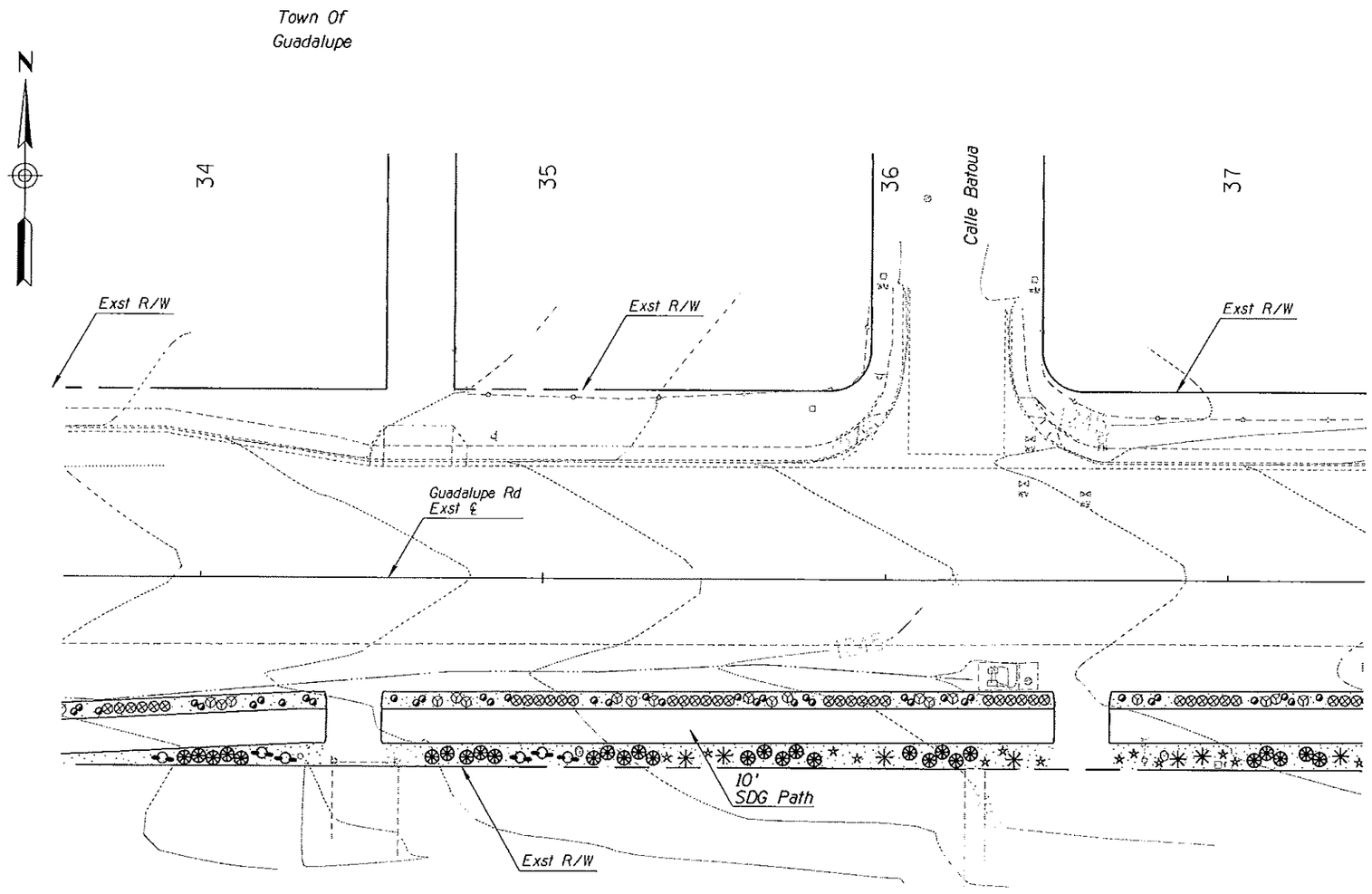
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A			
		010 MA 156			



PLANT SCHEDULE

Note: Tree will require approval from (ADWR) Arizona Department of water resources for use.

SYM.	SCIENTIFIC COMMON	SIZE
TREES		
	Ceridium Microphyllum / Foothills Palo Verde	24" Box
	Populus Fremontii / Fremont Cottonwood	24" Box
SHRUBS		
	Justica Californica / Chuparosa	5 Gal
	Calliandra Eriophylla / Fairy Duster	5 Gal
	Simmondsia Chinensis / Jojoba	5 Gal
	Ericameria Laricifolia / Turpentine Bush	5 Gal
ACCENT		
	Carneglea Gigantea / Saguaro	8' Min
	Fouquieria Splendens / Ocotillo	8 Cane
	Agave Parryi / Agave	5 Gal
	Opuntia Basilaris / Beavertrail Cactus	5 Gal
GROUNDCOVERS		
	Penstemon Parryi / Parry Penstemon	1 Gal
	Baileya Multiradiata / Desert Marigold	1 Gal
BOULDER		
	48" diameter	LG
	30" diameter	SM

Decompose Granite

SCALE: 0 20' 40' 80'

Call BLUE STAKE CENTER two working days before you dig. 602-263-1100 Within Maricopa County -OR- 1-800-STAKE-IT (782-5348)

	NAME	DATE
DESIGN	OAO	9/07
DRAWN	LAF	9/07
CHECKED	ECC	9/07

corral dybas group, inc.
4653 n. 36th street
phoenix, arizona 85040
602-323-9622

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SECTION

Conceptual Landscape Plan
Sta 33+60 to 37+40

ROUTE 010 | LOCATION I-10, GUADALUPE RD PED BRIDGE AND PATHWAY

DWG NO. L-06

TRACS NO. H6952 01 C | TEA-010-C(011)A | B23 OF B26

1/30/2008
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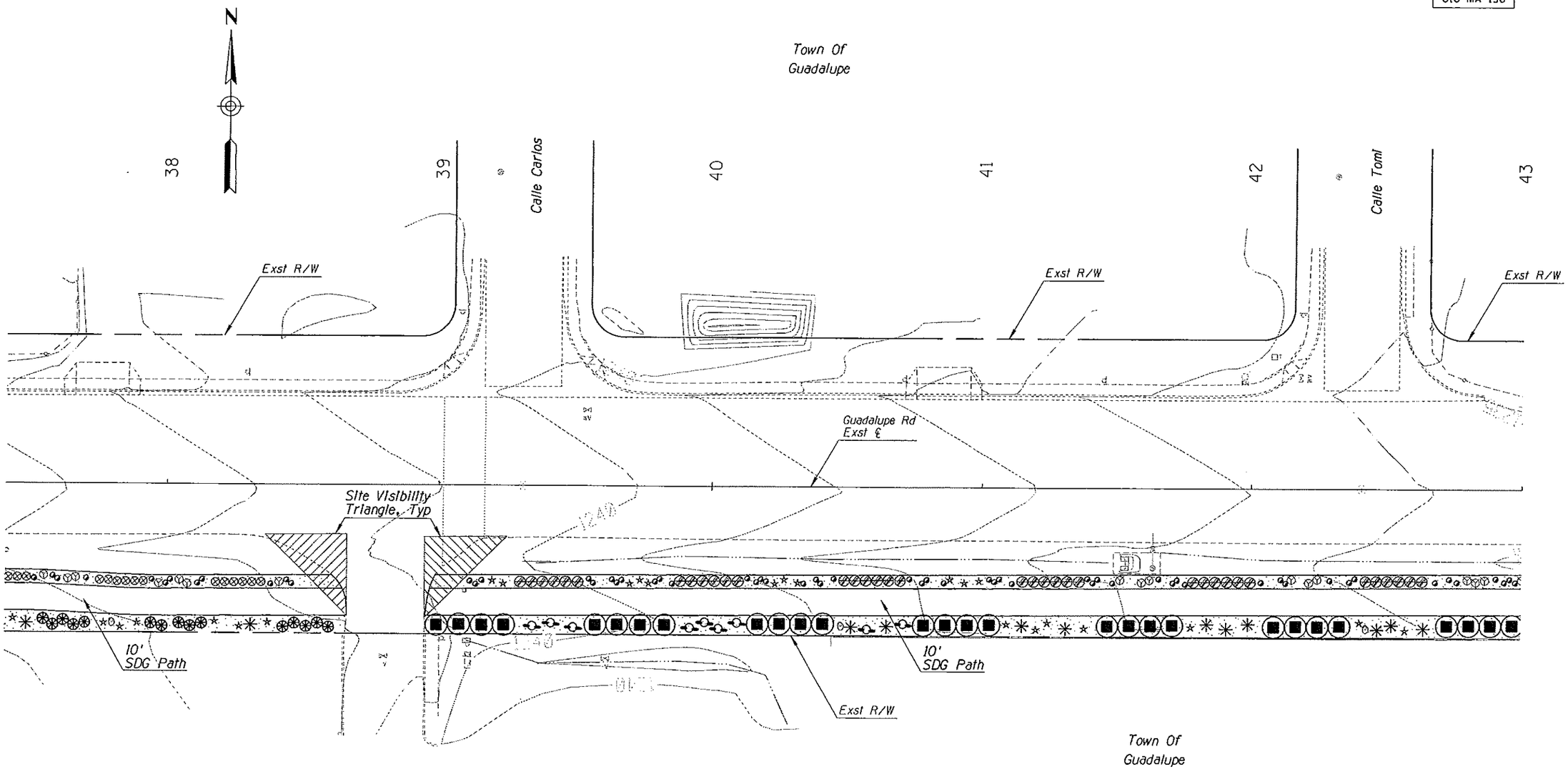
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A			

010 MA 156



PLANT SCHEDULE

Note: Tree will require approval from (ADWR) Arizona Department of water resources for use.

SYM.	SCIENTIFIC COMMON	SIZE
TREES		
	Ceridium Microphyllum / Foothills Palo Verde	24" Box
	Populus Fremontii / Fremont Cottonwood	24" Box
SHRUBS		
	Justica Californica / Chuparosa	5 Gal
	Calliandra Eriophylla / Fairy Duster	5 Gal
	Simmondsia Chinensis / Jojoba	5 Gal
	Ericameria Laricifolia / Turpentine Bush	5 Gal
ACCENT		
	Carnegiea Gigantea / Saguaro	8' Min
	Fouquieria Splendens / Ocotillo	8 Cane
	Agave Parryi / Agave	5 Gal
	Opuntia Basilaris / Beavertrail Cactus	5 Gal
GROUNDCOVERS		
	Penstemon Parryi / Parry Penstemon	1 Gal
	Baileya Multiradiata / Desert Marigold	1 Gal
BOULDER		
	48" diameter	LG
	30" diameter	SM

Decompose Granite

SCALE: 0 20' 40' 80'

Call BLUE STAKE CENTER two working days before you dig. 602-263-1100 Within Maricopa County -or- 1-800-STAKE-IT (782-5348)

	NAME	DATE
DESIGN	OAO	9/07
DRAWN	LAF	9/07
CHECKED	ECC	9/07

coral dybas group, inc.

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SECTION

Conceptual Landscape Plan
Sta 37+40 to 43+00

ROUTE: 010 | LOCATION: I-10, GUADALUPE RD PED BRIDGE AND PATHWAY

DWG NO. L-07

TRACS NO. H6952 01 C | TEA-010-C(011)A | B24 OF B26

1/30/2008
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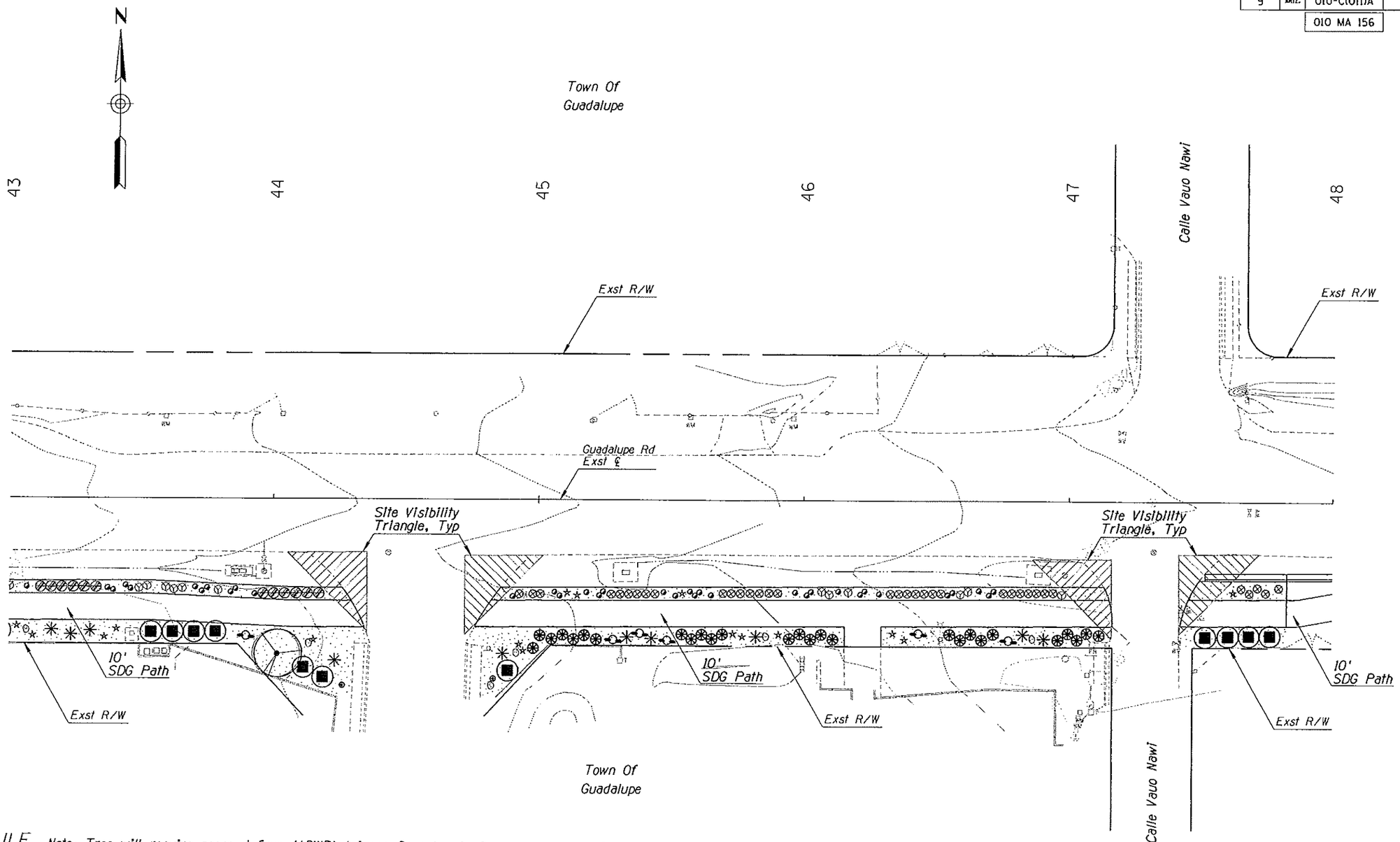
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A			
		010 MA 156			



PLANT SCHEDULE

Note: Tree will require approval from (ADWR) Arizona Department of water resources for use.

SYM.	SCIENTIFIC COMMON	SIZE
TREES		
	Ceridium Microphyllum / Foothills Palo Verde	24" Box
	Populus Fremontii / Fremont Cottonwood	24" Box
SHRUBS		
	Justica Californica / Chuparosa	5 Gal
	Calliandra Eriophylla / Fairy Duster	5 Gal
	Simmondsia Chinensis / Jojoba	5 Gal
	Ericameria Laricifolia / Turpentine Bush	5 Gal
ACCENT		
	Carnegiea Gigantea / Saguaro	8' Min
	Fouquieria Splendens / Ocotillo	8 Cane
	Agave Parryi / Agave	5 Gal
	Opuntia Basilaris / Beavertrail Cactus	5 Gal
GROUNDCOVERS		
	Penstemon Parryi / Parry Penstemon	1 Gal
	Baileya Multiradiata / Desert Marigold	1 Gal
BOULDER		
	48" diameter	LG
	30" diameter	SM

Decompose Granite

SCALE: 0 20' 40' 80'

Call BLUE STAKE CENTER two working days before you dig. 602-263-1100 within Maricopa County -or- 1-800-STAKE-IT (782-5348)

	NAME	DATE
DESIGN	OAO	9/07
DRAWN	LAF	9/07
CHECKED	ECC	9/07

corral dybas group, inc.

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SECTION

Conceptual Landscape Plan
Sta 43+00 to 48+00

ROUTE 010 | LOCATION I-10, GUADALUPE RD PED BRIDGE AND PATHWAY

DWG NO. L-08

TRACS NO. H6952 01 C | TEA-010-C(011)A | B25 OF B26

1/30/2008
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F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A			
		010 MA 156			

N

Town Of Guadalupe

Highline Canal

City Of Tempe

48 49 50 51 52 53

STA 52+15.51
END PROJECT 010-C(011)A
ALTERNATE

Exst R/W

Guadalupe Rd
Exst ℄

10'
SDG Path

Exst R/W

Town Of Guadalupe

Highline Canal

City Of Tempe

PLANT SCHEDULE

Note: Tree will require approval from (ADWR) Arizona Department of water resources for use.

SYM.	SCIENTIFIC / COMMON	SIZE
TREES		
	Ceridium Microphyllum / Foothills Palo Verde	24" Box
	Populus Fremontii / Fremont Cottonwood	24" Box
SHRUBS		
	Justica Californica / Chuparosa	5 Gal
	Calliandra Eriophylla / Fairy Duster	5 Gal
	Simmondsia Chinensis / Jojoba	5 Gal
	Ericamerla Laricifolia / Turpentine Bush	5 Gal
ACCENT		
	Carneglea Gigantea / Saguaro	8' Min
	Fouquieria Splendens / Ocotillo	8 Cane
	Agave Parryi / Agave	5 Gal
	Opuntia Basilaris / Beavertrail Cactus	5 Gal
GROUNDCOVERS		
	Penstemon Parryi / Parry Penstemon	1 Gal
	Baileya Multiradiata / Desert Marigold	1 Gal
BOULDER		
	48" diameter	LG
	30" diameter	SM

Decompose Granite

SCALE: 0 20' 40' 80'

Call BLUE STAKE CENTER two working days before you dig.
602-263-1100
within Maricopa County
-OR-
1-800-STAKE-IT
(782-5348)

	NAME	DATE
DESIGN	OAO	9/07
DRAWN	LAF	9/07
CHECKED	ECC	9/07

coral dybas group, inc.
4433 s. 36th street
phoenix, arizona 85040
602-233-9822

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SECTION

Conceptual Landscape Plan
Sta 48+00 to 52+15.51

ROUTE 010 | LOCATION I-10, GUADALUPE RD PED BRIDGE AND PATHWAY | DWG NO. L-09

TRACS NO. H6952 01 C | TEA-010-C(011)A | B260F B26

1/30/2009
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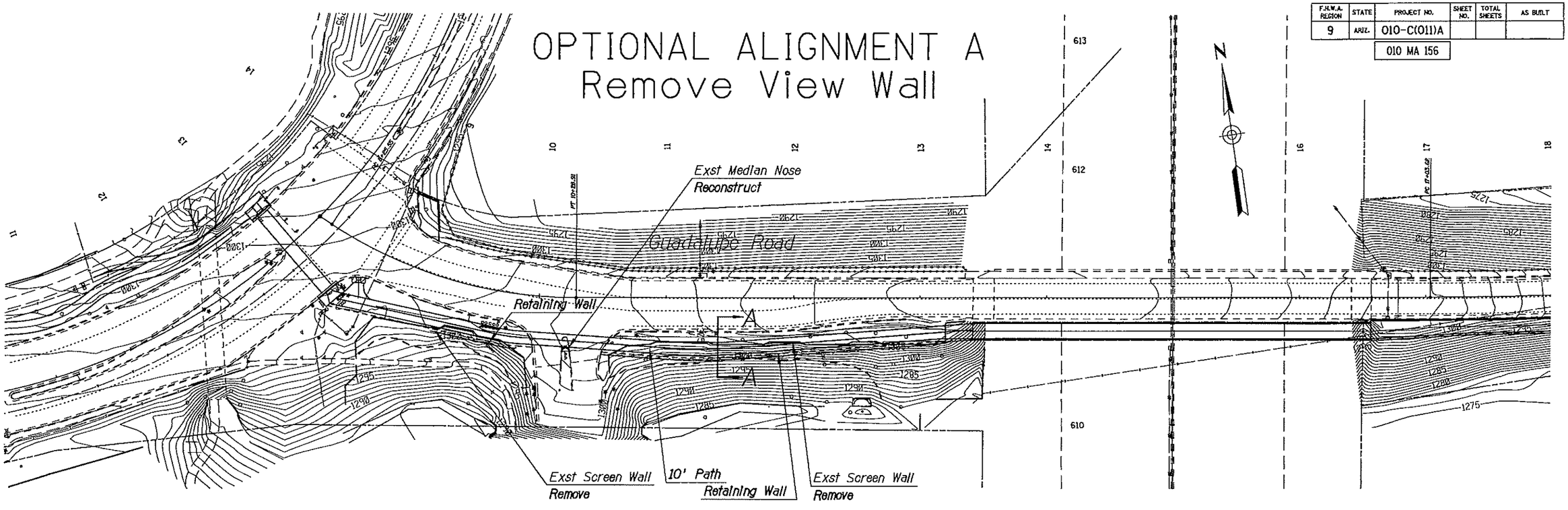
SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

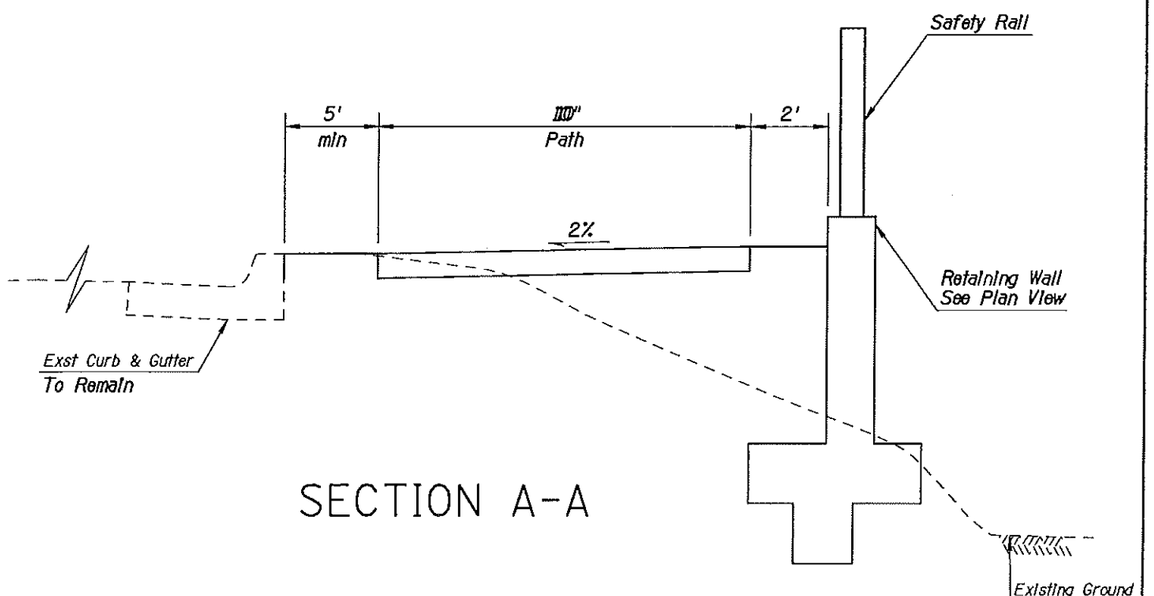
APPENDIX C

ALIGNMENT OPTIONS WEST OF I-10 BRIDGE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A			
		010 MA 156			

OPTIONAL ALIGNMENT A
Remove View Wall





SECTION A-A

PROS

- *10' PATH PROVIDED*
- *5'MIN FROM BACK OF CURB*
- *PROVIDES CLEAR VISUAL APPROACH TO BRIDGE*

CONS

- *REMOVES ALL OF SCREEN WALL*
- *SIGNIFICANT RETAINING WALLS*
- *DRIVEWAY MEDIAN NOSE RECONSTRUCTION*
- *IMPACTS UTILITY CABINETS AT INTERSECTION*
- *$118,700 ADDITIONAL COST OVER RECOMMENDED ALTERNATIVE*

CALL TWO WORKING DAYS BEFORE YOU DIG 263-1100 1-800-STAKE-IT OUTSIDE MARICOPA COUNTY

	NAME	DATE
DESIGN	KJR	01-08
DRAWN	AEL	01-08
CHECKED	TLB	01-08

AZTEC 4585 E. Wadewell Road Phoenix, AZ 85008-4505 Tel (602) 454-0402 Fax (602) 454-0403 www.aztecaz.com

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

OPTIONAL ALIGNMENT A

Final Project Assessment

NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	SHEET
010	I-10, GUADALUPE RD PEDESTRIAN BRIDGE & PATHWAY	1 OF 4

TRACS NO. H6952 01 C | 010-C(011)A | C1 OF C4

SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

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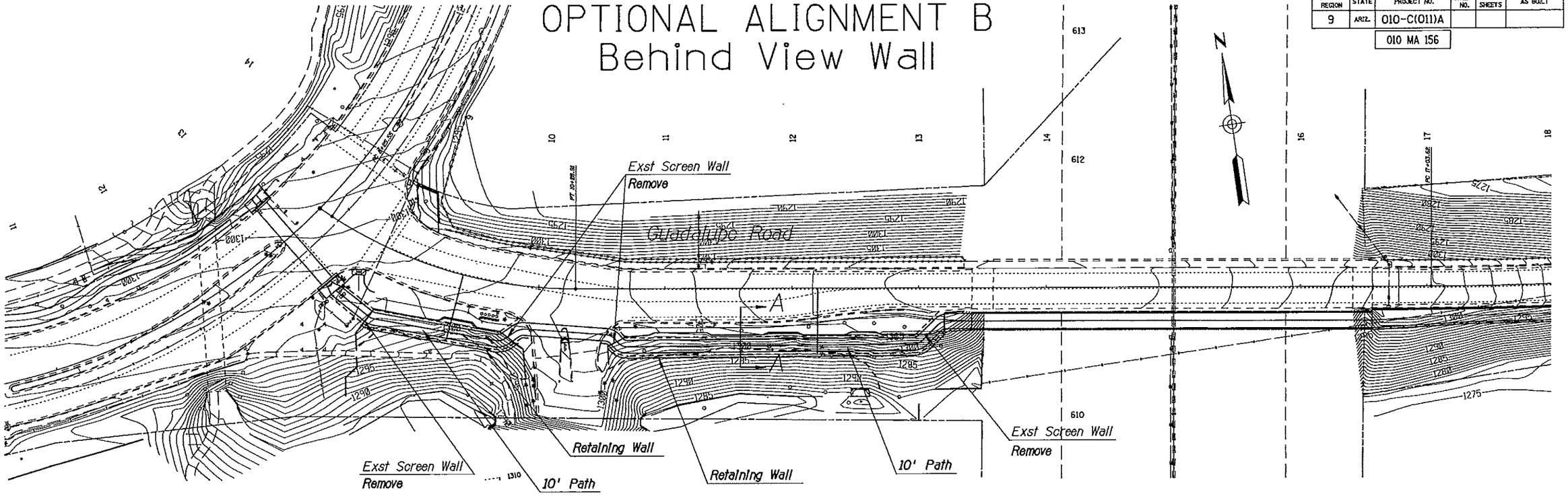
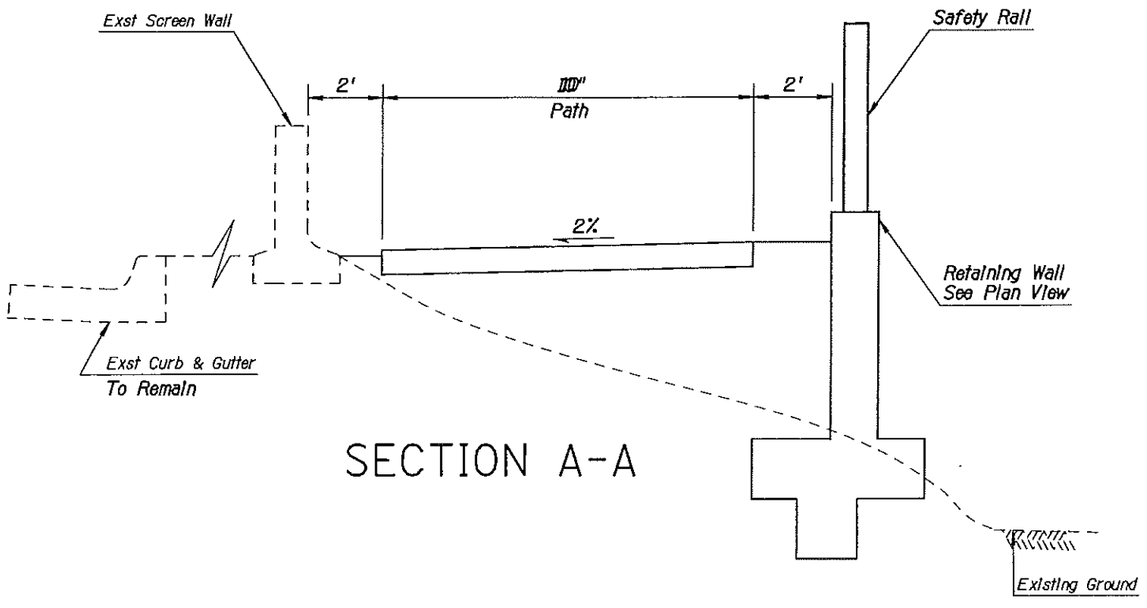
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A			
		010 MA 156			

OPTIONAL ALIGNMENT B
Behind View Wall





SECTION A-A

PROS

- *10' PATH PROVIDED*
- *PATH GREATER THAN 5' FROM BACK OF CURB*
- *MOST OF SCREEN WALL CAN REMAIN*

CONS

- *DRIVEWAY MEDIAN NOSE RECONSTRUCTION*
- *IMPACTS UTILITY CABINETS AT INTERSECTION*
- *SIGNIFICANT RETAINING WALLS*
- *REMOVES SEGMENTS OF SCREEN WALL*
- *DOES NOT PROVIDE A CLEAR VISUAL APPROACH TO BRIDGE*
- *$160,000 ADDITIONAL COST OVER RECOMMENDED ALTERNATIVE*

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE-IT
OUTSIDE MARICOPA COUNTY

	NAME	DATE
DESIGN	KJR	01-08
DRAWN	AEL	01-08
CHECKED	TLB	01-08

AZTEC — 4561 E. McDowell Road, Phoenix, AZ 85008-4526, Tel (602) 454-0402, Fax (602) 454-0403, www.aztec.us

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

OPTIONAL ALIGNMENT B

Final Project Assessment

NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	SHEET
010	I-10, GUADALUPE RD PEDESTRIAN BRIDGE & PATHWAY	SHEET 2 OF 4

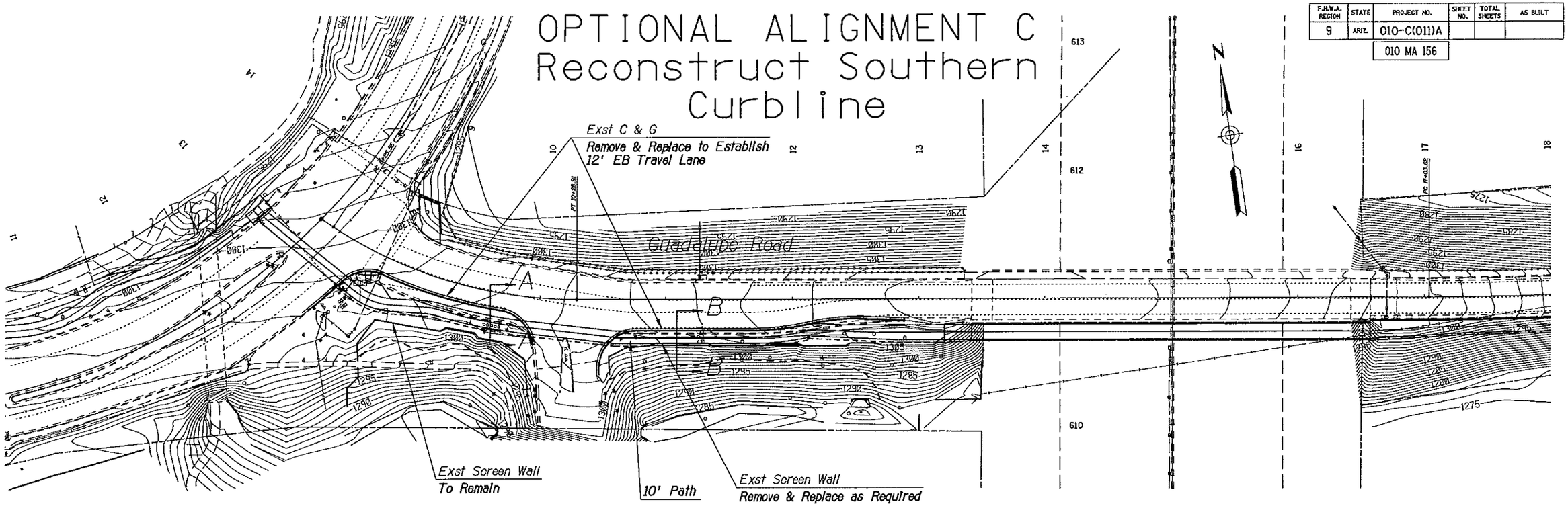
TRACS NO.			SHEET
H6952 01 C		010-C(011)A	C2 OF C4

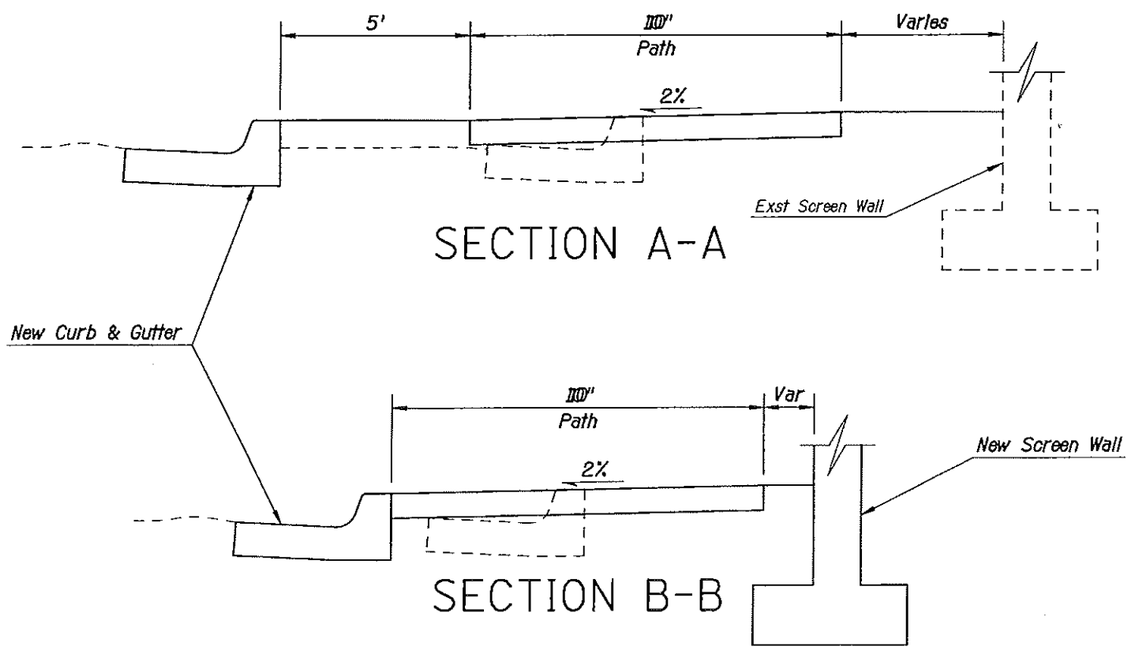
SURVEY NO. | FINISHED PLANS- | SURVEY NO. | LOCATION- | REVISIONS- | DATE-

Plotted By: elinn at 11:17:43 AM 1/30/2008 R:\Phoenix\Projects\AZ02104\23\CADD\Sheets\Exhibits\Roadway\210423exh02.dgn

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A			
		010 MA 156			

OPTIONAL ALIGNMENT C
Reconstruct Southern Curbline





PROS

- 10' PATH PROVIDED
- MOST OF SCREEN WALL CAN REMAIN
- AVOIDS UTILITY CABINETS AT INTERSECTION
- MINOR CUT/FILL REQUIRED
- PROVIDES CLEAR VISUAL APPROACH TO BRIDGE
- ELIMINATES SOUTHERN BICYCLE LANE

CONS

- RECONSTRUCTION OF THE GUADALUPE RD. SHOULDER WITH NEW CURB AND REMOVAL OF DEDICATED RIGHT TURN LANE
- RECONSTRUCTION OF SEGMENTS OF SCREEN WALL
- IMPACTS WATER METERS
- $66,700 ADDITIONAL COST OVER RECOMMENDED ALTERNATIVE

	NAME	DATE
DESIGN	KJR	01-08
DRAWN	AEL	01-08
CHECKED	TLB	01-08

AZTEC 621 E. McDowell Road, Phoenix, AZ 85006-4505, Tel (602) 254-0402, Fax (602) 254-0403, www.aztecaz.com

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

OPTIONAL ALIGNMENT C

Final Project Assessment
NOT FOR CONSTRUCTION OR RECORDING

CALL TWO WORKING DAYS BEFORE YOU DIG 263-1008 1-800-STAKE-IT OUTSIDE MARICOPA COUNTY

ROUTE	LOCATION	SHEET
010	I-10, GUADALUPE RD PEDESTRIAN BRIDGE & PATHWAY	3 OF 4

TRACS NO. H6952 01 C | 010-C(011)A | C3 OF C4

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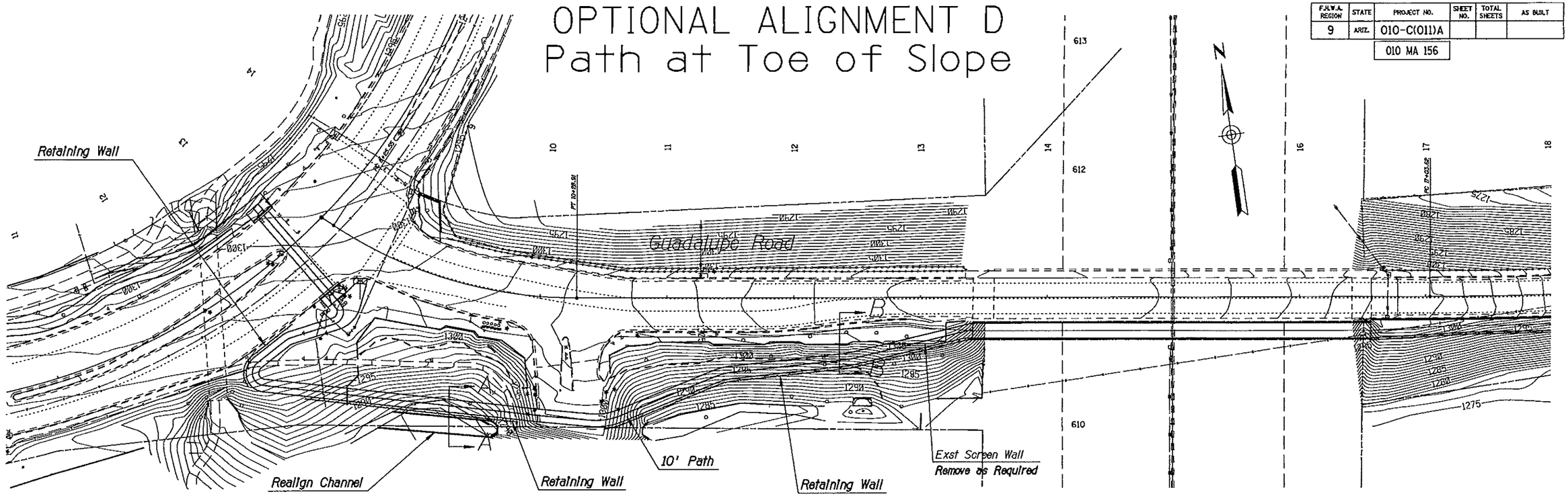
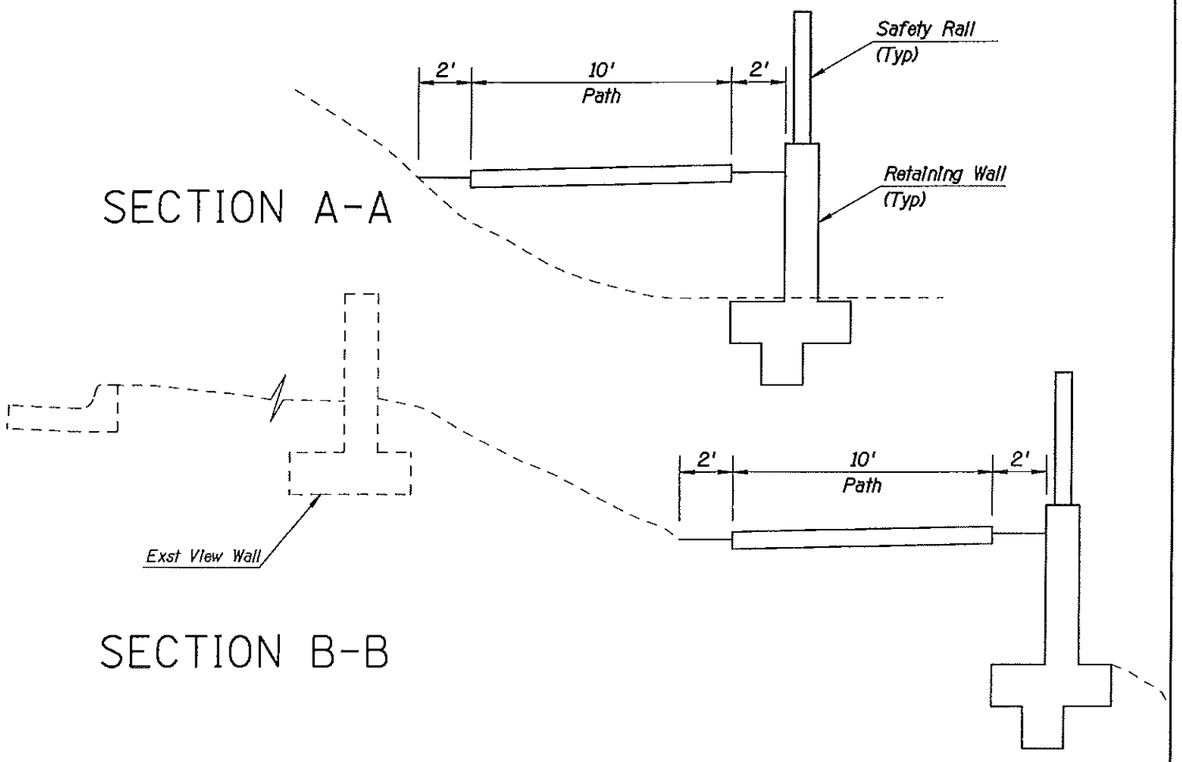
SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

OPTIONAL ALIGNMENT D
Path at Toe of Slope

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	010-C(011)A			
		010 MA 156			





PROS

- *10' PATH PROVIDED*
- *PATH GREATER THAN 5' FROM BACK OF CURB*
- *MOST OF SCREEN WALL CAN REMAIN*
- *PROVIDES CLEAR VISUAL APPROACH TO BRIDGE*
- *PATH AT TOE OF SLOPE*

CONS

- *5% GRADES*
- *IMPACTS UTILITY CABINETS AT INTERSECTION*
- *SIGNIFICANT RETAINING WALLS*
- *DRAINAGE MODIFICATIONS*
- *REMOVES SEGMENTS OF SCREEN WALL*
- *MAJOR CUT/FILL REQUIRED*
- *TIGHT PATH CURVATURE*
- *$314,000 ADDITIONAL COST OVER RECOMMENDED ALTERNATIVE*

	NAME	DATE
DESIGN	KJR	01-08
DRAWN	AEL	01-08
CHECKED	TLB	01-08

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

AZTEC — 4511 E. McDowell Road, Phoenix, AZ 85008-4026, Tel (602) 454-0402, Fax (602) 454-0403, www.aztecaz.com

OPTIONAL ALIGNMENT D

Final Project Assessment

NOT FOR CONSTRUCTION OR RECORDING

CALL TWO WORKING DAYS BEFORE YOU DIG 263-1100 1-800-STAKE-IT OUTSIDE MARICOPA COUNTY

ROUTE	LOCATION	SHEET
010	I-10, GUADALUPE RD PEDESTRIAN BRIDGE & PATHWAY	4 OF 4
TRACS NO. H6952 01 C	010-C(011)A	C4 OF C4

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

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APPENDIX F

DRAFT ADA COMPLIANCE AND FEASIBILITY REPORT

PROJECT NO: 10 MA 148 H8768 01L

FEDERAL NO: 010-C(213)S

INTERSTATE 10 NEAR-TERM IMPROVEMENTS

(STATE ROUTE 143 TO SANTAN FREEWAY)

DRAFT ADA COMPLIANCE AND FEASIBILITY REPORT

PREPARED FOR:

ARIZONA DEPARTMENT OF TRANSPORTATION

Prepared By:

2325 East Camelback Road, Suite 200
Phoenix, Arizona 85016

JUNE 2015
(REVISED DECEMBER 2015)

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1.0 INTRODUCTION

Project 10 MA 148 H8768 01L – I-10 Near-Term Improvements (State Route (SR) 143 to Santan Freeway) is located on I-10 and US 60 within Maricopa County. The proposed project limits along I-10 begin at Milepost (MP) 152.1 (west of 40th St.) and end at MP 161.0 (south of Chandler Blvd). The proposed project limits also include a portion of US 60 east of the I-10/US 60 System Traffic Interchange (TI). The proposed limits on US 60 begin at MP 172.0 (I-10/US 60 System TI) and end at MP 173.7 (east of Mill Ave).

For the purpose of this report eleven interchanges/crossroads (40th St., 48th St., Broadway Rd., Southern Ave., Baseline Rd., Guadalupe Rd., Elliot Rd., Warner Rd., Ray Rd., Chandler Blvd., and Priest Dr.) were evaluated for compliance with the 2010 ADA Standards for Accessible Design (2010 Standards). The ADOT Features Inventory System (FIS) indicates that there are 200 ADA features located within the project limits on the eleven evaluated interchanges/crossroads. Of the 200 ADA features identified in the ADOT FIS, 119 are labeled as non-compliant. A summary of the features included in the ADOT FIS system for the eleven identified interchanges/crossroads is provided in Table 1.

Table 1 – ADOT FIS Summary of Features

Feature Type	Compliant	Non-Compliant	Total
Sidewalk	53	1	54
Curb Ramps	6	69	75
Pedestrian Activated Signals	0	25	25
Handrail	15	2	17
Obstructions or Needs	0	14	14
Driveways	0	1	1
Traffic Island Pedestrian Crossings	7	7	14
Total	**81**	**119**	**200**

As part of the evaluation process for this report, AECOM preformed field reviews of the eleven interchanges/crossroads in order to verify data from the ADOT FIS. From these field reviews it was found that some ADOT FIS measurements did not match those of the AECOM field review measurements. It was also found that feature inventory limits from the ADOT FIS for the interchanges/crossroads did not include full ADOT right-of-way limits as documented per limits provided by the ADOT Right of Way Group.

Based on evaluation of both the ADOT FIS and AECOM field reviews it is determined that 429 ADA features are located within the project limits on the eleven identified interchanges/crossroads. Of the 429 ADA features, it is determined that 216 are non-compliant per the 2010 Standards. A summary of the features located within the project

limits on the eleven identified interchanges/crossroads per evaluation of both the ADOT FIS and AECOM field reviews is provided in Table 2.

Table 2 – Summary of Features (ADOT FIS and AECOM Field Review)

Feature Type	Compliant	Non-Compliant	Total
Sidewalk	94	34	128
Curb Ramps	21	113	134
Pedestrian Activated Signals	70	10	80
Handrail	21	3	24
Obstructions or Needs	0	27	27
Driveways	3	16	19
Traffic Island Pedestrian Crossings	4	13	17
Total	**213**	**216**	**429**

Included in the subsequent sections of this report are summaries of the compliant and non-compliant features within the project limits on the eleven identified interchanges/crossroads (including but not limited to type, location, proposed mitigation action, etc). Summaries include evaluation of features as per both the ADOT FIS and AECOM field reviews. Also included in an Appendix are Non-Compliant Feature Location Maps and Non-Compliant Feature Photo Logs (both currently in the ADOT FIS and missing from the ADOT FIS).

2.0 SIDEWALK

There are a total of 128 sidewalk locations totaling approximately 37,370 feet of sidewalk within the evaluated project limits. Of the 128 sidewalk locations, 34 are non-compliant per 2010 Standards. Of the 128 sidewalk locations, 52 compliant locations and 24 non-compliant locations are currently not listed in the ADOT FIS.

Table 3 provides a summary of the compliant sidewalk locations. Table 4 provides a detailed summary of the non-compliant sidewalk locations. Locations that currently are not listed in the ADOT FIS are included at the end of both Tables 3 and 4. Identification numbers were assigned from the AECOM field review for reference purposes.

Table 3 – Compliant Sidewalk

Asset ID	Location	Appr. Length (LF)
1028287	SB 40th St South of I-10	190.00
1383337	SB 40th St North of I-10	145.00
1383348	NB 40th St South of I-10	460.00
1383349	NB 40th St At I-10	40.00
1028305	EB Broadway Rd East of I-10	694.78
1383350	WB Broadway Rd West of I-10	328.96
1383374	EB Broadway Rd West of I-10	327.04
1028341	EB Baseline Rd West of I-10	170.57
1028344	EB Baseline Rd Over the I-10	409.00
1028348	EB Baseline Rd East of I-10	162.74
1028349	WB Baseline Rd East of I-10	149.41
1028353	WB Baseline Rd Over the I-10	400.70
1028357	WB Baseline Rd West of I-10	165.87
1028362	EB Elliot Rd West of I-10	174.91
1028364	EB Elliot Rd West of I-10	31.23
1028366	EB Elliot Rd East of I-10	41.81
1028368	EB Elliot Rd East of I-10	151.70
1028372	WB Elliot Rd East of I-10	21.54
1028381	WB Elliot Rd West of I-10	175.22
1028401	EB Warner Rd West of I-10	12.84
1028404	EB Warner Rd East of I-10	357.72
1028405	WB Warner Rd East of I-10	343.53
1028409	WB Warner Rd West of I-10	14.53
1028459	WB Ray Rd West of I-10	700.72

Table 3 – Compliant Sidewalk (cont.)

Asset ID	Location	Appr. Length (LF)
1028460	EB Ray Rd West of I-10	454.10
1028461	EB Ray Rd West of I-10	188.99
1028462	EB Ray Rd East of I-10	103.50
1028463	EB Ray Rd East of I-10	754.30
1028464	WB Ray Rd East of I-10	751.45
1028465	WB Ray Rd East of I-10	97.48
1028466	WB Ray Rd West of I-10	188.95
1028467	WB Chandler Blvd West of I-10	625.82
1028468	EB Chandler Blvd West of I-10	427.99
1028470	EB Chandler Blvd East of I-10	582.26
1028471	WB Chandler Blvd East of I-10	679.08
1383448	WB Chandler Blvd East of I-10	55.05
1383449	WB Chandler Blvd West of I-10	34.51
1383457	EB Chandler Blvd West of I-10	45.09
1383458	EB Chandler Blvd East of I-10	75.40
1382299	SB Priest Dr North of US 60	502.11
1382305	NB Priest Dr Over the US 60	375.53
1382308	NB Priest Dr South of US 60	144.93
S/W 40th-1 (#XXXXXXX)	NB 40th St South of I-10	435.00
S/W 40th-2 (#XXXXXXX)	NB 40th St At I-10	360.00
S/W 40th-8 (#XXXXXXX)	SB Raymond St North of 40th St	125.00
S/W 40th-10 (#XXXXXXX)	SB 40th St At I-10	360.00
S/W 40th-12 (#XXXXXXX)	SB 40th St North of I-10	160.00
S/W 40th-13 (#XXXXXXX)	SB 40th St North of I-10	125.00

Table 3 – Compliant Sidewalk (cont.)

Asset ID	Location	Appr. Length (LF)
S/W 48th-1 (#XXXXXXX)	SB 48th St South of Broadway Rd	50.00
S/W 48th-2 (#XXXXXXX)	EB Broadway Rd North of 48th St	80.00
S/W 48th-5 (#XXXXXXX)	WB Broadway Rd North of 48th St	25.00
S/W 48th-6 (#XXXXXXX)	SB 48th St South of I-10	40.00
S/W 48th-7 (#XXXXXXX)	SB 48th St South of I-10	75.00
S/W BW2 (#XXXXXXX)	EB Broadway Rd East of I-10	230.00
S/W BW3 (#XXXXXXX)	EB Broadway Rd West of I-10	150.00
S/W S1 (#XXXXXXX)	EB Southern Ave East of I-10	655.00
S/W S4 (#XXXXXXX)	EB Southern Ave West of I-10	166.00
S/W BL1 (#XXXXXXX)	WB Baseline Rd West of I-10	227.00
S/W BL2 (#XXXXXXX)	WB Baseline Rd West of I-10	223.00
S/W BL3 (#XXXXXXX)	EB Baseline Rd West of I-10	53.00
S/W BL4 (#XXXXXXX)	EB Baseline Rd East of I-10	203.00
S/W BL5 (#XXXXXXX)	WB Baseline Rd East of I-10	266.00
S/W BL7 (#XXXXXXX)	WB Baseline Rd East of I-10	380.00
S/W G2 (#XXXXXXX)	WB Guadalupe Rd Over the I-10	329.00
S/W E2 (#XXXXXXX)	WB Elliot Rd East of I-10	368.00
S/W BL6 (#XXXXXXX)	WB Baseline Rd East of I-10	321.00
S/W E4 (#XXXXXXX)	WB Elliot Rd Over the I-10	254.00
S/W E5 (#XXXXXXX)	WB Elliot Rd Over the I-10	120.00
S/W E6 (#XXXXXXX)	WB Elliot Rd West of I-10	184.00
S/W E7 (#XXXXXXX)	WB Elliot Rd West of I-10	160.00
S/W E8 (#XXXXXXX)	EB Elliot Rd West of I-10	173.00

Table 3 – Compliant Sidewalk (cont.)

Asset ID	Location	Appr. Length (LF)
S/W E10 (#XXXXXXX)	EB Elliot Rd West of I-10	591.00
S/W E11 (#XXXXXXX)	EB Elliot Rd Over the I-10	340.00
S/W E12 (#XXXXXXX)	EB Elliot Rd East of the I-10	982.00
S/W E13 (#XXXXXXX)	WB Elliot Rd East of the I-10	220.00
S/W W1 (#XXXXXXX)	EB Warner Rd East of I-10	548.00
S/W W2 (#XXXXXXX)	EB Warner Rd Over the I-10	378.00
S/W W3 (#XXXXXXX)	EB Warner Rd West of I-10	646.00
S/W W4 (#XXXXXXX)	WB Warner Rd West of I-10	115.00
S/W W5 (#XXXXXXX)	WB Warner Rd West of I-10	650.00
S/W W6 (#XXXXXXX)	WB Warner Rd Over the I-10	327.00
S/W W7 (#XXXXXXX)	WB Warner Rd West of I-10	554.00
S/W R1 (#XXXXXXX)	WB Ray Rd East of I-10	331.00
S/W R2 (#XXXXXXX)	WB Ray Rd Over the I-10	265.00
S/W R3 (#XXXXXXX)	WB Ray Rd West of I-10	216.00
S/W R4 (#XXXXXXX)	WB Ray Rd West of I-10	234.00
S/W R7 (#XXXXXXX)	EB Ray Rd West of I-10	260.00
S/W R8 (#XXXXXXX)	EB Ray Rd West of I-10	280.00
S/W R9 (#XXXXXXX)	EB Ray Rd Over the I-10	264.00
S/W C1 (#XXXXXXX)	WB Chandler Blvd East of I-10	290.00
S/W C3 (#XXXXXXX)	WB Chandler Blvd Over the I-10	319.00
S/W C4 (#XXXXXXX)	WB Chandler Blvd West of I-10	154.00
S/W C6 (#XXXXXXX)	EB Chandler Blvd Over the I-10	320.00
S/W C8 (#XXXXXXX)	EB Chandler Blvd East of I-10	20.00

Table 4 – Non-Compliant Sidewalk

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
1028285	40th St (SB) - SW Corner at SB Off Ramp (Ramp 40C)	•Cross Slope › 2%	Reconstruct Sidewalk		
1028286	40th St (SB) - NW Corner at SB Off Ramp (Ramp 40C) on Traffic Island #1383332	•Fill Slope Erosion at Back of Sidewalk	Regrade Fill		
1383342	40th St (NB) - NE Corner at NB Off Ramp (Ramp 40A)	•Fill Slope Erosion at Back of Sidewalk •Running Slope › 5%	•Regrade Fill •Handrail or Reconstruct Sidewalk		
1383361	Broadway Rd (EB) - SE Corner at SB On Ramp (Ramp K)	•Running Slope › 5%	Handrail or Reconstruct Sidewalk		
1028370	Elliot Rd (WB) - NE Corner at NB On Ramp (Ramp A)	•Running Slope › 5%	Handrail or Reconstruct Sidewalk		
1028380	Elliot Rd (WB) - NE Corner at SB Off Ramp (Ramp C)	•Cross Slope › 2%	Reconstruct Sidewalk		
1028402	Warner Rd (EB) – SE Corner at SB On Ramp (Ramp A)	•Safety Rail Need (Bridge Hazard)	Safety Rail		
1028403	Warner Rd (EB) – SW Corner at NB On Ramp (Ramp B)	•Safety Rail Need (Bridge Hazard)	Safety Rail		
1028407	Warner Rd (WB) – NW Corner at NB On Ramp (Ramp C)	•Safety Rail Need (Bridge Hazard)	Safety Rail		
1028408	Warner Rd (WB) – NE Corner at SB Off Ramp (Ramp D)	•Safety Rail Need (Bridge Hazard)	Safety Rail		
S/W 40th-3 (#XXXXXXX)	40th St (NB) – East side of 40th St north of NB Off Ramp (Ramp 40A)	•Fill Slope Erosion at Back of Sidewalk	Regrade Fill		
S/W 40th-4 (#XXXXXXX)	40th St (NB) – East side of 40th St north of Raymond St	•Cross Slope › 2%	Reconstruct Sidewalk		
S/W 40th-5 (#XXXXXXX)	40th St (SB) – West side of 40th St north of Raymond St	•Cross Slope › 2%	Reconstruct Sidewalk		
S/W 40th-6 (#XXXXXXX)	Raymond St (WB) – North Side of Raymond St north of 40th St	•Cross Slope › 2%	Reconstruct Sidewalk		

Table 4 – Non-Compliant Sidewalk (cont.)

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
S/W 40th-7 (#XXXXXXX)	Raymond St (EB) – South Side of Raymond St north of 40th St	•Cross Slope › 2%	Reconstruct Sidewalk		
S/W 40th-9 (#XXXXXXX)	40th St (SB) – West side of 40th St north of NB On Ramp(Ramp 40D)	•Cross Slope › 2%	Reconstruct Sidewalk		
S/W 40th-11 (#XXXXXXX)	40th St (SB) – West side of 40th St south of SB Off Ramp (Ramp 40C)	•Cross Slope › 2%	Reconstruct Sidewalk		
S/W 40th-14 (#XXXXXXX)	Raymond St (SB) – West side of Raymond St north of 40th St	•Missing Sidewalk	Construct Sidewalk Ramp and Sidewalk Along NB Raymond St		
S/W 48th-3 (#XXXXXXX)	Broadway Rd (EB) – North Side of Broadway Rd north of S/W 48th2 (#XXXXXXX)	•Cross Slope › 2%	Reconstruct Sidewalk		
S/W 48th-4 (#XXXXXXX)	Broadway Rd (EB) – North Side of Broadway Rd north of 48th St	•Cross Slope › 2%	Reconstruct Sidewalk		
S/W BW1 (#XXXXXXX)	Broadway Rd (WB) - NW Corner at 52nd St	•Running Slope › 5%	Handrail or Reconstruct Sidewalk		
S/W BW4 (#XXXXXXX)	Broadway Rd (WB) - NE Corner at 52nd St	•Running Slope › 5%	Handrail or Reconstruct Sidewalk		
S/W S2 (#XXXXXXX)	Southern Ave (WB) - North side of Diablo Way between DW S2 (XXXXXXX) and DW S3 (XXXXXXX)	•4’ Width, No 5’ Passing Area Provided	Construct 5’ Sidewalk Passing Area		
S/W S3 (#XXXXXXX)	Southern Ave (WB) – North side of Diablo Way between DW S3 (XXXXXXX) and DW S4 (XXXXXXX)	•4’ Width, No 5’ Passing Area Provided	Construct 5’ Sidewalk Passing Area		
S/W E1 (#XXXXXXX)	Elliot Rd (WB) – North side west of Ramp E1 (XXXXXXX)	•Cross Slope › 2%	Reconstruct Sidewalk		
S/W E3 (#XXXXXXX)	Elliot Rd (WB) – NW Corner at NB Off Ramp (Ramp A)	•Cross Slope › 2%	Reconstruct Sidewalk		

Table 4 – Non-Compliant Sidewalk (cont.)

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
S/W E9 (#XXXXXXX)	Elliot Rd (EB) – SE Corner at 51st St	•Cross Slope › 2%	Reconstruct Sidewalk		
S/W E14 (#XXXXXXX)	Elliot Rd (WB) - North side east of 51st St	•Fill Slope Erosion at Back of Sidewalk	Safety Rail or Regrade Fill		
S/W R5 (#XXXXXXX)	Ray Rd (WB) – North side west of Ramp R5 (XXXXXXX) at scupper	•Safety Rail Need (Scupper)	Safety Rail		
S/W R6 (#XXXXXXX)	Ray Rd (EB) – South side west of Ramp R6 (XXXXXXX) at scupper	•Safety Rail Need (Scupper)	Safety Rail		
S/W C2 (#XXXXXXX)	Chandler Blvd (WB) – North side west of Ramp C2 (XXXXXXX)	•Safety Rail Need (Fill Slope Erosion)	Safety Rail or Regrade		
S/W C5 (#XXXXXXX)	Chandler Blvd (EB) – South side east of 50th St	•Safety Rail Need (Scupper and Fill Slope Erosion)	Safety Rail at Scupper and Safety Rail or Regrade		
S/W C7 (#XXXXXXX)	Chandler Blvd (EB) – South side west of Ramp C13 (XXXXXXX) at scupper	•Safety Rail Need (Scupper)	Safety Rail		
S/W C9 (#XXXXXXX)	Chandler Blvd (WB)– NW Corner at 54th St at scupper	•Safety Rail Need (Scupper)	Safety Rail		

3.0 CURB RAMPS

There are a total of 134 curb ramps within the evaluated project limits. Of the 134 curb ramps, 113 are non-compliant per 2010 Standards. Of the 134 curb ramps, 16 compliant curb ramps and 44 non-compliant curb ramps are currently not listed in the ADOT FIS.

Table 5 provides a summary of the compliant curb ramps. Table 6 provides a detailed summary of the non-compliant curb ramps. Curb ramps that currently are not listed in the ADOT FIS are included at the end of both Table 5 and 6. Identification numbers were assigned from the AECOM field review for reference purposes.

Table 5 – Compliant Curb Ramps

Asset ID	Location
1383431	EB Ray Rd SE Corner of Ramp B
1383433	EB Ray Rd SW Corner of Ramp B
1383435	EB Ray Rd SW Corner of Ramp D
1383438	WB Ray Rd NW Corner of Ramp C
1383441	WB Ray Rd NE Corner of Ramp A
Ramp 40th-1	NB 40th St SE Corner of Raymond St
Ramp 40th-5	SB Raymond St SW Corner of Anne St
Ramp 40th-8	NB 40th St SE Corner of Raymond St
Ramp BL3 (#XXXXXXX)	WB Baseline Rd NE Corner of Arizona Mills South
Ramp G1 (#XXXXXXX)	WB Guadalupe Rd NE Corner of Calle Sahuaro
Ramp G2 (#XXXXXXX)	EB Guadalupe Rd SE Corner of Calle Sahuaro
Ramp E2 (#XXXXXXX)	WB Elliot Rd NE Corner of 51st St
Ramp E3 (#XXXXXXX)	WB Elliot Rd NE Corner of 51st St
Ramp E4 (#XXXXXXX)	WB Elliot Rd NW Corner of 51st St
Ramp E5 (#XXXXXXX)	WB Elliot Rd NW Corner of 51st St
Ramp E10 (#XXXXXXX)	EB Elliot Rd SW Corner of Harl Ave
Ramp E11 (#XXXXXXX)	WB Elliot Rd NW Corner of Harl Ave
Ramp R2 (#XXXXXXX)	WB Ray Rd NE Corner of 50th St
Ramp R3 (#XXXXXXX)	WB Ray Rd NW Corner of 50th St
Ramp R10 (#XXXXXXX)	EB Ray Rd SW Corner of 54th St
Ramp C8 (#XXXXXXX)	EB Chandler Blvd SE Corner of 50th St

Table 6 – Non-Compliant Curb Ramps

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
1383329	40th St (SB) – SW Corner at SB Off Ramp (Ramp 40C)	•Warning Grooves •Running Slope › 12:1 •Ramp Landing › 2%	Reconstruct Curb Ramp		
1383330	40th St (SB) – NW Corner at SB Off Ramp (Ramp 40C)	•Warning Grooves •Running Slope › 12:1 •Cross Slope › 2%	Reconstruct Curb Ramp		
1383333	40th St (SB) – SW Corner at SB On Ramp (Ramp 40F)	•Warning Grooves	Install Detectable Warnings (Domes)		
1383334	40th St (SB) – NW Corner at SB On Ramp (Ramp 40F)	•Warning Grooves •Ramp Landing › 2% •Cross Slope › 2% •Gutter Slope › 5%	Reconstruct Curb Ramp		
1383335	40th St (SB) – SW Corner at NB On Ramp (Ramp 40D)	•Warning Grooves	Install Detectable Warnings (Domes)		
1383336	40th St (SB) – NW Corner at NB On Ramp (Ramp 40D)	•Warning Grooves •Gutter Slope › 5% •Crosswalk Markings Poor Condition	•Reconstruct Curb Ramp •Restripe Crosswalk		
1383340	40th St (NB) – NE Corner at NB Off Ramp (Ramp 40A)	•Warning Grooves •Gutter Slope › 5%	•Reconstruct Gutter •Install Detectable Warnings (Domes)		
1383343	40th St (NB) – SE Corner at NB Off Ramp (Ramp 40A)	•Warning Grooves •Ramp Landing › 2% •Cross Slope › 2%	Reconstruct Curb Ramp		
1383346	40th St (NB) – NE Corner at SB On Ramp (Ramp 40B)	•Warning Grooves	Install Detectable Warnings (Domes)		
1383347	40th St (NB) – SE Corner at SB On Ramp (Ramp 40B)	•Warning Grooves • No Crosswalk Markings	•Install Detectable Warnings (Domes) •Stripe Crosswalk		
1383351	Broadway Rd (WB) - NW Corner at SB Off Ramp (Ramp J)	•Warning Grooves •Running Slope › 12:1	Reconstruct Curb Ramp		
1383353	Broadway Rd (EB) - N Corner of Traffic Island at SB On Ramp (Ramp K)	•Warning Grooves •Cross Slope › 2%	Reconstruct Curb Ramp		

Table 6 – Non-Compliant Curb Ramps (cont.)

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
1383354	Broadway Rd (EB) - E Corner of Traffic Island at SB On Ramp (Ramp K)	•Warning Grooves •Gutter Slope › 5%	•Reconstruct Gutter •Install Detectable Warnings (Domes)		
1383355	Broadway Rd (EB) - SW Corner of Traffic Island at SB On Ramp (Ramp K)	•Warning Grooves •Running Slope › 12:1 •Flare Slope › 10:1	Reconstruct Curb Ramp		
1383359	Broadway Rd (EB) - SE Corner at SB On Ramp (Ramp K)	•Warning Grooves •Cross Slope › 2%	Reconstruct Curb Ramp		
1383363	Broadway Rd (EB) - SW Corner at NB Off Ramp (Ramp L)	•Warning Grooves	Install Detectable Warnings (Domes)		
1383364	Broadway Rd (EB) - W Corner of Traffic Island at NB Off Ramp (Ramp L)	•Warning Grooves •Running Slope › 12:1 •Flare Slope › 10:1	Reconstruct Curb Ramp		
1383365	Broadway Rd (EB) - SE Corner of Traffic Island at NB Off Ramp (Ramp L)	•Warning Grooves •Running Slope › 12:1	Reconstruct Curb Ramp		
1383367	Broadway Rd (EB) - SE Corner at NB Off Ramp (Ramp L)	•Warning Grooves •Flare Slope › 10:1	Reconstruct Curb Ramp		
1383368	Broadway Rd (WB) - NE Corner at 52nd Street	•Warning Grooves	Install Detectable Warnings (Domes)		
1383369	Broadway Rd (WB) - NW Corner at 52nd Street	•Warning Grooves	Install Detectable Warnings (Domes)		
1383372	Broadway Rd (EB) - SW Corner at SB On Ramp (Ramp K)	•Warning Grooves	Install Detectable Warnings (Domes)		
1383508	Broadway Rd (EB) - N Corner at Traffic Island at NB Off Ramp (Ramp L)	•Warning Grooves •Running Slope › 12:1	Reconstruct Curb Ramp		
1383376	Baseline Rd (EB) - SE Corner at NB Off Ramp (Ramp A) N/S crosswalk curb ramp	•Warning Grooves	Install Detectable Warnings (Domes)		
1383377	Baseline Rd (EB) - SE Corner at NB Off Ramp (Ramp A) E/W crosswalk curb ramp	•Warning Grooves	Install Detectable Warnings (Domes)		

Table 6 – Non-Compliant Curb Ramps (cont.)

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
1383379	Baseline Rd (EB) - SW Corner at NB Off Ramp (Ramp A)	•Warning Grooves	Install Detectable Warnings (Domes)		
1383380	Baseline Rd (EB) - SE Corner at SB On Ramp (Ramp B)	•Warning Grooves	Install Detectable Warnings (Domes)		
1383381	Baseline Rd (EB) - SW Corner at SB On Ramp (Ramp B) E/W crosswalk curb ramp	•Warning Grooves	Install Detectable Warnings (Domes)		
1383382	Baseline Rd (EB) - SW Corner at SB On Ramp (Ramp B) N/S crosswalk curb ramp	•Warning Grooves	Install Detectable Warnings (Domes)		
1383385	Baseline Rd (WB) - NW Corner at NB Off Ramp (Ramp C) N/S crosswalk curb ramp	•Warning Grooves	Install Detectable Warnings (Domes)		
1383386	Baseline Rd (WB) - NW Corner at NB Off Ramp (Ramp C) E/W crosswalk curb ramp	•Warning Grooves	Install Detectable Warnings (Domes)		
1383387	Baseline Rd (WB) - NE Corner at SB Off Ramp (Ramp C)	•Warning Grooves •Cross Slope › 2%	Reconstruct Curb Ramp		
1383388	Baseline Rd (WB) - NW Corner at NB On Ramp (Ramp D)	•Warning Grooves	Install Detectable Warnings (Domes)		
1383391	Baseline Rd (WB) - NE Corner at NB On Ramp (Ramp D) E/W crosswalk curb ramp	•Warning Grooves •Cross Slope › 2%	Reconstruct Curb Ramp		
1383392	Baseline Rd (WB) - NE Corner at NB On Ramp (Ramp D) N/S crosswalk curb ramp	•Warning Grooves •Curb Ramp Outside of Crosswalk Striping	•Install Detectable Warnings (Domes) •Modify Crosswalk Striping		
1383396	Guadalupe Rd (WB) - NW Corner at Calle Sahuaro	•Missing Detectable Warnings •Cross Slope › 2%	Reconstruct Curb Ramp		
1383397	Elliot Rd (EB) - SE Corner at NB Off Ramp (Ramp B)	•Warning Grooves •Running Slope › 12:1 •Gutter Slope › 5%	Reconstruct Curb Ramp		

Table 6 – Non-Compliant Curb Ramps (cont.)

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
1383399	Elliot Rd (EB) - SW Corner at NB Off Ramp (Ramp B)	•Warning Grooves •Flare Slope › 12:1	Reconstruct Curb Ramp		
1383400	Elliot Rd (EB) - SE Corner at SB On Ramp (Ramp D)	•Warning Grooves	Install Detectable Warnings (Domes)		
1383401	Elliot Rd (EB) - SW Corner at SB On Ramp (Ramp D)	•Warning Grooves •Running Slope › 12:1 •Gutter Slope › 5% •Flare Slope › 12:1	Reconstruct Curb Ramp		
1383405	Elliot Rd (WB) - NW Corner at SB Off Ramp (Ramp C)	•Warning Grooves	Install Detectable Warnings (Domes)		
1383406	Elliot Rd (WB) - NE Corner at SB Off Ramp (Ramp C)	•Warning Grooves •Cross Slope › 2%	Reconstruct Curb Ramp		
1383407	Elliot Rd (WB) - NW Corner at NB On Ramp (Ramp A)	•Warning Grooves	Install Detectable Warnings (Domes)		
1383408	Elliot Rd (WB) - NE Corner at NB On Ramp (Ramp A)	•Warning Grooves	Install Detectable Warnings (Domes)		
1383411	Warner Rd (EB) - SW Corner at SB On Ramp (Ramp A)	•Missing Detectable Warnings •Flare Slope › 12:1	Reconstruct Curb Ramp		
1383413	Warner Rd (EB) - SE Corner at SB On Ramp (Ramp A)	•Missing Detectable Warnings •Flare Slope › 12:1	Reconstruct Curb Ramp		
1383415	Warner Rd (EB) - SW Corner at NB Off Ramp (Ramp B)	•Missing Detectable Warnings	Install Detectable Warnings (Domes)		
1383417	Warner Rd (EB) - SE Corner at NB Off Ramp (Ramp B)	•Missing Detectable Warnings •Running Slope › 12:1	Reconstruct Curb Ramp		
1383421	Warner Rd (WB) - NE Corner at NB On Ramp (Ramp C)	•Missing Detectable Warnings •Running Slope › 12:1	Reconstruct Curb Ramp		
1383424	Warner Rd (WB) - NW Corner at NB On Ramp (Ramp C)	•Missing Detectable Warnings •Running Slope › 12:1 •Gutter Slope › 5% •Flare Slope › 12:1	Reconstruct Curb Ramp		

Table 6 – Non-Compliant Curb Ramps (cont.)

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
1383426	Warner Rd (WB) - NE Corner at SB Off Ramp (Ramp D)	•Missing Detectable Warnings •Flare Slope › 12:1	Reconstruct Curb Ramp		
1383428	Warner Rd (WB) - NW Corner at SB Off Ramp (Ramp D)	•Missing Detectable Warnings •Running Slope › 12:1 •Cross Slope › 2% •Gutter Slope › 5% •Flare Slope › 12:1	Reconstruct Curb Ramp		
1383434	Ray Rd (EB) - SE Corner at SB On Ramp (Ramp D)	•Cross Slope › 2% •Flare Slope › 12:1	Reconstruct Curb Ramp		
1383439	Ray Rd (WB) - NE Corner at SB Off Ramp (Ramp C)	•Flare Slope › 12:1	Reconstruct Curb Ramp		
1383440	Ray Rd (WB) - NW Corner at NB On Ramp (Ramp A)	•Flare Slope › 12:1	Reconstruct Curb Ramp		
1383445	Chandler Blvd (WB) - NE Corner at NB On Ramp (Ramp A)	•Warning Grooves	Install Detectable Warnings (Domes)		
1383447	Chandler Blvd (WB) - NW Corner at NB On Ramp (Ramp A)	•Warning Grooves	Install Detectable Warnings (Domes)		
1383450	Chandler Blvd (WB) - NE Corner at SB Off Ramp (Ramp B)	•Warning Grooves	Install Detectable Warnings (Domes)		
1383451	Chandler Blvd (WB) - NW Corner at SB Off Ramp (Ramp B)	•Warning Grooves	Install Detectable Warnings (Domes)		
1383455	Chandler Blvd (EB) - SW Corner at SB On Ramp	•Warning Grooves	Install Detectable Warnings (Domes)		
1383456	Chandler Blvd (EB) - SE Corner at SB On Ramp	•Warning Grooves	Install Detectable Warnings (Domes)		
1383459	Chandler Blvd (EB) - SW Corner at NB Off Ramp	•Warning Grooves •Running Slope › 12:1 •Flare Slope › 12:1	Reconstruct Curb Ramp		
1383460	Chandler Blvd (EB) - SE Corner at NB Off Ramp	•Warning Grooves	Install Detectable Warnings (Domes)		

Table 6 – Non-Compliant Curb Ramps (cont.)

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
1382298	Priest Dr (SB) - NW Corner at Arizona Mills Access Rd	•Warning Grooves •Running Slope › 12:1	Reconstruct Curb Ramp		
1382300	Priest Dr (SB) - NW Corner at WB Off Ramp (Ramp C)	•Warning Grooves •Gutter Slope › 5%	•Reconstruct Gutter •Install Detectable Warnings (Domes)		
1382302	Priest Dr (NB) - NE Corner at WB Off Ramp (Ramp C)	•Warning Grooves	Install Detectable Warnings (Domes)		
1382304	Priest Dr (NB) - SE Corner at WB Off Ramp (Ramp C)	•Warning Grooves	Install Detectable Warnings (Domes)		
1382306	Priest Dr (NB) - NE Corner at EB On Ramp (Ramp D)	•Warning Grooves	Install Detectable Warnings (Domes)		
1382307	Priest Dr (NB) - SE Corner at EB On Ramp (Ramp D)	•Warning Grooves •Cross Slope › 2% •Gutter Slope › 2%	Reconstruct Curb Ramp		
Ramp 40th-2 (#XXXXXXX)	40th St (NB) – NE Corner at Raymond St	•Ramp Landing ‹ 36”	Widen Existing Landing		
Ramp 40th-3 (#XXXXXXX)	40th St (SB) – NW Corner at Raymond St	•Crosswalk Striping within 48” from Curb Ramp •Ramp Landing › 2% •Gutter Slope › 5% •Pavement Warping	•Reconstruct Curb Ramp •Modify Crosswalk Striping		
Ramp 40th-4 (#XXXXXXX)	40th St (SB) – SW Corner at Raymond St	•Warning Grooves •Running Slope › 12:1 • Crosswalk Striping within 48” from Curb Ramp •Ramp Landing › 2% •Cross Slope › 2% •Pavement Warping	•Reconstruct Curb Ramp •Modify Crosswalk Striping		
Ramp 40th-6 (#XXXXXXX)	40th St (SB) – NE Corner at First Driveway south of SB Off Ramp (Ramp 40C)	•Warning Grooves •Gutter Slope › 5% •Pavement Warping	•Reconstruct Gutter •Install Detectable Warnings (Domes) •Mill AC Lip		

Table 6 – Non-Compliant Curb Ramps (cont.)

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
Ramp 40th-7 (#XXXXXXX)	40th St (SB) – SE Corner at First Driveway south of SB Off Ramp (Ramp 40C)	•Warning Grooves	Install Detectable Warnings (Domes)		
Ramp 40th-9 (#XXXXXXX)	40th St (NB) – NE Corner at Raymond St	•Cross Slope › 2%	Reconstruct Curb Ramp		
Ramp 48th-1 (#XXXXXXX)	48th St (SB) – SW Corner at Broadway Rd	•Warning Grooves •Ramp Landing › 2% •Pavement Warping	Reconstruct Curb Ramp		
Ramp 48th-2 (#XXXXXXX)	48th St (SB) – NW Corner at Broadway Rd	•Ramp Landing › 2% •Pavement Warping	•Reconstruct Curb Ramp •Mill AC Lip		
Ramp S1 (#XXXXXXX)	Southern Ave (EB) - SW Corner at Clementine Dr	•Missing Detectable Warnings •Running Slope › 12:1 •Not Flush at Ramp Bottom (AC Lip)	Reconstruct Curb Ramp		
Ramp S2 (#XXXXXXX)	Southern Ave (WB) - NW Corner at Diablo Way	•Missing Detectable Warnings •Running Slope › 12:1 •Flare Slope › 10:1 •Gutter Slope › 5%	Reconstruct Curb Ramp		
Ramp S3 (#XXXXXXX)	Southern Ave (WB) - NE Corner at Diablo Way	•Missing Curb Ramp	Construct Curb Ramp		
Ramp S4 (#XXXXXXX)	Southern Ave (WB) - NW Corner at Clementine Dr	•Missing Detectable Warnings •Flare Slope › 12:1 •Cross Slope › 2%	Reconstruct Curb Ramp		
Ramp BL1 (#XXXXXXX)	Baseline Rd (WB) - NE Corner at Wendler Dr	•Curb Ramp Outside of Crosswalk Striping •Not Flush at Ramp Bottom (AC Lip)	•Modify Crosswalk Striping •Mill AC Lip		
Ramp BL2 (#XXXXXXX)	Baseline Rd (WB) - NW Corner at Wendler Dr	•Warning Grooves •Running Slope › 12:1 •Flare Slope › 12:1 •Curb Ramp Outside of Crosswalk Striping	•Reconstruct Curb Ramp •Modify Crosswalk Striping		
Ramp BL4 (#XXXXXXX)	Baseline Rd (WB) - NW Corner at Arizona Mills South	•Warning Grooves	Install Detectable Warnings (Domes)		
Ramp BL5 (#XXXXXXX)	Baseline Rd (EB) - SW Corner at Arizona Mills South	•Warning Grooves	Install Detectable Warnings (Domes)		

Table 6 – Non-Compliant Curb Ramps (cont.)

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
Ramp G3 (#XXXXXXX)	Guadalupe Rd (EB) - SE Corner at South Pointe Parkway	•Warning Grooves •Running Slope › 12:1	Reconstruct Curb Ramp		
Ramp G4 (#XXXXXXX)	Guadalupe Rd (WB) - NE Corner at South Pointe Parkway	•Warning Grooves •Cross Slope › 2% •Flare Slope › 12:1	Reconstruct Curb Ramp		
Ramp E1 (#XXXXXXX)	Elliot Rd (WB) - NW Corner at Wendy's/Savers driveway	•Warning Grooves •Running Slope › 12:1	Reconstruct Curb Ramp		
Ramp E6 (#XXXXXXX)	Elliot Rd (EB) - SW Corner at 51st St N/S crosswalk curb ramp	•Warning Grooves	Install Detectable Warnings (Domes)		
Ramp E7 (#XXXXXXX)	Elliot Rd (EB) - SW Corner at 51st St E/W crosswalk curb ramp	•Warning Grooves •Gutter Slope › 5%	•Reconstruct Gutter •Install Detectable Warnings (Domes)		
Ramp E8 (#XXXXXXX)	Elliot Rd (EB) - SE Corner at 51st St E/W crosswalk curb ramp	•Warning Grooves •Cross Slope › 2%	Reconstruct Curb Ramp		
Ramp E9 (#XXXXXXX)	Elliot Rd (EB) - SE Corner at 51st St N/S crosswalk curb ramp	•Warning Grooves •Gutter Slope › 5%	•Reconstruct Gutter •Install Detectable Warnings (Domes)		
Ramp E12 (#XXXXXXX)	Elliot Rd (EB) - NE Corner at Wendy's/Savers driveway	•Warning Grooves •Cross Slope › 2%	Reconstruct Curb Ramp		
Ramp R1 (#XXXXXXX)	Ray Rd (WB) - NW Corner at 54th St	•Cross Slope › 2%	Reconstruct Curb Ramp		
Ramp R4 (#XXXXXXX)	Ray Rd (WB) - NE Corner at Jack in the Box driveway	•Warning Grooves •Cross Slope › 2% •Gutter Slope › 5%	Reconstruct Curb Ramp		
Ramp R5 (#XXXXXXX)	Ray Rd (WB) - NW Corner at Jack in the Box driveway	•Warning Grooves •Cross Slope › 2% •Flare Slope › 12:1	Reconstruct Curb Ramp		
Ramp R6 (#XXXXXXX)	Ray Rd (EB) - SW Corner at Circle K driveway	•Warning Grooves •Running Slope › 12:1 •Flare Slope › 12:1	Reconstruct Curb Ramp		
Ramp R7 (#XXXXXXX)	Ray Rd (EB) - SE Corner at Circle K driveway	•Warning Grooves •Running Slope › 12:1 •Flare Slope › 12:1	Reconstruct Curb Ramp		

Table 6 – Non-Compliant Curb Ramps (cont.)

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
Ramp R8 (#XXXXXXX)	Ray Rd (EB) - SW Corner at 50th St	•Warning Grooves	Install Detectable Warnings (Domes)		
Ramp R9 (#XXXXXXX)	Ray Rd (EB) - SE Corner at 50th St	•Warning Grooves	Install Detectable Warnings (Domes)		
Ramp C1 (#XXXXXXX)	Chandler Blvd (WB) - NE Corner at Denny's/ Rudy's Country Store & Bar-BQ driveway	•Warning Grooves	Install Detectable Warnings (Domes)		
Ramp C2 (#XXXXXXX)	Chandler Blvd (WB) - NW Corner at Denny's/ Rudy's Country Store & Bar-BQ driveway	•Warning Grooves	Install Detectable Warnings (Domes)		
Ramp C3 (#XXXXXXX)	Chandler Blvd (WB) - NE Corner at Southgate Dr	•Warning Grooves	Install Detectable Warnings (Domes)		
Ramp C4 (#XXXXXXX)	Chandler Blvd (WB) - NW Corner at Southgate Dr	•Warning Grooves •Cross Slope › 2% •Gutter Slope › 5% •Flare Slope › 12:1	Reconstruct Curb Ramp		
Ramp C5 (#XXXXXXX)	Chandler Blvd (WB) - NE Corner at Chevron/ Cracker Barrel Country Store driveway	•Warning Grooves •Cross Slope › 2%	Reconstruct Curb Ramp		
Ramp C6 (#XXXXXXX)	Chandler Blvd (WB) - NW Corner at Chevron/ Cracker Barrel Country Store driveway	•Warning Grooves •Cross Slope › 2% •Gutter Slope › 5%	Reconstruct Curb Ramp		
Ramp C7 (#XXXXXXX)	Chandler Blvd (WB) - NE Corner at 50th St	•Warning Grooves •Running Slope › 12:1 •Flare Slope › 12:1 •Cross Slope › 2%	Reconstruct Curb Ramp		
Ramp C9 (#XXXXXXX)	Chandler Blvd (EB) - SW Corner at Extended Stay America driveway	•Warning Grooves	Install Detectable Warnings (Domes)		
Ramp C10 (#XXXXXXX)	Chandler Blvd (EB) - SE Corner at Extended Stay America driveway	•Warning Grooves •Cross Slope › 2%	Reconstruct Curb Ramp		
Ramp C11 (#XXXXXXX)	Chandler Blvd (EB) -SW Corner at Southgate Dr	•Warning Grooves	Install Detectable Warnings (Domes)		

Table 6 – Non-Compliant Curb Ramps (cont.)

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
Ramp C12 (#XXXXXXX)	Chandler Blvd (EB) - SE Corner at Southgate Dr	•Warning Grooves •Cross Slope › 2% •Gutter Slope › 5%	Reconstruct Curb Ramp		
Ramp C13 (#XXXXXXX)	Chandler Blvd (EB) - SW Corner at Whataburger/ Circle K driveway	•Warning Grooves •Running Slope › 12:1	Reconstruct Curb Ramp		
Ramp C14 (#XXXXXXX)	Chandler Blvd (EB) - SE Corner at Whataburger/ Circle K driveway	•Warning Grooves •Cross Slope › 2%	Reconstruct Curb Ramp		

4.0 PEDESTRIAN ACTIVATED SIGNALS

There are a total of 80 pedestrian activated signals within the evaluated project limits. Of the 80 pedestrian activated signals, 10 are non-compliant per 2010 Standards. Of the 80 pedestrian activated signals, 53 compliant pedestrian activated signals and 3 non-compliant pedestrian activated signals are currently not listed in the ADOT FIS.

Table 7 provides a summary of the compliant pedestrian activated signals. Table 8 provides a detailed summary of the non-compliant pedestrian activated signals. Pedestrian activated signals that currently are not listed in the ADOT FIS are included at the end of both Tables 7 and 8. Identification numbers were assigned from the AECOM field review for reference purposes.

Table 7 – Compliant Pedestrian Activated Signals

Asset ID	Location
1383341	NB 40th St NE Corner of Ramp 40A
1383344	NB 40th St SE Corner of Ramp 40A
1383378	EB Baseline Rd SE Corner of Ramp A
1383384	Baseline Rd Traffic Island west of I-10
1383394	Baseline Rd Traffic Island east of I-10
1383404	Elliot Rd Traffic Island west of I-10
1383414	EB Warner Rd SE Corner of Ramp A
1383416	EB Warner Rd SW Corner of Ramp B

Table 7 – Compliant Pedestrian Activated Signals (cont.)

Asset ID	Location
1383422	WB Warner Rd NE Corner of Ramp C
1383427	WB Warner Rd NE Corner of Ramp D
1383429	WB Warner Rd NW Corner of Ramp D
1383432	EB Ray Rd SE Corner of Ramp B
1383437	Ray Rd Traffic Island west of I-10
1383442	WB Ray Rd NE Corner of Ramp A
1383444	Ray Rd Traffic Island east of I-10
1383446	WB Chandler Blvd NE Corner of Ramp A

Table 7 – Compliant Pedestrian Activated Signals (cont.)

Asset ID	Location
1382301	SB Priest Dr North of I-10
Push 40th-1 (#XXXXXXX)	NB 40th St SE Corner of Raymond St
Push 40th-2 (#XXXXXXX)	NB 40th St NE Corner of Raymond St
Push 40th-3 (#XXXXXXX)	SB 40th St NW Corner of Raymond St
Push 40th-4 (#XXXXXXX)	SB 40th St SW Corner of Raymond St
Push 40th-5 (#XXXXXXX)	SB 40th St NW Corner of Ramp 40D
Push 40th-6 (#XXXXXXX)	SB 40th St SW Corner of Ramp 40D
Push 40th-7 (#XXXXXXX)	SB 40th St SW Corner of Ramp 40C
Push BW1 (#XXXXXXX)	WB Broadway Rd NE Corner of 52nd St
Push BW2 (#XXXXXXX)	EB Broadway Rd Traffic Island on Ramp L
Push BW3 (#XXXXXXX)	EB Broadway Rd Traffic Island on Ramp K
Push BW4 (#XXXXXXX)	WB Broadway Rd NW Corner of Ramp J
Push BL1 (#XXXXXXX)	WB Baseline Rd NE Corner of Ramp D
Push BL2 (#XXXXXXX)	WB Baseline Rd NW Corner of Ramp C
Push BL3 (#XXXXXXX)	EB Baseline Rd SW Corner of Ramp B
Push BL4 (#XXXXXXX)	WB Baseline Rd NE Corner of Arizona Mills S
Push G1 (#XXXXXXX)	WB Guadalupe Rd NE Corner of Calle Sahuaro
Push G2 (#XXXXXXX)	EB Guadalupe Rd SE Corner or Calle Sahuaro
Push G3 (#XXXXXXX)	WB Guadalupe Rd NE Corner of S Pointe Pkwy
Push E1 (#XXXXXXX)	WB Elliot Rd NE Corner of Ramp A
Push E2 (#XXXXXXX)	WB Elliot Rd NW Corner of Ramp C
Push E3 (#XXXXXXX)	WB Elliot Rd NE Corner of 51st St
Push E4 (#XXXXXXX)	WB Elliot Rd NW Corner of 51st St
Push E5 (#XXXXXXX)	EB Elliot Rd SW Corner of 51st St

Table 7 – Compliant Pedestrian Activated Signals (cont.)

Asset ID	Location
Push E6 (#XXXXXXX)	EB Elliot Rd SE Corner of 51st St
Push E7 (#XXXXXXX)	EB Elliot Rd SE Corner of Ramp B
Push E8 (#XXXXXXX)	EB Elliot Rd SW Corner of Harl Ave
Push E9 (#XXXXXXX)	WB Elliot Rd NW Corner of Harl Ave
Push W1 (#XXXXXXX)	Warner Rd Traffic Island west of I-10
Push W2 (#XXXXXXX)	WB Warner Rd NW Corner of Ramp C
Push W3 (#XXXXXXX)	Warner Rd Traffic Island east of I-10
Push R1 (#XXXXXXX)	WB Ray Rd NW Corner of 54th St
Push R2 (#XXXXXXX)	WB Ray Rd NW Corner of Ramp A
Push R3 (#XXXXXXX)	WB Ray Rd NE Corner of Ramp C
Push R4 (#XXXXXXX)	WB Ray Rd NW Corner of Ramp C
Push R6 (#XXXXXXX)	WB Ray Rd NW Corner of 50th St
Push R7 (#XXXXXXX)	EB Ray Rd SW Corner of 50th St
Push R8 (#XXXXXXX)	EB Ray Rd SE Corner of 50th St
Push R9 (#XXXXXXX)	EB Ray Rd SW Corner of Ramp D
Push R10 (#XXXXXXX)	EB Ray Rd SE Corner of Ramp D
Push R11 (#XXXXXXX)	EB Ray Rd SW Corner of Ramp B
Push R12 (#XXXXXXX)	EB Ray Rd SW Corner of 54th St
Push C1 (#XXXXXXX)	WB Chandler Blvd NW Corner of Ramp A
Push C2 (#XXXXXXX)	WB Chandler Blvd NE Corner of Ramp B
Push C3 (#XXXXXXX)	WB Chandler Blvd NW Corner of Ramp B
Push C4 (#XXXXXXX)	WB Chandler Blvd NE Corner of 50th St
Push C5 (#XXXXXXX)	EB Chandler Blvd SE Corner of 50th St
Push C6 (#XXXXXXX)	EB Chandler Blvd SW Corner of SB On Ramp

Table 7 – Compliant Pedestrian Activated Signals (cont.)

Asset ID	Location
Push C7 (#XXXXXXX)	EB Chandler Blvd SE Corner of SB On Ramp
Push C8 (#XXXXXXX)	EB Chandler Blvd SW Corner of NB Off Ramp
Push C9 (#XXXXXXX)	EB Chandler Blvd SE Corner of NB Off Ramp
Push P1 (#XXXXXXX)	NB Priest Dr NE Corner of Ramp C
Push P2 (#XXXXXXX)	NB Priest Dr SE Corner of Ramp D
Push P3 (#XXXXXXX)	NB Priest Dr SE Corner of Ramp D

Table 8 – Non-Compliant Pedestrian Activated Signals

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
1383331	40th St (SB) - NW Corner at SB Off Ramp (Ramp 40C)	•Push Button › 24” Away From Edge of Accessible Route	Sawcut /Remove Ramp Flare and Extend Concrete Sidewalk to Face of Push Button		
1383339	40th St (Traffic Island N of I-10) - Traffic Island north of I-10	•Push Button › 24” Away From Edge of Accessible Route	Sawcut /Remove Ramp Flare and Extend Concrete Sidewalk to Face of Push Button		
1383402	Elliot Rd (EB) - SW Corner at SB On Ramp (Ramp D)	•Push Button › 24” Away From Edge of Accessible Route	Extend Concrete Sidewalk to Face of Push Button		
1383410	Elliot Rd (Traffic Island E of I-10) - Traffic Island east of I-10	•Push Button Height › 48”	Lower Button Height		
1383412	Warner Rd (EB) - SW Corner at SB On Ramp (Ramp A)	•Push Button › 24” Away From Edge of Accessible Route	Extend Concrete Sidewalk to Face of Push Button		

Table 8 – Non-Compliant Pedestrian Activated Signals (cont.)

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
1383418	Warner Rd (EB) - SE Corner at NB Off Ramp (Ramp B)	•Push Button › 24" Away From Edge of Accessible Route	Extend Concrete Sidewalk to Face of Push Button		
1383454	Chandler Blvd (Traffic Island W of I-10) - Traffic Island west of I-10	•Push Button › 24" Away From Edge of Accessible Route	Sawcut /Remove Ramp Flare and Extend Concrete Sidewalk to Face of Push Button		
Push 48th-1 (#XXXXXXX)	48th St (SB) – SW Corner at Broadway Rd	•Push Button Height › 48"	•Lower Button Height		
Push 48th-2 (#XXXXXXX)	48th St (SB) – NW Corner at Broadway Rd	•Push Button Height › 48"	•Lower Button Height		
Push R5 (#XXXXXXX)	Ray Rd (WB) - NE Corner at 50th St	•Push Button Height › 48"	•Lower Button Height •Extend Concrete Sidewalk to Face of Push Button		

5.0 HANDRAIL

There are a total of 24 locations with existing railing within the evaluated project limits. All of the existing railing at the 24 locations functions as safety rail (not handrail). However, each existing rail location was evaluated for compliance of its edge treatment. Of the 24 existing rail locations, 3 are non-compliant as handrail per the 2010 Standards. Of the 24 existing rail locations, 7 compliant handrail locations and 1 non-compliant handrail location are currently not listed in the ADOT FIS.

Table 9 provides a summary of the compliant handrail locations. Table 10 provides a summary of the non-compliant handrail locations. Handrail locations that currently are not listed in the ADOT FIS are included at the end of both Tables 9 and 10. Identification numbers were assigned from the AECOM field review for reference purposes.

See Section 2.0 SIDEWALK for additional locations that may require safety rail or handrail.

Table 9 – Compliant Handrail

Asset ID	Location
1028024	WB Guadalupe Rd West of I-10
*1026660	WB Ray Rd Ramp C
*1027629	EB Ray Rd Ramp B
1028447	EB Ray Rd West of I-10
1028448	EB Ray Rd West of I-10
1028449	EB Ray Rd East of I-10
1028450	EB Ray Rd East of I-10
1028451	WB Ray Rd East of I-10
1028452	WB Ray Rd East of I-10
1028453	WB Ray Rd West of I-10
1028496	EB Ray Rd East of I-10
1028497	WB Ray Rd East of I-10
1028454	WB Chandler Blvd West of I-10
1028458	WB Chandler Blvd East of I-10
Rail 40th-1 (#XXXXXXX)	NB 40th St South of I-10
Rail 40th-2 (#XXXXXXX)	NB 40th St North of I-10
Rail 40th-3 (#XXXXXXX)	SB 40th St North of I-10
Rail W1 (#XXXXXXX)	EB Warner Rd West of I-10
Rail R1 (#XXXXXXX)	WB Ray Rd West of I-10
Rail C1 (#XXXXXXX)	EB Chandler Blvd West of I-10
Rail C1 (#XXXXXXX)	WB Chandler Blvd West of I-10

* - Rails are not adjacent to an accessible path

Table 10 – Non-Compliant Handrail

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
1028022	Guadalupe Rd (WB)- North side of S/W GL (#XXXXXXX) east of the I-10	Structural Damage No Back Clearance	Replace Rail		
*1028457	Chandler Blvd (EB)- South side of Chandler Blvd east of the I-10	Bottom rail > 4” No Back Clearance	Construct Edge Protection or Add 4” High Bottom Rail		
Rail E1 (#XXXXXXX)	Elliot Rd (WB)- North side of Elliot Rd west of the I-10	Bottom rail > 4” No Back Clearance	Construct Edge Protection or Add 4” High Bottom Rail		

*- Portion of rail is non-compliant (156 ft near the East end)

6.0 OBSTRUCTIONS OR NEEDS

There are a total of 27 locations with existing obstructions or needs that are non-compliant per 2010 Standards within the evaluated project limits. Of the 27 locations with existing obstructions or needs, 13 are currently not listed in the ADOT FIS.

Table 11 provides a detailed summary of the non-compliant obstructions or needs. Obstructions or needs that currently are not listed in the ADOT FIS are included at the end of Table 11. Identification numbers were assigned from the AECOM field review for reference purposes.

Table 11 – Non-Compliant Obstructions or Needs

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
1383345	40th St (NB) - SE Corner at NB Off Ramp (Ramp 40A)	•Safety Rail Missing	Install Safety Rail		
1383357	Broadway Rd (WB) - N Corner of Traffic Island at SB On Ramp (Ramp K)	•Not Flush at Ramp Bottom (AC Lip)	Mill AC Lip		
1383358	Broadway Rd (WB) - E Corner of Traffic Island at SB On Ramp (Ramp K)	•Not Flush at Ramp Bottom (AC Lip)	Mill AC Lip		

Table 11 – Non-Compliant Obstructions or Needs (cont.)

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
1383360	Broadway Rd (WB) - NW Corner at SB On Ramp (Ramp K) at #1383359 curb ramp	•Broken Concrete at Curb Ramp Flare	Reconstruct Curb Ramp Flare		
1383362	Broadway Rd (WB) - South side west of #1383363 curb ramp	•Broken Sidewalk Concrete	Reconstruct Sidewalk		
1383370	Broadway Rd (EB) - NW Corner at 52nd St at #1383369 curb ramp	•Not Flush at Ramp Bottom (AC Lip)	Mill AC Lip		
1383371	Broadway Rd (EB) - NE Corner at 52nd St at #1383368 curb ramp	•Not Flush at Ramp Bottom (AC Lip)	Mill AC Lip		
1383389	Baseline Rd (WB) - NW Corner at NB On Ramp (Ramp D) at #1383388 curb ramp	•Broken Gutter Concrete	Reconstruct Gutter		
1383390	Baseline Rd (WB) - NE Corner at NB On Ramp (Ramp D) at #1383391 curb ramp	•Broken Gutter Concrete	Reconstruct Gutter		
1383395	Baseline Rd (Traffic Island E of I-10) - Traffic Island east of I-10	•Broken Sidewalk Concrete	Reconstruct Sidewalk		
1383398	Elliot Rd (EB) - SE Corner at NB Off Ramp (Ramp B) at #1383397 curb ramp	•Broken Pavement	Reconstruct Pavement		
1383423	Warner Rd (WB) - NE Corner at NB On Ramp (Ramp C) at #1383421 curb ramp	•Not Flush at Ramp Bottom (AC Lip)	Mill AC Lip		
1383425	Warner Rd (WB) - North side at bridge	•Joint at Bridge (Gap Space > ½”)	Seal Joint		
1383453	Chandler Blvd (Traffic Island W of I-10) - Traffic Island west of I-10	•Broken Curb and Gutter at Curb Ramp	Reconstruct Curb and Gutter		
Obstruct 40th-1 (#XXXXXXX)	40th St (SB) - NW Corner of SB On Ramp (Ramp 40F)	•Sidewalk Not Flush	Replace Sidewalk Joint Seal		
Obstruct 40th-2 (#XXXXXXX)	40th St (SB) - SW Corner of NB On Ramp (Ramp 40D)	•Sidewalk Not Flush	Replace Sidewalk Joint Seal		

Table 11 – Non-Compliant Obstructions or Needs (cont.)

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
Obstruct 40th-3 (#XXXXXXX)	40th St (Traffic Island N or I-10) - Traffic Island north of I-10	•Pull Box Not Flush	Reset Pull Box		
Obstruct 48th-1 (#XXXXXXX)	48th St (SB) - South of D/W 48th-4 (#XXXXXXX)	•Gravel Reduces Accessible Route < 4' (Maintenance Issue)	Maintenance		
Obstruct 48th-2 (#XXXXXXX)	Broadway Rd (WB) - West of D/W 48th-2 (#XXXXXXX)	•Broken Sidewalk Concrete	Reconstruct Sidewalk		
Obstruct S1 (#XXXXXXX)	Southern Ave (EB) - South side east of I-10	•Broken Sidewalk Concrete	Reconstruct Sidewalk		
Obstruct S2 (#XXXXXXX)	Southern Ave (EB) - South side west of I-10	•Broken Sidewalk Concrete	Reconstruct Sidewalk		
Obstruct S3 (#XXXXXXX)	Southern Ave (WB) - North side of Diablo Way west of D/W S3 (#XXXXXXX)	•Missing Sidewalk (Exst AC Patch)	Reconstruct Sidewalk		
Obstruct S4 (#XXXXXXX)	Southern Ave (WB) - North side west of D/W S2 (#XXXXXXX)	•Missing Sidewalk/ Continuous	Construct Sidewalk		
Obstruct S5 (#XXXXXXX)	Southern Ave (WB) - North side of Diablo Way west of D/W S4 (#XXXXXXX)	•Vegetation Reduces Accessible Route < 4' (Maintenance Issue)	Regular Vegetation Maintenance		
Obstruct S6 (#XXXXXXX)	Southern Ave (WB) - North side east of I-10	•Broken Sidewalk Concrete	Reconstruct Sidewalk		
Obstruct G1 (#XXXXXXX)	Guadalupe Rd (WB) – North side missing sidewalk Outside of Bridge Between S. Point Parkway and Calle Sahuaro	•Missing Continuous Accessible Paved Path	Construct 5' Sidewalk		
Obstruct E1 (#XXXXXXX)	Elliot Rd (WB) - NW Corner at SB Off Ramp (Ramp C) at #1383405 curb ramp	•Curb in Ramp Path	Reconstruct Curb Transition at Ramp		

7.0 DRIVEWAYS

There are a total of 19 driveways within the evaluated project limits. Of the 19 driveways, 16 are non-compliant per 2010 Standards. Of the 19 driveways, 3 compliant driveway and 15 non-compliant driveways are currently not listed in the ADOT FIS.

Table 12 provides a summary of the compliant driveways. Table 13 provides a detailed summary of the non-compliant driveways. Driveways that currently are not listed in the

ADOT FIS are included at the end of both Tables 12 and 13. Identification numbers were assigned from the AECOM field review for reference purposes.

Table 12 – Compliant Driveways

Asset ID	Location
D/W 48th-1 (#XXXXXXX)	Broadway Rd (WB) – Second driveway west of 48th St
D/W 48th-3 (#XXXXXXX)	40th St (SB) – Second driveway south of SB Off Ramp (Ramp C)
D/W W2 (#XXXXXXX)	Warner Rd (WB) – Desert Garden Montessori Driveway

Table 13 – Non-Compliant Driveways

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
1383375	Baseline Rd (EB) - Driveway on the South side of Baseline Rd and is the first driveway starting from East of Ramp A heading east (Pizza Patron)	•Attached Sidewalk, Driveway Cross Slope > 2%	•Construct Sidewalk Behind Exst Driveway Concrete (2% Max Cross Slope) •Additional R/W required		
D/W 40th-1 (#XXXXXXX)	Raymond St (SB) – West side of Raymond St north of 40th St	•Attached Sidewalk, Driveway Cross Slope > 2%	Construct Sidewalk Behind Exst Driveway Concrete (2% Max Cross Slope)		
D/W 40th-2 (#XXXXXXX)	40th St (SB) – West side of 40th St north of Raymond St	•Attached Sidewalk, Driveway Cross Slope > 2%	Construct Sidewalk Behind Exst Driveway Concrete (2% Max Cross Slope)		
D/W 48th-2 (#XXXXXXX)	Broadway Rd (WB) – First driveway west of 48th St on the north side of Broadway Rd	•Attached Sidewalk, Driveway Cross Slope > 2%	Construct Missing Portion of Sidewalk Behind Exst Driveway Concrete (2% Max Cross Slope)		

Table 13 – Non-Compliant Driveways (cont.)

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
D/W 48th-4 (#XXXXXXX)	48th St (SB) – First driveway south of SB Off Ramp (Ramp C)	•Attached Sidewalk, Driveway Cross Slope > 2%	Construct Sidewalk Behind Exst Driveway Concrete (2% Max Cross Slope)		
D/W S1 (#XXXXXXX)	Southern Ave (EB) – South side west of the I-10	•Attached Sidewalk, Driveway Cross Slope > 2%	Construct Sidewalk Behind Exst Driveway Concrete (2% Max Cross Slope)		
D/W S2 (#XXXXXXX)	Southern Ave (WB) – North side of Diablo Way (first driveway/furthest west)	•Attached Sidewalk, Driveway Cross Slope > 2%	Construct Sidewalk Behind Exst Driveway Concrete (2% Max Cross Slope)		
D/W S3 (#XXXXXXX)	Southern Ave (WB) – North side of Diablo Way (middle driveway)	•Attached Sidewalk, Driveway Cross Slope > 2%	Construct Sidewalk Behind Exst Driveway Concrete (2% Max Cross Slope)		
D/W S4 (#XXXXXXX)	Southern Ave (WB) – North side of Diablo Way (last driveway/furthest east)	•Attached Sidewalk, Driveway Cross Slope > 2%	Construct Sidewalk Behind Exst Driveway Concrete (2% Max Cross Slope)		
D/W BL1 (#XXXXXXX)	Baseline Rd (WB) - North side west of Ramp C (Denny's)	•Attached Sidewalk, Driveway Cross Slope > 2%	Construct Sidewalk Behind Exst Driveway Concrete (2% Max Cross Slope)		

Table 13 – Non-Compliant Driveways (cont.)

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
D/W BL2 (#XXXXXXX)	Baseline Rd (EB) - South side west of I-10 and is the first driveway west of Ramp B heading west (Aunt Chilada's)	•Attached Sidewalk, Driveway Cross Slope > 2%	•Construct Sidewalk Behind Exst Driveway Concrete (2% Max Cross Slope) •Additional R/W required		
D/W BL3 (#XXXXXXX)	Baseline Rd (EB) - Driveway on the Southside of Baseline Rd and is the second driveway starting from East of Ramp A heading east (Title Max)	•Attached Sidewalk, Driveway Cross Slope > 2%	•Construct Sidewalk Behind Exst Driveway Concrete (2% Max Cross Slope) •Additional R/W required		
D/W BL4 (#XXXXXXX)	Baseline Rd (EB) - Driveway on the Southside of Baseline Rd and is the third driveway starting from East of Ramp A heading east (Waffle House)	•Attached Sidewalk, Driveway Cross Slope > 2%	•Construct Sidewalk Behind Exst Driveway Concrete (2% Max Cross Slope) •Additional R/W required		
D/W BL5 (#XXXXXXX)	Baseline Rd (EB) - Driveway on the Southside of Baseline Rd and is the fourth driveway starting from East of Ramp A heading east (Ramada)	•Attached Sidewalk, Driveway Cross Slope > 2%	•Construct Sidewalk Behind Exst Driveway Concrete (2% Max Cross Slope) •Additional R/W required		
D/W BL6 (#XXXXXXX)	Baseline Rd (EB) - Driveway on the South side of Baseline Rd and is the fifth driveway starting from East of Ramp A heading east (Ramada)	•Attached Sidewalk, Driveway Cross Slope > 2%	•Construct Sidewalk Behind Exst Driveway Concrete (2% Max Cross Slope) •Additional R/W required		

Table 13 – Non-Compliant Driveways (cont.)

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
D/W W1 (#XXXXXXX)	Warner Rd (EB) - South side west of the I-10	•Attached Sidewalk, Driveway Cross Slope > 2%	Construct Sidewalk Behind Exst Driveway Concrete (2% Max Cross Slope)		

8.0 TRAFFIC ISLANDS

There are a total of 17 traffic islands within the evaluated project limits. Of the 17 traffic islands, 13 are non-compliant per 2010 Standards. Of the 17 traffic islands, 1 compliant traffic island and 2 non-compliant traffic islands are currently not listed in the ADOT FIS.

Table 14 provides a summary of the compliant traffic islands. Table 15 provides a detailed summary of the non-compliant traffic islands. Traffic islands that currently are not listed in the ADOT FIS are included at the end of both Tables 14 and 15. Identification numbers were assigned from the AECOM field review for reference purposes.

Table 14 – Compliant Traffic Islands

Asset ID	Location
1383352	Broadway Rd (Median Opening W of I-10) - Median Opening W of I-10
1383436	Broadway Rd (Median Opening W of I-10) - Median Opening W of I-10
1383443	Broadway Rd (Median Opening E of I-10) - Median Opening E of I-10
Traffic Island C1 (#XXXXXXX)	Chandler Blvd (WB) – Traffic Island at Extended Stay America Driveway

Table 15 – Non-Compliant Traffic Islands

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
1383332	40th St (Traffic Island S of I-10) – Traffic Island south of I-10 between Ramp 40C and Ramp 40F	•Non-Compliant Curb Ramps (See #1383330, #1383333) •Non-Compliant Sidewalk (See #1028286) •Non-Compliant Pedestrian Activated Signal (See #1383331)	See Proposed Actions for #1028286, #1383330, #1383331, #1383333		
1383338	40th St (Traffic Island N of I-10) – Traffic Island north of I-10	•Warning Grooves •Gutter Not Flush •Non-Compliant Obstructions (See Obstruct 40th-3 (#XXXXXXX)) •Non-Compliant Pedestrian Activated Signal (See #1383339)	•Reconstruct Curb and Gutter •Install Detectable Warnings (Domes) •See Proposed Actions for #1383339, Obstruct 40th-3		
1383356	Broadway Rd (Traffic Island W of I-10) – Traffic Island west of I-10 at Ramp K	•Non-Compliant Curb Ramps (See #1383355, #1383353, #1383354) •Non-Compliant Obstructions (See #1383357, #1383358)	See Proposed Actions for #1383355, #1383357, #1383353, #1383354, #1383358		
1383366	Broadway Rd (Traffic Island E of I-10) – Traffic Island east of I-10 at Ramp L	•Non-Compliant Curb Ramps (See #1383364, #1383508, #1383365)	See Proposed Actions for #1383364, #1383508, #1383365		
1383383	Baseline Rd (Traffic Island W of I-10) – Traffic Island west of I-10	•Warning Grooves	Install Detectable Warnings (Domes)		
1383393	Baseline Rd (Traffic Island E of I-10) – Traffic Island east of I-10	•Warning Grooves •Non-Compliant Obstructions (See #1383395)	•Install Detectable Warnings (Domes) •See Proposed Actions for #1383395		
1383403	Elliot Rd (Traffic Island W of I-10) – Traffic Island west of I-10	•Missing Detectable Warnings	Install Detectable Warnings (Domes)		

Table 15 – Non-Compliant Traffic Islands (cont.)

Asset ID	Location	Reason for Non-Compliance	DCR Proposed Action	Final Design Proposed Action	Construction Action
1383409	Elliot Rd (Traffic Island E of I-10) – Traffic Island east of I-10	•Missing Detectable Warnings •Non-Compliant Pedestrian Activated Signal (See #1383410)	•Install Detectable Warnings (Domes) •See Proposed Actions for #1383410		
1383419	Warner Rd (Traffic Island E of I-10) – Traffic Island east of I-10	•Missing Detectable Warnings •Not Flush at Ramp Bottom (AC Lip)	•Install Detectable Warnings (Domes) •Mill AC Lip		
1383430	Warner Rd (Traffic Island W of I-10) – Traffic Island west of I-10	•Warning Grooves	Install Detectable Warnings (Domes)		
1383452	Chandler Blvd (Traffic Island W of I-10) - Traffic Island west of I-10	•Non-Compliant Pedestrian Activated Signals (See #1383454) •Non-Compliant Obstructions (See #1383453)	•Install Detectable Warnings (Domes) •See Proposed Actions for #1383454, #1383453		
Traffic Island 40th-1 (#XXXXXXX)	40th St (SB) -First driveway south of SB Off Ramp (Ramp 40C)	• Cross Slope › 2%	Reconstruct Traffic Island		
Traffic Island R1 (#XXXXXXX)	Ray Rd (WB) - West of 50th St at Jack In the Box driveway	•Warning Grooves	Install Detectable Warnings (Domes)		

APPENDIX A – ADA FEATURE LOCATION MAP
(NON-COMPLIANT ONLY)

40th St TI

N

#1383330
Curb Ramp
#1383331
Pedestrian Activated Signal
Warning Grooves
Running Slope >12:1
Cross Slope >2%
Push Button >24" Away From
Edge of Accesible Route

#1383332
Traffic Island Ped Crossing
(Refuge)
#1028286
Sidewalk
Warning Grooves
Fill Slope Erosion at Back
of S/W (Regrade)

S/W 40th-11 (#XXXXXXX)
Sidewalk
Cross Slope >2%

#1383329
Curb Ramp
Warning Grooves
Running Slope >12:1
Ramp Landing >2%

Ramp 40th-6 (#XXXXXXX)
Curb Ramp
Warning Grooves
Gutter Slope >5%
Pavement Warping

#1028285
Sidewalk
Cross Slope >2%

Ramp 40th-7 (#XXXXXXX)
Curb Ramp
Warning Grooves

#1383334
Curb Ramp
Warning Grooves
Cross Slope >2%
Gutter Slope >5%
Ramp Landing >2%

#1383333
Curb Ramp
Warning Grooves

Obstruct 40th-1 (#XXXXXXX)
Obstructions or Needs
S/W Slabs Not Flush

Obstruct 40th-2 (#XXXXXXX)
Obstructions or Needs
S/W Slabs Not Flush

Ramp 40C

Ramp 40E

I-10

Ramp 40D

#1383335
Curb Ramp
Warning Grooves

D/W 40th-1 (#XXXXXXX)
Driveway
Cross Slope >2%

#1383336
Curb Ramp
Warning Grooves
Gutter Slope >5%
X-walk Markings
Poor Condition

S/W 40th-9 (#XXXXXXX)
Sidewalk
Cross Slope >2% (100ft)

Ramp 40th-4 (#XXXXXXX)
Curb Ramp
Warning Grooves
Running Slope >12:1
Cross Slope >2%
Ramp Landing >2%
X-walk Striping within 48"
from Curb Ramp
Pavement Warping

S/W 40th-14 (#XXXXXXX)
Sidewalk
Missing Sidewalk

S/W 40th-7 (#XXXXXXX)
Sidewalk
Cross Slope >2%

Ramp 40th-3 (#XXXXXXX)
Curb Ramp
Gutter Slope >5%
Ramp Landing >2%
X-walk Striping within 48"
from Curb Ramp
Pavement Warping

S/W 40th-6 (#XXXXXXX)
Sidewalk
Cross Slope >2%

S/W 40th-5 (#XXXXXXX)
Sidewalk
Cross Slope >2%

40th St

#1383347
Curb Ramp
Warning Grooves
No X-walk Striping

Traffic Island 40th-1 (#XXXXXXX)
Traffic Island Ped Crossing
(Refuge)
Cross Slope >2%

#1383346
Curb Ramp
Warning Grooves

Ramp 40B

#1383343
Curb Ramp
#1383345
Obstructions or Needs
Warning Grooves
Cross Slope >2%
Ramp Landing >2%
Safety Rail Needed at
Back of Curb Ramp

Ramp 40A

#1383342
Sidewalk
Fill Slope Erosion at Back
of S/W (Regrade)
Running Slope >12:1 (30 ft)

#1383340
Curb Ramp
Warning Grooves
Gutter Slope >5%

#1383338
Traffic Island Ped Crossing
(Refuge)
#1383339
Pedestrian Activated Signal
Obstruct 40th-3 (#XXXXXXX)
Obstructions or Needs
Warning Grooves
Gutter not Flush
Push Button >24" from Edge
of Accessible Route
Pull Box Not Flush

S/W 40th-3 (#XXXXXXX)
Sidewalk
Fill Slope Erosion at Back
of S/W (Regrade)

Raymond St

D/W 40th-2 (#XXXXXXX)
Driveway
Cross Slope >2%

S/W 40th-4 (#XXXXXXX)
Sidewalk
Cross Slope >2%

Ramp 40th-9 (#XXXXXXX)
Curb Ramp
Cross Slope >2%

Ramp 40th-2 (#XXXXXXX)
Curb Ramp
Ramp Landing <36"

48th St TI

N

S/W 48th-3 (#XXXXXXX)
Sidewalk
Cross Slope > 2%

S/W 48th-4 (#XXXXXXX)
Sidewalk
Cross Slope > 2%

D/W 48th-2 (#XXXXXXX)
Driveway
Missing Wing For Wrap
Around Sidewalk
Cross Slope > 2%

Obstruct 48th-2 (#XXXXXXX)
Obstructions or Needs
Broken Concrete

Obstruct 48th-1 (#XXXXXXX)
Obstructions or Needs
Gravel Reduces Sidewalk
Down to Two Feet

D/W 48th-4 (#XXXXXXX)
Driveway
Cross Slope > 2%

Ramp 48th-1 (#XXXXXXX)
Curb Ramp
Push 48th-1 (#XXXXXXX)
Pedestrian Activated Signal
Warning Grooves
Ramp Landing > 2%
Pavement Warping
Push Button Height > 48"

Ramp 48th-2 (#XXXXXXX)
Curb Ramp
Push 48th-2 (#XXXXXXX)
Pedestrian Activated Signal
Ramp Landing > 2%
Pavement Warping
Push Button Height > 48"

48th St

Broadway Road

Ramp C

Ramp D

I-10

Ramp A

SR 143

Ramp J

Ramp F

Ramp B

12/21/2015 U:\I10-02(Spot)\Design\civ\MDB\h8768 48th St ADA.dgn

BROADWAY RD TI

N

Exst R/W

S/W BW1
Sidewalk
Running Slope > 5%

S/W BW4
Sidewalk
Running Slope > 5%

52nd Street

#1383369
Curb Ramp
#1383370
Obstructions or Needs
Warning Grooves
Not Flush at Ramp Bottom (AC Lip)

#1383368
Curb Ramp
#1383371
Obstructions or Needs
Warnings Grooves
Not Flush at Ramp Bottom (AC Lip)

#1383364
Curb Ramp
Warning Grooves
Running Slope > 12:1
Flare Slope > 10:1

#1383508
Curb Ramp
Warning Grooves
Running Slope > 12:1

#1383365
Curb Ramp
Warning Grooves
Running Slope > 12:1

#1383366 Traffic Island Ped Crossing
(Refuge)

Ramp F

Ramp 48-B

I-10

Ramp 48-D

Ramp J

Broadway Road

#1383362
Obstructions or Needs
Broken S/W Concrete

#1383363
Curb Ramp
Warning Grooves

Ramp L

#1383367
Curb Ramp
Warning Grooves
Flare Slope > 10:1

Exst R/W

#1383351
Curb Ramp
Warning Grooves
Running Slopes > 12:1

#1383361
Sidewalk
Running Slope > 5%

#1383359
Curb Ramp
#1383360
Obstructions or Needs
Warning Grooves
Cross Slope > 2%
Crosswalk Cross Slope > 2%
Broken Concrete

Exst R/W

#1383372
Curb Ramp
Warning Grooves

#1383355
Curb Ramp
Warning Grooves
Running Slope > 12:1
Flare Slope > 10:1

#1383357
Obstructions or Needs
#1383353
Curb Ramp
Warning Grooves
Cross Slope > 2%
Not Flush at Ramp Bottom (AC Lip)

#1383354
Curb Ramp
#1383358
Obstructions or Needs
Gutter Slope > 5%
Warning Grooves
Not Flush at Ramp Bottom (AC Lip)

Exst R/W

#1383356 Traffic Island Ped Crossing
(Refuge)

Ramp K

SOUTHERN AVE OP

S/W S2 (#XXXXXXX)
Sidewalk
4' Width, No Passing Space Provided

Obstruct S4 (#XXXXXXX)
Obstructions or Needs
Missing Sidewalk/Continuous Path

S/W S3 (#XXXXXXX)
Sidewalk
4' Width, No Passing Space Provided

D/W S2 (#XXXXXXX)
Driveway
Cross Slope > 2%

Obstruct S5 (#XXXXXXX)
Obstructions or Needs
Vegetation Reduces Route < 4'
(Maintenance Issue)

Obstruct S3 (#XXXXXXX)
Obstructions or Needs
Missing Sidewalk Concrete
(Exst AC Patch at Utility)

D/W S4 (#XXXXXXX)
Driveway
Cross Slope > 2%

D/W S3 (#XXXXXXX)
Driveway
Cross Slope > 2%

Exst R/W

Diablo Way

I-10

Southern Ave

US60 Ramp S-E

Ramp S3 (#XXXXXXX)
Curb Ramp
Missing Curb Ramp

Obstruct S2 (#XXXXXXX)
Obstructions or Needs
Broken S/W Concrete

D/W S1 (#XXXXXXX)
Driveway
Cross Slope > 2%

Ramp S2 (#XXXXXXX)
Curb Ramp
No Detectable Warnings
Running Slope > 12:1
Flare Slope > 10:1
Gutter Slope > 5%

Exst R/W

Obstruct S6 (#XXXXXXX)
Obstructions or Needs
Broken S/W Concrete

Ramp S4 (#XXXXXXX)
Curb Ramp
Cross Slope > 2%
No Detectable Warnings
Flare Slope > 12:1

Exst R/W

Exst R/W

Clementine Dr

Obstruct S1 (#XXXXXXX)
Obstructions or Needs
Broken S/W Concrete

Ramp S1 (#XXXXXXX)
Curb Ramp
No Detectable Warnings
Running Slope > 12:1
Flare Slope > 12:1
Not Flush at Ramp Bottom (AC Lip)

N

BASELINE RD OP

N

Ramp BL1 (#XXXXXXX)
Curb Ramp
Curb Ramp Outside of
Crosswalk Striping
Not Flush at Ramp Bottom (AC Lip)

Ramp BL2 (#XXXXXXX)
Curb Ramp
Warning Grooves
Running Slope > 12:1
Flare Slope > 12:1
Curb Ramp Outside of
Crosswalk Striping

#1383385
Curb Ramp
Warning Grooves

#1383387
Curb Ramp
Warning Grooves
Cross Slope > 2%

D/W BL1 (#XXXXXXX)
Driveway
Cross Slope > 2%

#1383386
Curb Ramp
Warning Grooves

#1383388
Curb Ramp
#1383389
Obstructions or Needs
Warning Grooves
Broken Gutter Concrete

#1383391
Curb Ramp
#1383390
Obstructions or Needs
Warning Grooves
Cross Slope > 2%
Broken Gutter Concrete

#1383392
Curb Ramp
Warning Grooves
Curb Ramp Outside of
Crosswalk Striping

#1383393
Traffic Island Ped Crossing
(Refuge)
#1383395
Obstructions or Needs
Warning Grooves
Broken Concrete at Utility

Ramp BL4 (#XXXXXXX)
Curb Ramp
Warning Grooves

Ramp C
Ramp D
Wendler Dr
I-10
Arizona Mills S.
Priest Dr.
Exst R/W
Exst R/W
Baseline Rd
Arizona Grand Pkwy
Exst. R/W
Exst R/W

D/W BL2 (#XXXXXXX)
Driveway
Cross Slope > 2%

#1383380
Curb Ramp
Warning Grooves

#1383379
Curb Ramp
Warning Grooves

#1383377
Curb Ramp
Warning Grooves

Ramp BL5 (#XXXXXXX)
Curb Ramp
Warning Grooves

D/W BL6 (#XXXXXXX)
Driveway
Cross Slope > 2%

D/W BL3 (#XXXXXXX)
Driveway
Cross Slope > 2%

#1383383
Traffic Island Ped Crossing
(Refuge)
Warning Grooves

#1383381
Curb Ramp
Warning Grooves

#1383382
Curb Ramp
Warning Grooves

#1383376
Curb Ramp
Warning Grooves

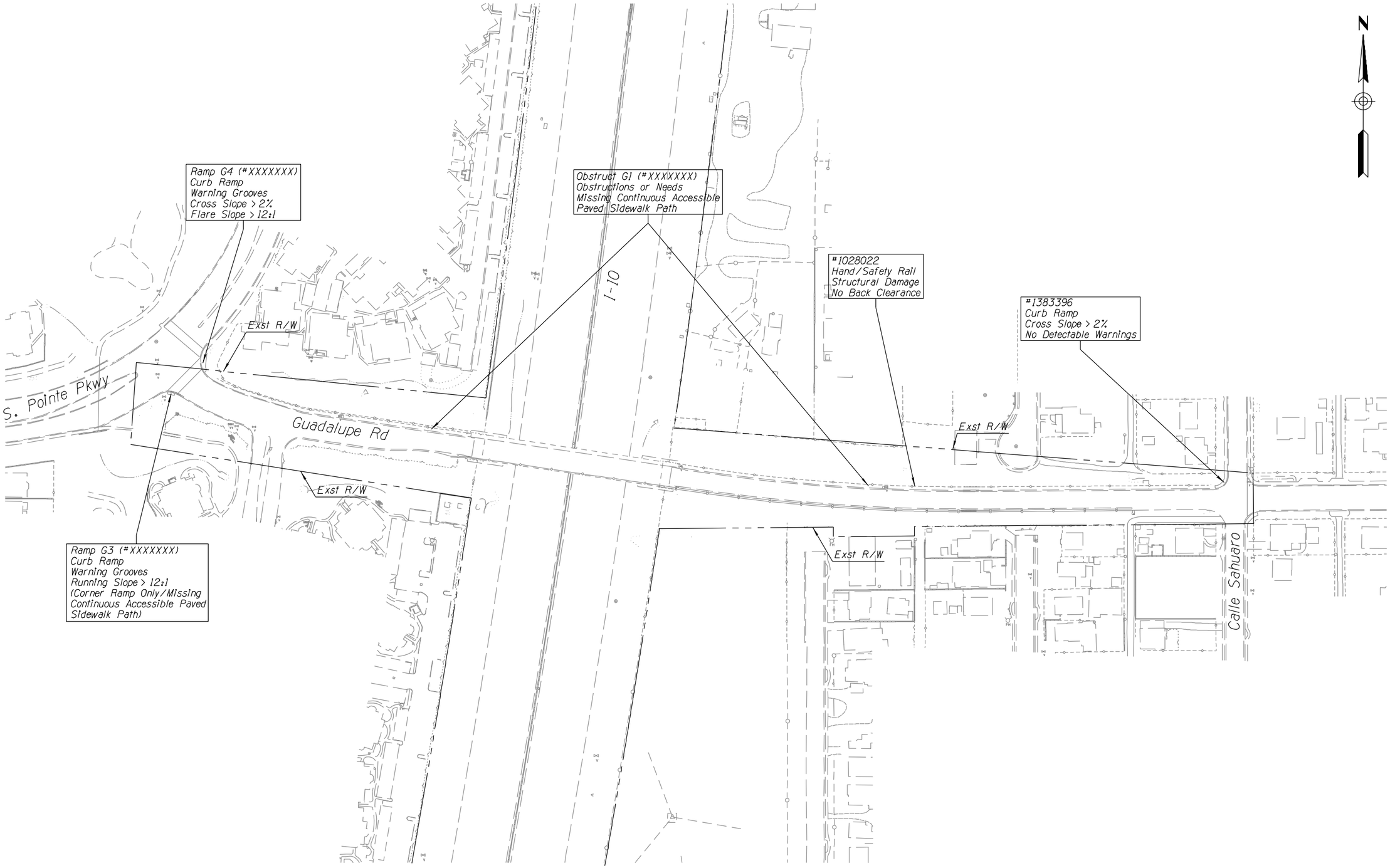
D/W BL4 (#XXXXXXX)
Driveway
Cross Slope > 2%

D/W BL5 (#XXXXXXX)
Driveway
Cross Slope > 2%

Ramp B
Ramp A

#1383375
Driveway
Cross Slope > 2%

GUADALUPE RD UP



ELLIOT RD UP

N

#1383405
Curb Ramp
Obstruct E1 (#XXXXXXX)
Obstructions or Needs
Warning Grooves
Curb in Ramp Path

#1383406
Curb Ramp
Warning Grooves
Cross Slope > 2%

#1383407
Curb Ramp
Warning Grooves

#1383408
Curb Ramp
Warning Grooves

#1383403
Traffic Island Ped Crossing
(Refuge)
No Detectable Warnings

Rail E1 (#XXXXXXX)
Hand/Safety Rail
Bottom Rail > 4"
No Back Clearance

#1028380
Sidewalk
Cross Slope > 2%

#1028370
Sidewalk
Running Slope > 5%

Ramp E1 (#XXXXXXX)
Curb Ramp
Running Slope > 12:1
Warning Grooves

Ramp E12 (#XXXXXXX)
Curb Ramp
Cross Slope > 2%
Warning Grooves

S/W E14 (#XXXXXXX)
Sidewalk
Fill Slope Erosion at
Back of S/W (Regrade
or Safety Rail)

S/W E3 (#XXXXXXX)
Sidewalk
Cross Slope > 2%

#1383409
Traffic Island Ped Crossing
(Refuge)
#1383410
Pedestrian Activated Signal
No Detectable Warnings
Push Button Height > 48"

S/W E1 (#XXXXXXX)
Sidewalk
Cross Slope > 2%

51st St

Exst R/W

Exst R/W

Elliot Rd

Ramp C

I-10

Ramp A

Ramp D

Ramp B

Exst R/W

Exst R/W

Hart Ave

S/W E9 (#XXXXXXX)
Sidewalk
Cross Slope > 2%

#1383400
Curb Ramp
Warning Grooves

#1383399
Curb Ramp
Warning Grooves
Flare Slope > 12:1

#1383397
Curb Ramp
#1383398
Obstructions or Needs
Warning Grooves
Running Slope > 12:1
Gutter Slope > 5%
Broken Pavement

Ramp E6 (#XXXXXXX)
Curb Ramp
Warning Grooves

Ramp E7 (#XXXXXXX)
Curb Ramp
Gutter Slope > 5%
Warning Grooves

Ramp E9 (#XXXXXXX)
Curb Ramp
Warning Grooves
Gutter Slope > 5%

Ramp E8 (#XXXXXXX)
Curb Ramp
Cross Slope > 2%
Warning Grooves

#1383401
Curb Ramp
#1383402
Pedestrian Activated Signal
Warning Grooves
Running Slope > 12:1
Gutter Slope > 5%
Flare Slope > 12:1
Push Button > 24" Away From
Edge of Accessible Route

WARNER RD UP

N

#1383428
Curb Ramp
Running Slope > 12:1
Cross Slope > 2%
Gutter Slope > 5%
Flare Slope > 12:1
No Detectable Warnings
Not Flush at Ramp Bottom (AC Lip)

#1383426
Curb Ramp
Flare Slope > 12:1
No Detectable Warnings

#1028407
Sidewalk
Safety Rail Need

#1028408
Sidewalk
Safety Rail Need

#1383424
Curb Ramp
Running Slope > 12:1
Gutter Slope > 5%
Flare Slope > 12:1
No Detectable Warnings

#1383421
Curb Ramp
#1383423
Obstruction or Needs
Running Slope > 12:1
No Detectable Warnings
Not Flush at Ramp Bottom (AC Lip)

#1383419
Traffic Island Ped Crossing
(Refuge)
No Detectable Warnings
Not Flush at Ramp Bottom (AC Lip)

#1383425
Obstructions or Needs
Joint Gap Space > 1/2"

Ramp D

I-10

Ramp C

Exst R/W

Jewel St

Exst R/W

Warner Rd

Exst R/W

Exst R/W

D/W W1 (#XXXXXXX)
Driveway
Cross Slope > 2%

#1383430
Traffic Island Ped Crossing
(Refuge)
Warning Grooves

#1383411
Curb Ramp
#1383412
Pedestrian Activated Signal
Flare Slope > 12:1
No Detectable Warnings
Push Button > 24" Away From
Edge of Accessible Route

#1383413
Curb Ramp
Flare Slope > 12:1
No Detectable Warnings

#1028402
Sidewalk
Safety Rail Need

#1028403
Sidewalk
Safety Rail Need

Ramp A

Ramp B

#1383417
Curb Ramp
#1383418
Pedestrian Activated Signal
Running Slope > 12:1
No Detectable Warnings
Push Button > 24" Away From
Edge of Accessible Route

#1383415
Curb Ramp
No Detectable Warnings

RAY RD UP

N

Ramp R5 (#XXXXXXX)
Curb Ramp
Cross Slope > 2%
Flare Slope > 12:1
Warning Grooves

Ramp R4 (#XXXXXXX)
Curb Ramp
Cross Slope > 2%
Gutter Slope > 5%
Warning Grooves

Push R5 (#XXXXXXX)
Pedestrian Activated Signal
Push Height > 48"

#1383439
Curb Ramp
Flare Slope > 12:1

#1383440
Curb Ramp
Flare Slope > 12:1

S/W R5 (#XXXXXXX)
Sidewalk
Missing Rail at Scupper

Ramp R1 (#XXXXXXX)
Curb Ramp
Cross Slope > 2%

Ramp C

I-10

Ramp A

Exst R/W

Exst R/W

Ray Rd

Traffic Island R1 (#XXXXXXX)
Traffic Island Ped Crossing
(Not a Refuge)
Warning Grooves

Exst R/W

50th St

Ramp R8 (#XXXXXXX)
Curb Ramp
Warning Grooves

Ramp R7 (#XXXXXXX)
Curb Ramp
Running Slope > 12:1
Flare Slope > 12:1
Warning Grooves

Ramp R9 (#XXXXXXX)
Curb Ramp
Warning Grooves

S/W R6 (#XXXXXXX)
Sidewalk
Missing Rail at Scupper

Ramp R6 (#XXXXXXX)
Curb Ramp
Running Slope > 12:1
Flare Slope > 12:1
Warning Grooves

Ramp D

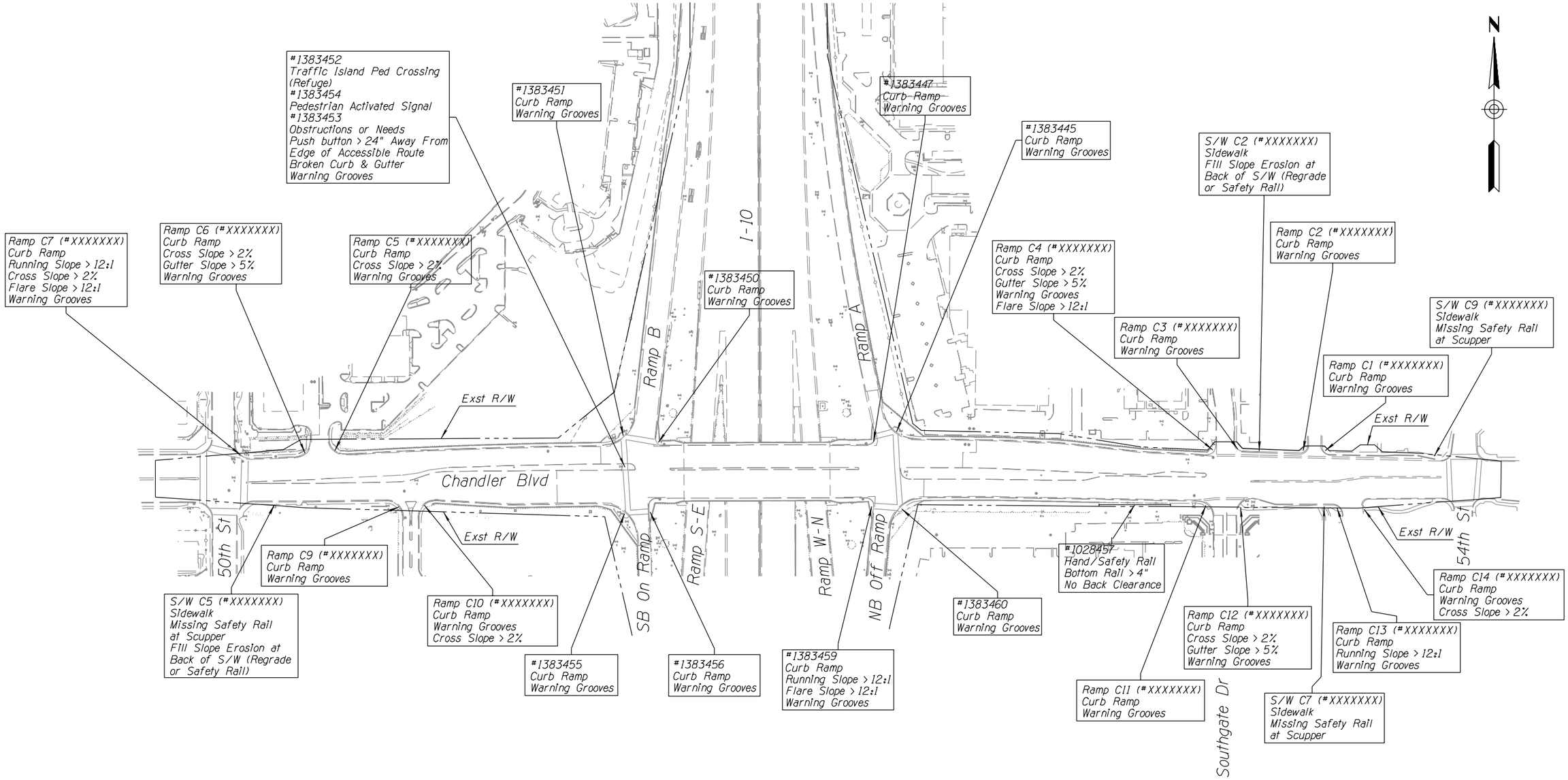
#1383434
Curb Ramp
Cross Slope > 2%
Flare Slope > 12:1

Ramp B

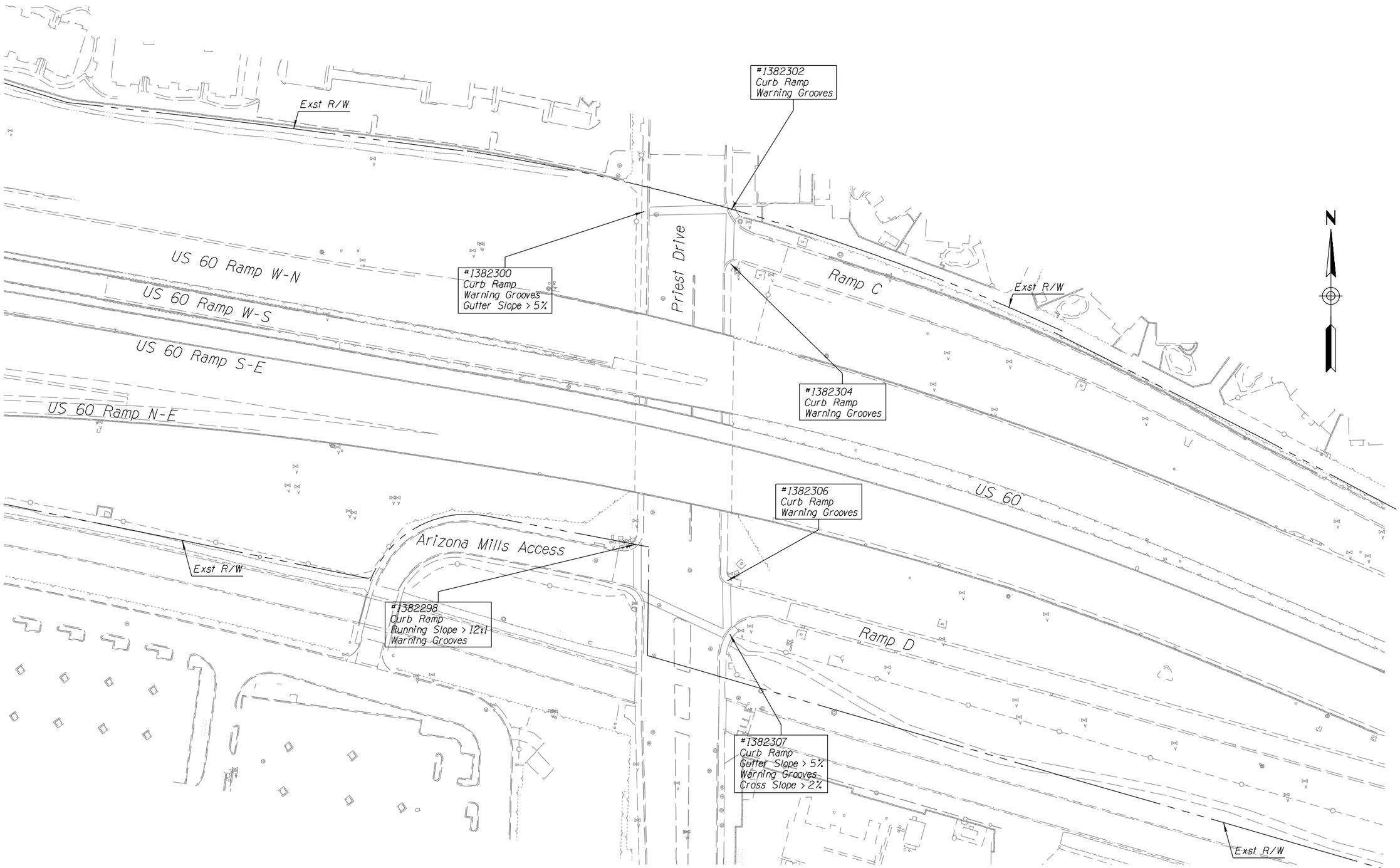
Exst R/W

54th St

CHANDLER BLVD UP



PRIEST DR OP


Exst R/W
#1382302
Curb Ramp
Warning Grooves
#1382300
Curb Ramp
Warning Grooves
Gutter Slope > 5%
Priest Drive
Ramp C
Exst R/W
#1382304
Curb Ramp
Warning Grooves
US 60 Ramp W-N
US 60 Ramp W-S
US 60 Ramp S-E
US 60 Ramp N-E
N
#1382306
Curb Ramp
Warning Grooves
US 60
Arizona Mills Access
Exst R/W
#1382298
Curb Ramp
Running Slope > 12:1
Warning Grooves
Ramp D
#1382307
Curb Ramp
Gutter Slope > 5%
Warning Grooves
Cross Slope > 2%
Exst R/W

APPENDIX B – NON-COMPLIANT FEATURE PHOTO LOG (SIDEWALK – INCLUDED IN ADOT FIS)

FIS Asset ID: #1028285
Location: 40th St (SB)

SW Corner at SB Off Ramp (Ramp 40C)



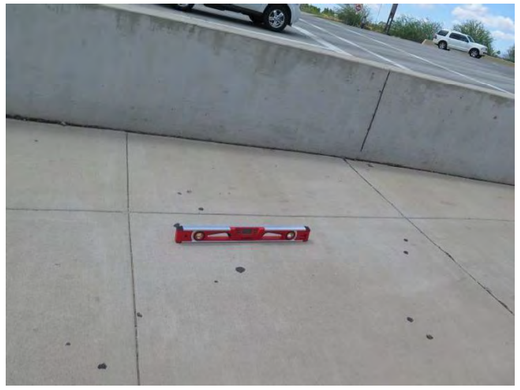
FIS Asset ID: #1028286
Location: 40th St (SB)

NW Corner at SB Off Ramp (Ramp 40C) on Traffic Island #1383332



FIS Asset ID: #1028370
Location: Elliot Rd (WB)

NE Corner at NB On Ramp (Ramp A)



FIS Asset ID: #1028380
Location: Elliot Rd (WB)

NE Corner at SB Off Ramp (Ramp C



FIS Asset ID: #1028402
Location: Warner Rd (EB)

SE Corner at SB On Ramp (Ramp A)



FIS Asset ID: #1028403
Location: Warner Rd (EB)

SW Corner at NB On Ramp (Ramp B)



FIS Asset ID: #1028407
Location: Warner Rd (WB)

NW Corner at NB On Ramp (Ramp C)



FIS Asset ID: #1028408
Location: Warner Rd (WB)

NE Corner at SB Off Ramp (Ramp D)



FIS Asset ID: #1383342
Location: 40th St (NB)

NE Corner at NB Off Ramp (Ramp 40A)



FIS Asset ID: #1383361
Location: Broadway Rd (EB)

SE Corner at SB On Ramp (Ramp K)



APPENDIX C – NON-COMPLIANT FEATURE PHOTO LOG (SIDEWALK – NOT INCLUDED IN ADOT FIS)

FIS Asset ID: S/W 40th-3 (#XXXXXXX)
Location: 40th St (NB)

East side of 40th St north
Of NB Off Ramp (Ramp 40A)



FIS Asset ID: S/W 40th-4 (#XXXXXXX)
Location: 40th St (NB)

East side of 40th St north
Of Raymond St



FIS Asset ID: S/W 40th-5 (#XXXXXXX)
Location: 40th St (SB)

West side of 40th St north
Of Raymond St



FIS Asset ID: S/W 40th-6 (#XXXXXXX)
Location: Raymond St (WB)

North Side of Raymond St
North of 40th St



FIS Asset ID: S/W 40th-7 (#XXXXXXX)
Location: Raymond St (EB)

South Side of Raymond St
North of 40th St



FIS Asset ID: S/W 40th-9 (#XXXXXXX)
Location: 40th St (SB)

West side of 40th St north
Of NB On Ramp(Ramp 40D)



FIS Asset ID: S/W 40th-11 (#XXXXXXX)
Location: 40th St (SB)

West side of 40th St south
Of SB Off Ramp (Ramp 40C)



FIS Asset ID: S/W 40th-14 (#XXXXXXX)
Location: Raymond St (SB)

West side of Raymond St north
Of 40th St



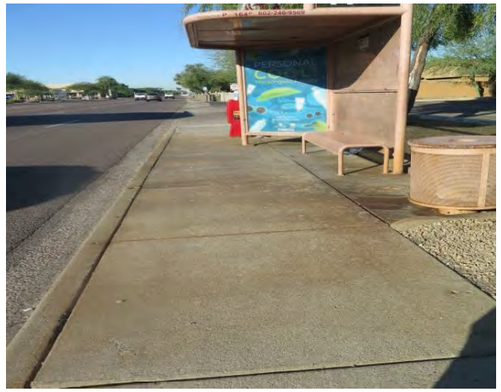
FIS Asset ID: S/W 48th-3 (#XXXXXXX)
Location: Broadway Rd (EB)

North Side of Broadway Rd
North of S/W 48th2 (#XXXXXXX)



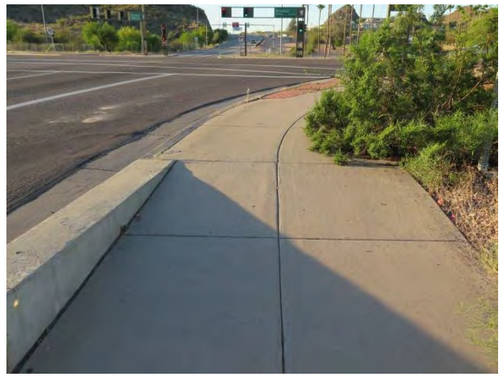
FIS Asset ID: S/W 48th-4 (#XXXXXXX)
Location: Broadway Rd (EB)

North Side of Broadway Rd
North of 48th St



FIS Asset ID: S/W BW1 (#XXXXXXX)
Location: Broadway Rd (WB)

NW Corner at 52nd St



FIS Asset ID: S/W BW4 (#XXXXXXX)
Location: Broadway Rd (WB)

NE Corner at 52nd St



FIS Asset ID: S/W S2 (#XXXXXXX)
Location: Southern Ave (WB)

North side of Diablo Way
between DW S2 (#XXXXXXX)
and DW S3 (#XXXXXXX)



FIS Asset ID: S/W S3 (#XXXXXXX)
Location: Southern Ave (WB)

North side of Diablo Way
between DW S3 (#XXXXXXX)
and DW S4 (#XXXXXXX)



FIS Asset ID: S/W E1 (#XXXXXXX)
Location: Elliot Rd (WB)

North side west of
Ramp E1 (#XXXXXXX)



FIS Asset ID: S/W E3 (#XXXXXXX)
Location: Elliot Rd (WB)

NW Corner at NB Off
Ramp (Ramp A)



FIS Asset ID: S/W E9 (#XXXXXXX)
Location: Elliot Rd (EB)

SE Corner at 51st St



FIS Asset ID: S/W E14 (#XXXXXXX)
Location: Elliot Rd (WB)

North side east of 51st St



FIS Asset ID: S/W R5 (#XXXXXXX)
Location: Ray Rd (WB)

North side west of Ramp
R5 (#XXXXXXX) at scupper



FIS Asset ID: S/W R6 (#XXXXXXX)
Location: Ray Rd (EB)

South side west of Ramp
R6 (#XXXXXXX) at scupper



FIS Asset ID: S/W C2 (#XXXXXXX)
Location: Chandler Blvd (WB)

North side west of Ramp
C2 (#XXXXXXX)



FIS Asset ID: S/W C5 (#XXXXXXX)
Location: Chandler Blvd (EB)

South side east of 50th St



FIS Asset ID: S/W C7 (#XXXXXXX)
Location: Chandler Blvd (EB)

South side west of Ramp
C13 (#XXXXXXX) at scupper



FIS Asset ID: S/W C9 (#XXXXXXX)
Location: Chandler Blvd (WB)

NW Corner at 54th St
at scupper



APPENDIX D – NON-COMPLIANT FEATURE PHOTO LOG (CURB RAMPS – INCLUDED IN ADOT FIS)

FIS Asset ID: #1383329
Location: 40th St (SB)

SW Corner at SB Off Ramp (Ramp 40C)



FIS Asset ID: #1383330
Location: 40th St (SB)

NW Corner at SB Off Ramp (Ramp 40C)



FIS Asset ID: #1383333
Location: 40th St (SB)

SW Corner at SB On Ramp (Ramp 40F)



FIS Asset ID: #1383334
Location: 40th St (SB)

NW Corner at SB On Ramp (Ramp 40F)



FIS Asset ID: #1383335
Location: 40th St (SB)

SW Corner at NB On Ramp (Ramp 40D)



FIS Asset ID: #1383336
Location: 40th St (SB)

NW Corner at NB On Ramp (Ramp 40D)



FIS Asset ID: #1383340
Location: 40th St (NB)

NE Corner at NB Off Ramp (Ramp 40A)



FIS Asset ID: #1383343
Location: 40th St (NB)

SE Corner at NB Off Ramp (Ramp 40A)



FIS Asset ID: #1383346
Location: 40th St (NB)

NE Corner at SB On Ramp (Ramp 40B)



FIS Asset ID: #1383347
Location: 40th St (NB)

SE Corner at SB On Ramp (Ramp 40B)



FIS Asset ID: #1383351
Location: Broadway Rd (WB)

NW Corner at SB Off Ramp (Ramp J)



FIS Asset ID: #1383353
Location: Broadway Rd (EB)

N Corner of Traffic Island at SB On Ramp (Ramp K)



FIS Asset ID: #1383354
Location: Broadway Rd (EB)

E Corner of Traffic Island at SB On Ramp (Ramp K)



FIS Asset ID: #1383355
Location: Broadway Rd (EB)

SW Corner of Traffic Island at SB On Ramp (Ramp K)



FIS Asset ID: #1383359
Location: Broadway Rd (EB)

SE Corner at SB On Ramp (Ramp K)



FIS Asset ID: #1383363
Location: Broadway Rd (EB)

SW Corner at NB Off Ramp (Ramp L)



FIS Asset ID: #1383364
Location: Broadway Rd (EB)

W Corner of Traffic Island at NB Off Ramp (Ramp L)



FIS Asset ID: #1383365
Location: Broadway Rd (EB)

SE Corner of Traffic Island at NB Off Ramp (Ramp L)



FIS Asset ID: #1383367
Location: Broadway Rd (EB)

SE Corner at NB Off Ramp (Ramp L)



FIS Asset ID: #1383368
Location: Broadway Rd (WB)

NE Corner at 52nd Street



FIS Asset ID: #1383369
Location: Broadway Rd (WB)

NW Corner at 52nd Street



FIS Asset ID: #1383372
Location: Broadway Rd (EB)

SW Corner at SB On Ramp (Ramp K)



FIS Asset ID: #1383508
Location: Broadway Rd (EB)

N Corner at Traffic Island at NB Off Ramp (Ramp L)



FIS Asset ID: #1383376
Location: Baseline Rd (EB)

SE Corner at NB Off Ramp (Ramp A)
N/S crosswalk curb ramp



FIS Asset ID: #1383377
Location: Baseline Rd (EB)

SE Corner at NB Off
Ramp (Ramp A)
E/W crosswalk curb ramp



FIS Asset ID: #1383379
Location: Baseline Rd (EB)

SW Corner at NB Off
Ramp (Ramp A)



FIS Asset ID: #1383380
Location: Baseline Rd (EB)

SE Corner at SB On
Ramp (Ramp B)



FIS Asset ID: #1383381
Location: Baseline Rd (EB)

SW Corner at SB On
Ramp (Ramp B)
E/W crosswalk curb ramp



FIS Asset ID: #1383382
Location: Baseline Rd (EB)

SW Corner at SB On
Ramp (Ramp B)
N/S crosswalk curb ramp



FIS Asset ID: #1383385
Location: Baseline Rd (WB)

NW Corner at NB Off
Ramp (Ramp C)
N/S crosswalk curb ramp



FIS Asset ID: #1383386
Location: Baseline Rd (WB)

NW Corner at NB Off Ramp (Ramp C)
E/W crosswalk curb ramp



FIS Asset ID: #1383387
Location: Baseline Rd (WB)

NE Corner at SB Off Ramp (Ramp C)



FIS Asset ID: #1383388
Location: Baseline Rd (WB)

NW Corner at NB On Ramp (Ramp D)



FIS Asset ID: #1383391
Location: Baseline Rd (WB)

NE Corner at NB On Ramp (Ramp D)
E/W crosswalk curb ramp



FIS Asset ID: #1383392
Location: Baseline Rd (WB)

NE Corner at NB On Ramp (Ramp D)
N/S crosswalk curb ramp



FIS Asset ID: #1383396
Location: Guadalupe Rd (WB)

NW Corner at Calle Sahuaro



FIS Asset ID: #1383397
Location: Elliot Rd (EB)

SE Corner at NB Off Ramp (Ramp B)



FIS Asset ID: #1383399
Location: Elliot Rd (EB)

SW Corner at NB Off Ramp (Ramp B)



FIS Asset ID: #1383400
Location: Elliot Rd (EB)

SE Corner at SB On Ramp (Ramp D)



FIS Asset ID: #1383401
Location: Elliot Rd (EB)

SW Corner at SB On Ramp (Ramp D)



FIS Asset ID: #1383405
Location: Elliot Rd (WB)

NW Corner at SB Off Ramp (Ramp C)



FIS Asset ID: #1383406
Location: Elliot Rd (WB)

NE Corner at SB Off Ramp (Ramp C)



FIS Asset ID: #1383407
Location: Elliot Rd (WB)

NW Corner at NB On Ramp (Ramp A)



FIS Asset ID: #1383408
Location: Elliot Rd (WB)

NE Corner at NB On Ramp (Ramp A)



FIS Asset ID: #1383411
Location: Warner Rd (EB)

SW Corner at SB On Ramp (Ramp A)



FIS Asset ID: #1383413
Location: Warner Rd (EB)

SE Corner at SB On Ramp (Ramp A)



FIS Asset ID: #1383415
Location: Warner Rd (EB)

SW Corner at NB Off Ramp (Ramp B)



FIS Asset ID: #1383417
Location: Warner Rd (EB)

SE Corner at NB Off Ramp (Ramp B)



FIS Asset ID: #1383421
Location: Warner Rd (WB)

NE Corner at NB On Ramp (Ramp C)



FIS Asset ID: #1383424
Location: Warner Rd (WB)

NW Corner at NB On Ramp (Ramp C)



FIS Asset ID: #1383426
Location: Warner Rd (WB)

NE Corner at SB Off Ramp (Ramp D)



FIS Asset ID: #1383428
Location: Warner Rd (WB)

NW Corner at SB Off Ramp (Ramp D)



FIS Asset ID: #1383434
Location: Ray Rd (EB)

SE Corner at SB On Ramp (Ramp D)



FIS Asset ID: #1383439
Location: Ray Rd (WB)

NE Corner at SB Off Ramp (Ramp C)



FIS Asset ID: #1383440
Location: Ray Rd (WB)

NW Corner at NB On Ramp (Ramp A)



FIS Asset ID: #1383445
Location: Chandler Blvd (WB)

NE Corner at NB On Ramp (Ramp A)



FIS Asset ID: #1383447
Location: Chandler Blvd (WB)

NW Corner at NB On Ramp (Ramp A)

.
.



FIS Asset ID: #1383450
Location: Chandler Blvd (WB)

NE Corner at SB Off Ramp (Ramp B)



FIS Asset ID: #1383451
Location: Chandler Blvd (WB)

NW Corner at SB Off Ramp (Ramp B)



FIS Asset ID: #1383455
Location: Chandler Blvd (EB)

SW Corner at SB On Ramp



FIS Asset ID: #1383456
Location: Chandler Blvd (EB)

SE Corner at SB On Ramp



FIS Asset ID: #1383459
Location: Chandler Blvd (EB)

SW Corner at NB Off Ramp



FIS Asset ID: #1383460
Location: Chandler Blvd (EB)

SE Corner at NB Off Ramp



FIS Asset ID: #1382298
Location: Priest Dr (SB)

NW Corner at Arizona Mills Access Rd



FIS Asset ID: #1382300
Location: Priest Dr (SB)

NW Corner at WB Off Ramp (Ramp C)
.



FIS Asset ID: #1382302
Location: Priest Dr (NB)

NE Corner at WB Off Ramp (Ramp C)



FIS Asset ID: #1382304
Location: Priest Dr (NB)

SE Corner at WB Off Ramp (Ramp C)



FIS Asset ID: #1382306
Location: Priest Dr (NB)

NE Corner at EB On Ramp (Ramp D)



FIS Asset ID: #1382307
Location: Priest Dr (NB)

SE Corner at EB On Ramp (Ramp D)



APPENDIX E – NON-COMPLIANT FEATURE PHOTO LOG (CURB RAMPS – NOT INCLUDED IN ADOT FIS)

FIS Asset ID: Ramp 40th-2 (#XXXXXXX)
Location: 40th St (NB)

NE Corner at Raymond St



FIS Asset ID: Ramp 40th-3 (#XXXXXXX)
Location: 40th St (SB)

NW Corner at Raymond St



FIS Asset ID: Ramp 40th-4 (#XXXXXXX)
Location: 40th St (SB)

SW Corner at Raymond St



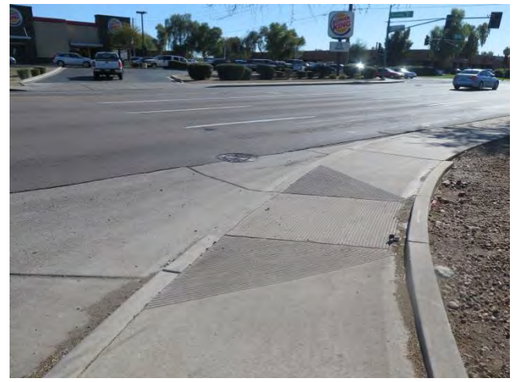
FIS Asset ID: Ramp 40th-6 (#XXXXXXX)
Location: 40th St (SB)

NE Corner at First Driveway south Of SB Off Ramp (Ramp 40C)



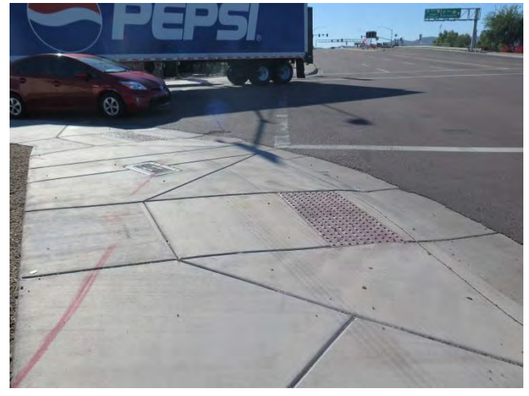
FIS Asset ID: Ramp 40th-7 (#XXXXXXX)
Location: 40th St (SB)

SE Corner at First Driveway south Of SB Off Ramp (Ramp 40C)



FIS Asset ID: Ramp 40th-9 (#XXXXXXX)
Location: 40th St (NB)

NE Corner at Raymond St



FIS Asset ID: Ramp 48th-1 (#XXXXXXX)
Location: 48th St (SB)

SW Corner at Broadway Rd



FIS Asset ID: Ramp 48th-2 (#XXXXXXX)
Location: 48th St (SB)

NW Corner at Broadway Rd



FIS Asset ID: Ramp S1 (#XXXXXXX)
Location: Southern Ave (EB)

SW Corner at Clementine Dr



FIS Asset ID: Ramp S2 (#XXXXXXX)
Location: Southern Ave (WB)

NW Corner at Diablo Way



FIS Asset ID: Ramp S3 (#XXXXXXX)
Location: Southern Ave (WB)

NE Corner at Diablo Way



FIS Asset ID: Ramp S4 (#XXXXXXX)
Location: Southern Ave (WB)

NW Corner at Clementine Dr



FIS Asset ID: Ramp BL1 (#XXXXXXX)
Location: Baseline Rd (WB)

NE Corner at Wendler Dr



FIS Asset ID: Ramp BL2 (#XXXXXXX)
Location: Baseline Rd (WB)

NW Corner at Wendler Dr



FIS Asset ID: Ramp BL4 (#XXXXXXX)
Location: Baseline Rd (WB)

NW Corner at Arizona Mills South



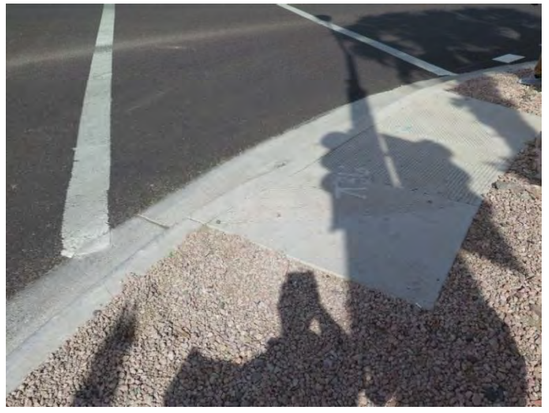
FIS Asset ID: Ramp BL5 (#XXXXXXX)
Location: Baseline Rd (EB)

SW Corner at Arizona Mills South



FIS Asset ID: Ramp G3 (#XXXXXXX)
Location: Guadalupe Rd (EB)

SE Corner at South Pointe Parkway



FIS Asset ID: Ramp G4 (#XXXXXXX)
Location: Guadalupe Rd (WB)

NE Corner at South Pointe Parkway



FIS Asset ID: Ramp E1 (#XXXXXXX)
Location: Elliot Rd (WB)

NW Corner at Wendy's/Savers Driveway



FIS Asset ID: Ramp E6 (#XXXXXXX)
Location: Elliot Rd (EB)

SW Corner at 51st St
N/S crosswalk curb ramp



FIS Asset ID: Ramp E7 (#XXXXXXX)
Location: Elliot Rd (EB)

SW Corner at 51st St
E/W crosswalk curb ramp



FIS Asset ID: Ramp E8 (#XXXXXXX)
Location: Elliot Rd (EB)

SE Corner at 51st St
E/W crosswalk curb ramp



FIS Asset ID: Ramp E9 (#XXXXXXX)
Location: Elliot Rd (EB)

SE Corner at 51st St
N/S crosswalk curb ramp



FIS Asset ID: Ramp E12 (#XXXXXXX)
Location: Elliot Rd (EB)

NE Corner at Wendy's/Savers driveway



FIS Asset ID: Ramp R1 (#XXXXXXX)
Location: Ray Rd (WB)

NW Corner at 54th St



FIS Asset ID: Ramp R4 (#XXXXXXX)
Location: Ray Rd (WB)

NE Corner at Jack in the Box driveway



FIS Asset ID: Ramp R5 (#XXXXXXX)
Location: Ray Rd (WB)

NW Corner at Jack in the Box driveway



FIS Asset ID: Ramp R6 (#XXXXXXX)
Location: Ray Rd (EB)

SW Corner at Circle K driveway



FIS Asset ID: Ramp R7 (#XXXXXXX)
Location: Ray Rd (EB)

SE Corner at Circle K driveway



FIS Asset ID: Ramp R8 (#XXXXXXX)
Location: Ray Rd (EB)

SW Corner at 50th St



FIS Asset ID: Ramp R9 (#XXXXXXX)
Location: Ray Rd (EB)

SE Corner at 50th St



FIS Asset ID: Ramp C1 (#XXXXXXX)
Location: Chandler Blvd (WB)

NE Corner at Denny's/ Rudy's Country Store & Bar-BQ driveway



FIS Asset ID: Ramp C2 (#XXXXXXX)
Location: Chandler Blvd (WB)

NW Corner at Denny's/ Rudy's Country Store & Bar-BQ driveway



FIS Asset ID: Ramp C3 (#XXXXXXX)
Location: Chandler Blvd (WB)

NE Corner at Southgate Dr



FIS Asset ID: Ramp C4 (#XXXXXXX)
Location: Chandler Blvd (WB)

NW Corner at Southgate Dr



FIS Asset ID: Ramp C5 (#XXXXXXX)
Location: Chandler Blvd (WB)

NE Corner at Chevron/
Cracker Barrel Country
Store driveway



FIS Asset ID: Ramp C6 (#XXXXXXX)
Location: Chandler Blvd (WB)

NW Corner at Chevron/
Cracker Barrel Country
Store driveway



FIS Asset ID: Ramp C7 (#XXXXXXX)
Location: Chandler Blvd (WB)

NE Corner at 50th St



FIS Asset ID: Ramp C9 (#XXXXXXX)
Location: Chandler Blvd (EB)

SW Corner at Extended
Stay America driveway



FIS Asset ID: Ramp C10 (#XXXXXXX)
Location: Chandler Blvd (EB)

SE Corner at Extended
Stay America driveway



FIS Asset ID: Ramp C11 (#XXXXXXX)
Location: Chandler Blvd (EB)

SW Corner at Southgate
Dr



FIS Asset ID: Ramp C12 (#XXXXXXX)
Location: Chandler Blvd (EB)

SE Corner at Southgate Dr



FIS Asset ID: Ramp C13 (#XXXXXXX)
Location: Chandler Blvd (EB)

SW Corner at Whataburger/ Circle K driveway



FIS Asset ID: Ramp C14 (#XXXXXXX)
Location: Chandler Blvd (EB)

SE Corner at Whataburger/ Circle K driveway



APPENDIX F – NON-COMPLIANT FEATURE PHOTO LOG (PEDESTRIAN ACTIVATED SIGNALS – INCLUDED IN ADOT FIS)

FIS Asset ID: #1383331
Location: 40th St (SB)

NW Corner at SB Off Ramp (Ramp 40C)



FIS Asset ID: #1383339
Location: 40th St (Traffic Island N of I-10)

Traffic Island north of I-10



FIS Asset ID: #1383402
Location: Elliot Rd (EB)

SW Corner at SB On Ramp (Ramp D)



FIS Asset ID: #1383410
Location: Elliot Rd (Traffic Island E of I-10)

Traffic Island east of I-10



FIS Asset ID: #1383412
Location: Warner Rd (EB)

SW Corner at SB On Ramp (Ramp A)



FIS Asset ID: #1383418
Location: Warner Rd (EB)

SE Corner at NB Off Ramp (Ramp B)



FIS Asset ID: #1383454
Location: Chandler Blvd (Traffic Island W of I-10)

Traffic Island west of
I-10



APPENDIX G – NON-COMPLIANT FEATURE PHOTO LOG (PEDESTRIAN ACTIVATED SIGNALS – NOT INCLUDED IN ADOT FIS)

FIS Asset ID: Push 48th-1 (#XXXXXXX)
Location: 48th St (SB)

SW Corner at Broadway Rd



FIS Asset ID: Push 48th-2 (#XXXXXXX)
Location: 48th St (SB)

NW Corner at Broadway Rd



FIS Asset ID: Push R5 (#XXXXXXX)
Location: Ray Rd (WB)

NE Corner at 50th St



APPENDIX H – NON-COMPLIANT FEATURE PHOTO LOG (HANDRAIL – INCLUDED IN ADOT FIS)

FIS Asset ID: #1028022
Location: Guadalupe Rd (WB)

North side of S/W G1 (#XXXXXXX) east of the I-10



FIS Asset ID: #1028457
Location: Chandler Blvd (EB)

South side of Chandler Blvd east of the I-10.



APPENDIX I – NON-COMPLIANT FEATURE PHOTO LOG (HANDRAIL – NOT INCLUDED IN ADOT FIS)

FIS Asset ID: Rail E1 (#XXXXXXX)
Location: Elliot Rd (WB)

North side of Elliot Rd west
of the I-10



APPENDIX J – NON-COMPLIANT FEATURE PHOTO LOG (OBSTRUCTIONS OR NEEDS – INCLUDED IN ADOT FIS)

FIS Asset ID: #1383345
Location: 40th St (NB)

SE Corner at NB Off Ramp (Ramp 40A)



FIS Asset ID: #1383357
Location: Broadway Rd (WB)

N Corner of Traffic Island at SB On Ramp (Ramp K)



FIS Asset ID: #1383358
Location: Broadway Rd (WB)

E Corner of Traffic Island at SB On Ramp (Ramp K)



FIS Asset ID: #1383360
Location: Broadway Rd (WB)

SE Corner at SB On Ramp (Ramp K) at #1383359 curb ramp



FIS Asset ID: #1383362
Location: Broadway Rd (WB)

South side west of #1383363 curb ramp



FIS Asset ID: #1383370
Location: Broadway Rd (EB)

NW Corner at 52nd St at #1383369 curb ramp



FIS Asset ID: #1383371
Location: Broadway Rd (EB)

NE Corner at 52nd St
at #1383368 curb ramp



FIS Asset ID: #1383389
Location: Baseline Rd (WB)

NW Corner at NB On
Ramp (Ramp D) at
#1383388 curb ramp



FIS Asset ID: #1383390
Location: Baseline Rd (WB)

NE Corner at NB On
Ramp (Ramp D) at
#1383391 curb ramp



FIS Asset ID: #1383395
Location: Baseline Rd (Traffic Island E of I-10)

Traffic Island east of
I-10



FIS Asset ID: #1383398
Location: Elliot Rd (EB)

SE Corner at NB Off
Ramp (Ramp B) at
#1383397 curb ramp



FIS Asset ID: #1383423
Location: Warner Rd (WB)

NE Corner at NB On
Ramp (Ramp C) at
#1383421 curb ramp



FIS Asset ID: #1383425
Location: Warner Rd (WB)

North side at bridge



FIS Asset ID: #1383453
Location: Chandler Blvd (Traffic Island W of I-10)

Traffic Island west of
I-10



APPENDIX K – NON-COMPLIANT FEATURE PHOTO LOG (OBSTRUCTIONS OR NEEDS – NOT INCLUDED IN ADOT FIS)

FIS Asset ID: Obstruct 40th-1 (#XXXXXXX)
Location: 40th St (SB)

NW Corner of SB On Ramp
(Ramp 40F)



FIS Asset ID: Obstruct 40th-2 (#XXXXXXX)
Location: 40th St (SB)

SW Corner of NB On Ramp
(Ramp 40D)



FIS Asset ID: Obstruct 40th-3 (#XXXXXXX)
Location: 40th St (Traffic Island N of I-10)

Traffic Island north of I-10



FIS Asset ID: Obstruct 48th-1 (#XXXXXXX)
Location: 48th St (SB)

South of D/W 48th-4 (#XXXXXXX)



FIS Asset ID: Obstruct 48th-2 (#XXXXXXX)
Location: Broadway Rd (WB)

West of D/W 48th-2 (#XXXXXXX)



FIS Asset ID: Obstruct S1 (#XXXXXXX)
Location: Southern Ave (EB)

South side east of
I-10



FIS Asset ID: Obstruct S2 (#XXXXXXX)
Location: Southern Ave (EB)

South side west of
I-10



FIS Asset ID: Obstruct S3 (#XXXXXXX)
Location: Southern Ave (WB)

North side of Diablo
Way west of D/W
S3 (#XXXXXXX)



FIS Asset ID: Obstruct S4 (#XXXXXXX)
Location: Southern Ave (WB)

North side west of D/W
S2 (#XXXXXXX)



FIS Asset ID: Obstruct S5 (#XXXXXXX)
Location: Southern Ave (WB)

North side of Diablo
Way west of D/W
S4 (#XXXXXXX)



FIS Asset ID: Obstruct S6 (#XXXXXXX)
Location: Southern Ave (WB)

North side east of
I-10



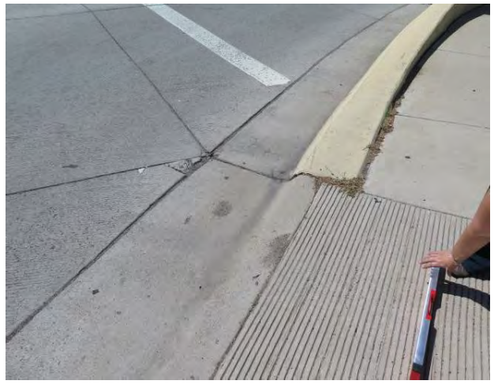
FIS Asset ID: S/W G1 (#XXXXXXX)
Location: Guadalupe Rd (WB)

North side missing sidewalk
Between South Point Parkway
and Calle Sahuaro



FIS Asset ID: Obstruct E1 (#XXXXXXX)
Location: Elliot Rd (WB)

NW Corner at SB Off Ramp (Ramp C) at #1383405 curb ramp



APPENDIX L – NON-COMPLIANT FEATURE PHOTO LOG (DRIVEWAYS – INCLUDED IN ADOT FIS)

FIS Asset ID: #1383375
Location: Baseline Rd (EB)

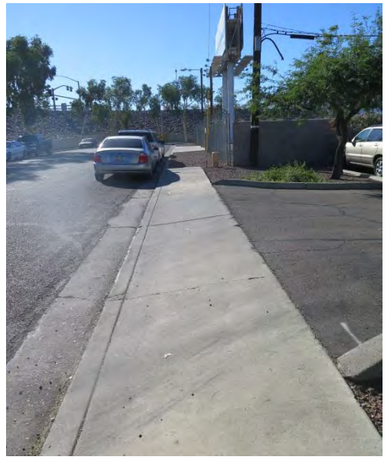
Driveway on the South
side of Baseline Rd
and is the first driveway
starting from East of Ramp
A heading east (Pizza Patron)



APPENDIX M – NON-COMPLIANT FEATURE PHOTO LOG (DRIVEWAYS – NOT INCLUDED IN ADOT FIS)

FIS Asset ID: D/W 40th-1 (#XXXXXXX)
Location: Raymond St (SB)

West side of Raymond St
North of 40th St



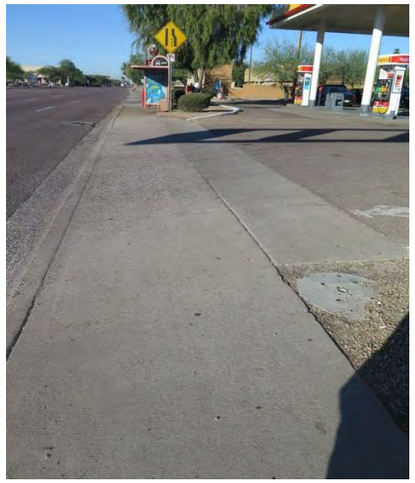
FIS Asset ID: D/W 40th-2 (#XXXXXXX)
Location: 40th St (SB)

West side of 40th St
North of Raymond St



FIS Asset ID: D/W 48th-2 (#XXXXXXX)
Location: Broadway (WB)

First driveway west of 48th St on
the north side of Broadway Rd



FIS Asset ID: D/W 48th-4 (#XXXXXXX)
Location: 48th St (SB)

First driveway south of SB
Off Ramp (Ramp C)



FIS Asset ID: D/W S1 (#XXXXXXX)
Location: Southern Ave (EB)

South side west of the
I-10



FIS Asset ID: D/W S2 (#XXXXXXX)
Location: Southern Ave (WB)

North side of Diablo Way
(first driveway/furthest west)



FIS Asset ID: D/W S3 (#XXXXXXX)
Location: Southern Ave (WB)

North side of Diablo Way
(middle driveway)



FIS Asset ID: D/W S4 (#XXXXXXX)
Location: Southern Ave (WB)

North side of Diablo Way
(last driveway/furthest east)



FIS Asset ID: D/W BL1 (#XXXXXXX)
Location: Baseline Rd (WB)

North side west of Ramp
C (Denny's)



FIS Asset ID: D/W BL2 (#XXXXXXX)
Location: Baseline Rd (EB)

South side west of I-10
and is the first driveway west
of Ramp B heading west
(Aunt Chilada's)



FIS Asset ID: D/W BL3 (#XXXXXXX)
Location: Baseline Rd (EB)

Driveway on the South
side of Baseline Rd
and is the second driveway
starting from East of Ramp
A heading east (Title Max)



FIS Asset ID: D/W BL4 (#XXXXXXX)
Location: Baseline Rd (EB)

Driveway on the South
side of Baseline Rd
and is the third driveway
starting from East of Ramp
A heading east (Waffle House)



FIS Asset ID: D/W BL5 (#XXXXXXX)
Location: Baseline Rd (EB)

Driveway on the South
side of Baseline Rd
and is the fourth driveway
starting from East of Ramp
A heading east (Ramida)



FIS Asset ID: D/W BL6 (#XXXXXXX)
Location: Baseline Rd (EB)

Driveway on the South
side of Baseline Rd
and is the fifth driveway
starting from East of Ramp
A heading east (Ramada)



FIS Asset ID: D/W W1 (#XXXXXXX)
Location: Warner Rd (EB)

South side west of the
I-10



APPENDIX N – NON-COMPLIANT FEATURE PHOTO LOG (TRAFFIC ISLANDS – INCLUDED IN ADOT FIS)

FIS Asset ID: #1383332
Location: 40th St (Traffic Island S of I-10)

Traffic Island south of
I-10 between Ramp 40C
And Ramp 40F



FIS Asset ID: #1383338
Location: 40th St (Traffic Island N of I-10)

Traffic Island north of
I-10



FIS Asset ID: #1383356
Location: Broadway Rd (Traffic Island W of I-10)

Traffic Island west of
I-10 at Ramp K



FIS Asset ID: #1383366
Location: Broadway Rd (Traffic Island E of I-10)

Traffic Island east of
I-10 at Ramp L



FIS Asset ID: #1383383
Location: Baseline Rd (Traffic Island W of I-10)

Traffic Island west of
I-10



FIS Asset ID: #1383393
Location: Baseline Rd (Traffic Island E of I-10)

Traffic Island east of
I-10



FIS Asset ID: #1383403
Location: Elliot Rd (Traffic Island W of I-10)

Traffic Island west of
I-10



FIS Asset ID: #1383409
Location: Elliot Rd (Traffic Island E of I-10)

Traffic Island east of
I-10



FIS Asset ID: #1383419
Location: Warner Rd (Traffic Island E of I-10)

Traffic Island east of
I-10



FIS Asset ID: #1383430
Location: Warner Rd (Traffic Island W of I-10)

Traffic Island west of
I-10



FIS Asset ID: #1383452
Location: Chandler Blvd (Traffic Island W of I-10)

Traffic Island west of
I-10



APPENDIX O – NON-COMPLIANT FEATURE PHOTO LOG (TRAFFIC ISLANDS – NOT INCLUDED IN ADOT FIS)

FIS Asset ID: Traffic Island 40th-1 (#XXXXXXX)
Location: 40th St (SB)

First driveway
South of SB Off Ramp (Ramp 40C)



FIS Asset ID: Traffic Island R1 (#XXXXXXX)
Location: Ray Rd (WB)

West of 50th St at Jack
In the Box driveway



APPENDIX G

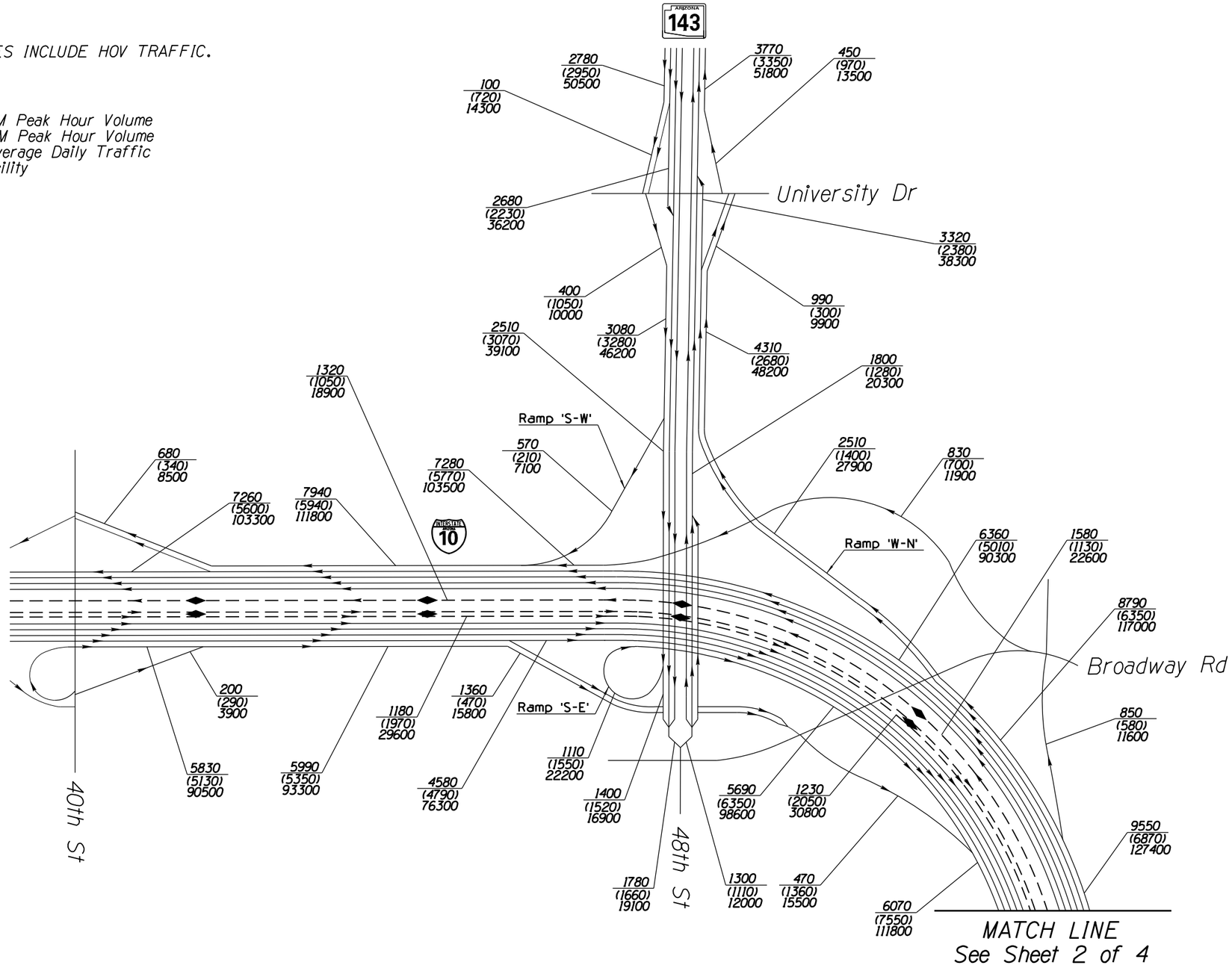
TRAFFIC VOLUME PROJECTIONS AND LEVEL-OF-SERVICE ANALYSIS RESULTS FOR ALTERNATIVES CONSIDERED

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2020 AM Peak Hour Volume
(xxx) - 2020 PM Peak Hour Volume
xxxx - 2020 Average Daily Traffic
— ◆ — - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 NO BUILD VOLUMES
& LANE CONFIGURATION
SHEET 1 OF 4

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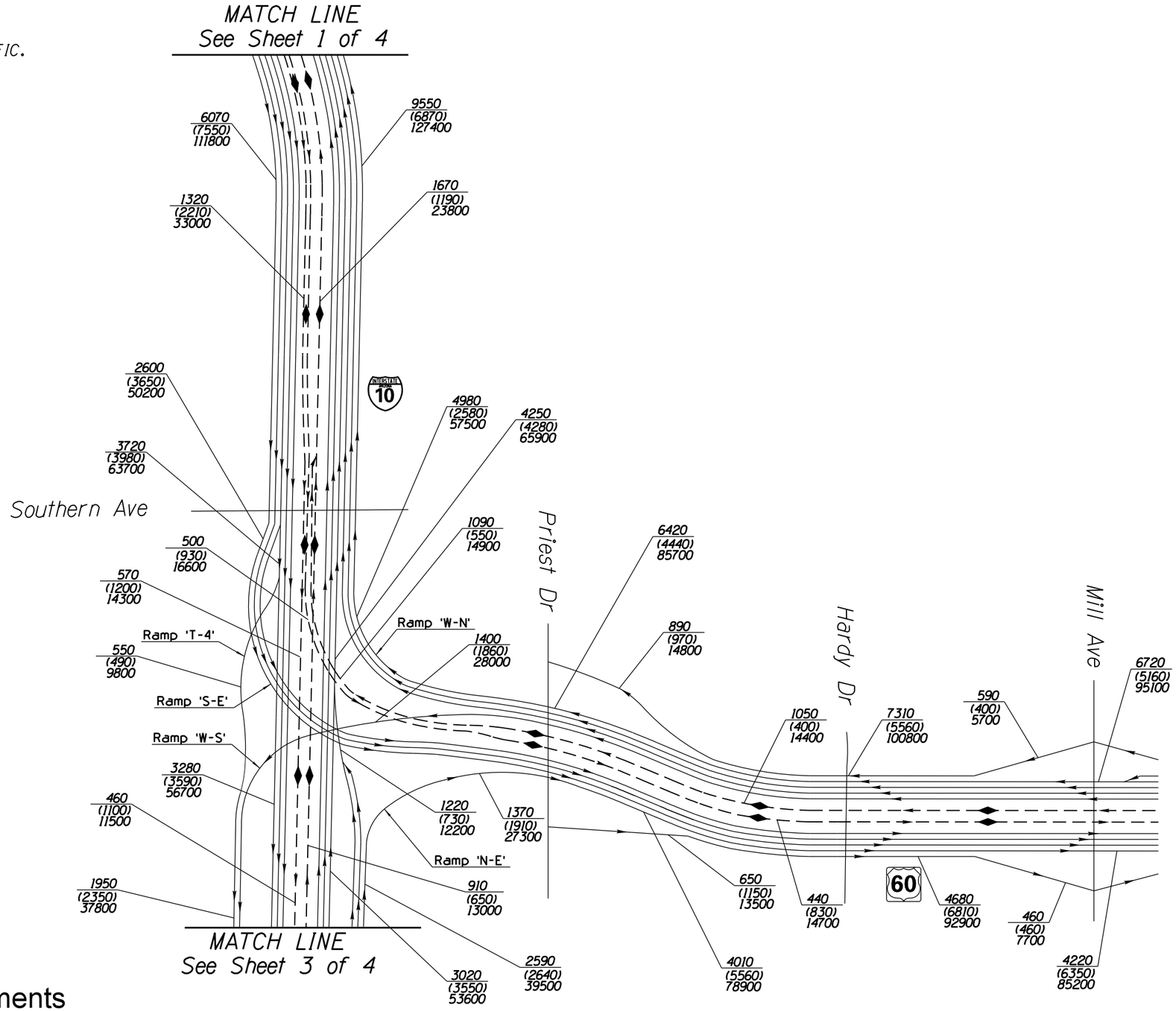
7/24/2015

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2020 AM Peak Hour Volume
(xxx) - 2020 PM Peak Hour Volume
xxxx - 2020 Average Daily Traffic
◆—◆ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 NO BUILD VOLUMES
& LANE CONFIGURATION
SHEET 2 OF 4

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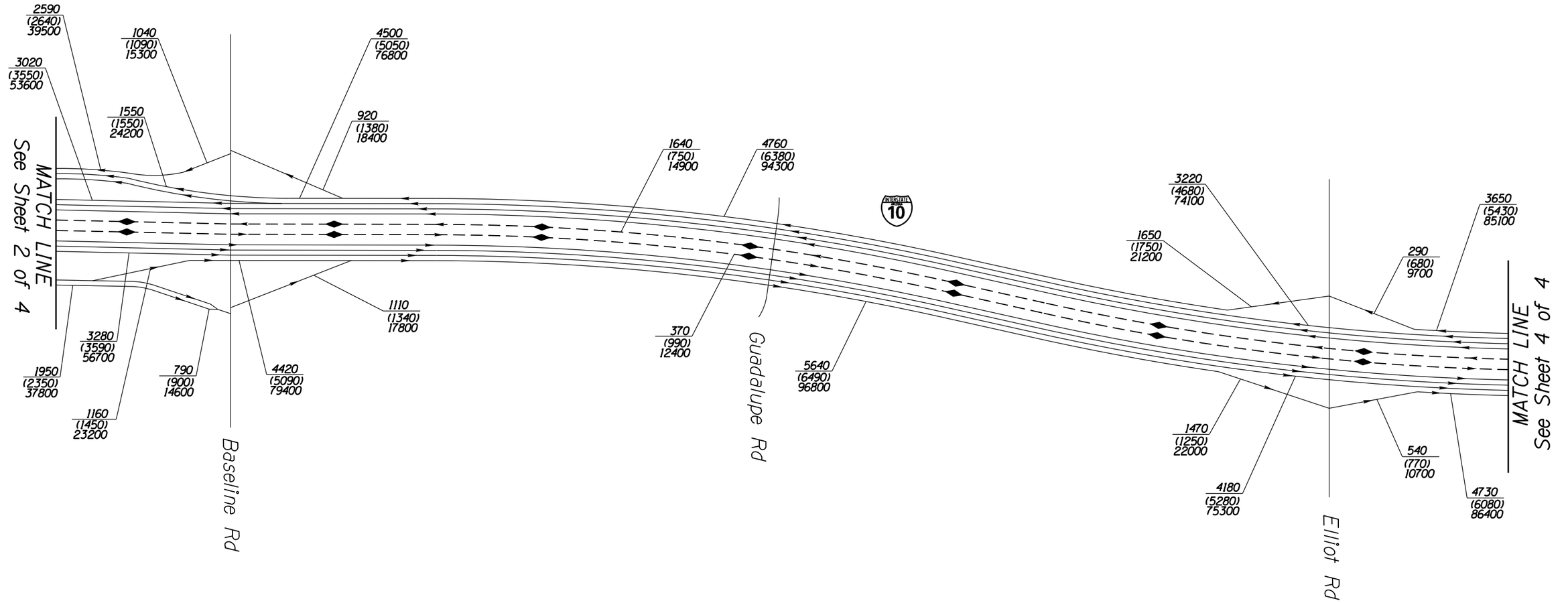
7/24/2015

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2020 AM Peak Hour Volume
(xxx) - 2020 PM Peak Hour Volume
xxxx - 2020 Average Daily Traffic
◆—◆ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 NO BUILD VOLUMES
& LANE CONFIGURATION
SHEET 3 OF 4

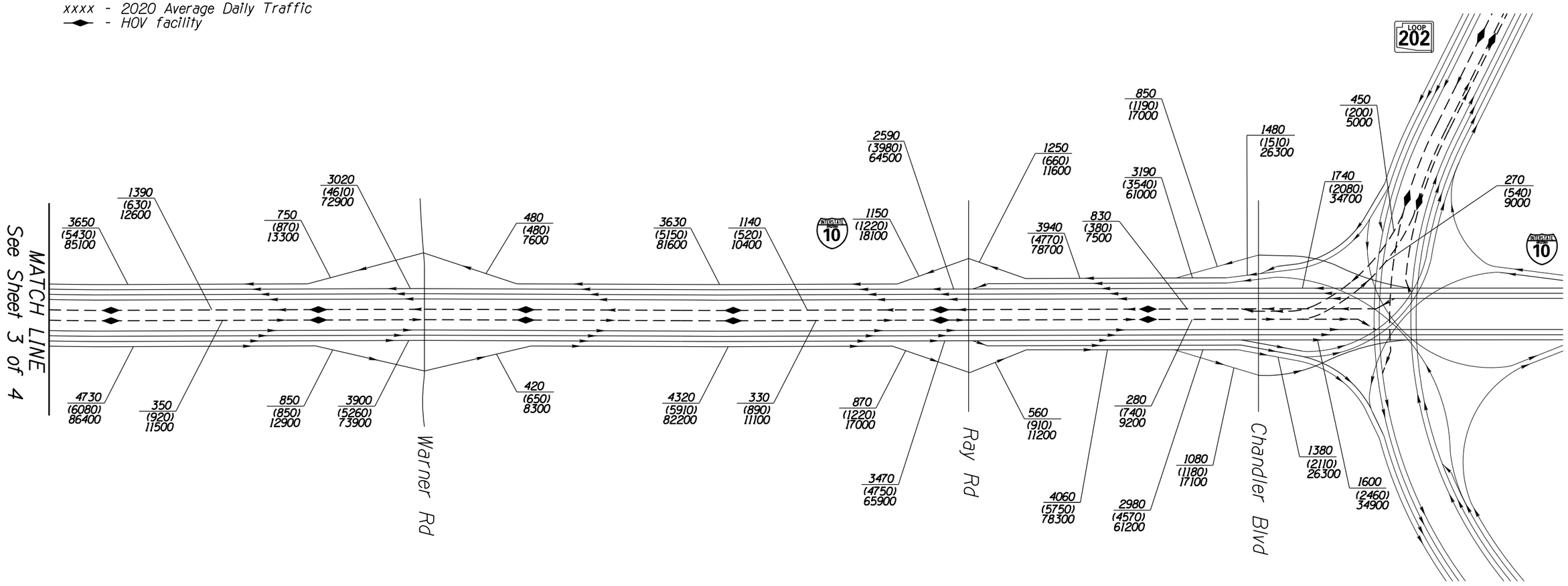
7/24/2015 U:\I10-02\Spot\Design\tra\No Build\Figures\2020 Figures\NB volume 3.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2020 AM Peak Hour Volume
(xxx) - 2020 PM Peak Hour Volume
xxxx - 2020 Average Daily Traffic
◆—◆ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 NO BUILD VOLUMES
& LANE CONFIGURATION
SHEET 4 OF 4

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7/24/2015

NOTES:

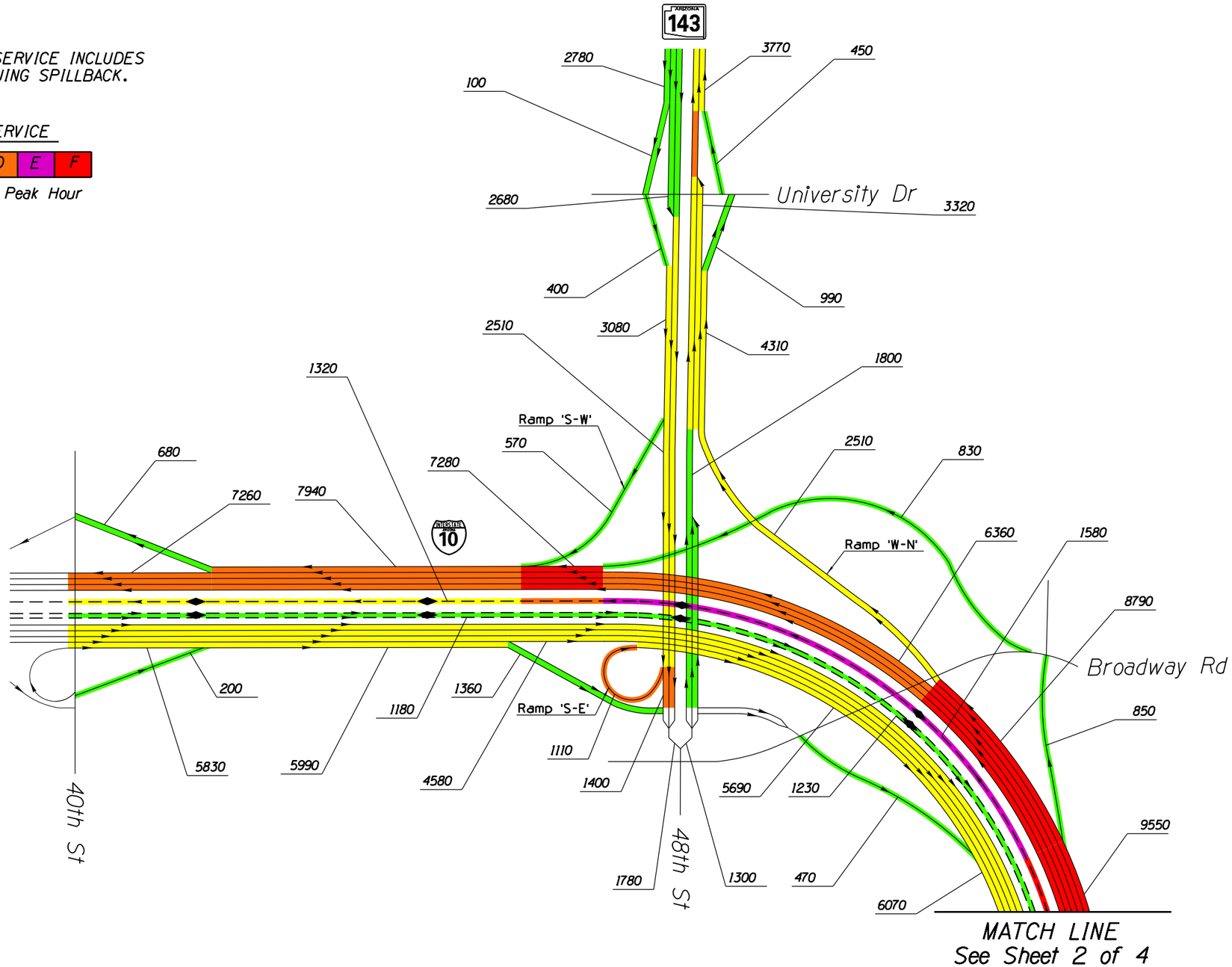
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 AM Peak Hour



N

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 NO BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

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7/24/2015

NOTES:

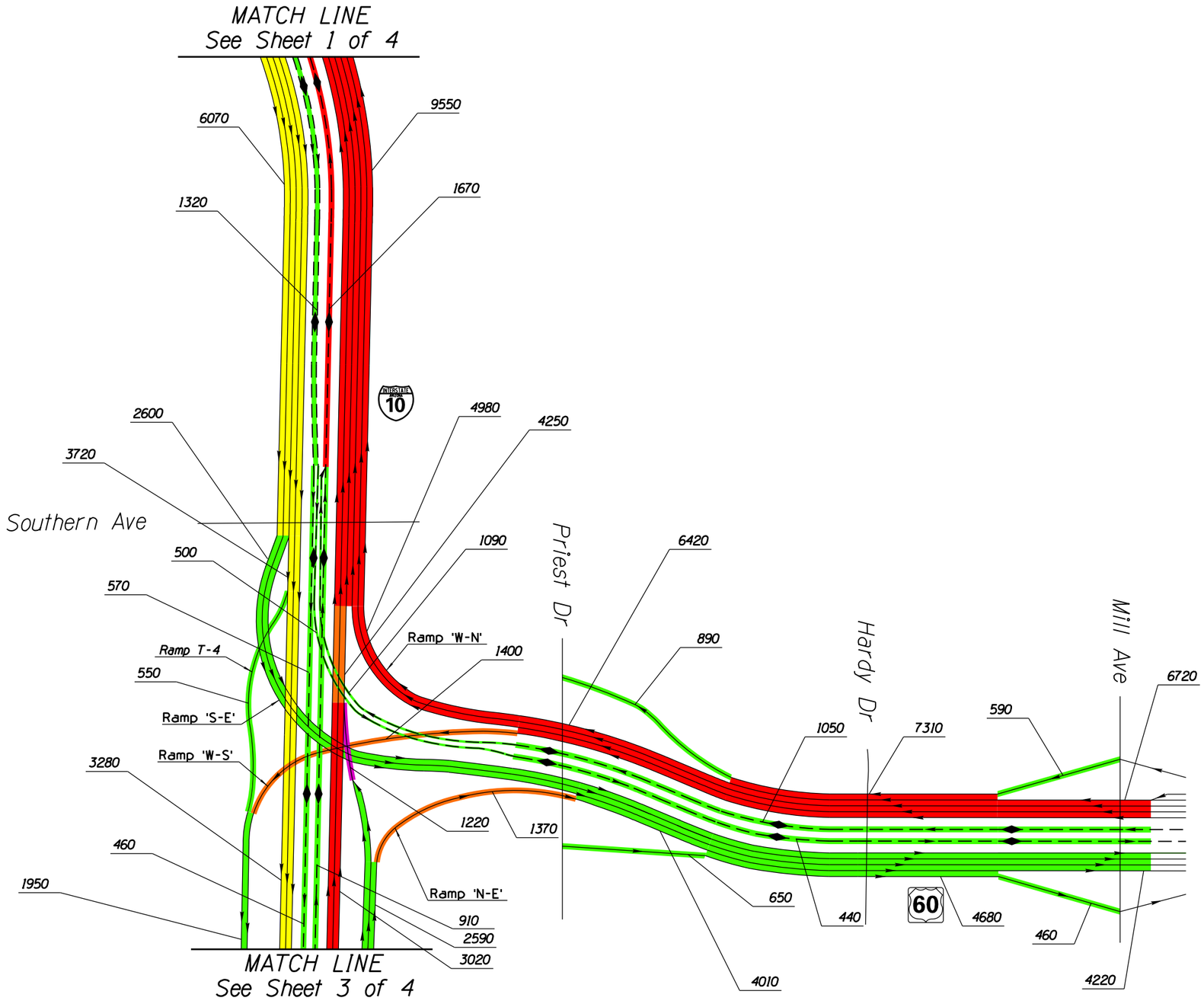
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 AM Peak Hour



N

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 NO BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

U:\I10-02\Spot\Design\tra\No Build\Figures\2020 Figures\NB AM LOS 2.dgn
7/24/2015

NOTES:

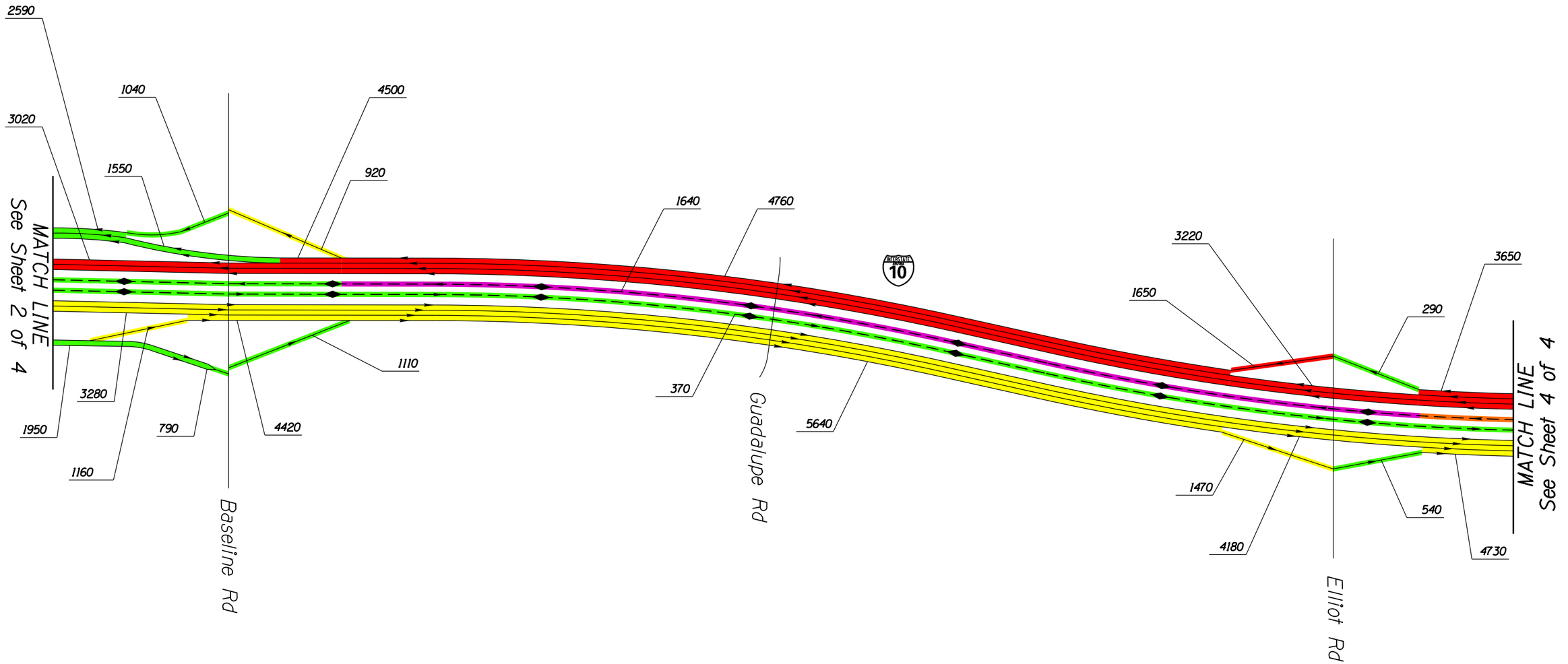
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 NO BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

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7/24/2015

NOTES:

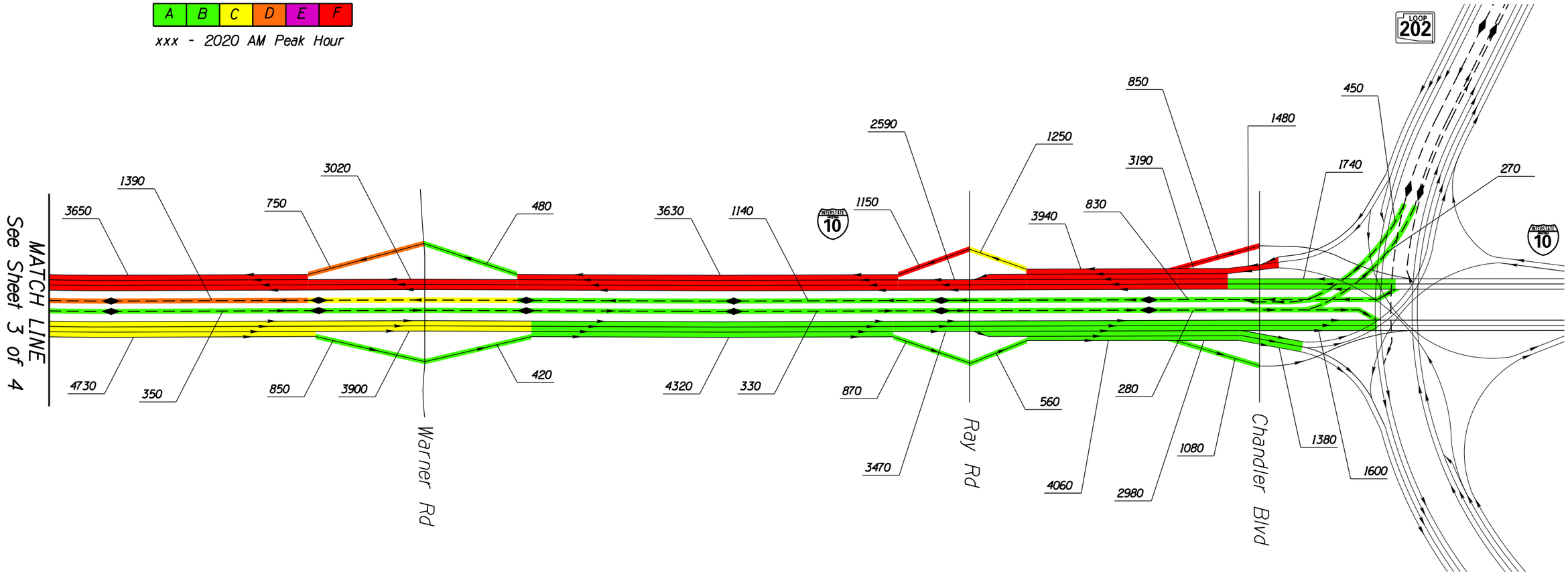
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 NO BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

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7/24/2015

NOTES:

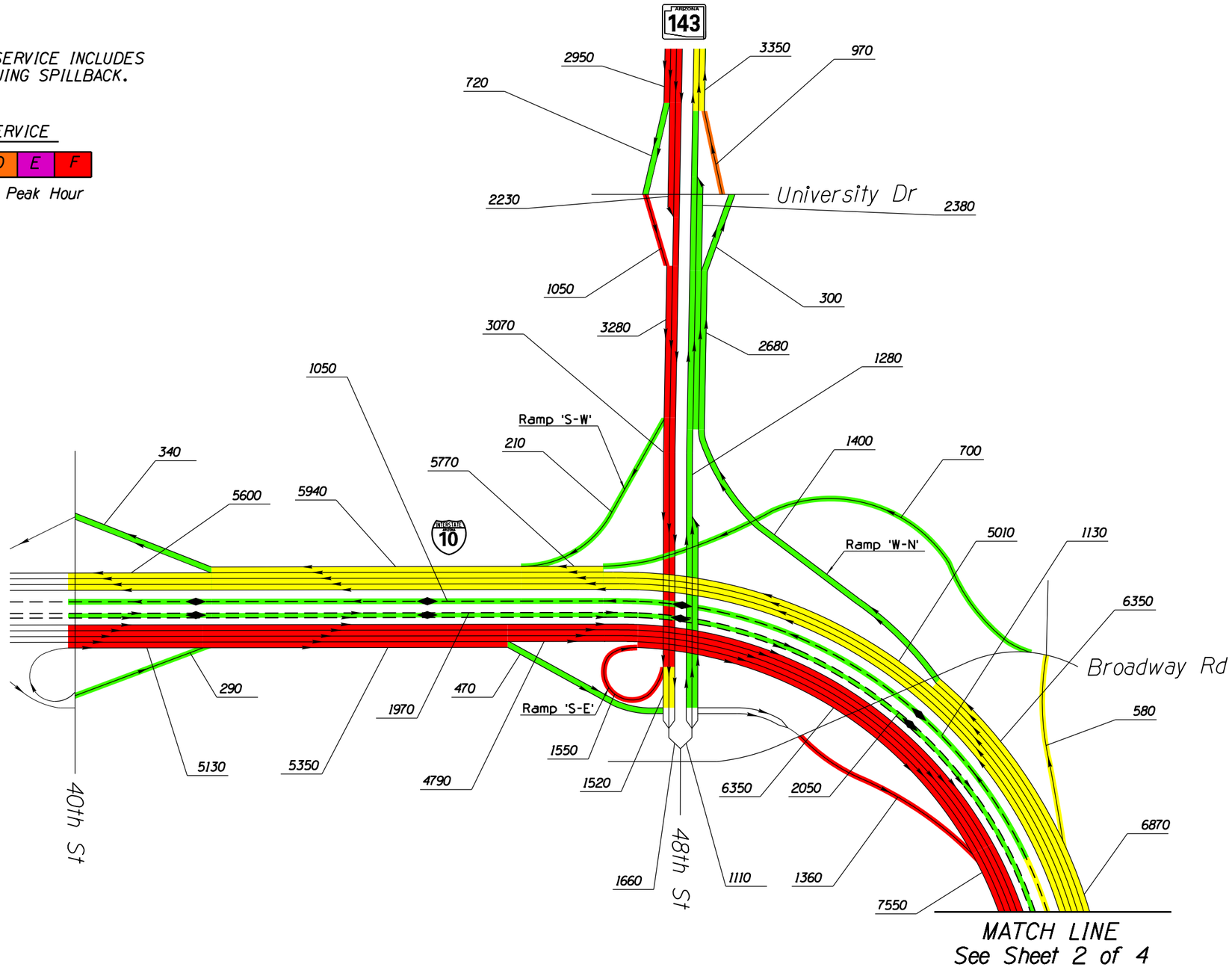
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 NO BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

U:\I10-02\Spot1\Design\tra\No Build\Figures\2020 Figures\NB PM LOS 1.dgn
7/24/2015

NOTES:

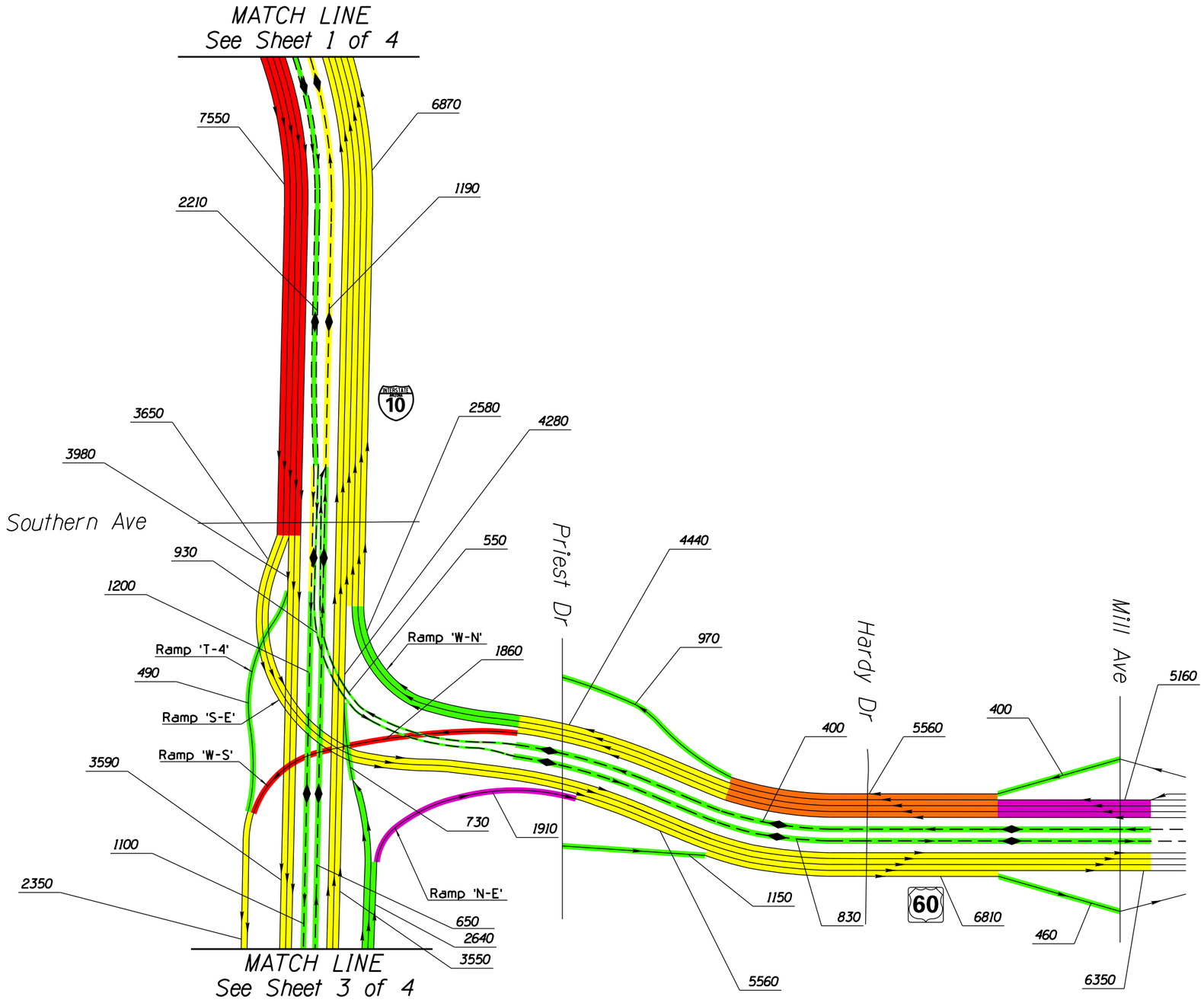
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

2020 NO BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

U:\110-02\Spot1\Design\tra\No Build\Figures\2020 Figures\NB PM LOS 2.dgn

7/24/2015

NOTES:

- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 NO BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

U:\I10-02\Spot\Design\tre\No Build\Figures\2020 Figures\NB PM LOS 3.dgn
7/24/2015

NOTES:

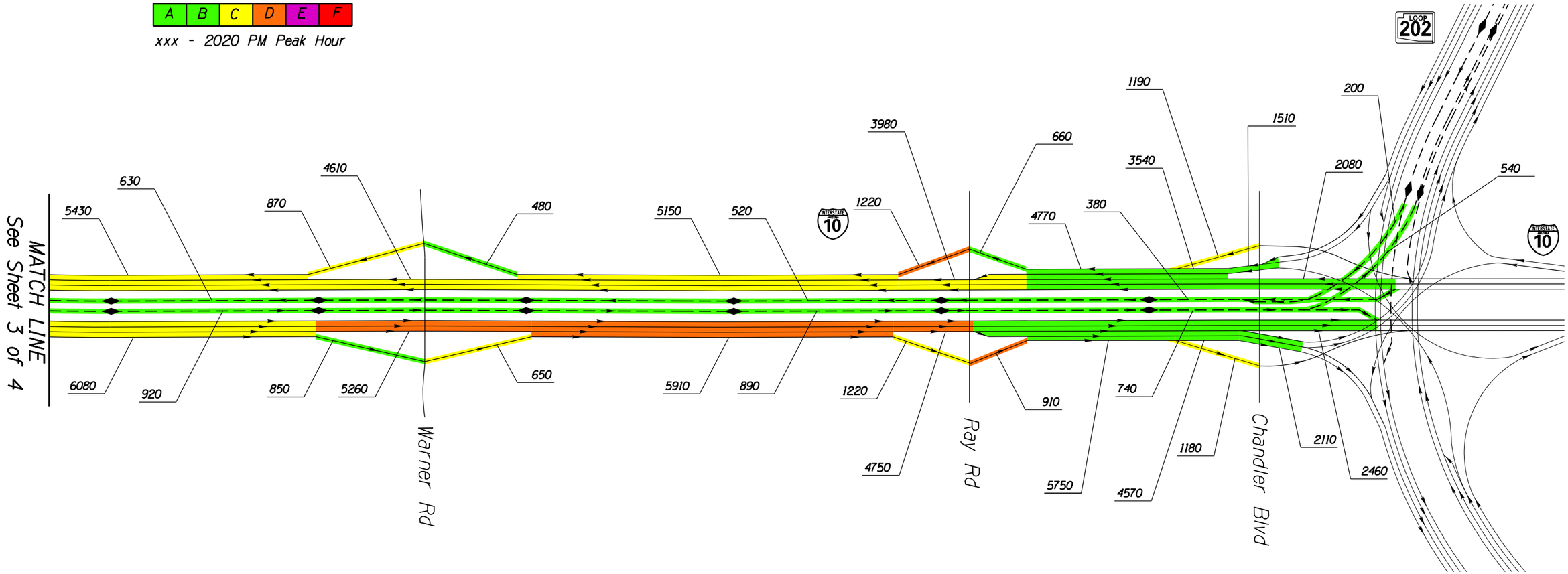
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 NO BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

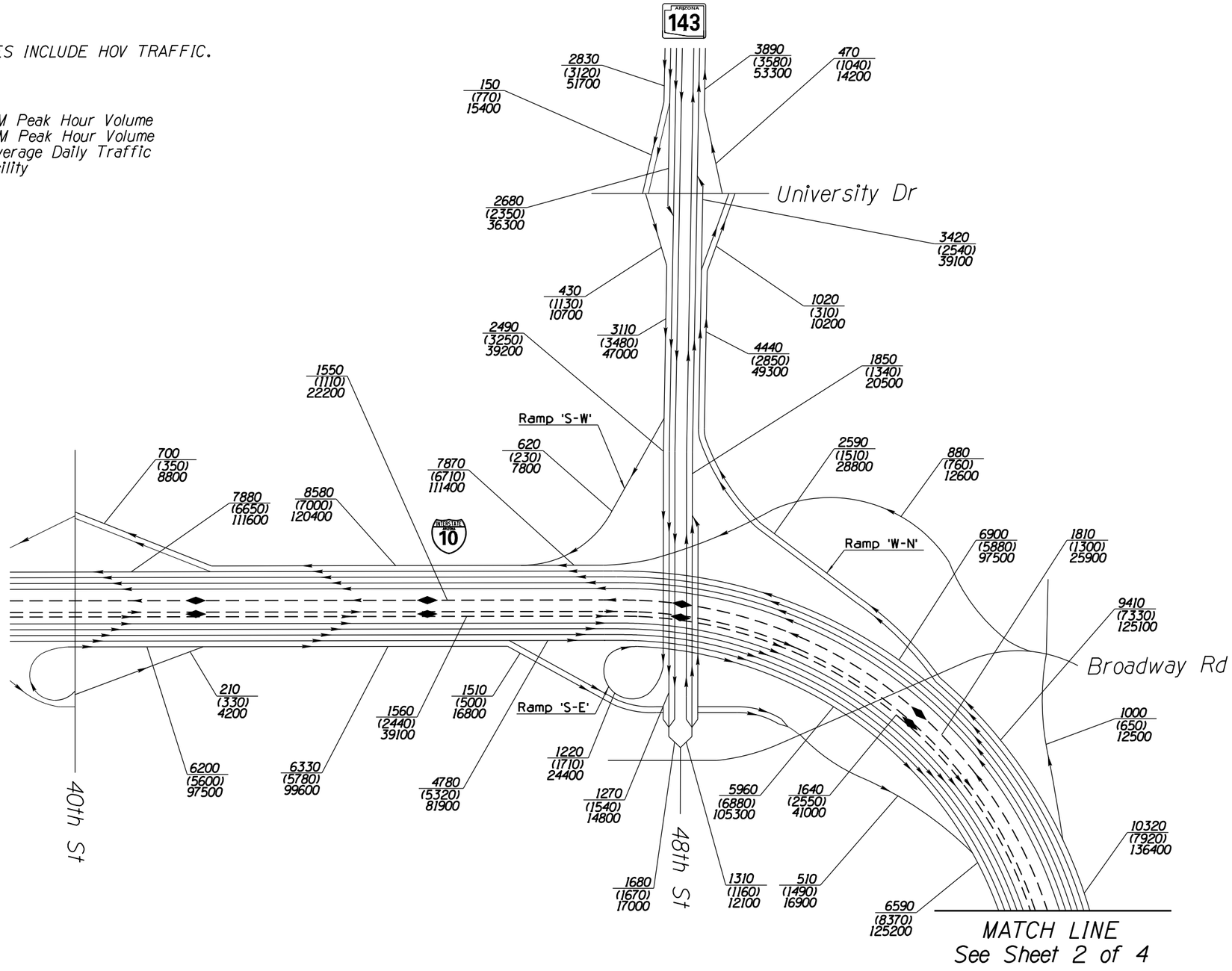
U:\I10-02\Spot1\Design\tra\No Build\Figures\2020 Figures\NB PM LOS 4.dgn
7/24/2015

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2035 AM Peak Hour Volume
(xxx) - 2035 PM Peak Hour Volume
xxxx - 2035 Average Daily Traffic
— ◆ — - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 NO BUILD VOLUMES
& LANE CONFIGURATION
SHEET 1 OF 4

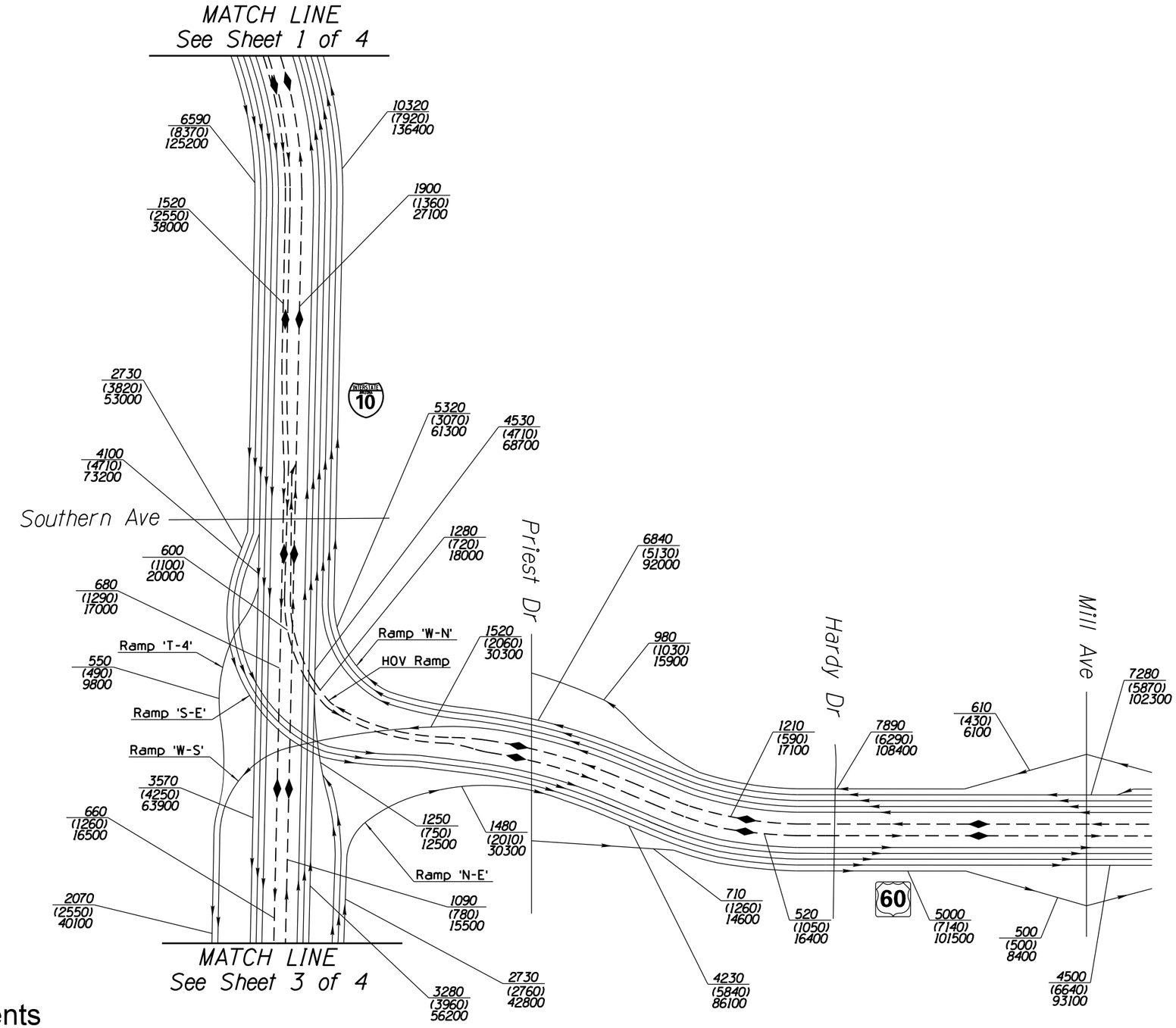
7/24/2015 U:\110-02\Spot\Design\tre\No Build\Figures\2035 Figures\NB volume 1.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2035 AM Peak Hour Volume
(xxx) - 2035 PM Peak Hour Volume
xxxx - 2035 Average Daily Traffic
◆—◆ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

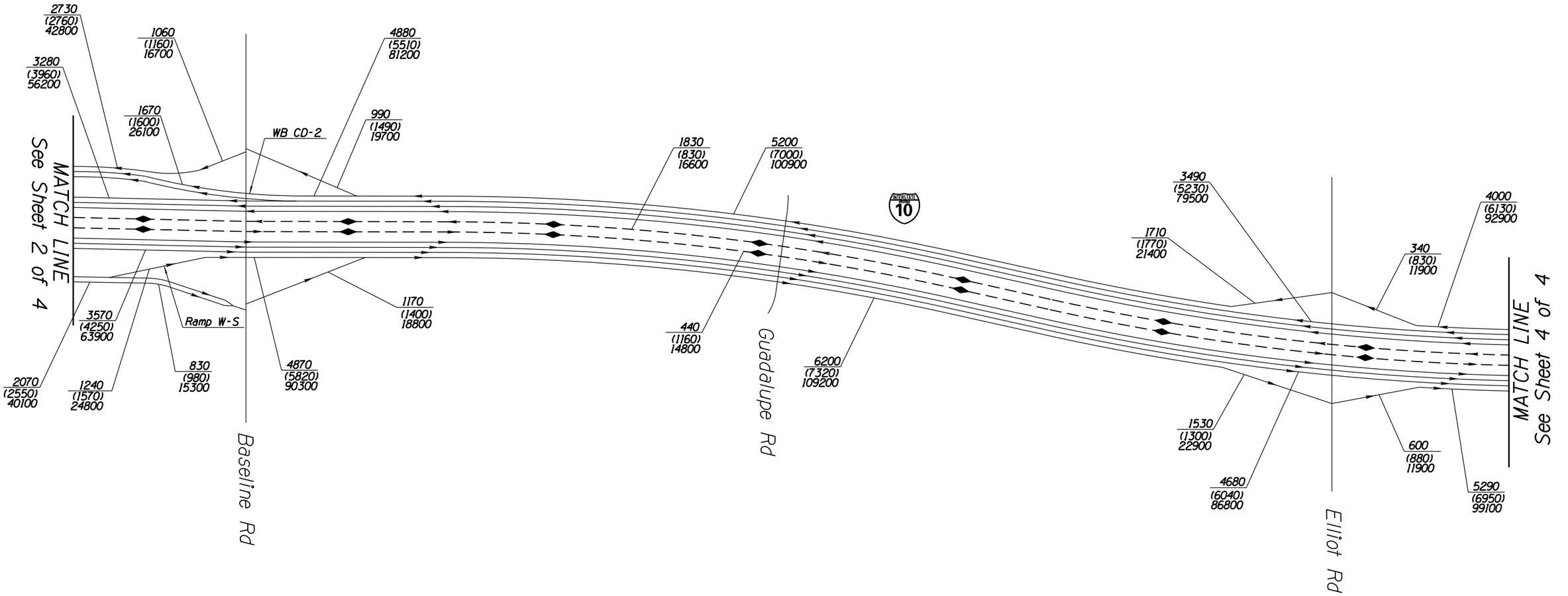
APPENDIX G
2035 NO BUILD VOLUMES
& LANE CONFIGURATION
SHEET 2 OF 4

U:\110-02\Spot\Design\tre\No Build\Figures\2035 Figures\NB volume 2.dgn
7/24/2015

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2035 AM Peak Hour Volume
(xxx) - 2035 PM Peak Hour Volume
xxxx - 2035 Average Daily Traffic
—◆— - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 NO BUILD VOLUMES
& LANE CONFIGURATION
SHEET 3 OF 4

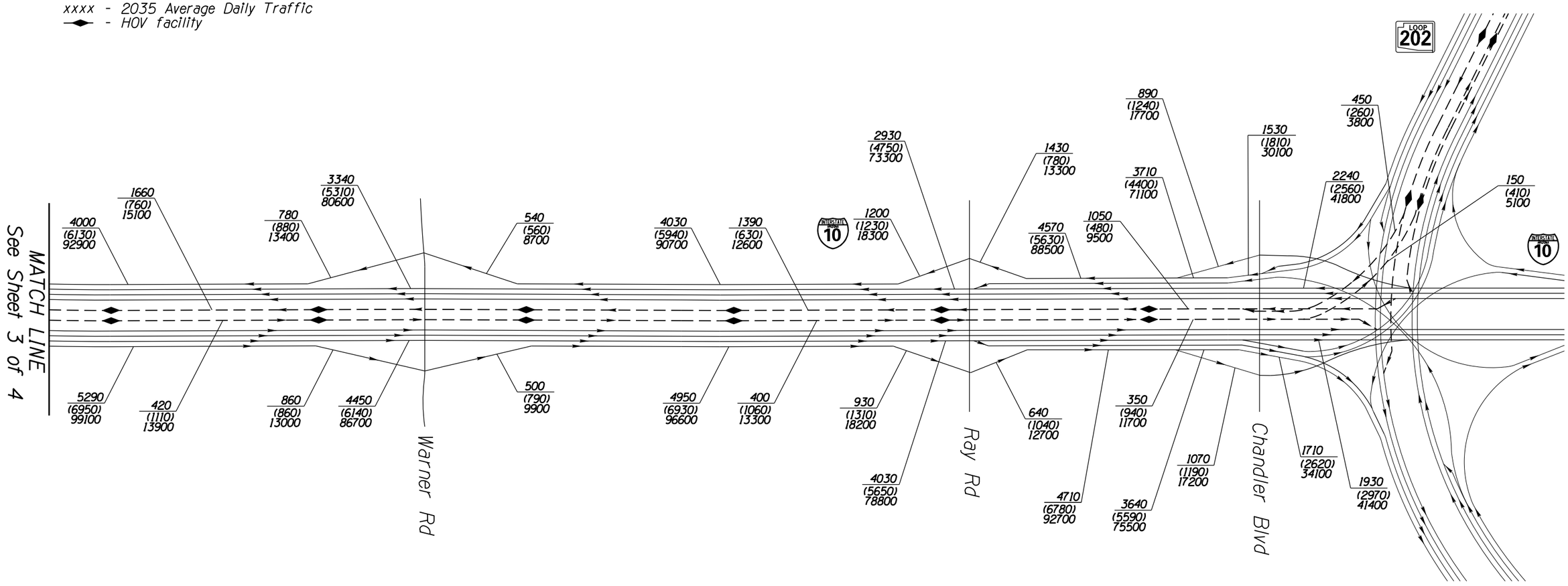
7/24/2015 U:\I10-02\Spot\Design\tra\No Build\Figures\2035 Figures\NB volume 3.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2035 AM Peak Hour Volume
(xxx) - 2035 PM Peak Hour Volume
xxxx - 2035 Average Daily Traffic
◆—◆ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 NO BUILD VOLUMES
& LANE CONFIGURATION
SHEET 4 OF 4

U:\110-02\Spot\Design\tre\No Build\Figures\2035 Figures\NB volume 4.dgn
7/24/2015

NOTES:

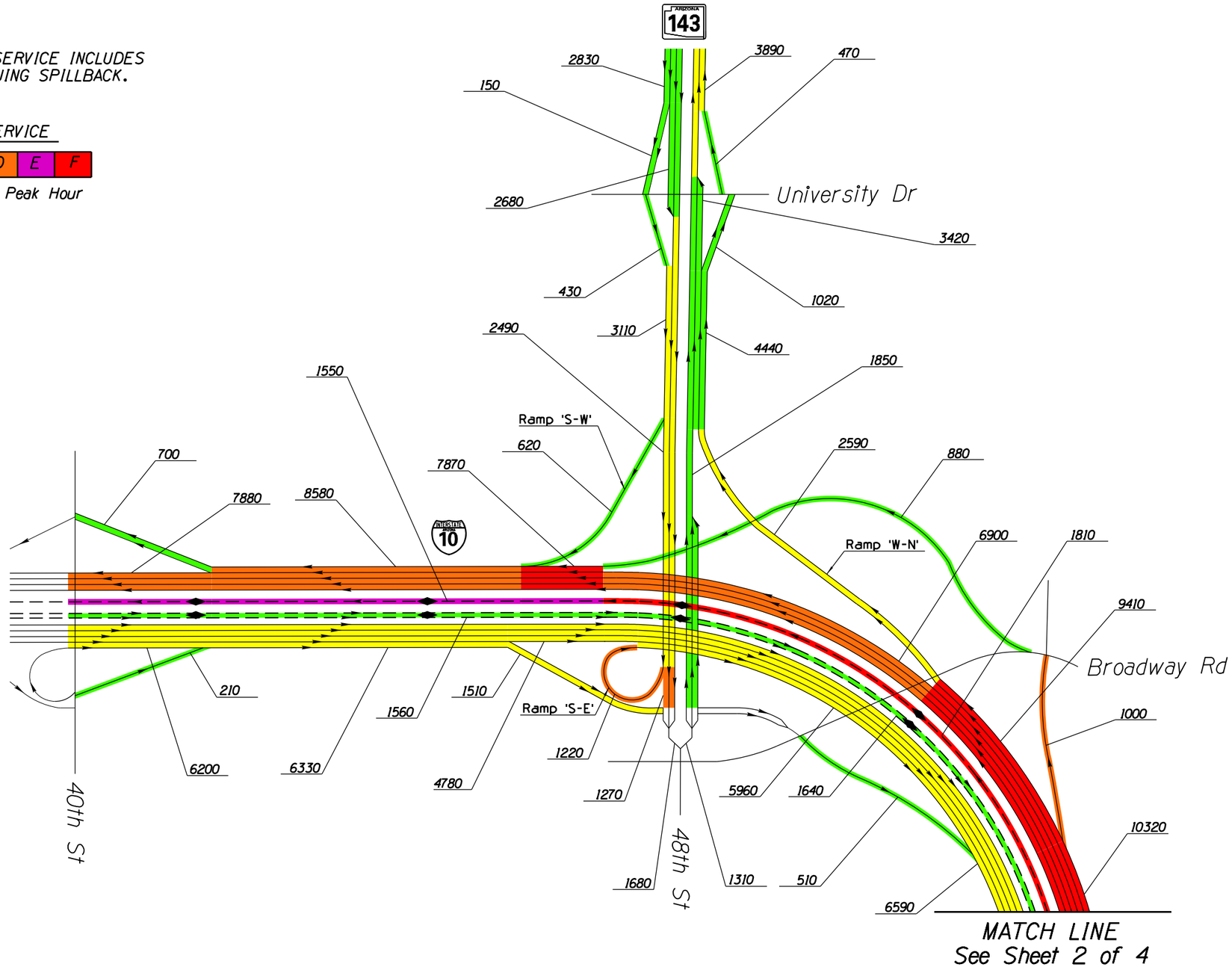
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 AM Peak Hour



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 NO BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

U:\I10-02\Spot\Design\tra\No Build\Figures\2035 Figures\NB AM LOS 1.dgn
7/24/2015

NOTES:

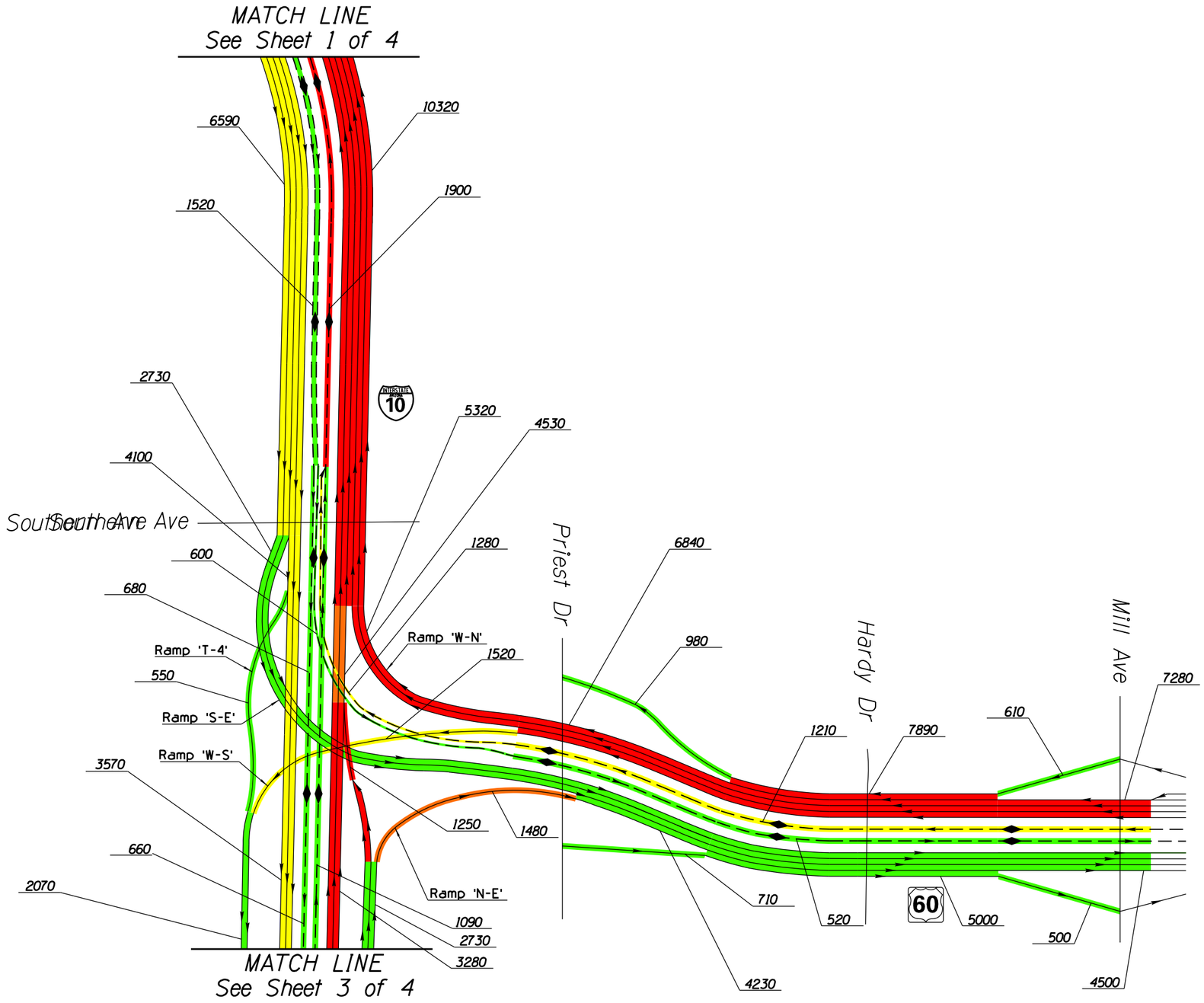
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 AM Peak Hour



N

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 NO BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

U:\I10-02\Spot\Design\tra\No Build\Figures\2035 Figures\NB AM LOS 2.dgn
7/24/2015

NOTES:

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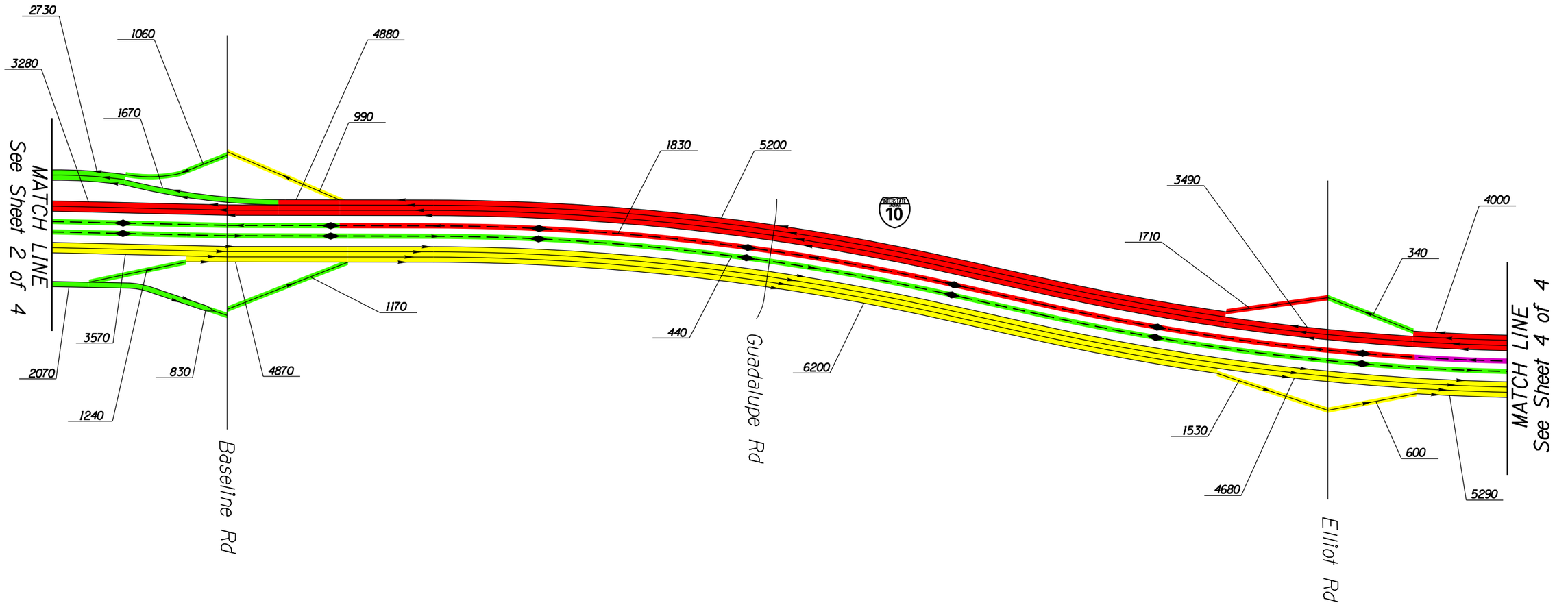
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 NO BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

U:\I10-02\Spot\Design\tre\No Build\Figures\2035 Figures\NB AM LOS 3.dgn
7/24/2015

NOTES:

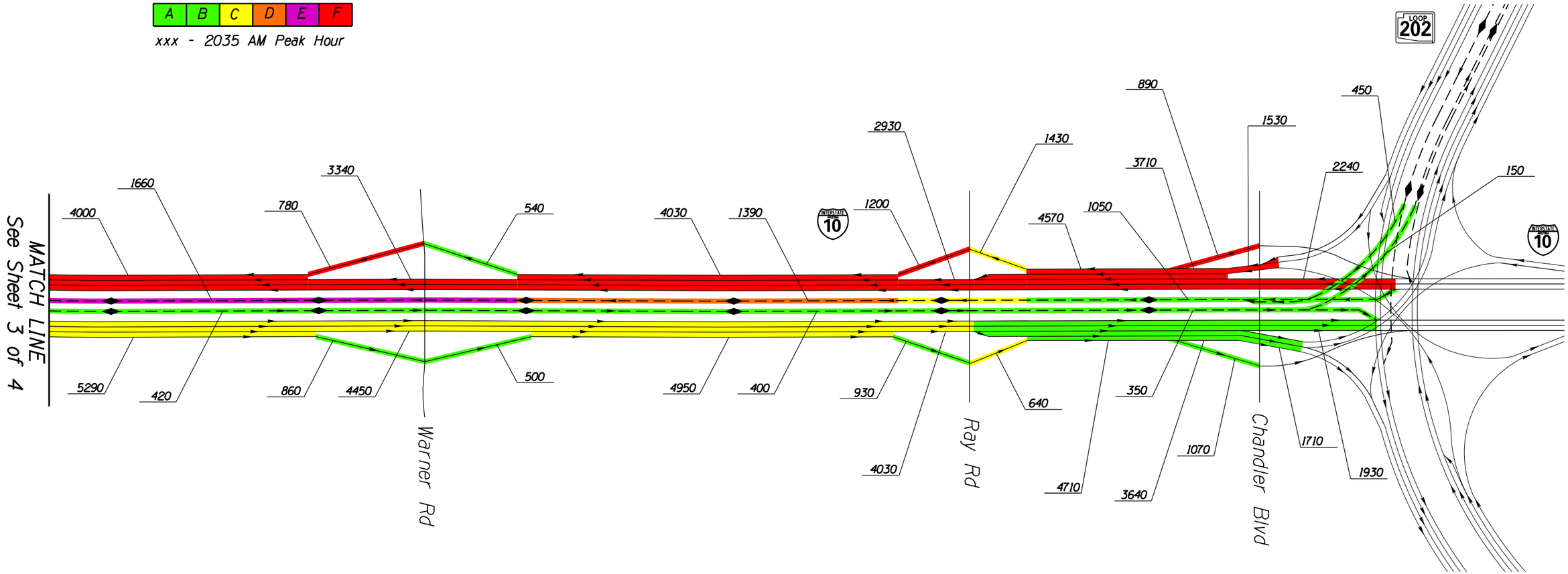
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 NO BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

U:\I10-02\Spot1\Design\traNo Build\Figures\2035 Figures\NB AM LOS 4.dgn
7/24/2015

NOTES:

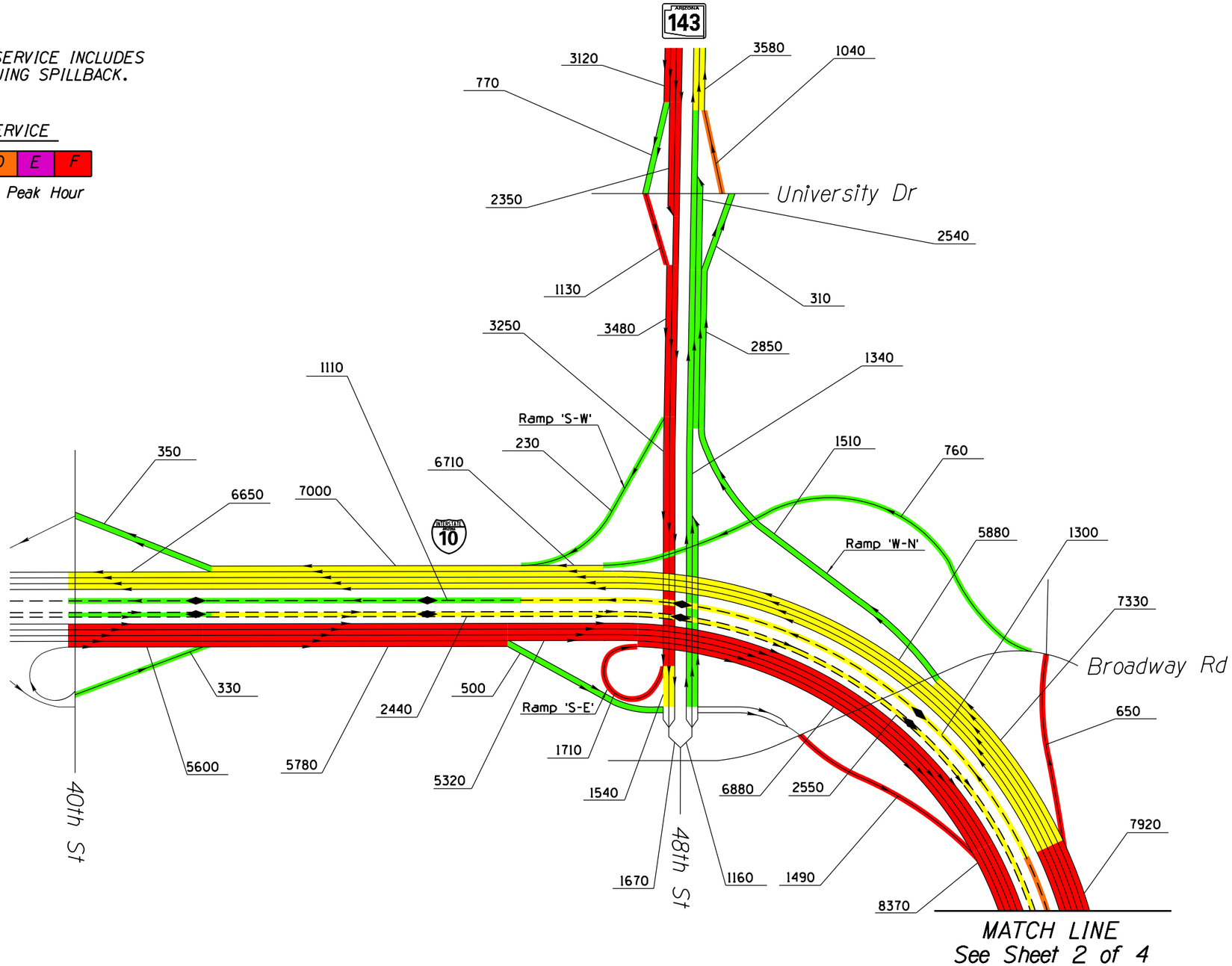
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 NO BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

U:\110-02\Spot\Design\tra\No Build\Figures\2035 Figures\NB PM LOS 1.dgn
7/24/2015

NOTES:

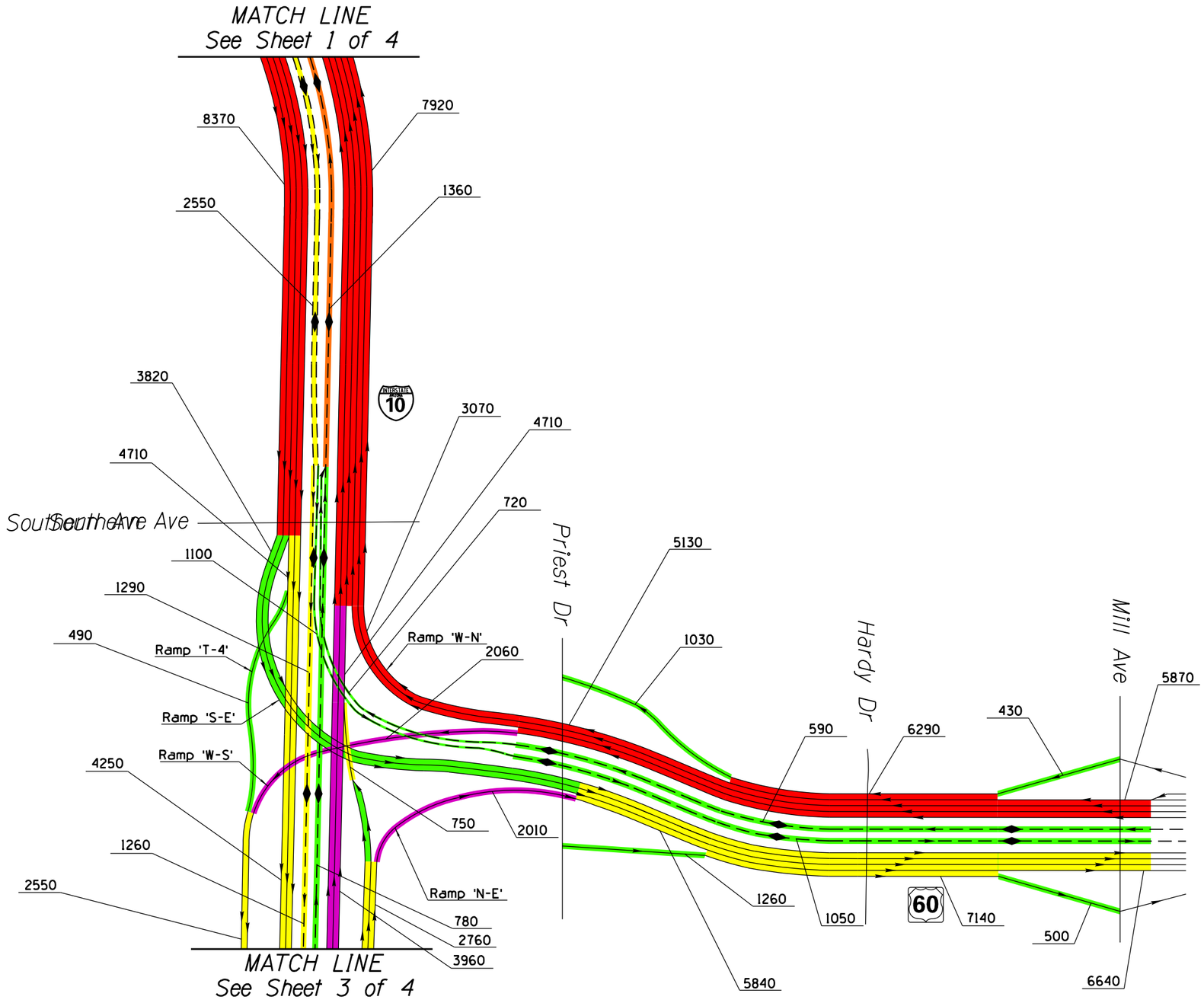
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 NO BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

U:\110-02\Spot1\Design\tra\No Build\Figures\2035 Figures\NB PM LOS 2.dgn
7/24/2015

NOTES:

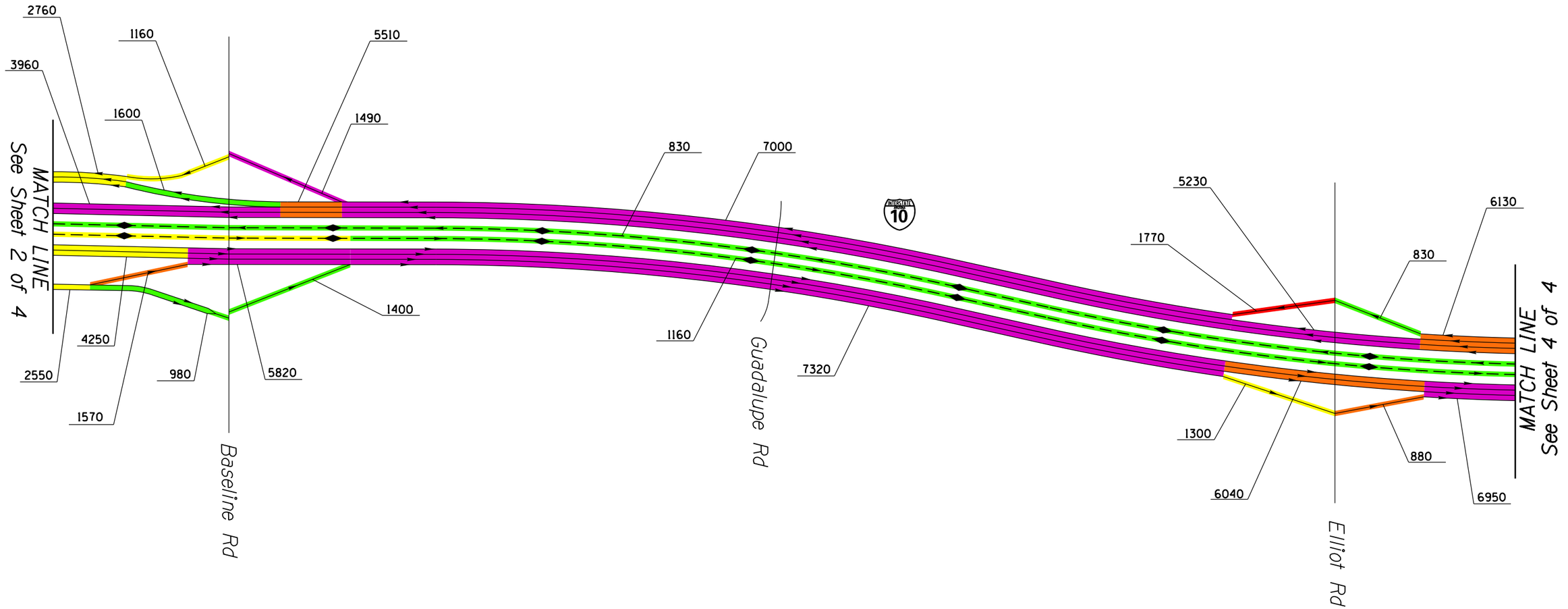
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 NO BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

U:\I10-02\Spot\Design\tre\No Build\Figures\2035 Figures\NB PM LOS 3.dgn
7/24/2015

NOTES:

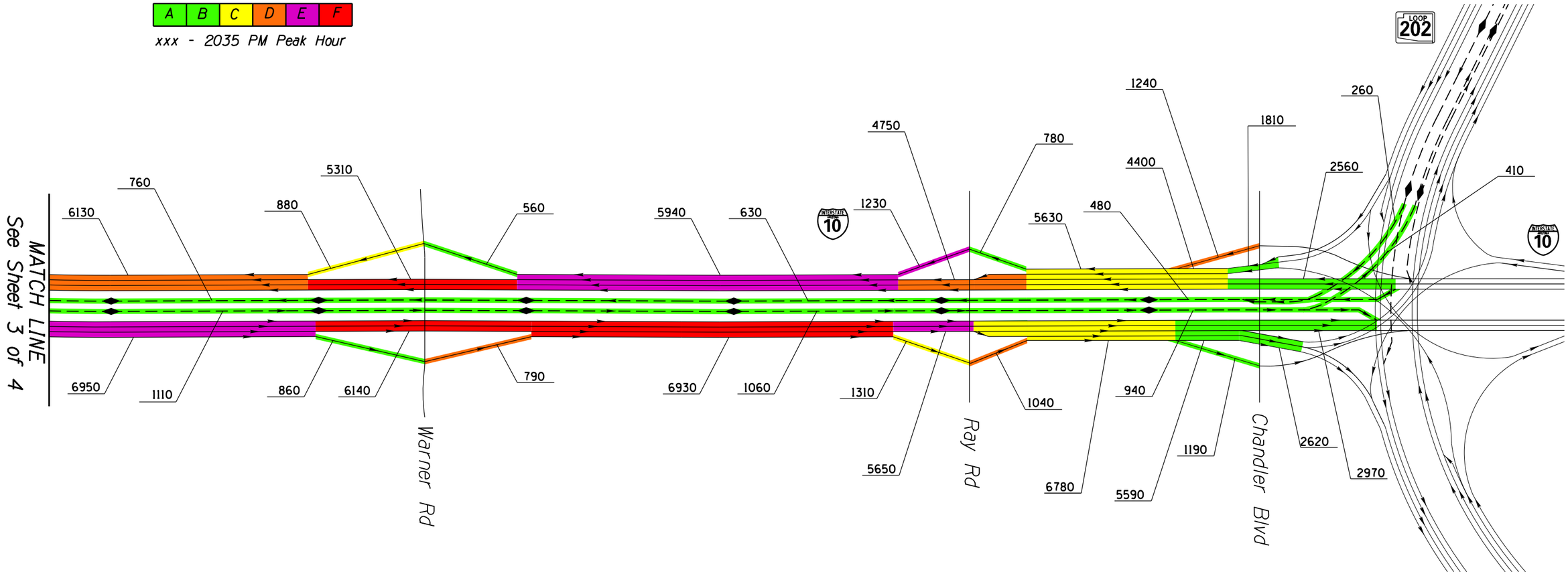
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

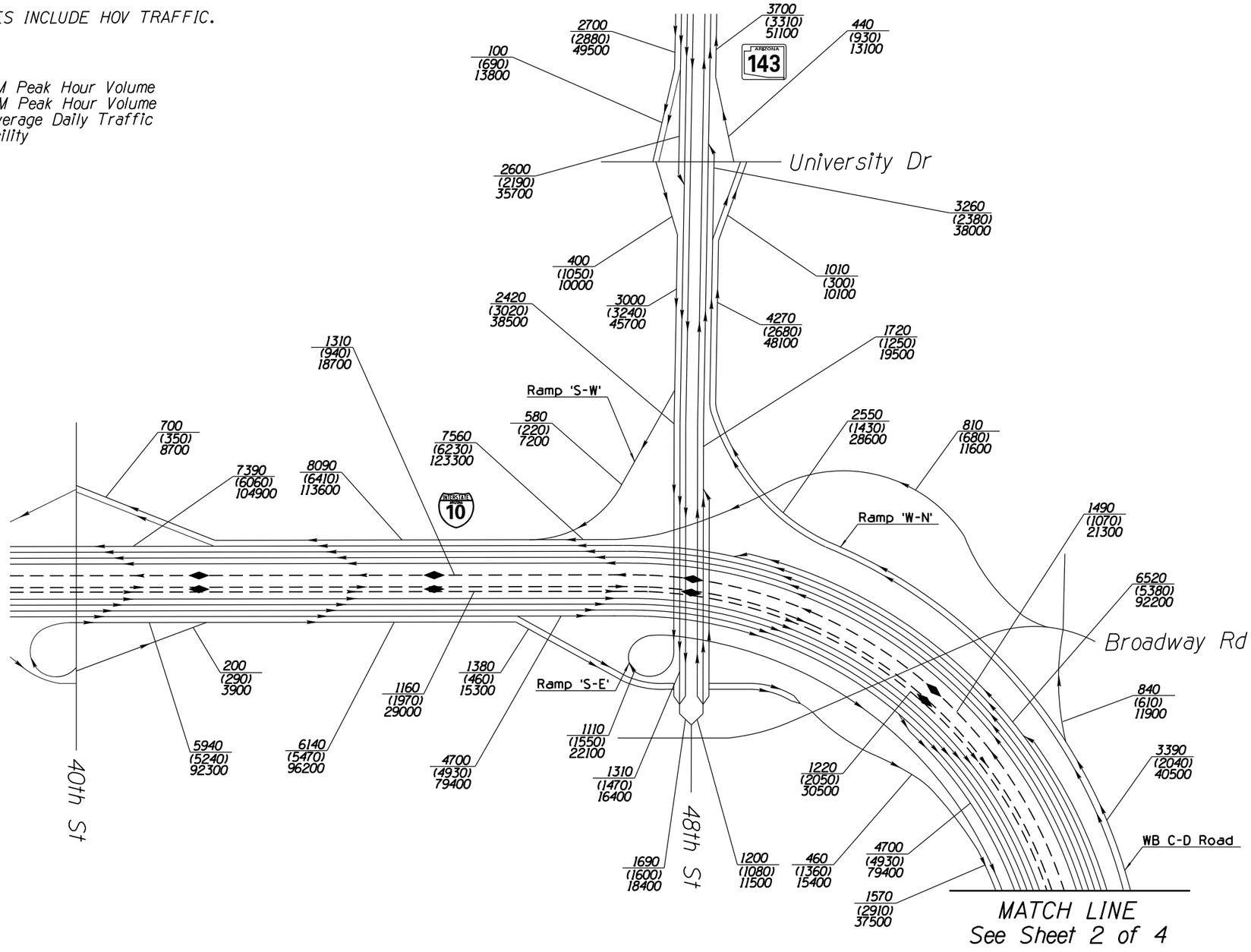
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 NO BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

7/24/2015 U:\I10-02\Spot1\Design\tra\No Build\Figures\2035 Figures\NB PM LOS 4.dgn

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2020 AM Peak Hour Volume
(xxx) - 2020 PM Peak Hour Volume
xxxx - 2020 Average Daily Traffic
— - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 1 OF 4

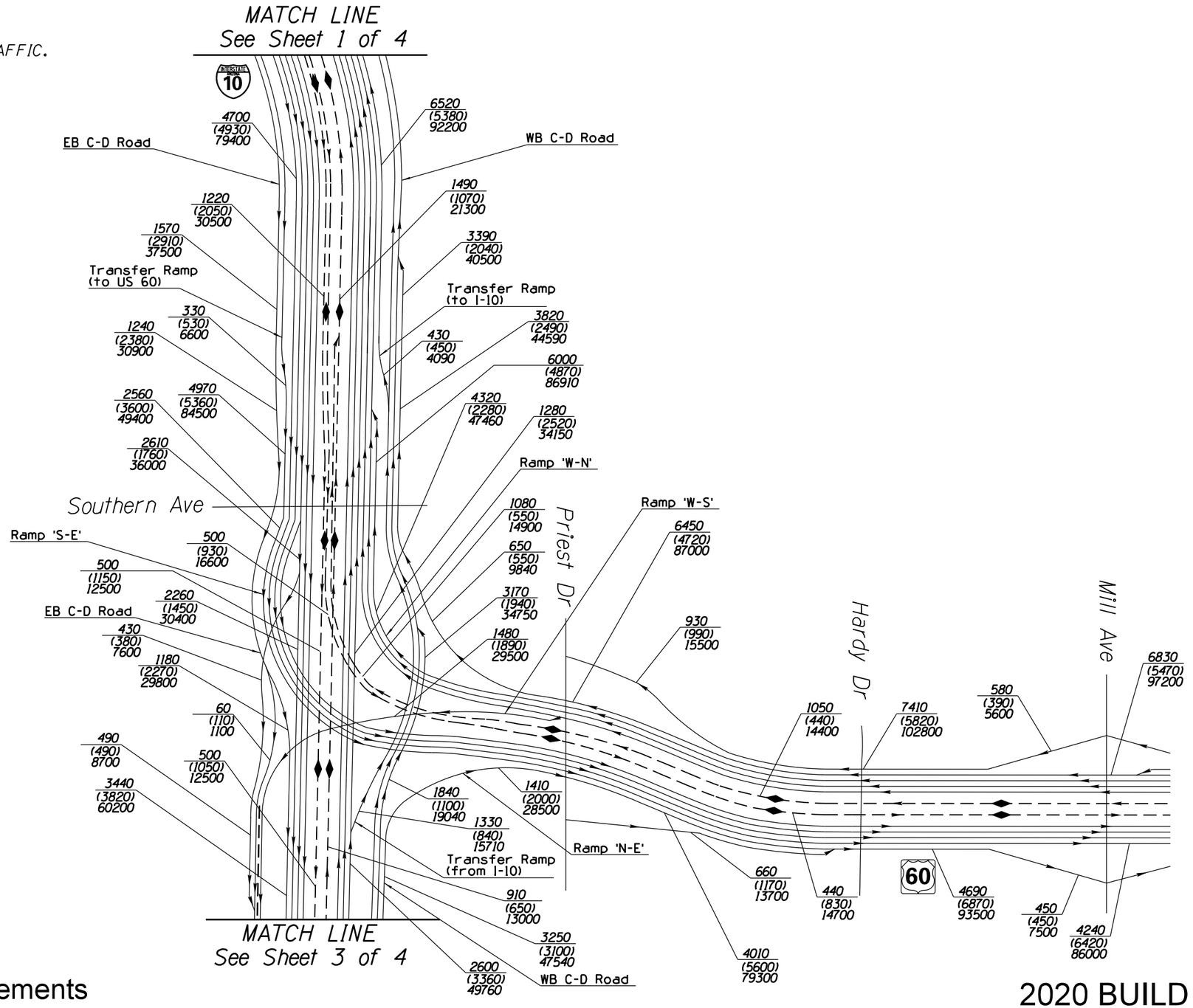
7/24/2015 U:\110-02\Spot\Design\tre\Build\Figures\2020 Figures\Alt 1 Option 1\ALT1_build volume 1.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2020 AM Peak Hour Volume
(xxx) - 2020 PM Peak Hour Volume
xxxx - 2020 Average Daily Traffic
◆—◆ - HOV facility



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

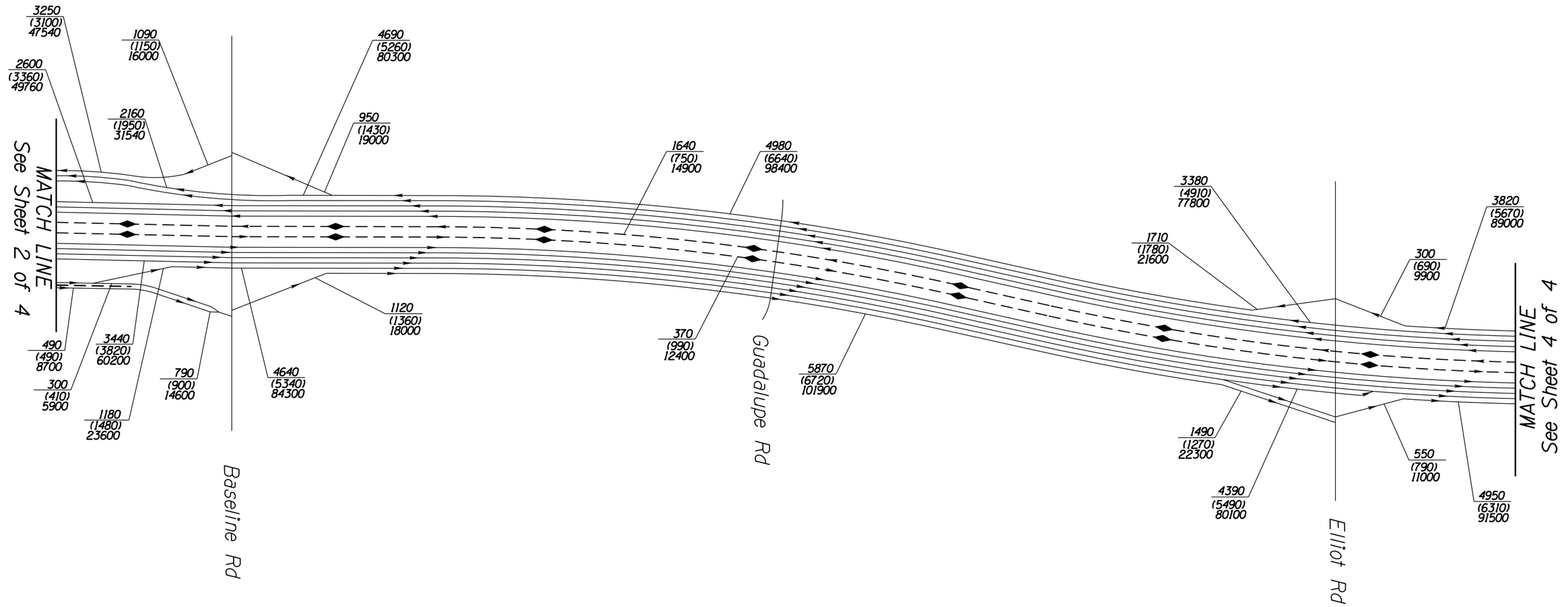
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 2 OF 4

U:\I10-02\Spot\Design\tra\Build\Figures\2020 Figures\Alt 1 Option 1\ALT1_build volume 2.dgn
7/24/2015

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2020 AM Peak Hour Volume
(xxx) - 2020 PM Peak Hour Volume
xxxx - 2020 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

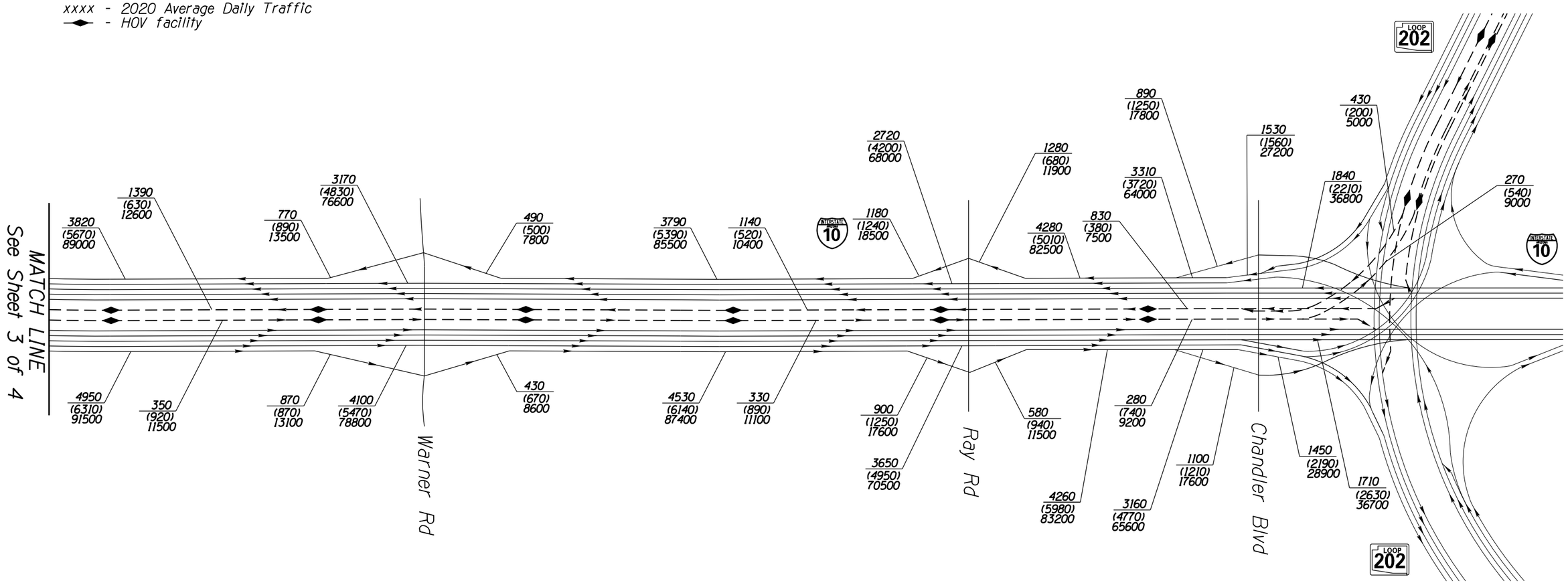
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 3 OF 4

7/24/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2020 Figures\Alt 1 Option 1\ALT1_build volume 3.dgn

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2020 AM Peak Hour Volume
(xxx) - 2020 PM Peak Hour Volume
xxxx - 2020 Average Daily Traffic
◆—◆ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 4 OF 4

7/24/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2020 Figures\Alt 1 Option 1\ALT1.build volume 4.dgn

NOTES:

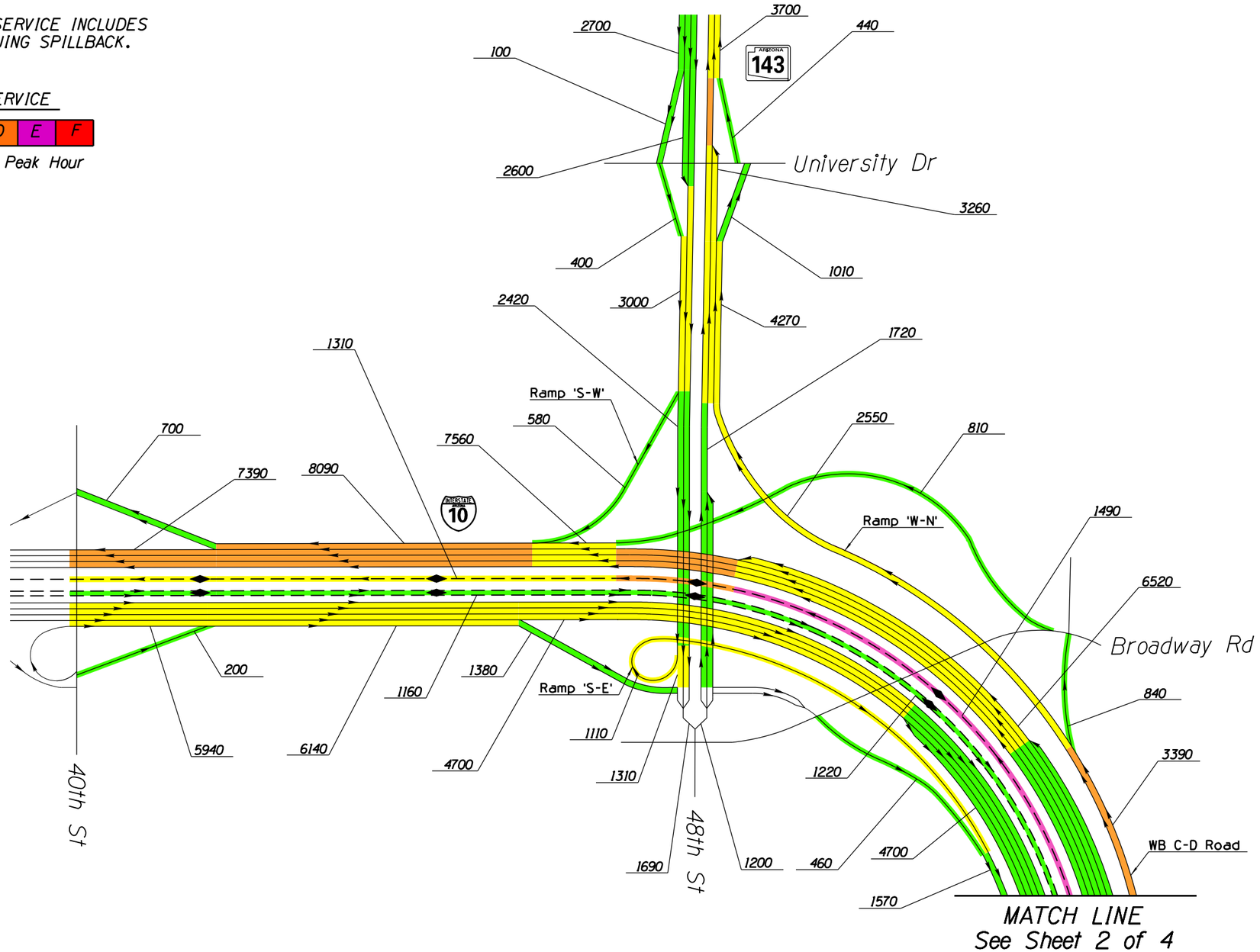
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

U:\I10-02\Spot\Design\tra\Build\Figures\2020 Figures\Alt 1 Option 1\ALT1 B AM LOS 1.dgn
7/26/2015

NOTES:

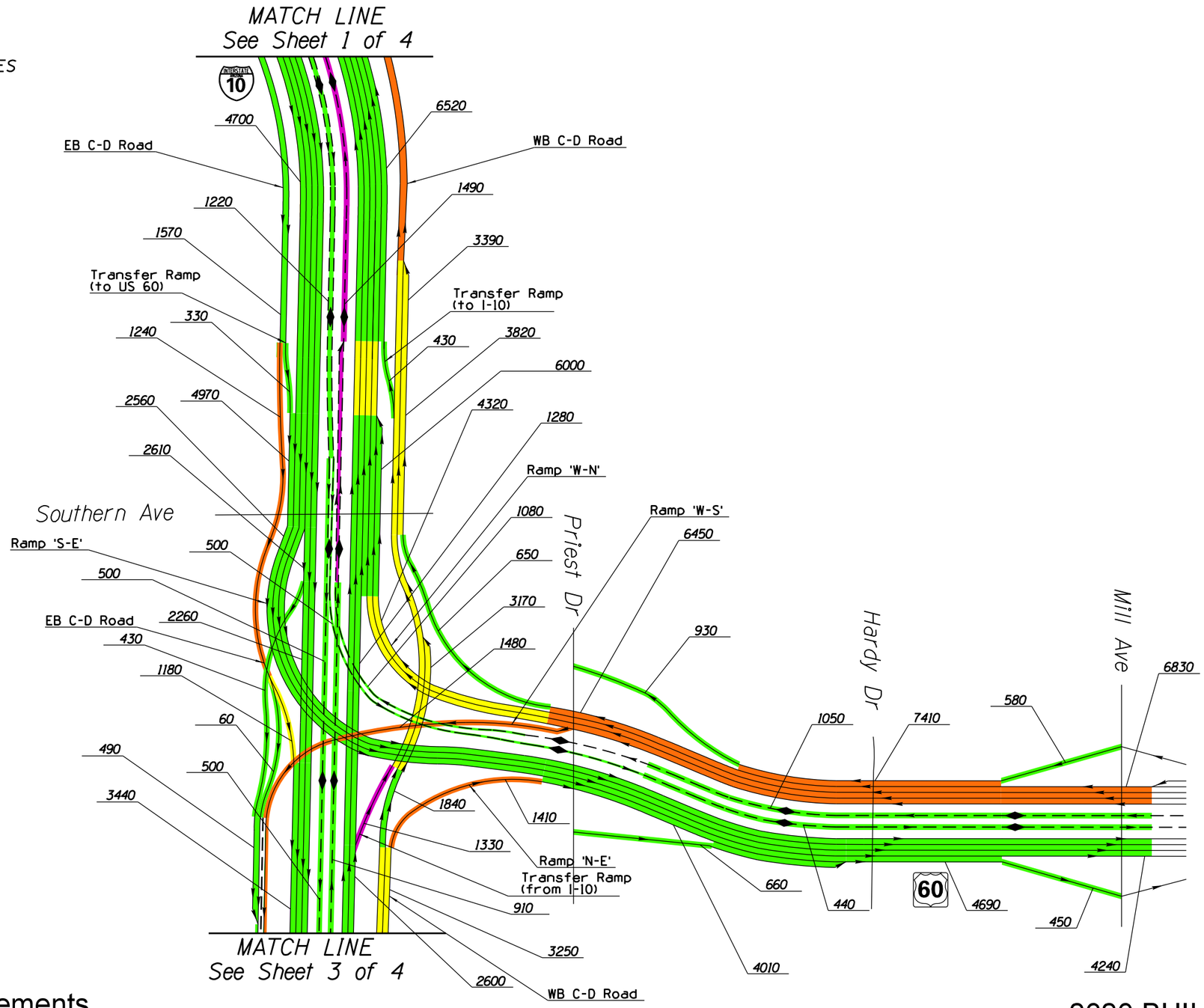
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

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APPENDIX G
2020 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

U:\I10-02\Spot\Design\tra\Build\Figures\2020 Figures\Alt 1 Option 1\ALT1 B AM LOS 2.dgn
7/26/2015

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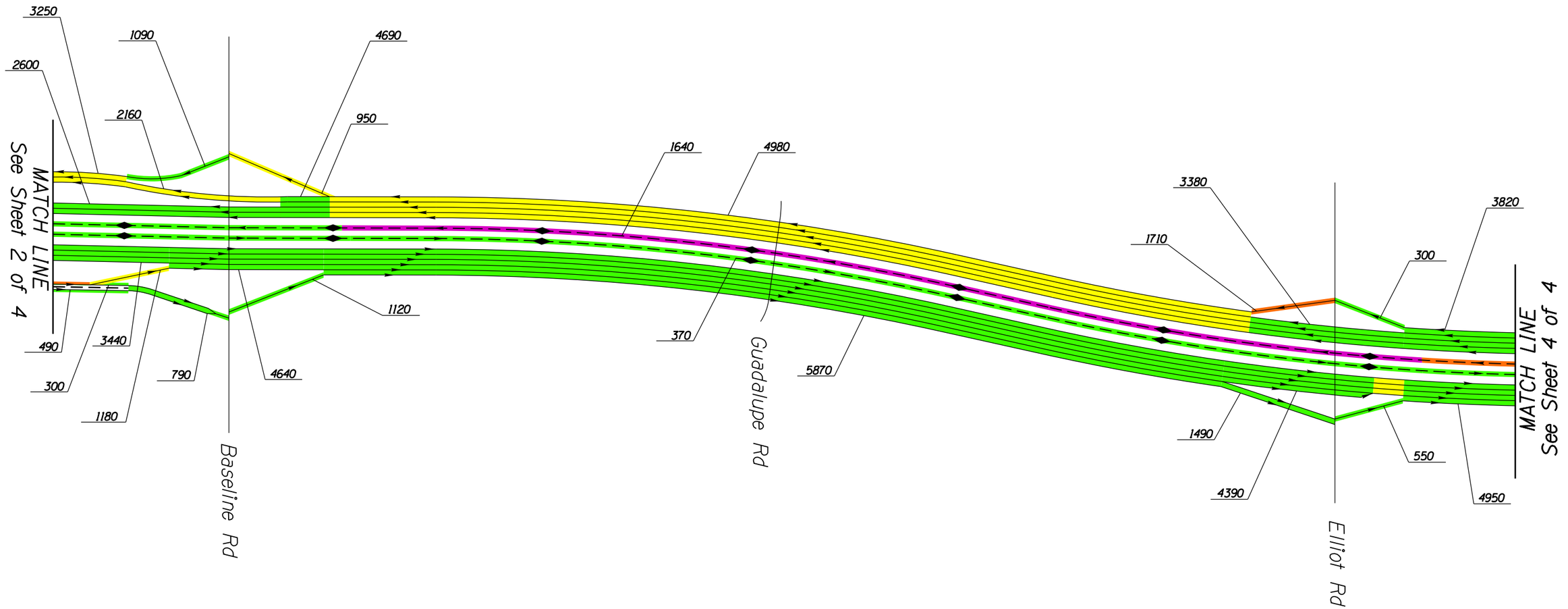
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

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APPENDIX G
2020 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

U:\I10-02\Spot\Design\tre\Build\Figures\2020 Figures\Alt 1 Option 1\ALT1 B AM LOS 3.dgn
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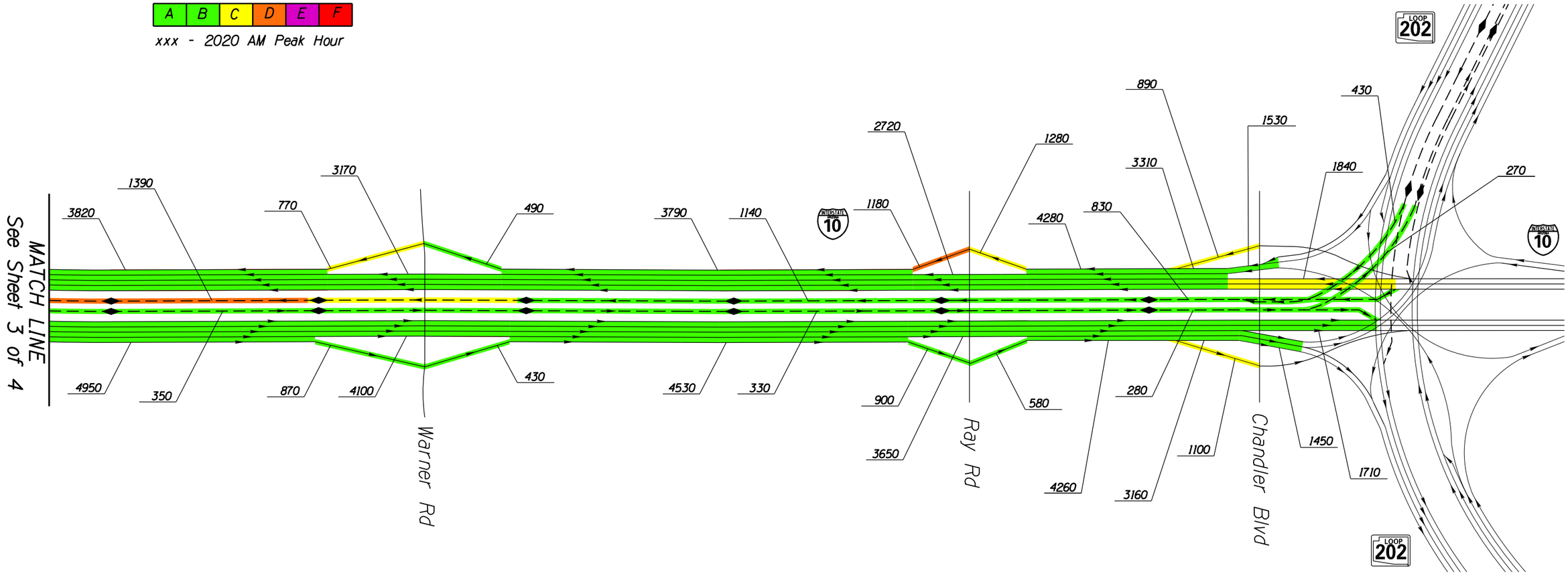
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 AM Peak Hour



NOT TO SCALE - SCHEMATIC ONLY

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

APPENDIX G
2020 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

7/26/2015 U:\I10-02\Spot1\Design\tra\Build\Figures\2020 Figures\Alt 1 Option 1\ALT1 B AM LOS 4.dgn

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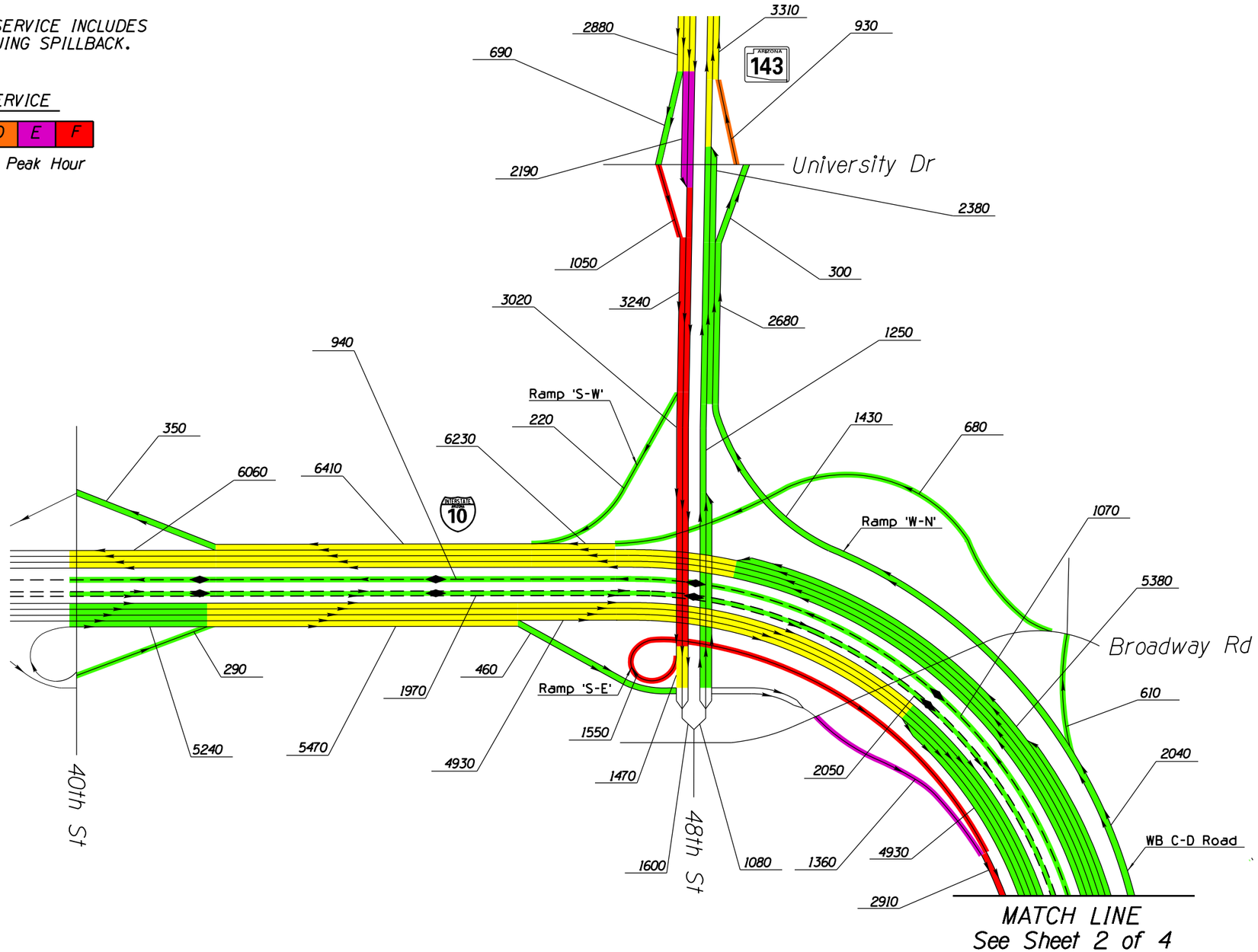
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

7/26/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2020 Figures\Alt 1 Option 1\ALT1 B PM LOS 1.dgn

NOTES:

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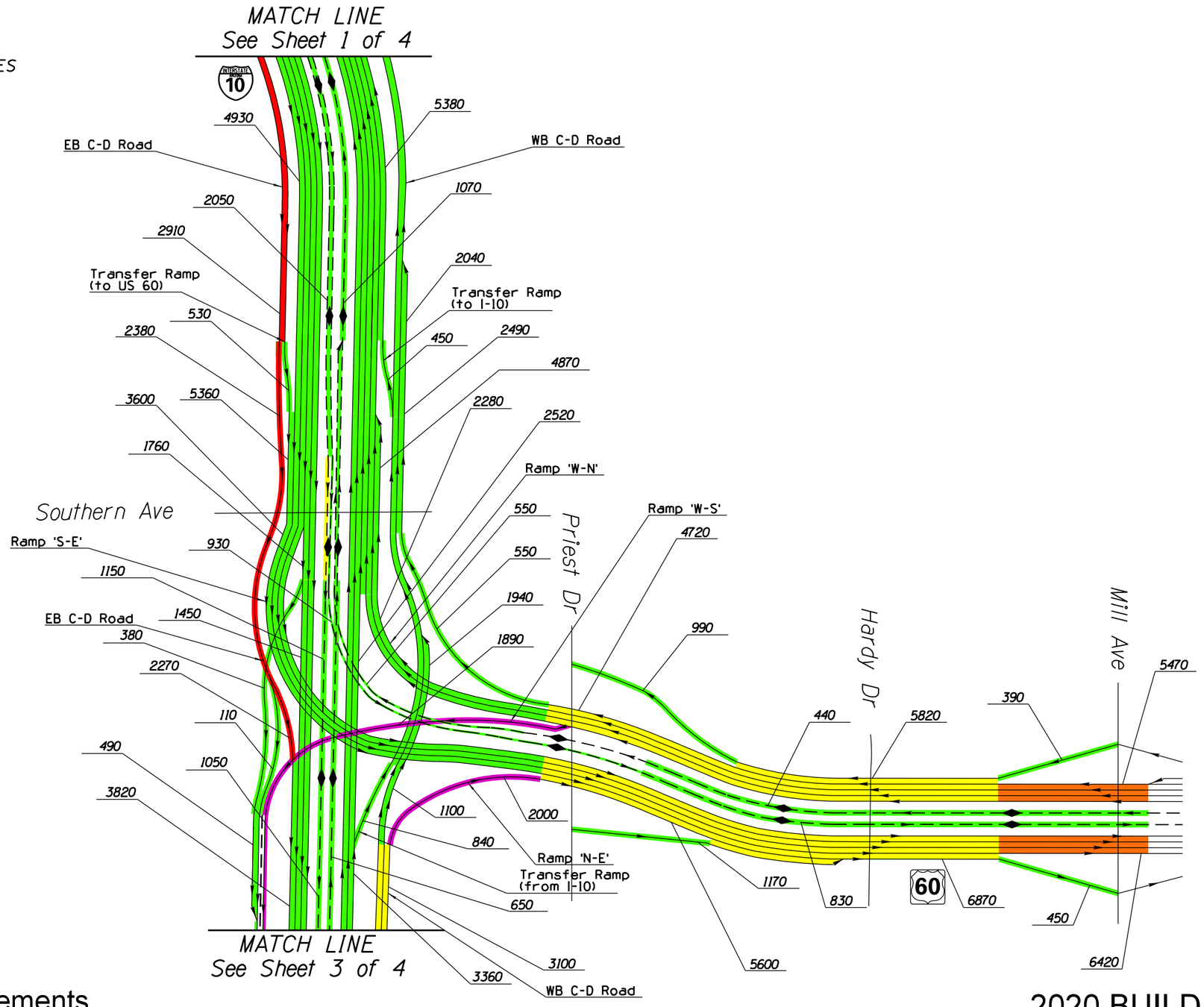
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

U:\I10-02(Spot)\Design\tre\Build\Figures\2020 Figures\Alt 1 Option 1\ALT1 B PM LOS 2.dgn
7/26/2015

NOTES:

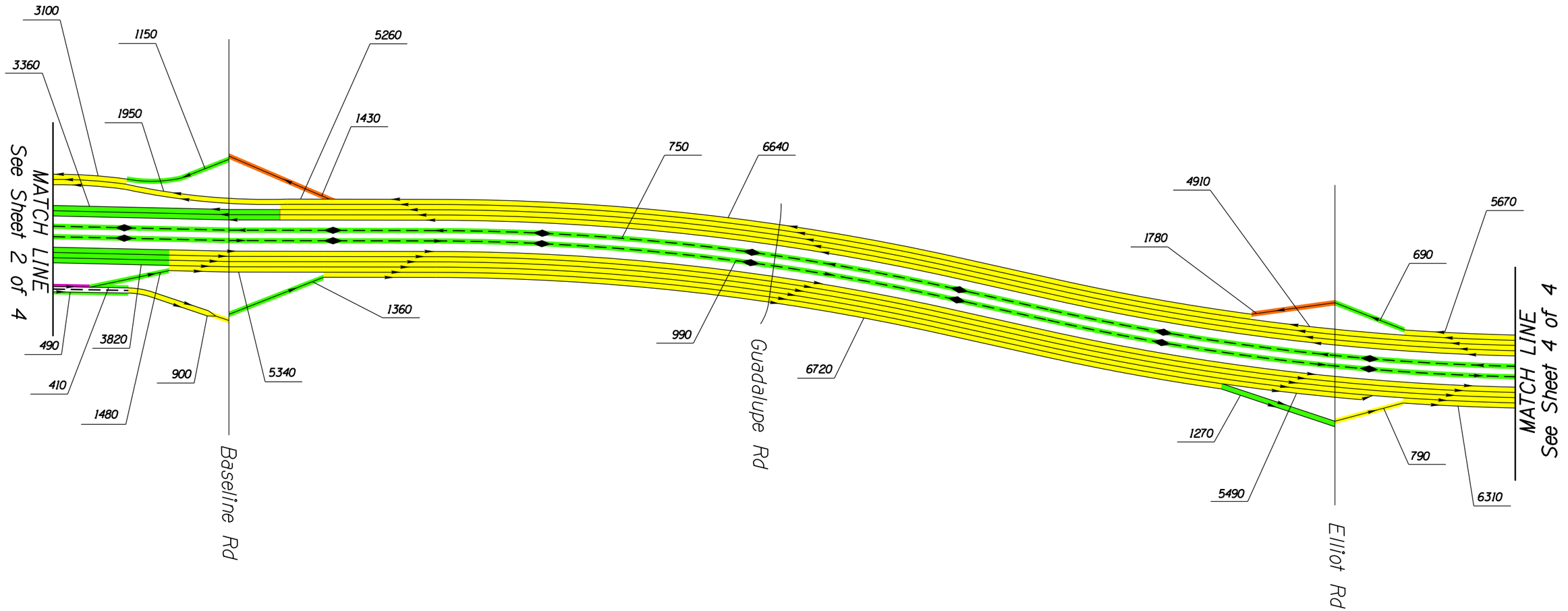
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

U:\I10-02\Spot\Design\tre\Build\Figures\2020 Figures\Alt 1 Option 1\ALT1 B PM LOS 3.dgn
7/26/2015

NOTES:

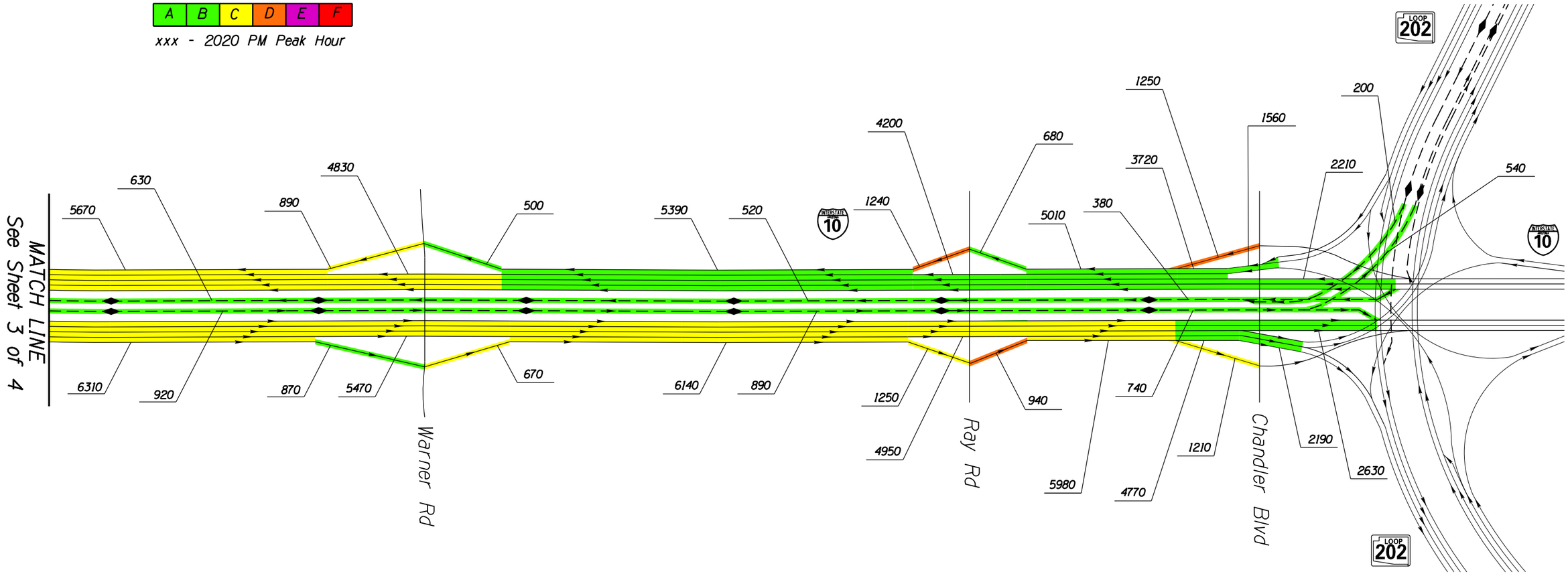
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

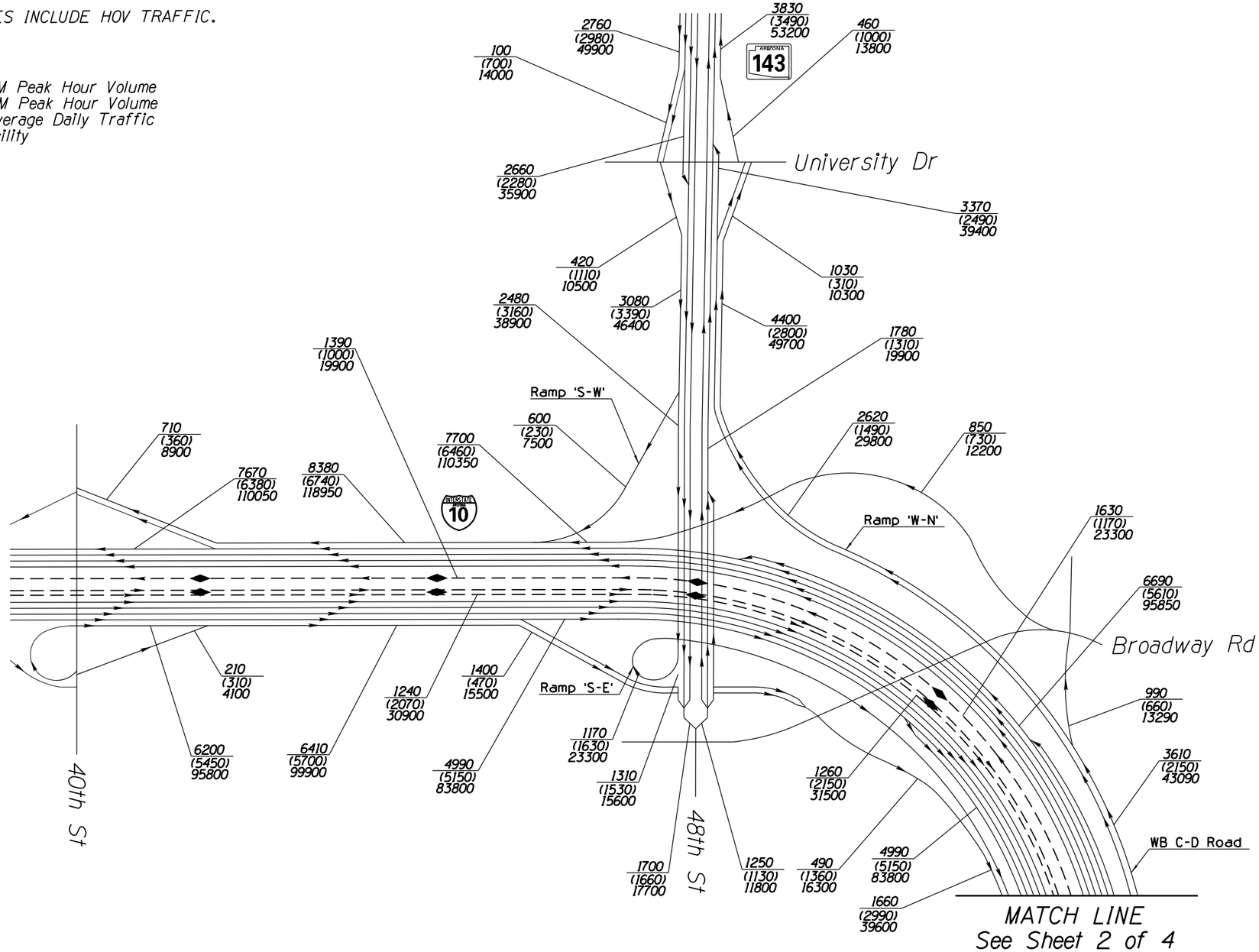
7/26/2015 U:\I10-02\Spot1\Design\traBuild\Figures\2020 Figures\Alt 1 Option 1\ALT1 B PM LOS 4.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2025 AM Peak Hour Volume
(xxx) - 2025 PM Peak Hour Volume
xxxx - 2025 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

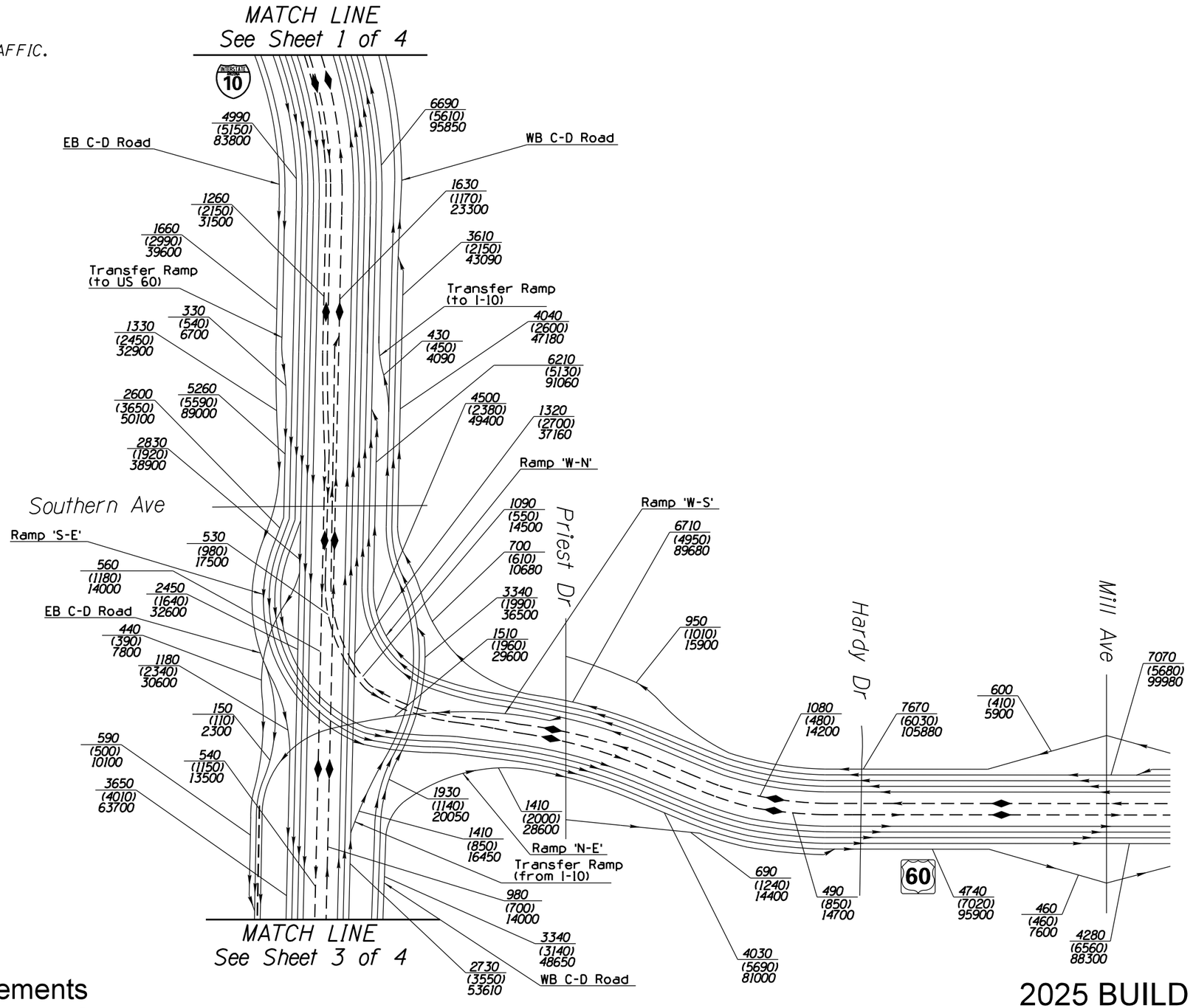
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 1 OF 4

7/26/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2025 Figures\Alt 1 Opt 1\ALT1_build volume 1.dgn

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2025 AM Peak Hour Volume
(xxx) - 2025 PM Peak Hour Volume
xxxx - 2025 Average Daily Traffic
- HOV facility



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 2 OF 4

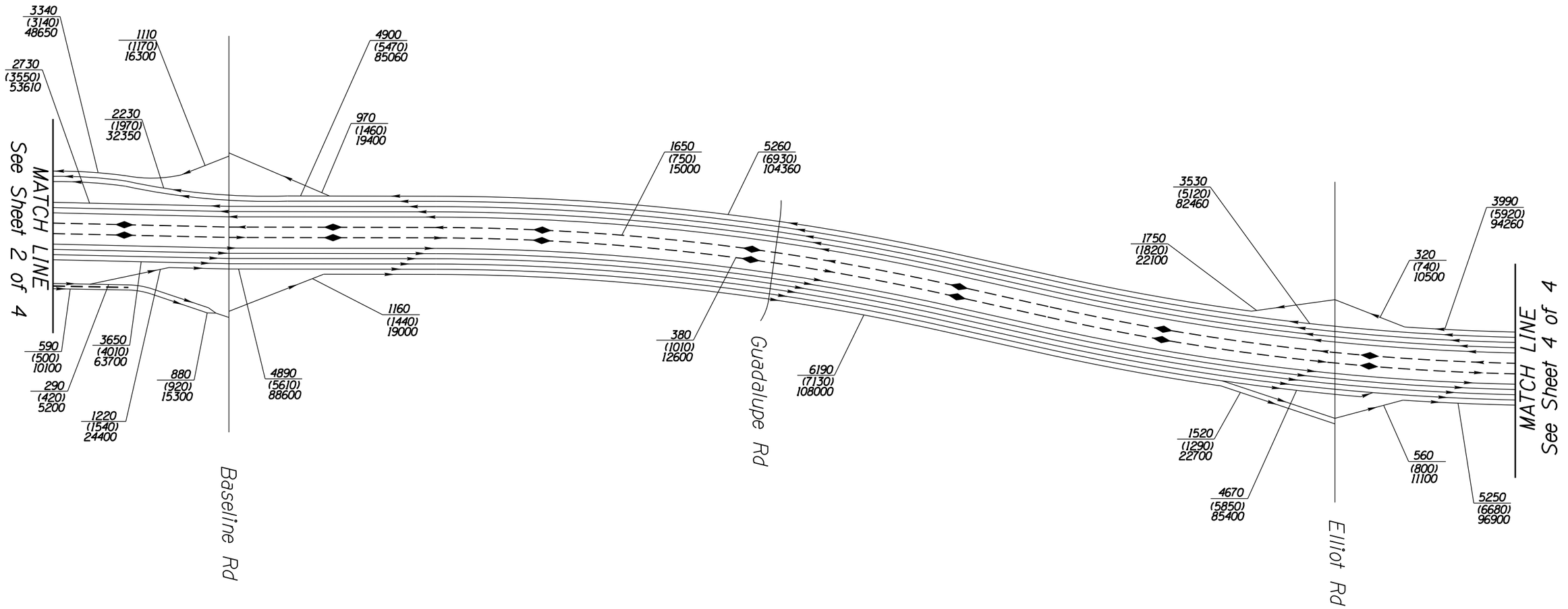
7/26/2015 U:\I10-02\Spot\Design\tre\Build\Figures\2025 Figures\Alt 1 Opt 1\ALT1_build volume 2.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2025 AM Peak Hour Volume
(xxx) - 2025 PM Peak Hour Volume
xxxx - 2025 Average Daily Traffic
◆—◆ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

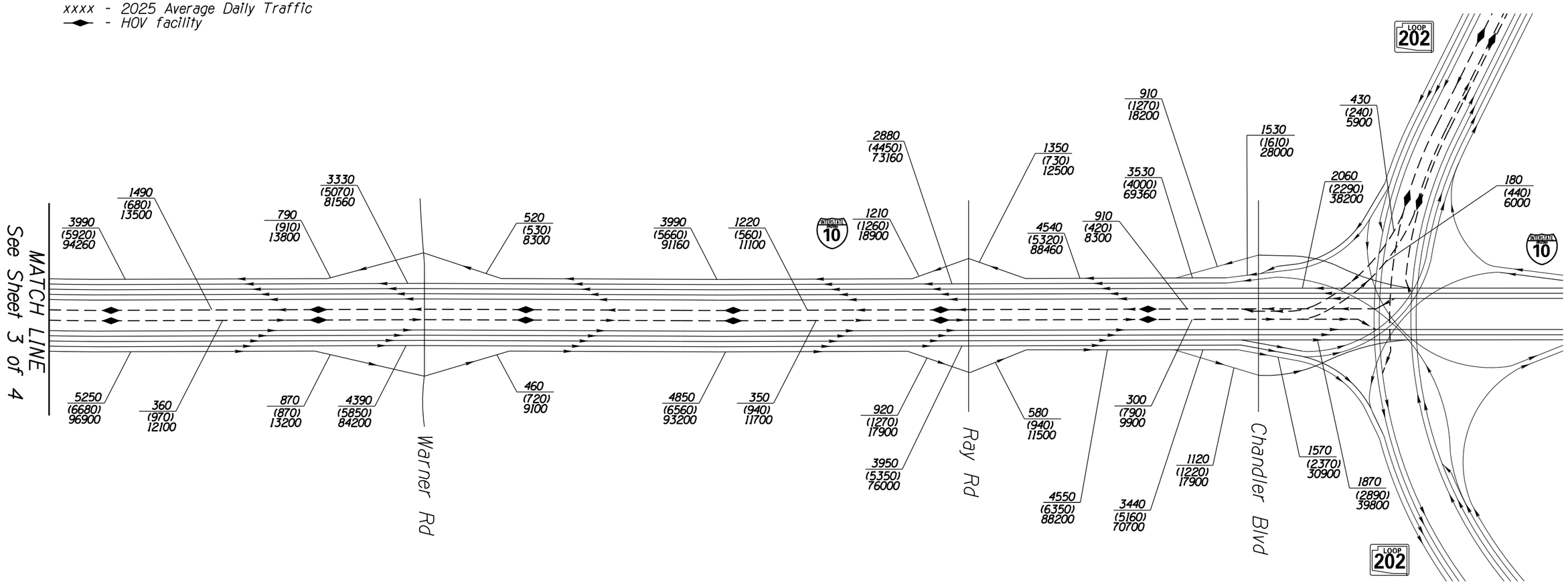
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 3 OF 4

7/26/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2025 Figures\Alt 1 Opt 1\ALT1_build volume 3.dgn

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2025 AM Peak Hour Volume
(xxx) - 2025 PM Peak Hour Volume
xxxx - 2025 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 4 OF 4

U:\I10-02(Spot)\Design\tre\Build\Figures\2025 Figures\Alt 1 Opt 1\ALT1_build volume 4.dgn
7/26/2015

NOTES:

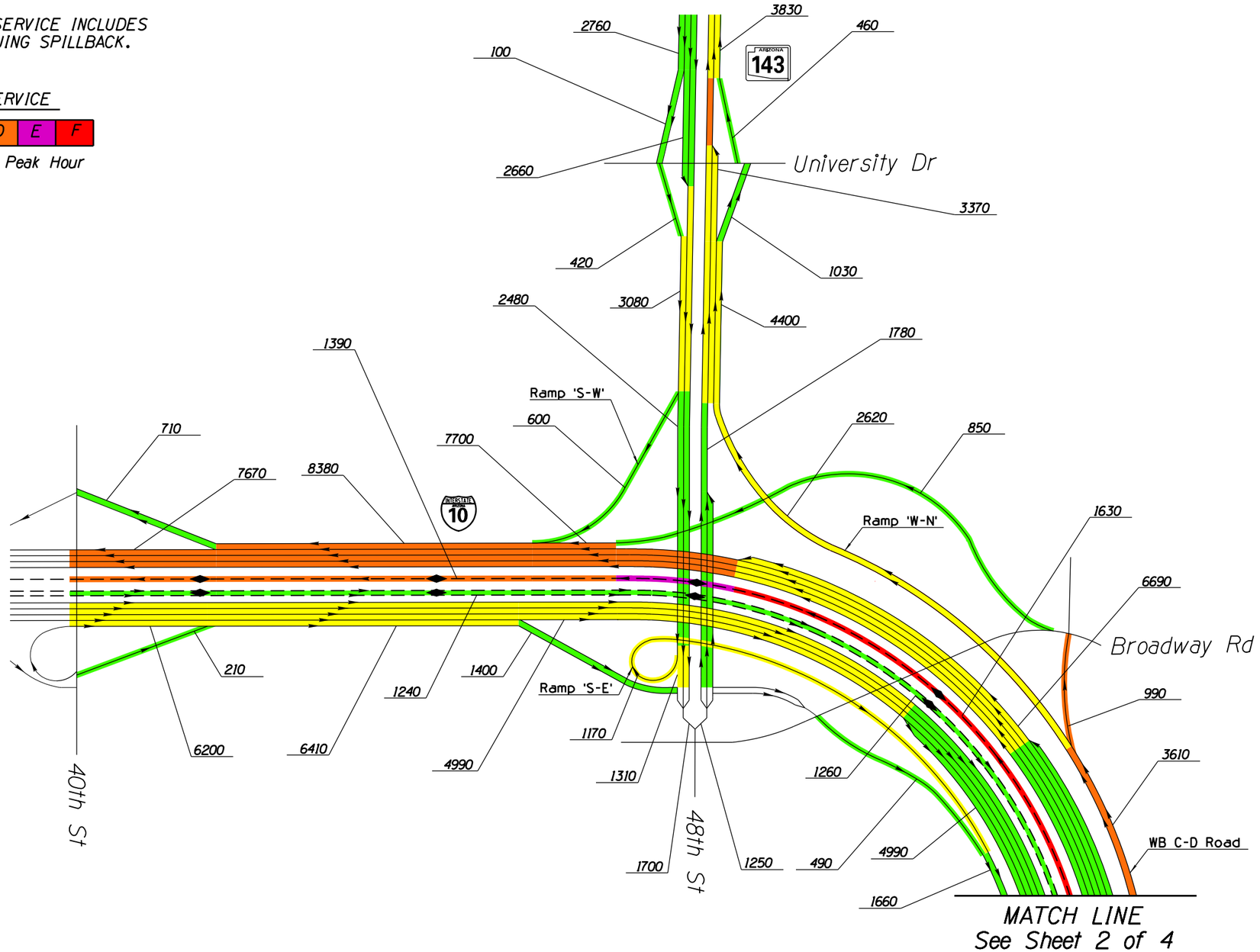
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

U:\I10-02\Spot1\Design\tra\Build\Figures\2025 Figures\Alt 1 Opt 1\ALT1 B AM LOS 1.dgn
7/26/2015

NOTES:

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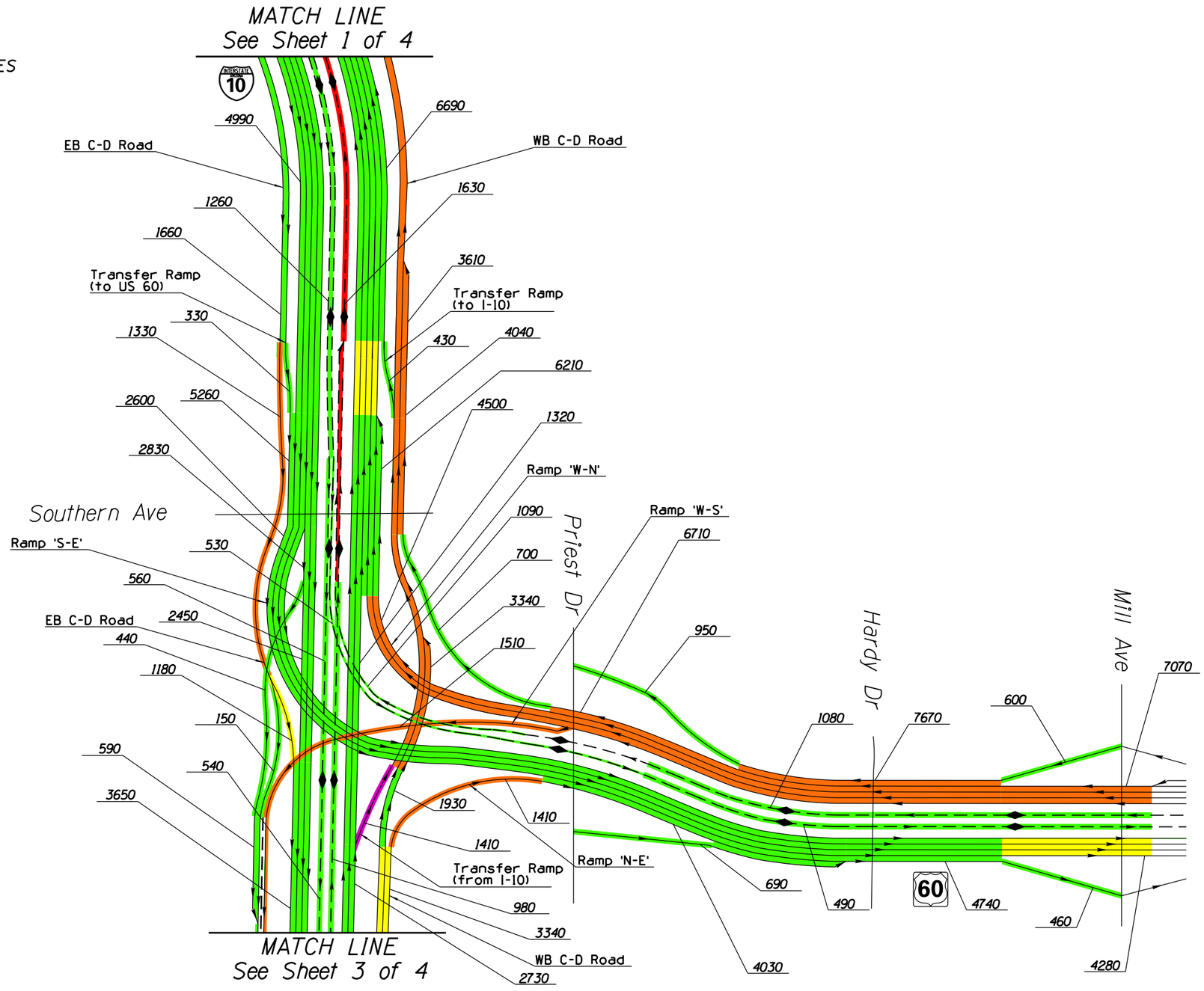
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

U:\I10-02\Spot\Design\tra\Build\Figures\2025 Figures\Alt 1 Opt 1\ALT1 B AM LOS 2.dgn
7/26/2015

NOTES:

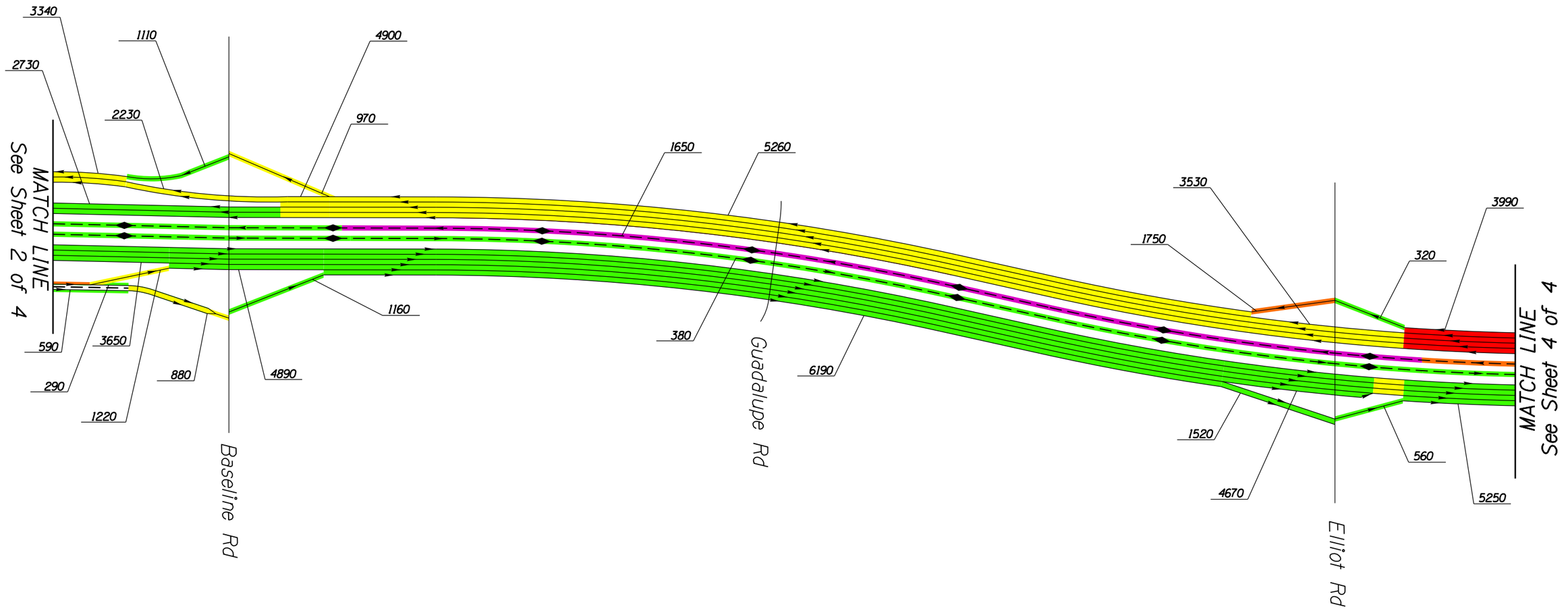
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

U:\I10-02\Spot\Design\tre\Build\Figures\2025 Figures\Alt 1 Opt 1\ALT1 B AM LOS 3.dgn
7/26/2015

NOTES:

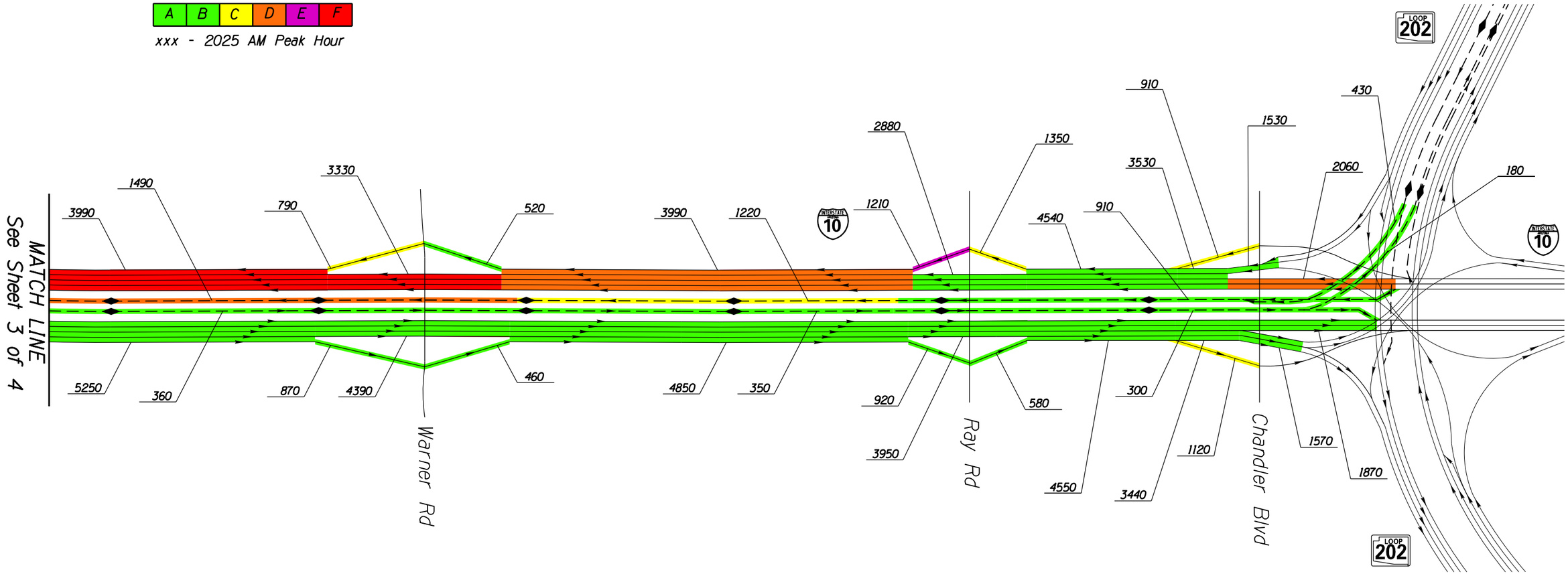
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

7/26/2015 U:\I10-02\Spot1\Design\tra\Build\Figures\2025 Figures\Alt 1 Opt 1\ALT1 B AM LOS 4.dgn

NOTES:

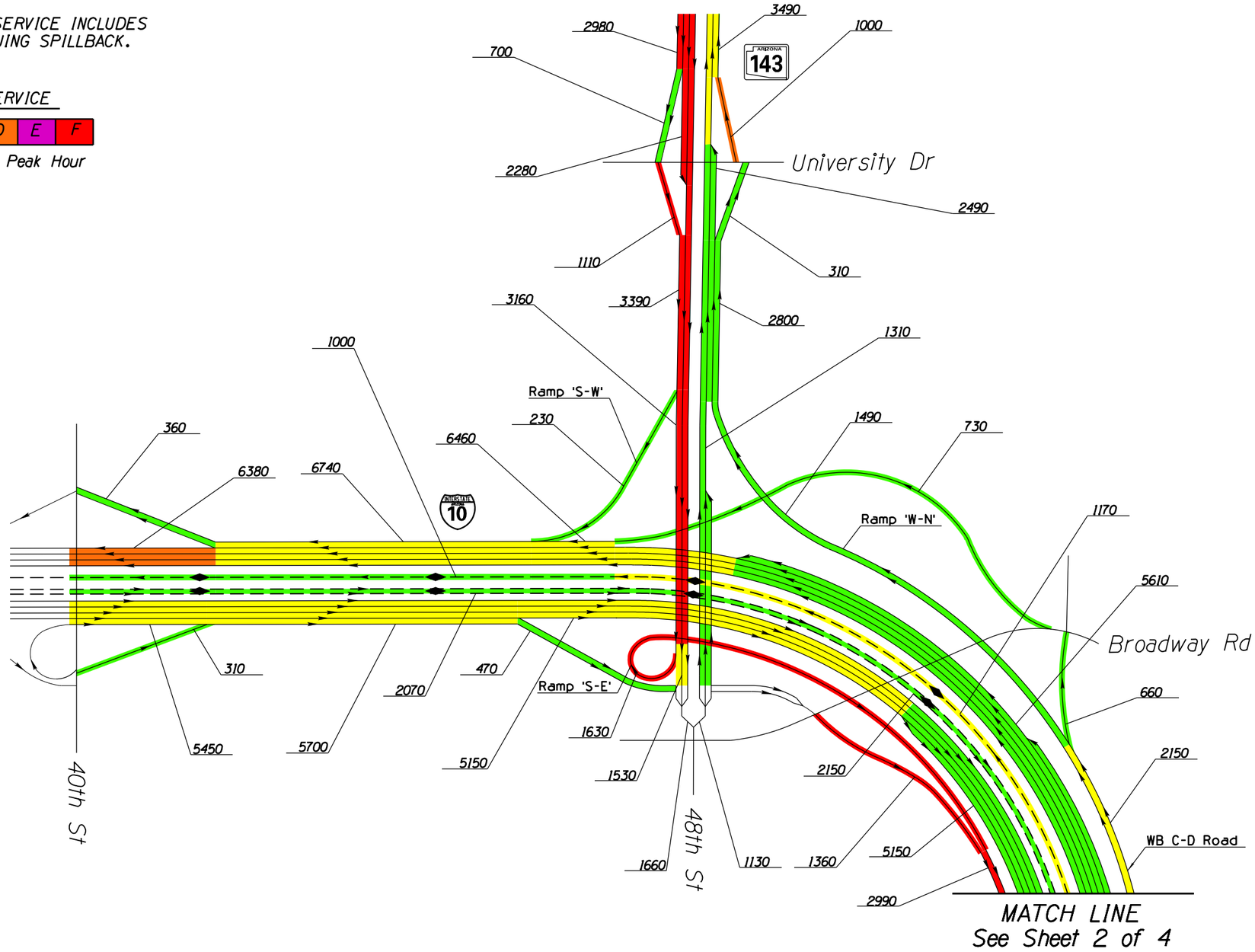
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

7/26/2015 U:\I10-02(Spot)\Design\tre\Build\Figures\2025 Figures\Alt 1 Opt 1\ALT1 B PM LOS 1.dgn

NOTES:

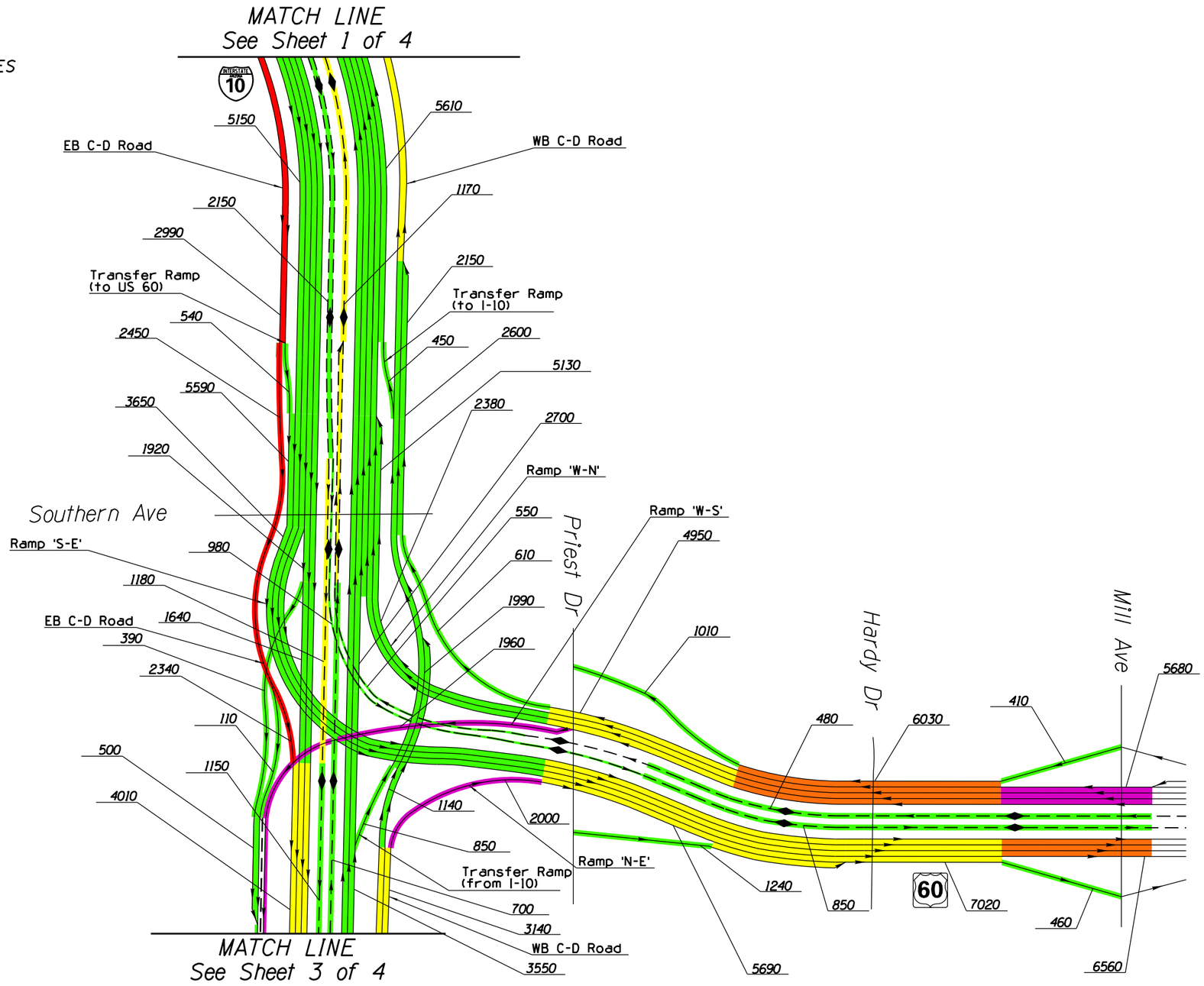
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

U:\I10-02\Spot\Design\tra\Build\Figures\2025 Figures\Alt 1 Opt 1\ALT1 B PM LOS 2.dgn
8/3/2015

NOTES:

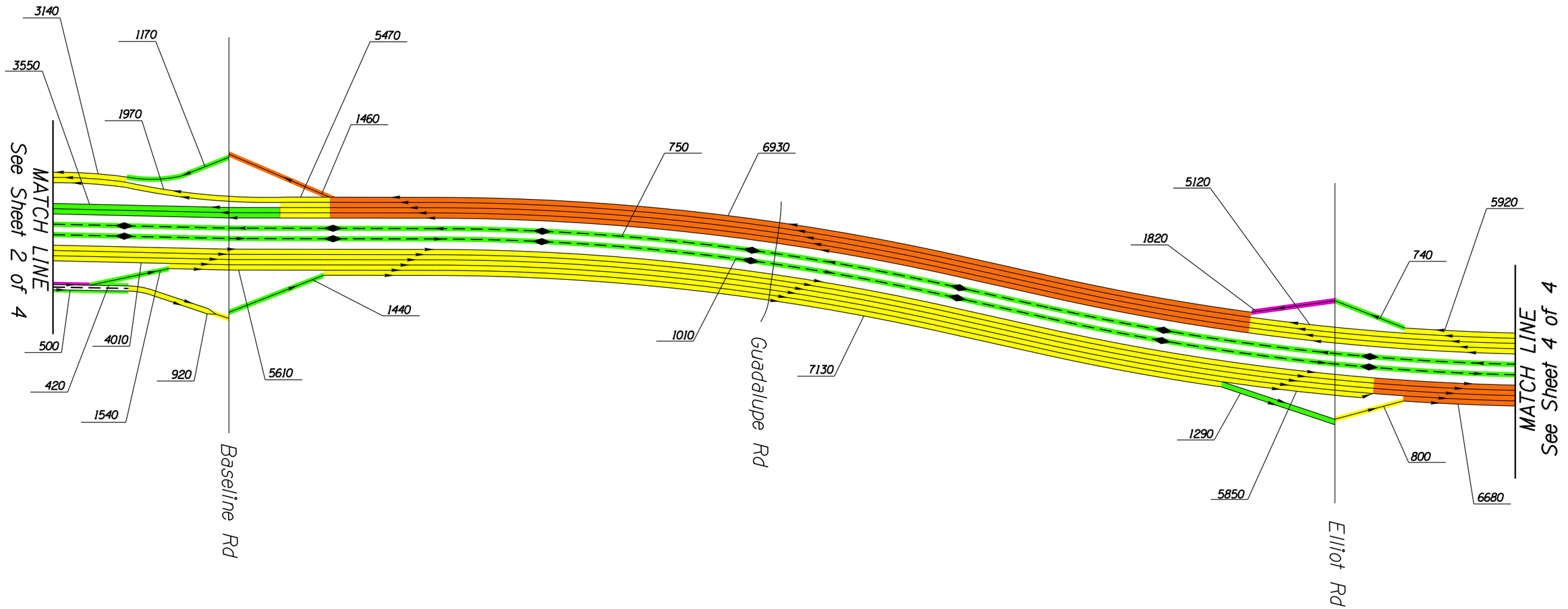
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

7/26/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2025 Figures\Alt 1 Opt 1\ALT1 B PM LOS 3.dgn

NOTES:

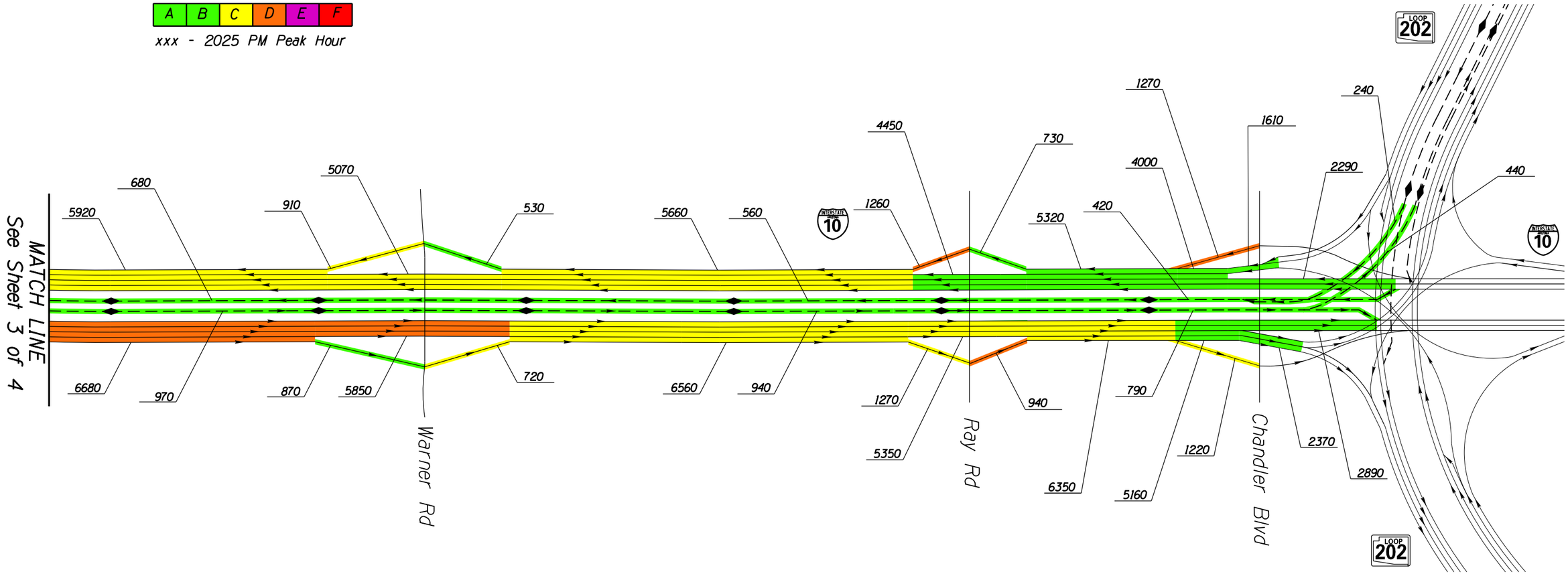
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

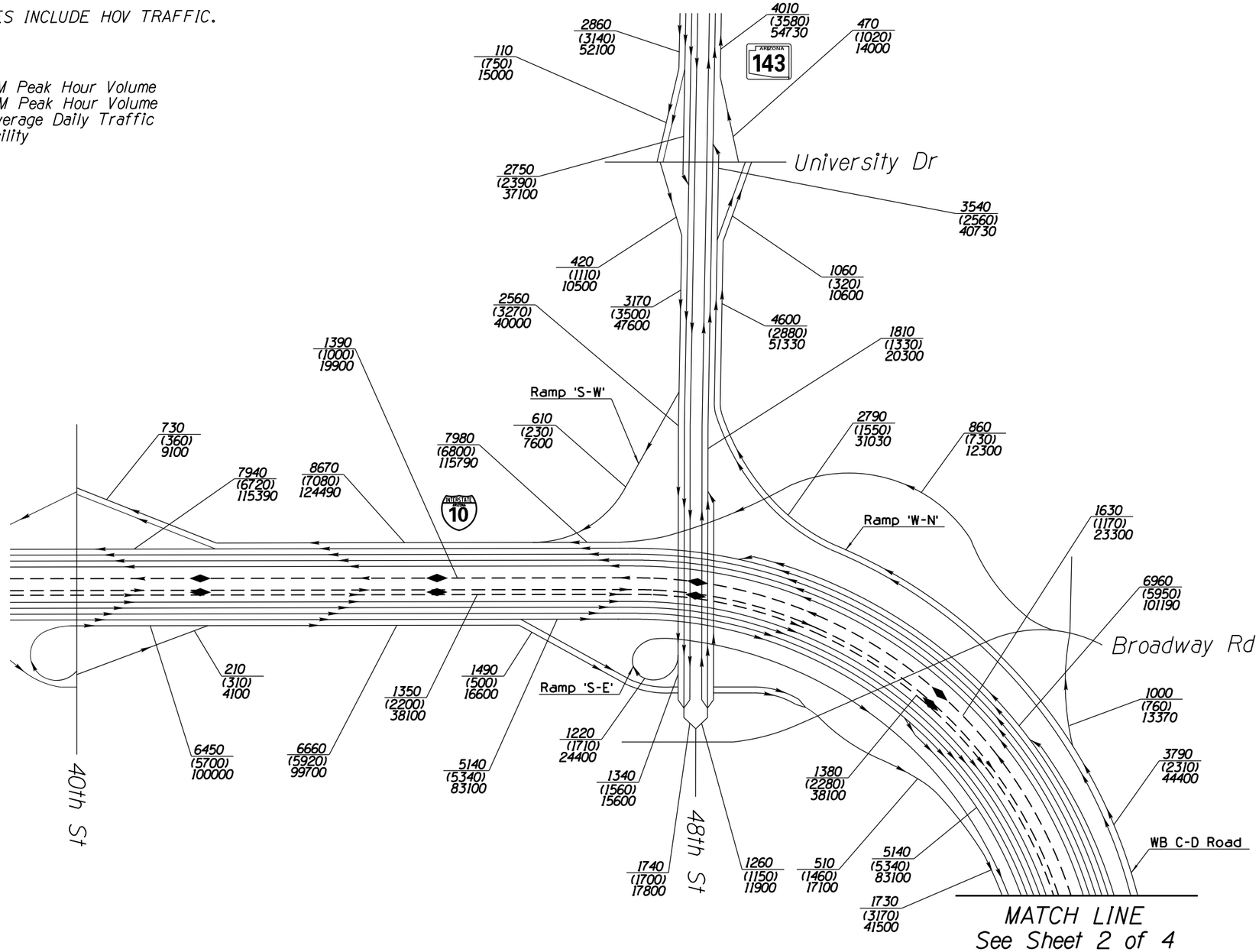
7/26/2015 U:\I10-02\Spot1\Design\tra\Build\Figures\2025 Figures\Alt 1 Opt 1\ALT1 B PM LOS 4.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2030 AM Peak Hour Volume
(xxx) - 2030 PM Peak Hour Volume
xxxx - 2030 Average Daily Traffic
— ◆ — - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

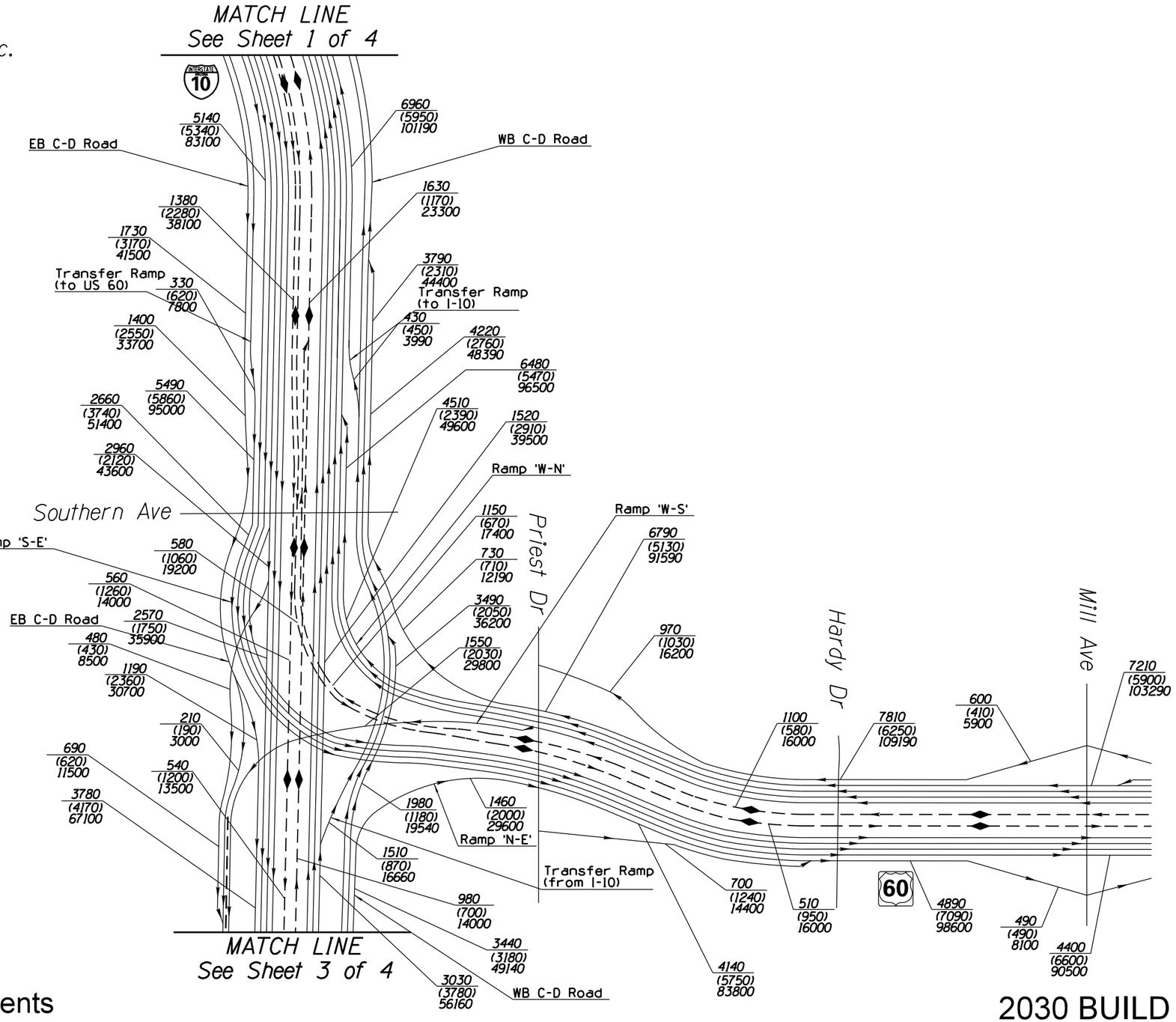
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 1 OF 4

7/26/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2030 Figures\Alt 1 Opt 1\ALT1_build volume 1.dgn

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2030 AM Peak Hour Volume
(xxx) - 2030 PM Peak Hour Volume
xxxx - 2030 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 2 OF 4

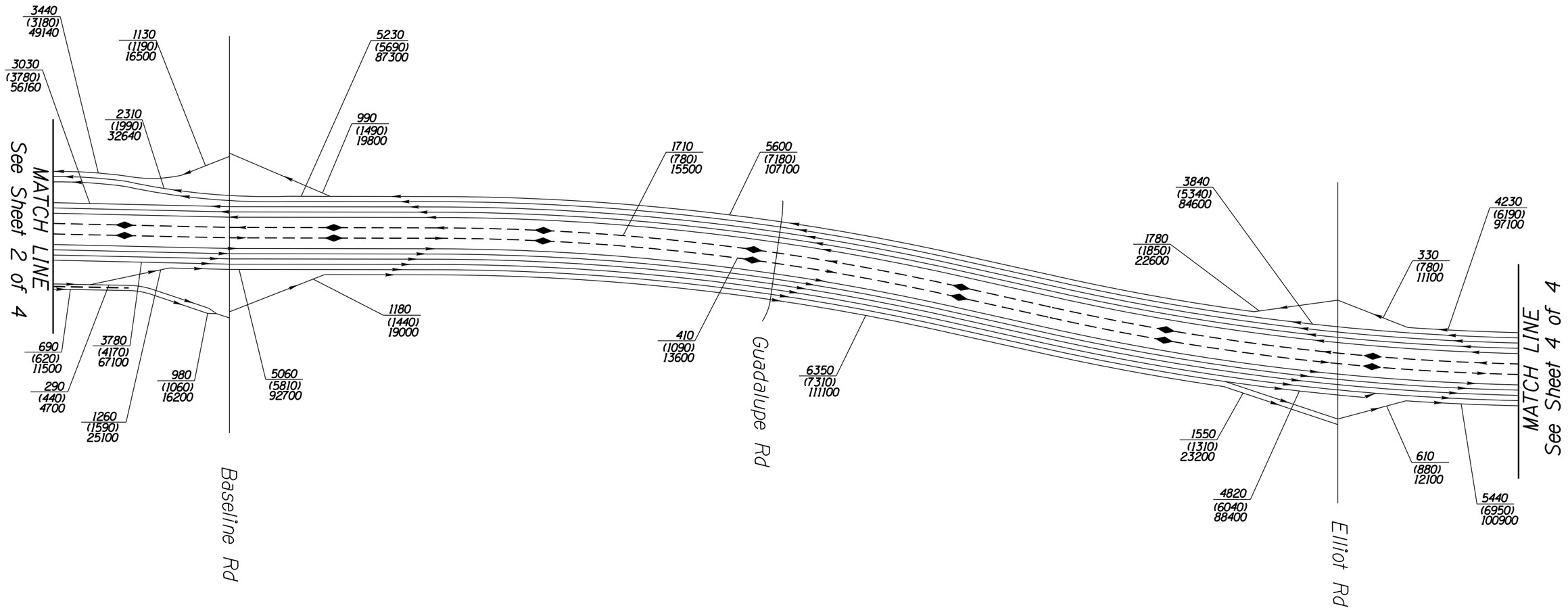
U:\110-02\Spot\Design\tre\Build\Figures\2030 Figures\Alt 1 Opt 1\ALT1_build volume 2.dgn
7/26/2015

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2030 AM Peak Hour Volume
(xxx) - 2030 PM Peak Hour Volume
xxxx - 2030 Average Daily Traffic
⟷ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 3 OF 4

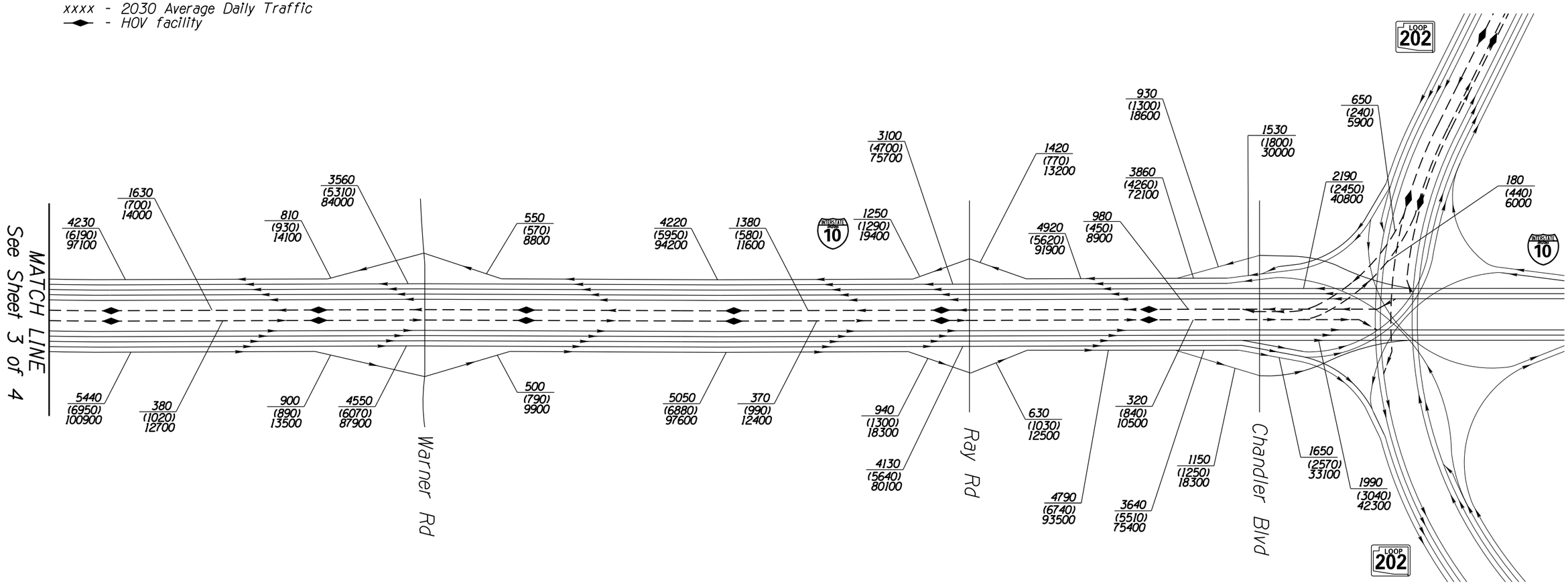
7/26/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2030 Figures\Alt 1 Opt 1\ALT1_build volume 3.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2030 AM Peak Hour Volume
(xxx) - 2030 PM Peak Hour Volume
xxxx - 2030 Average Daily Traffic
◆—◆ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 4 OF 4

U:\I10-02(Spot)\Design\tre\Build\Figures\2030 Figures\Alt 1 Opt 1\ALT1_build volume 4.dgn
7/26/2015

NOTES:

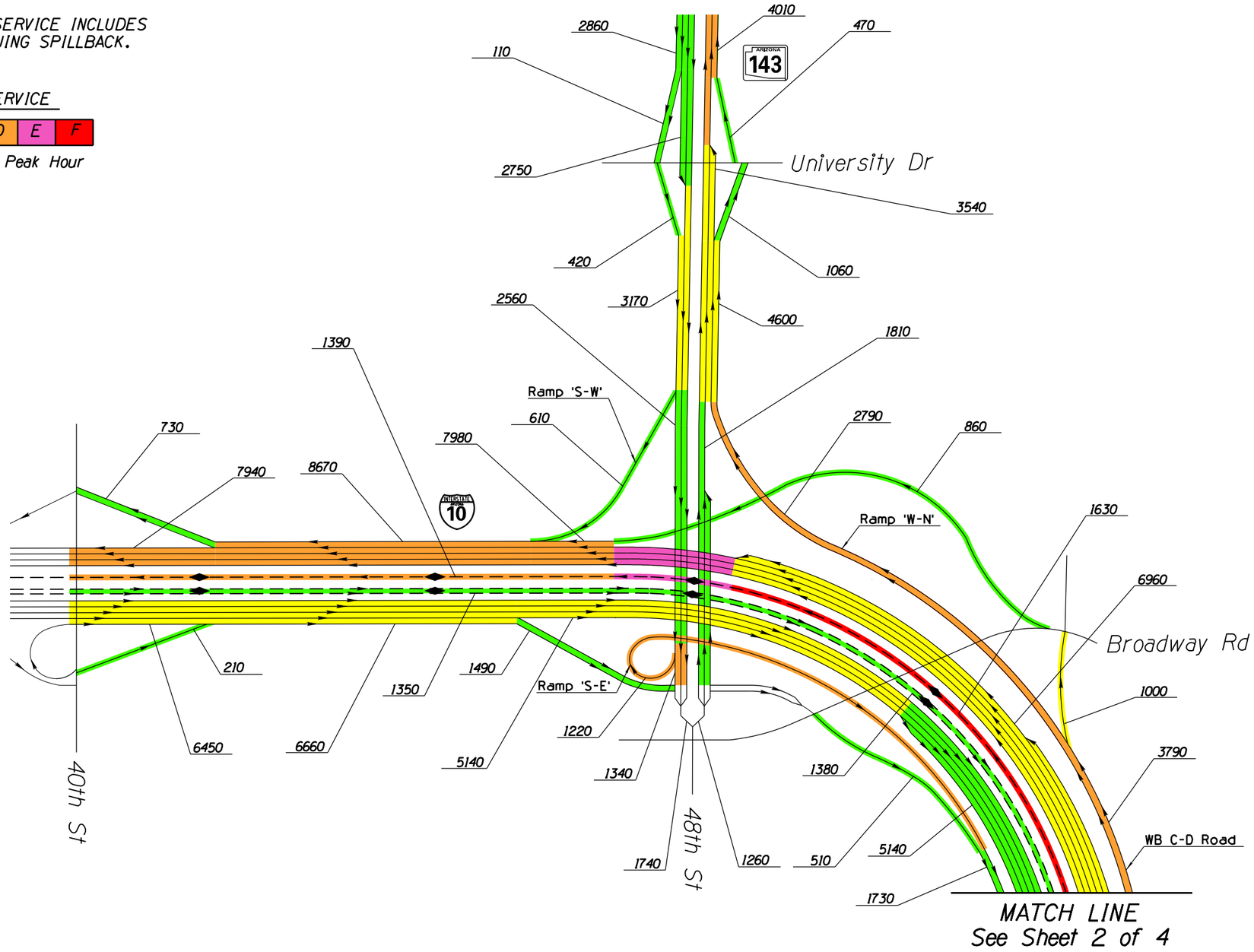
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 AM Peak Hour



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

7/26/2015 U:\I10-02\Spost\Design\tra\Build\Figures\2030 Figures\Alt 1 Opt 1\ALT1 B AM LOS 1.dgn

NOTES:

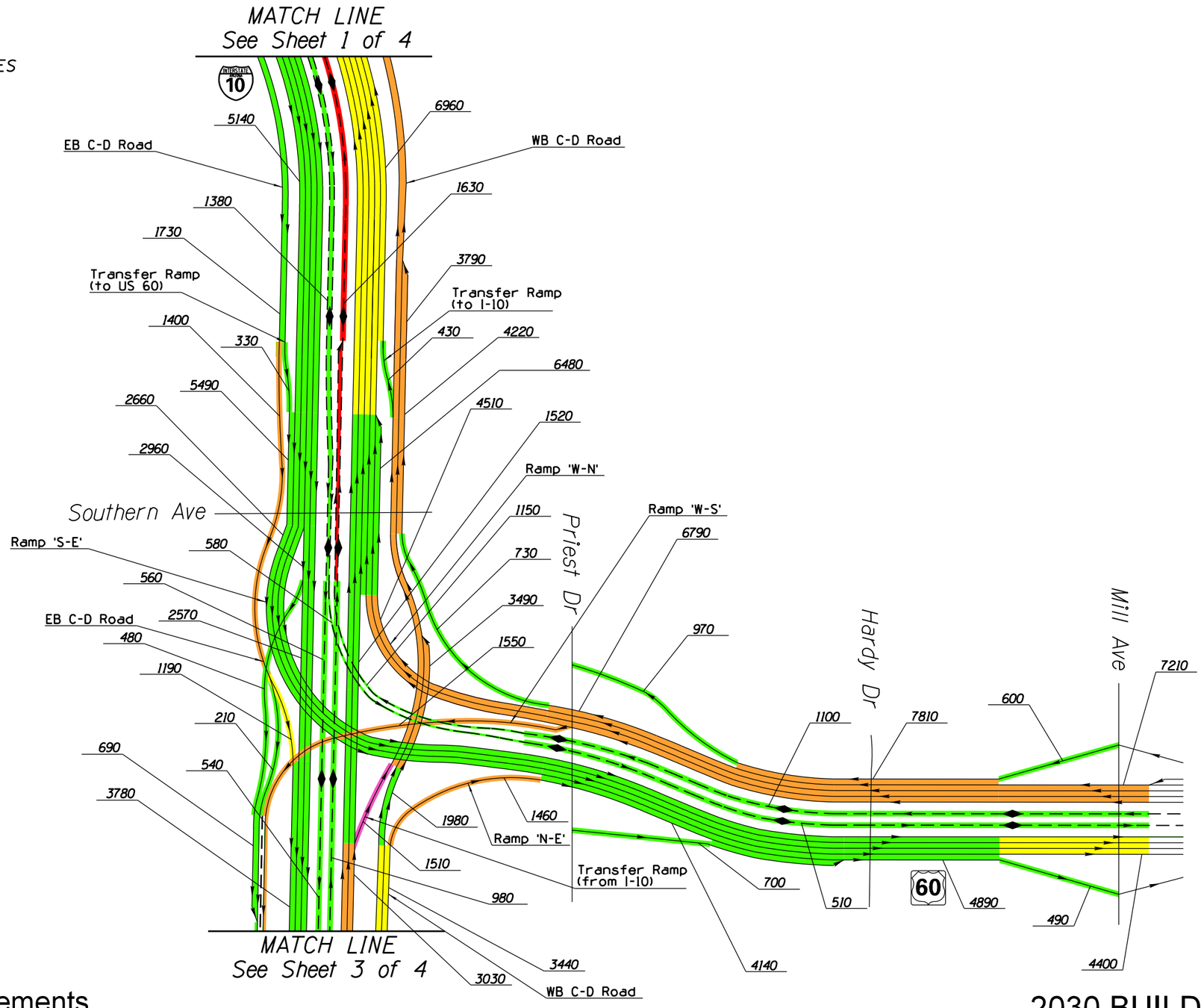
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 AM Peak Hour



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

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PARTNERS IN PROGRESS

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APPENDIX G
2030 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

U:\I10-02\Spot\Design\tre\Build\Figures\2030 Figures\Alt 1 Opt 1\ALT1 B AM LOS 2.dgn

7/26/2015

NOTES:

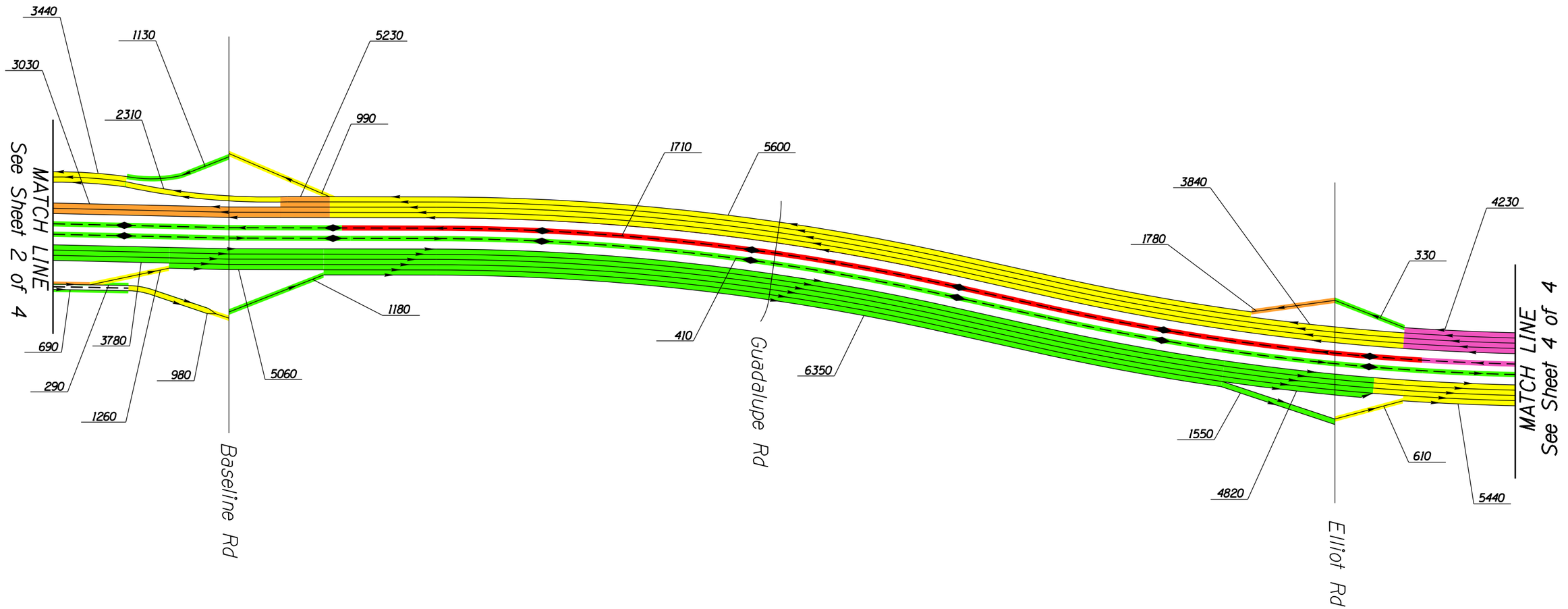
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

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APPENDIX G
2030 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

U:\I10-02\Spot\Design\tre\Build\Figures\2030 Figures\Alt 1 Opt 1\ALT1 B AM LOS 3.dgn
7/26/2015

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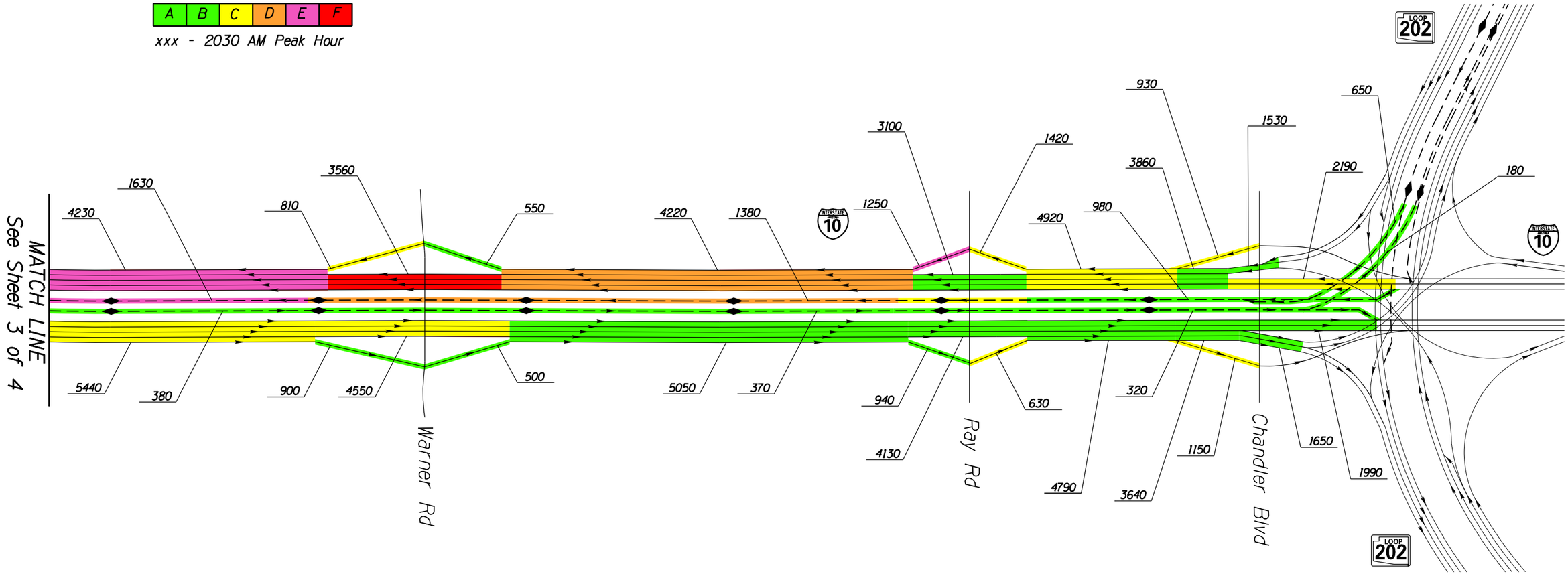
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

7/26/2015 U:\I10-02\Spot1\Design\tra\Build\Figures\2030 Figures\Alt 1 Opt 1\ALT1 B AM LOS 4.dgn

NOTES:

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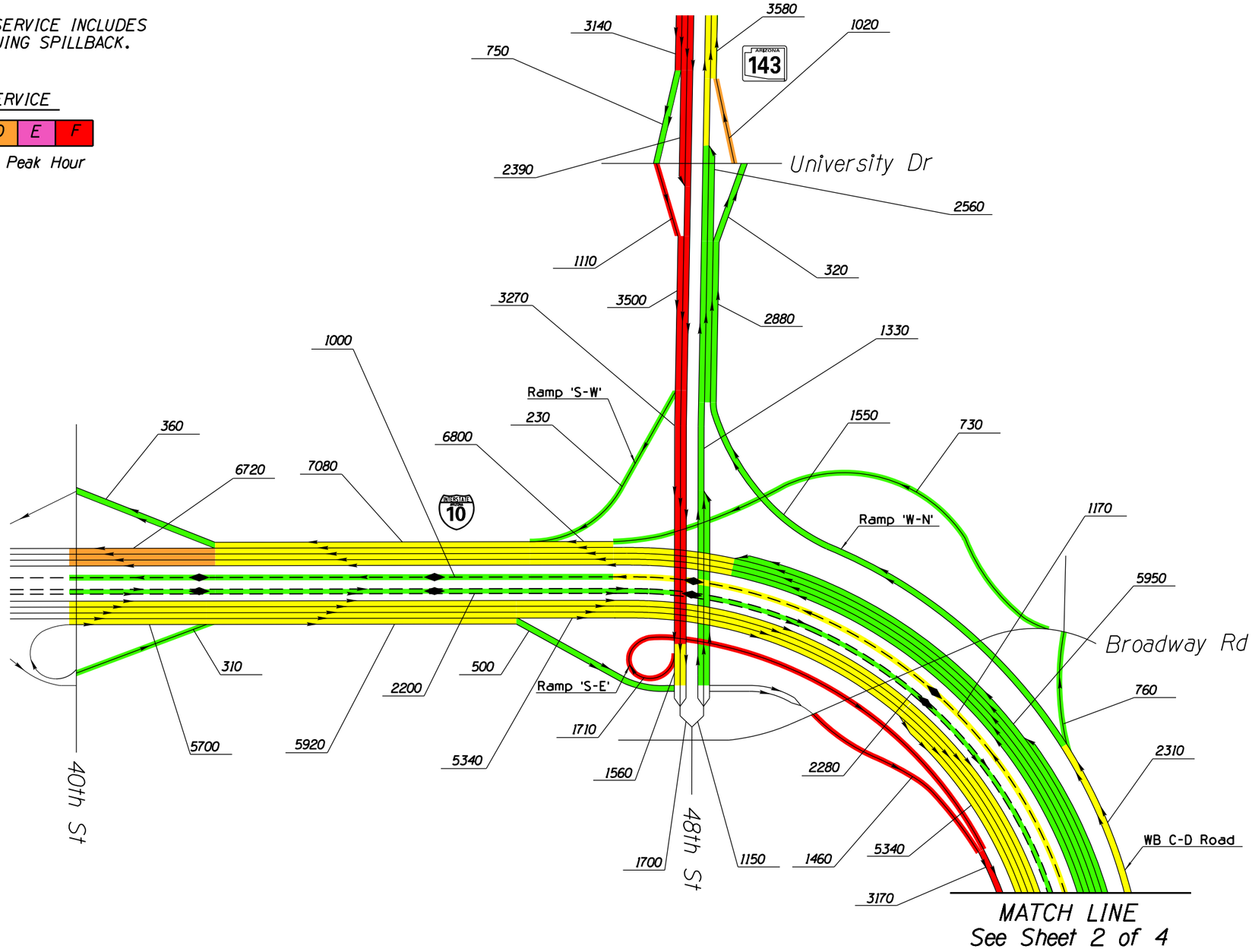
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

7/26/2015 U:\110-02\Spot\Design\tre\Build\Figures\2030 Figures\Alt 1 Opt 1\ALT1 B PM LOS 1.dgn

NOTES:

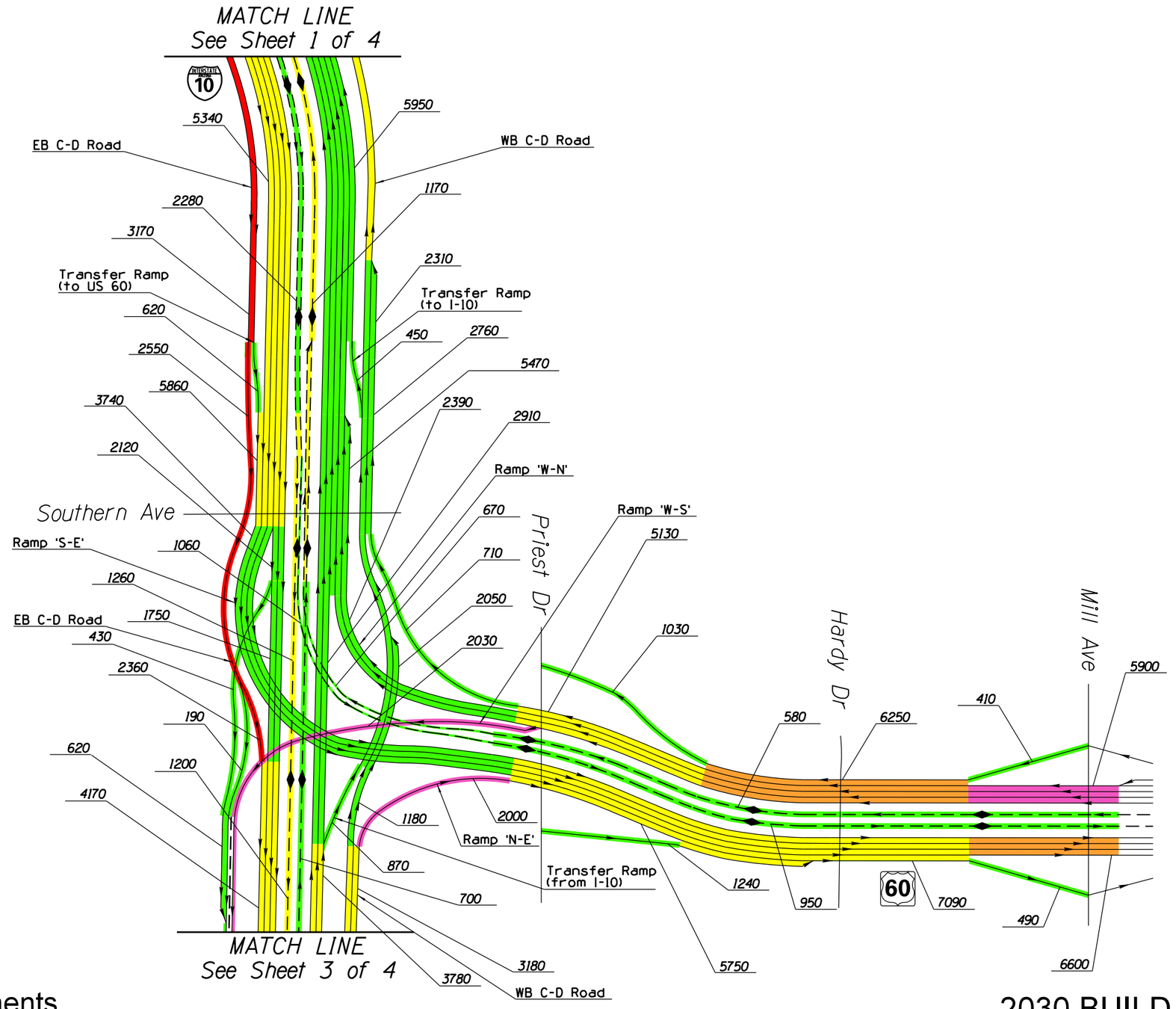
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 PM Peak Hour



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

U:\I10-02(Spot)\Design\tre\Build\Figures\2030 Figures\Alt 1 Opt 1\ALT1 B PM LOS 2.dgn
7/26/2015

NOTES:

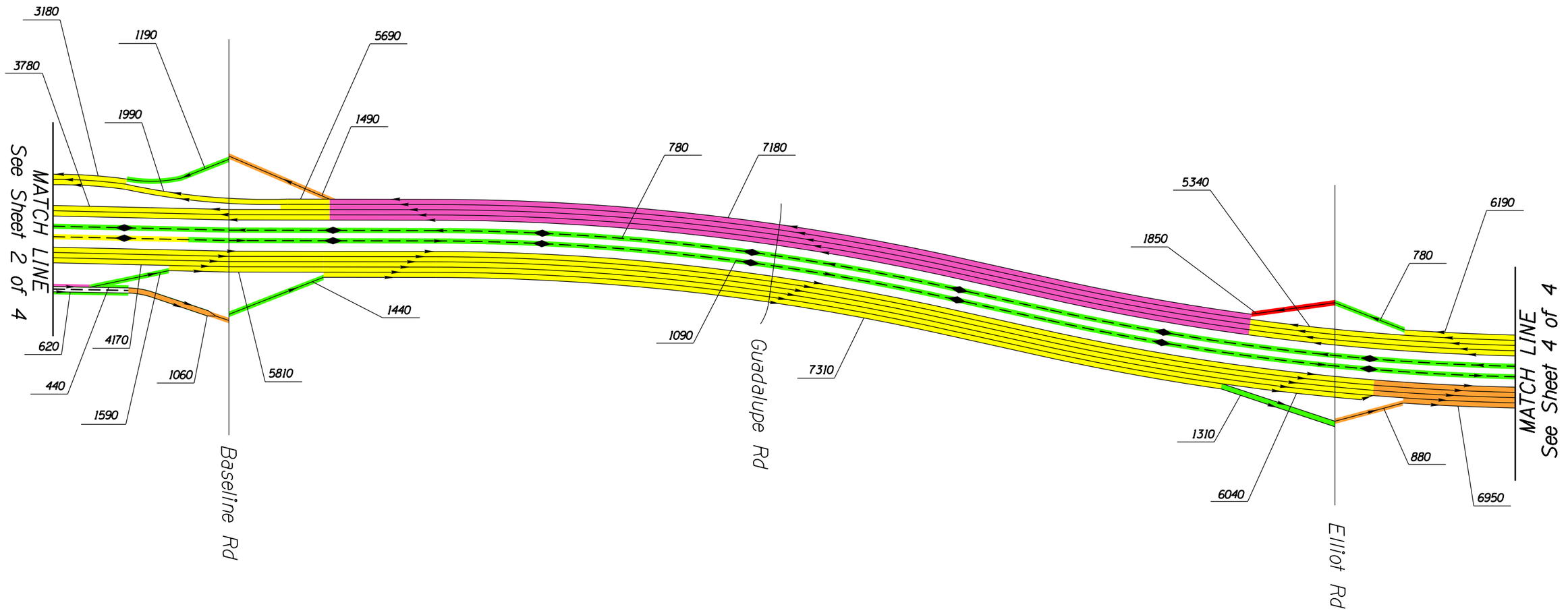
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

U:\I10-02\Spot\Design\tre\Build\Figures\2030 Figures\Alt 1 Opt 1\ALT1 B PM LOS 3.dgn
7/26/2015

NOTES:

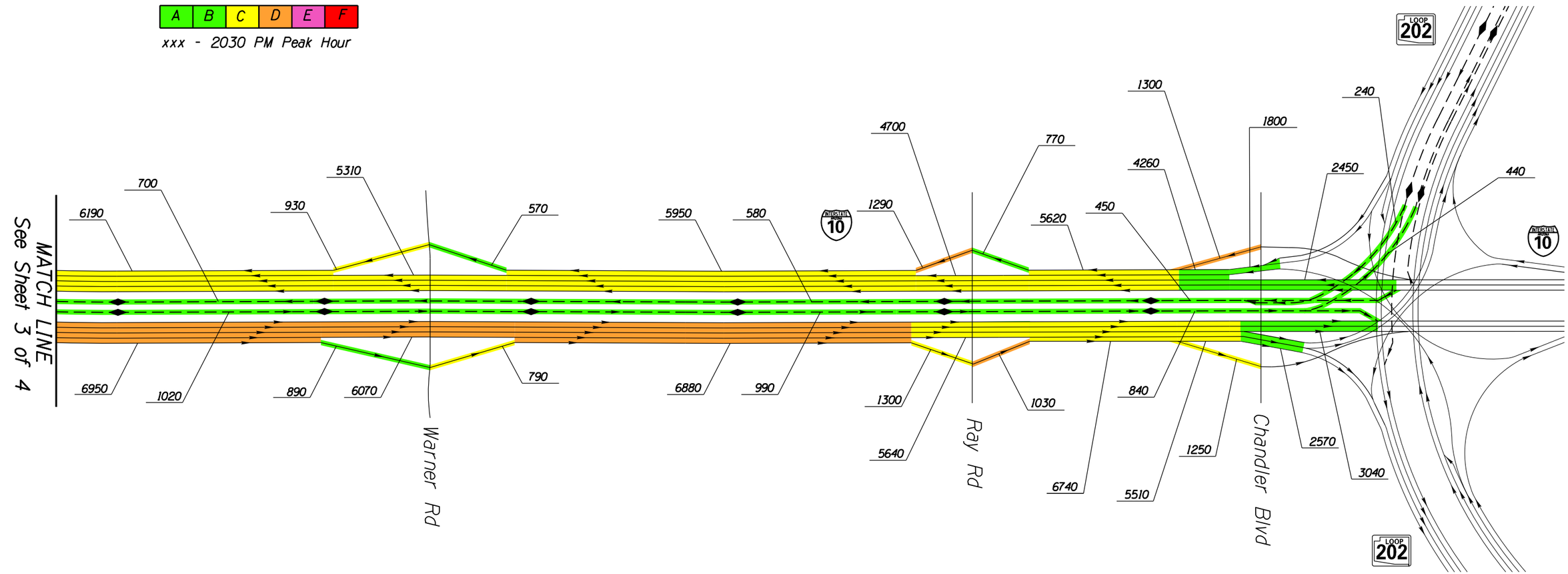
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

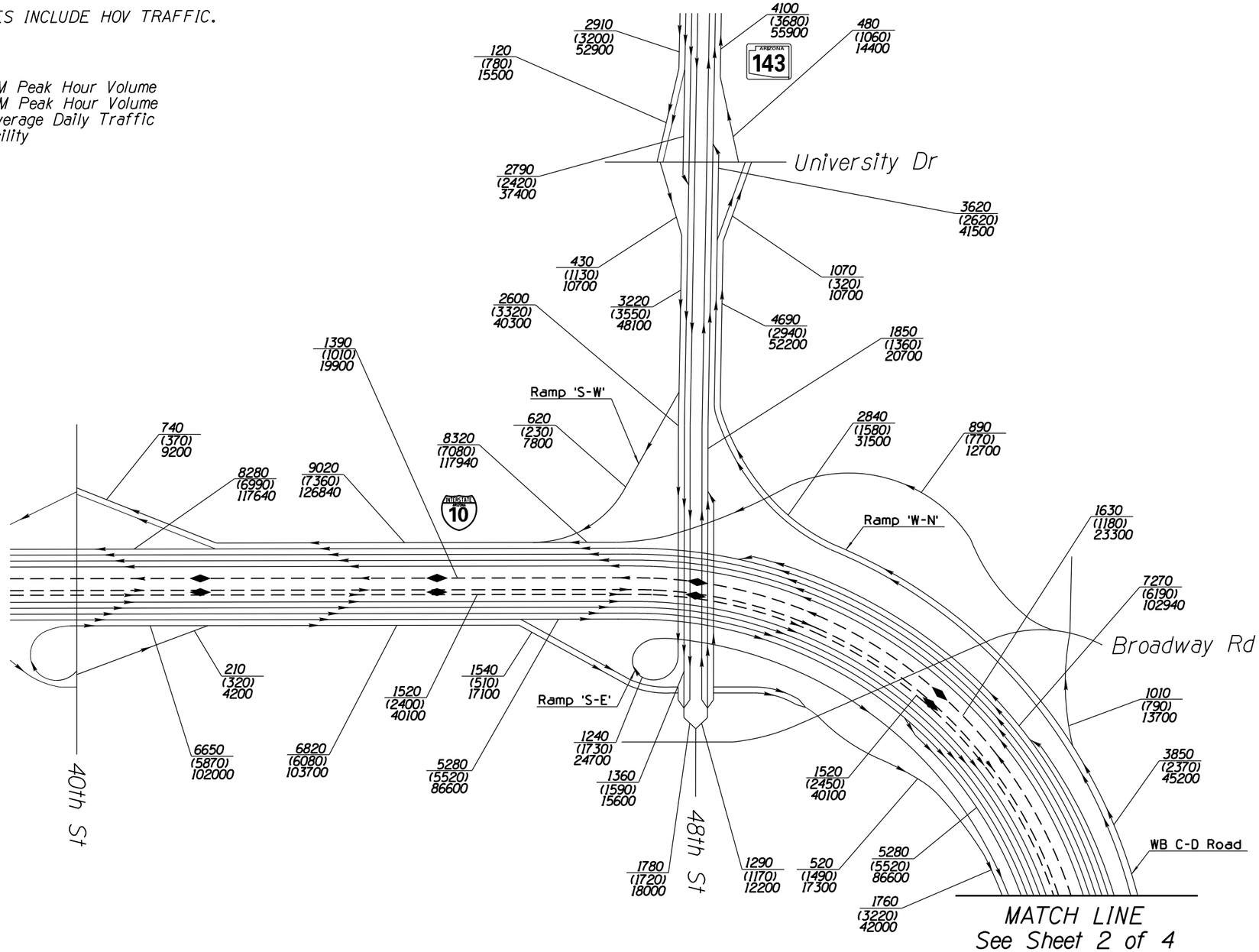
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

7/26/2015 U:\I10-02\Spot1\Design\tra\Build\Figures\2030 Figures\Alt 1 Opt 1\ALT1 B PM LOS 4.dgn

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2035 AM Peak Hour Volume
(xxx) - 2035 PM Peak Hour Volume
xxxx - 2035 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 1 OF 4

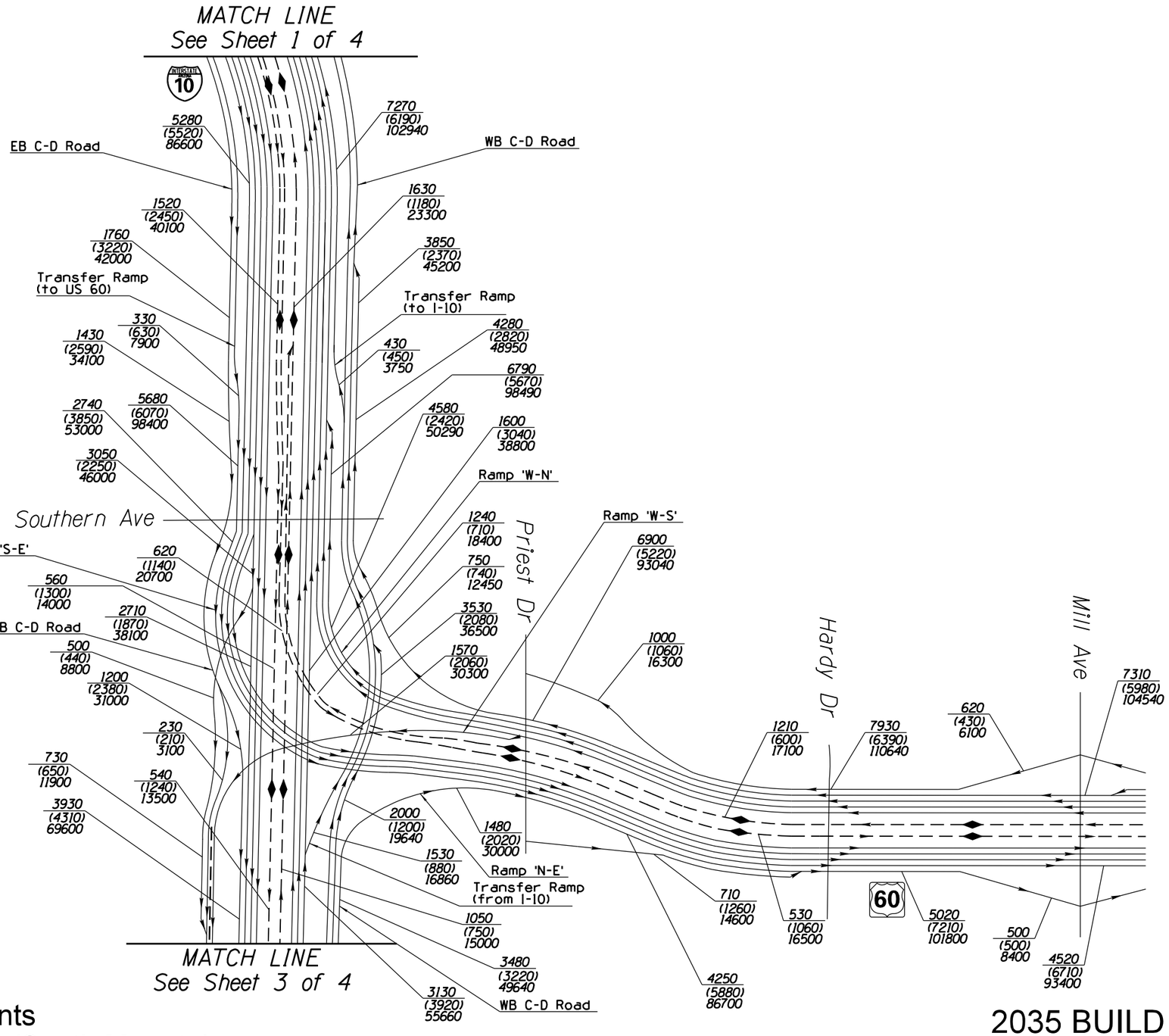
7/26/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2035 Figures\Alt 1 Opt 1\ALT1_build volume 1.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2035 AM Peak Hour Volume
(xxx) - 2035 PM Peak Hour Volume
xxxx - 2035 Average Daily Traffic
◆—◆ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

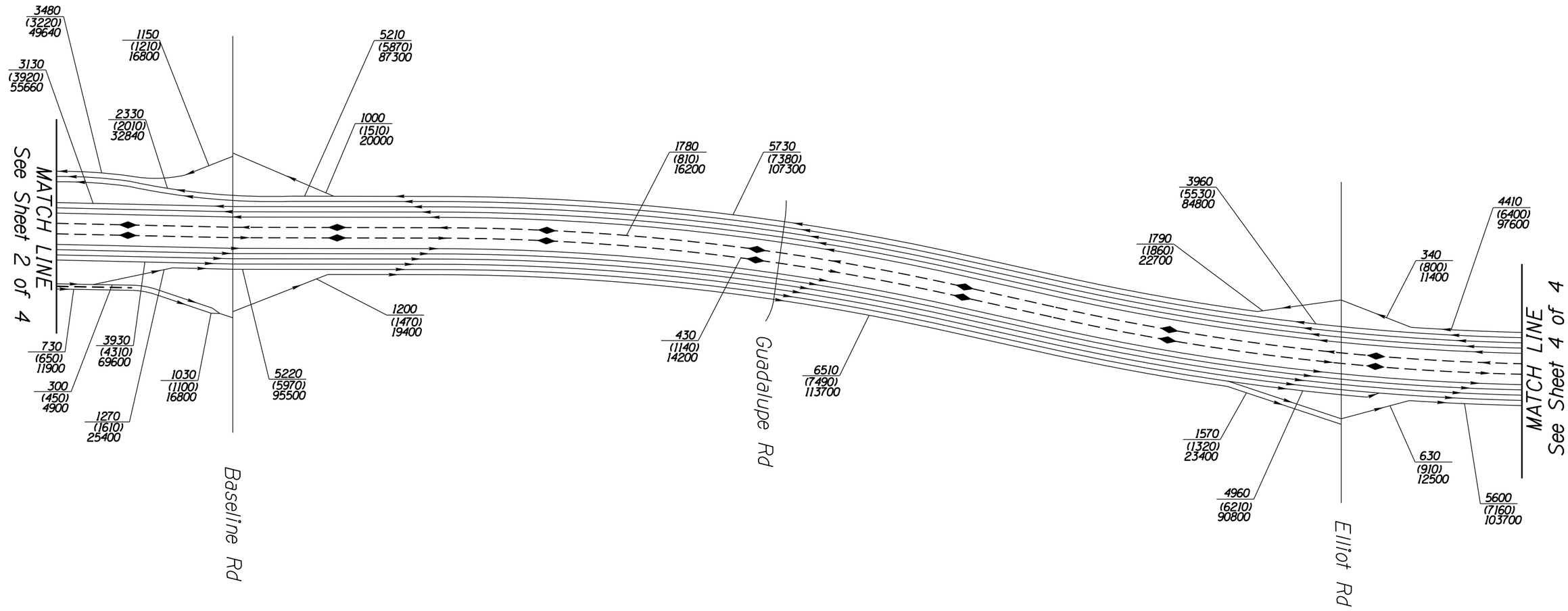
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 2 OF 4

7/26/2015 U:\I10-02\Spot\Design\tre\Build\Figures\2035 Figures\Alt 1 Opt 1\ALT1_build volume 2.dgn

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2035 AM Peak Hour Volume
(xxx) - 2035 PM Peak Hour Volume
xxxx - 2035 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

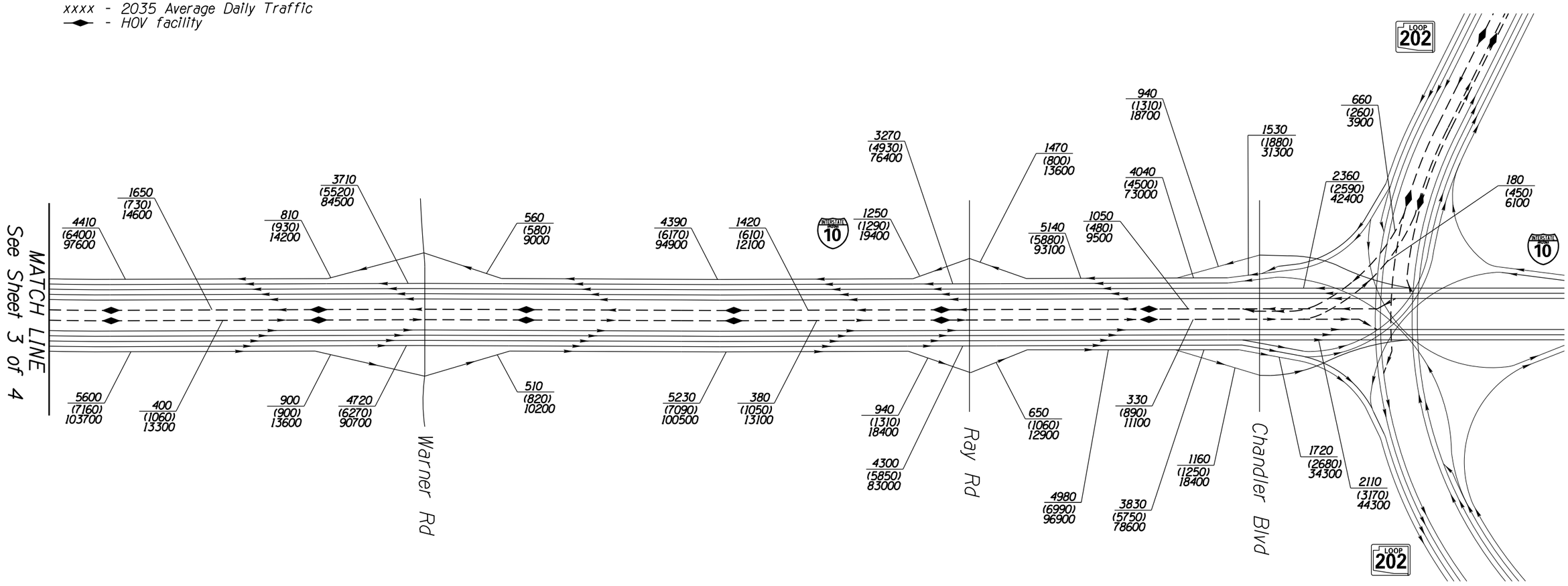
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 3 OF 4

7/26/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2035 Figures\Alt 1 Opt 1\ALT1_build volume 3.dgn

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2035 AM Peak Hour Volume
(xxx) - 2035 PM Peak Hour Volume
xxxx - 2035 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 4 OF 4

U:\I10-02(Spot)\Design\tre\Build\Figures\2035 Figures\Alt 1 Opt 1\ALT1_build volume 4.dgn
7/26/2015

NOTES:

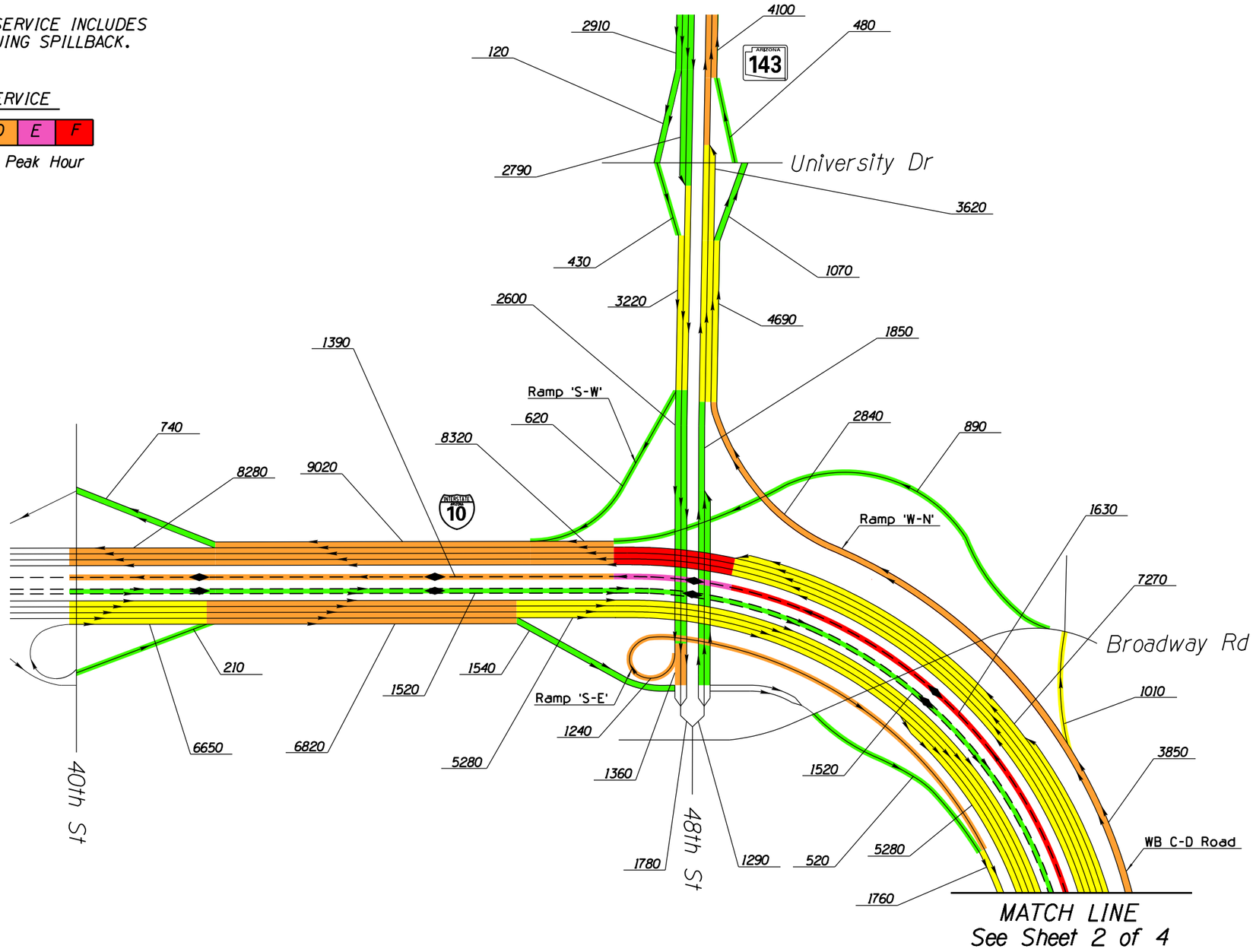
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 AM Peak Hour



N

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

U:\I10-02\Spost\Design\tra\Build\Figures\2035 Figures\Alt 1 Opt 1\ALT1 B AM LOS 1.dgn
7/26/2015

NOTES:

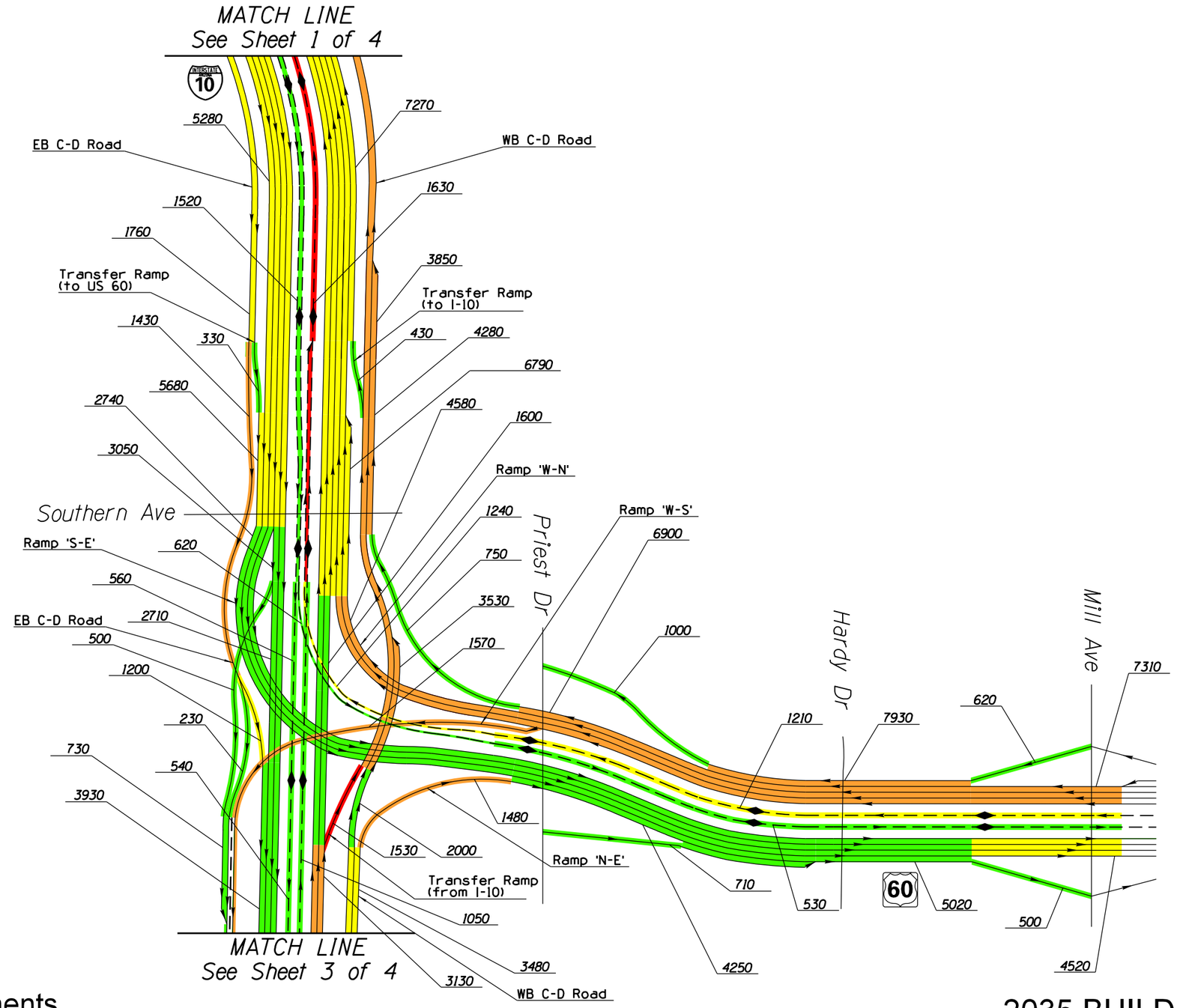
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

U:\I10-02\Spot\Design\tra\Build\Figures\2035 Figures\Alt 1 Opt 1\ALT1 B AM LOS 2.dgn
7/26/2015

NOTES:

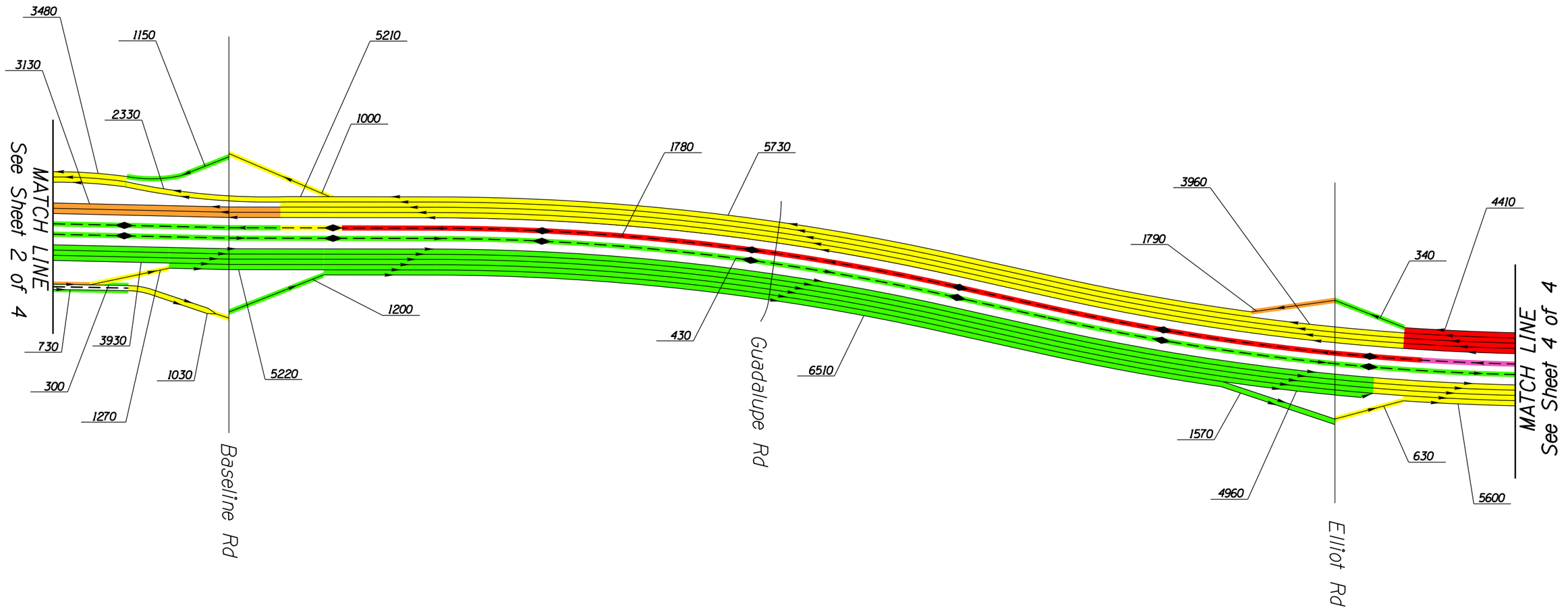
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

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7/26/2015

NOTES:

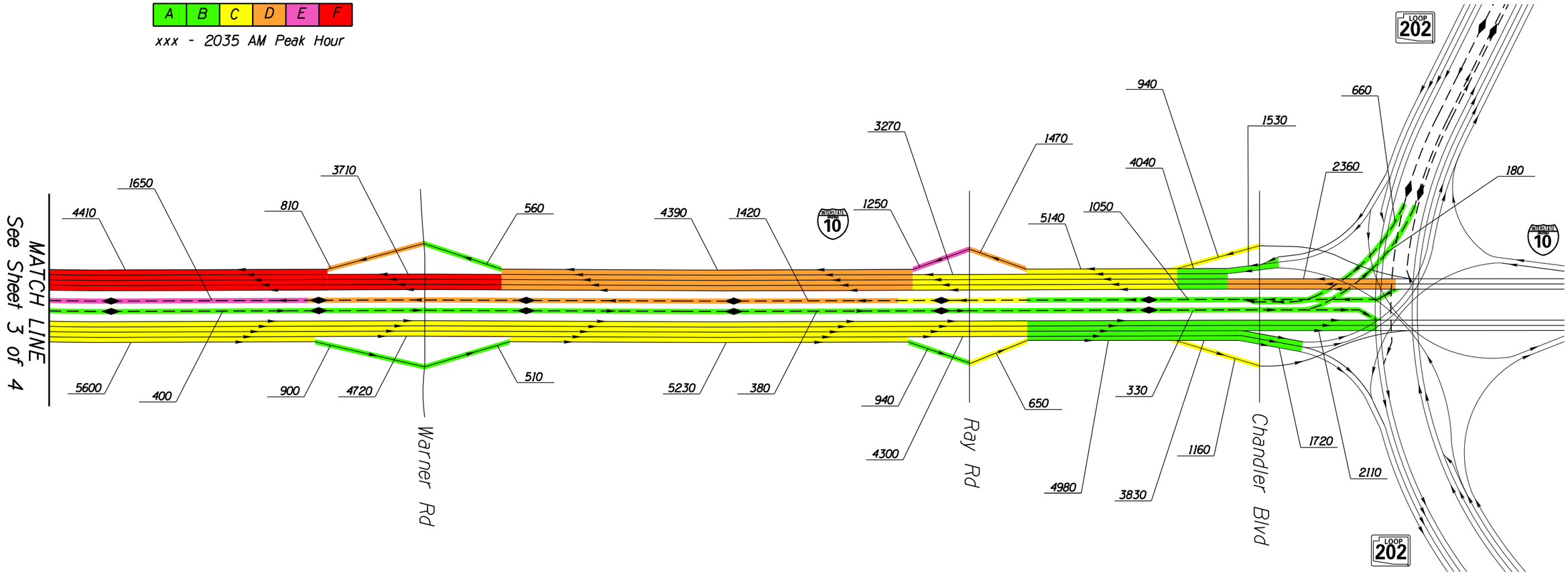
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

7/26/2015 U:\I10-02\Spot1\Design\tra\Build\Figures\2035 Figures\Alt 1 Opt 1\ALT1 B AM LOS 4.dgn

NOTES:

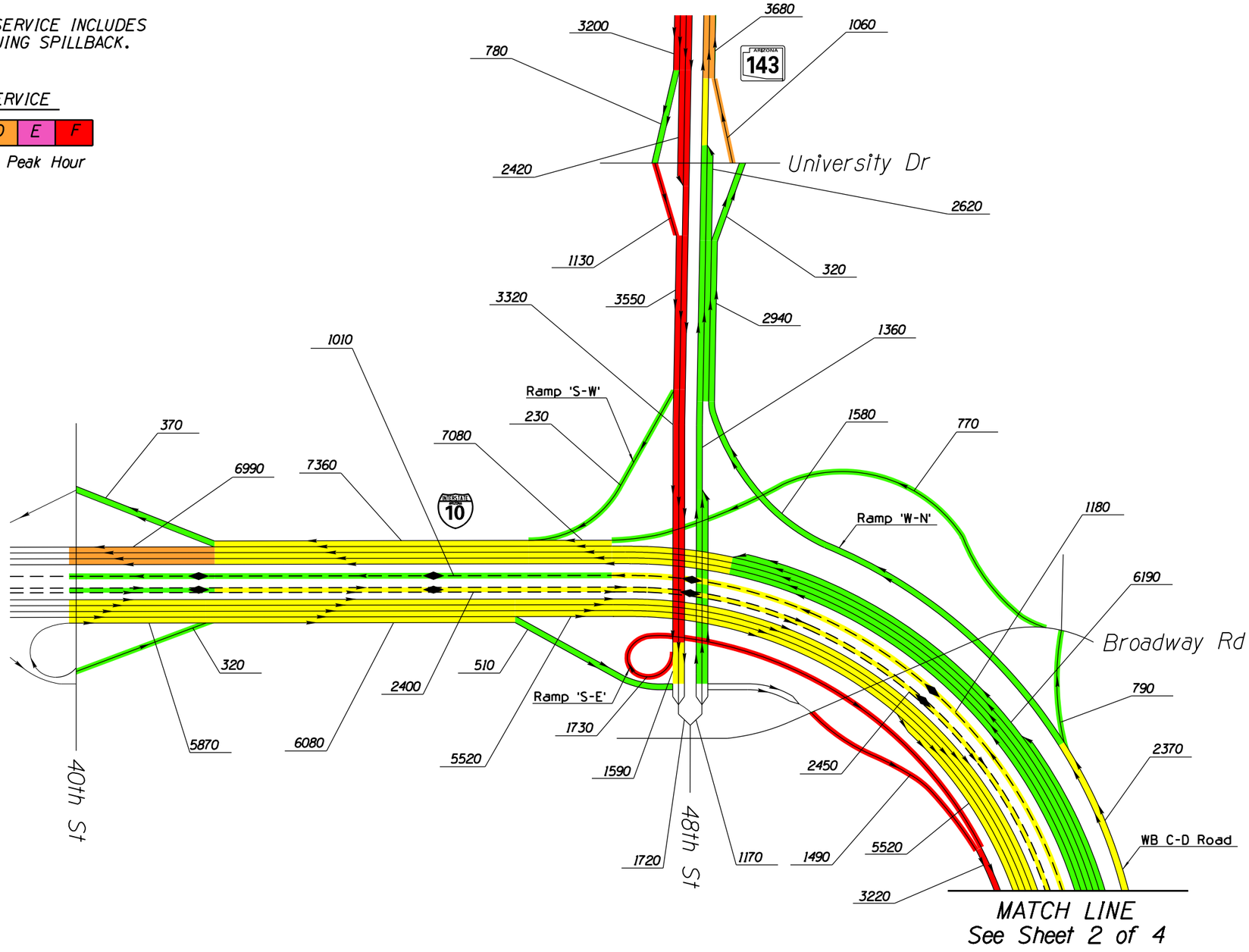
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

7/26/2015 U:\I10-02(Spot)\Design\tre\Build\Figures\2035 Figures\Alt 1 Opt 1\ALT1 B PM LOS 1.dgn

NOTES:

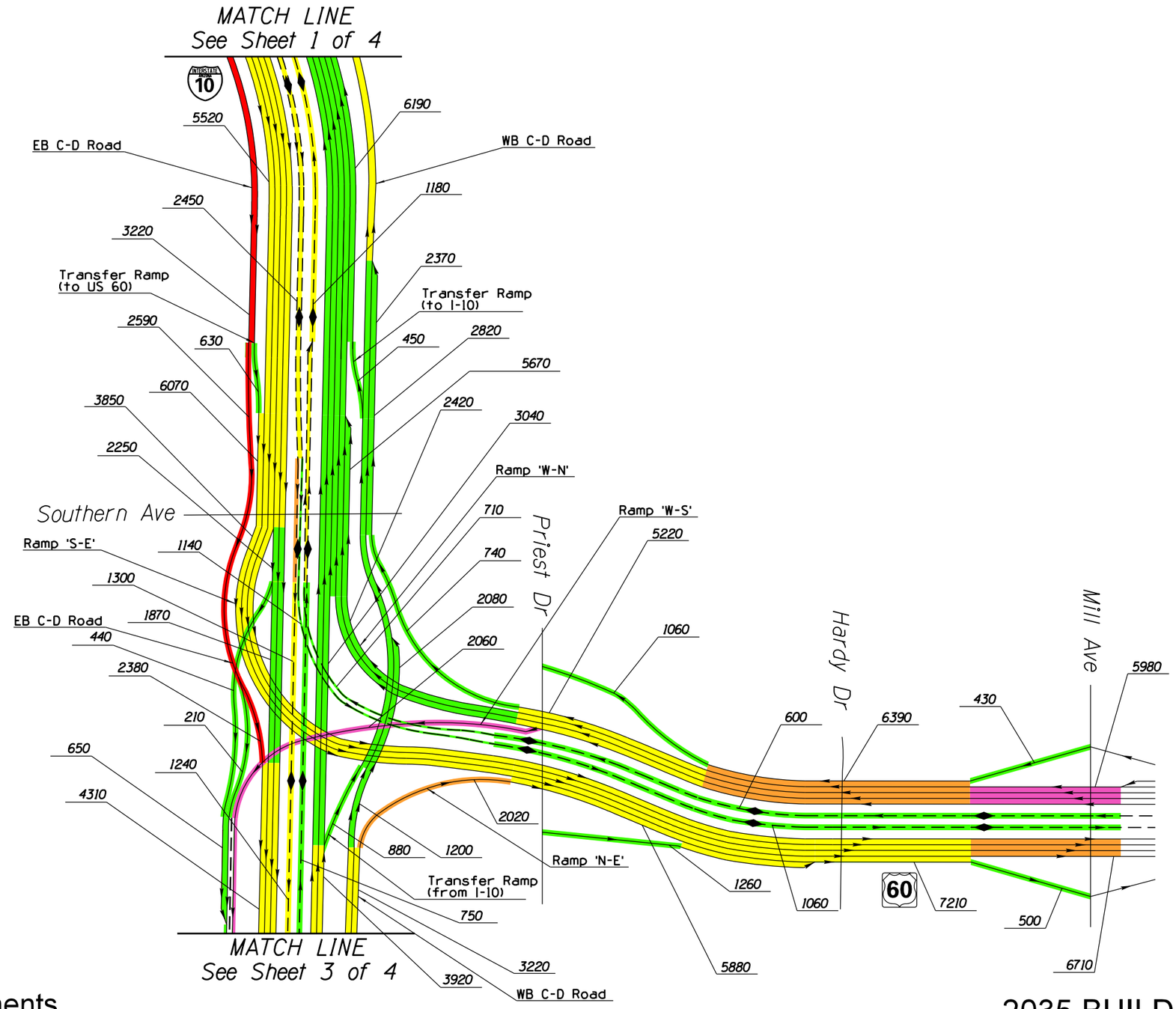
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 PM Peak Hour



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

U:\I10-02\Spot\Design\tra\Build\Figures\2035 Figures\Alt 1 Opt 1\ALT1 B PM LOS 2.dgn
7/26/2015

NOTES:

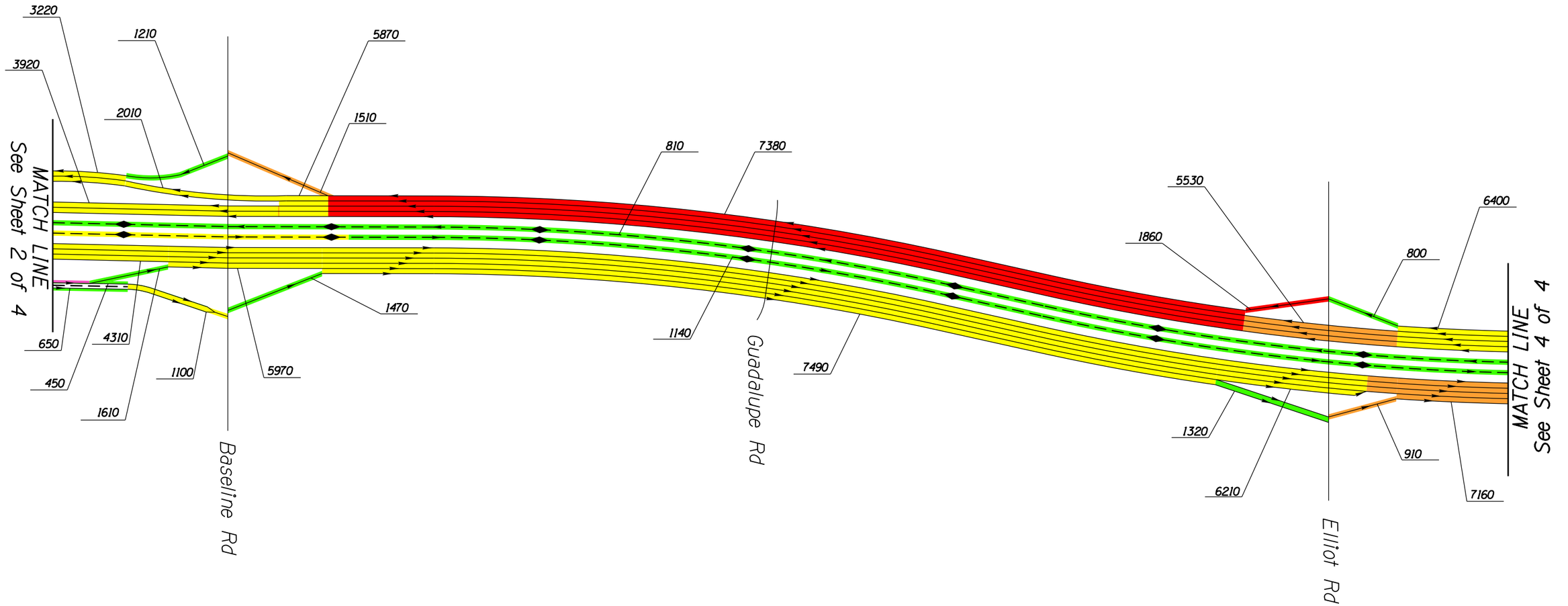
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

7/26/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2035 Figures\Alt 1 Opt 1\ALT1 B PM LOS 3.dgn

NOTES:

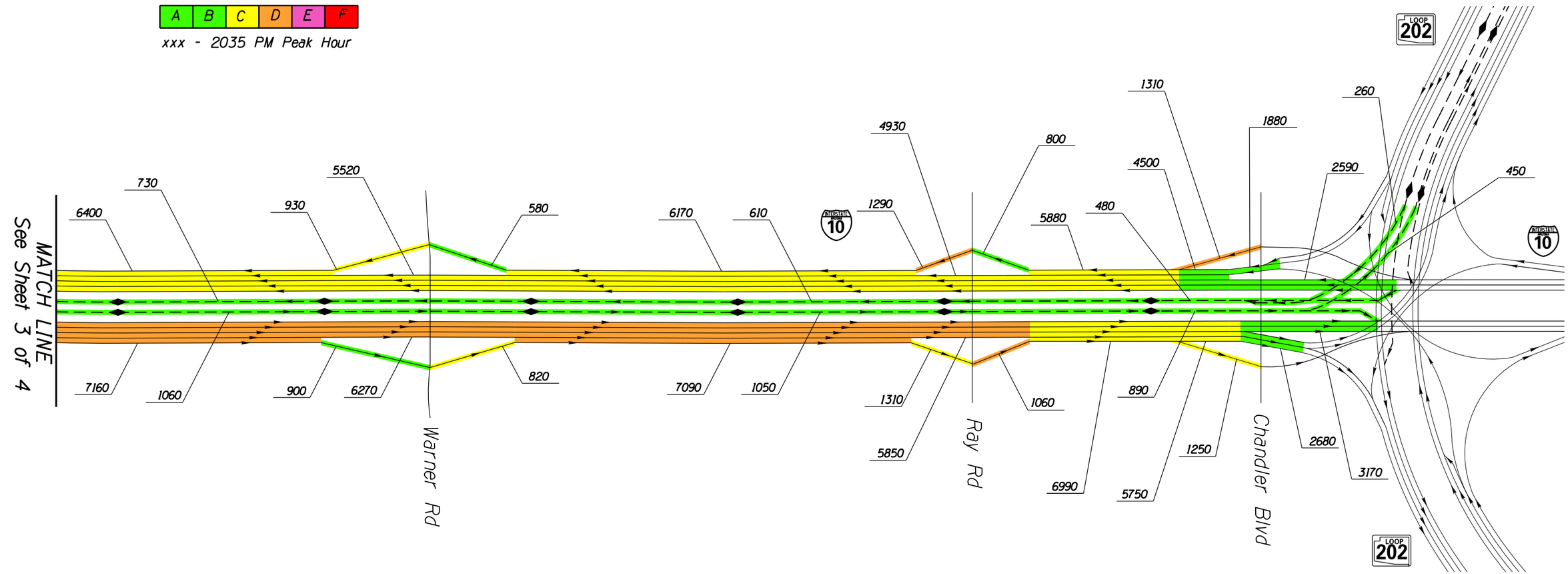
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

7/26/2015 U:\I10-02\Spot1\Design\tra\Build\Figures\2035 Figures\Alt 1 Opt 1\ALT1 B PM LOS 4.dgn

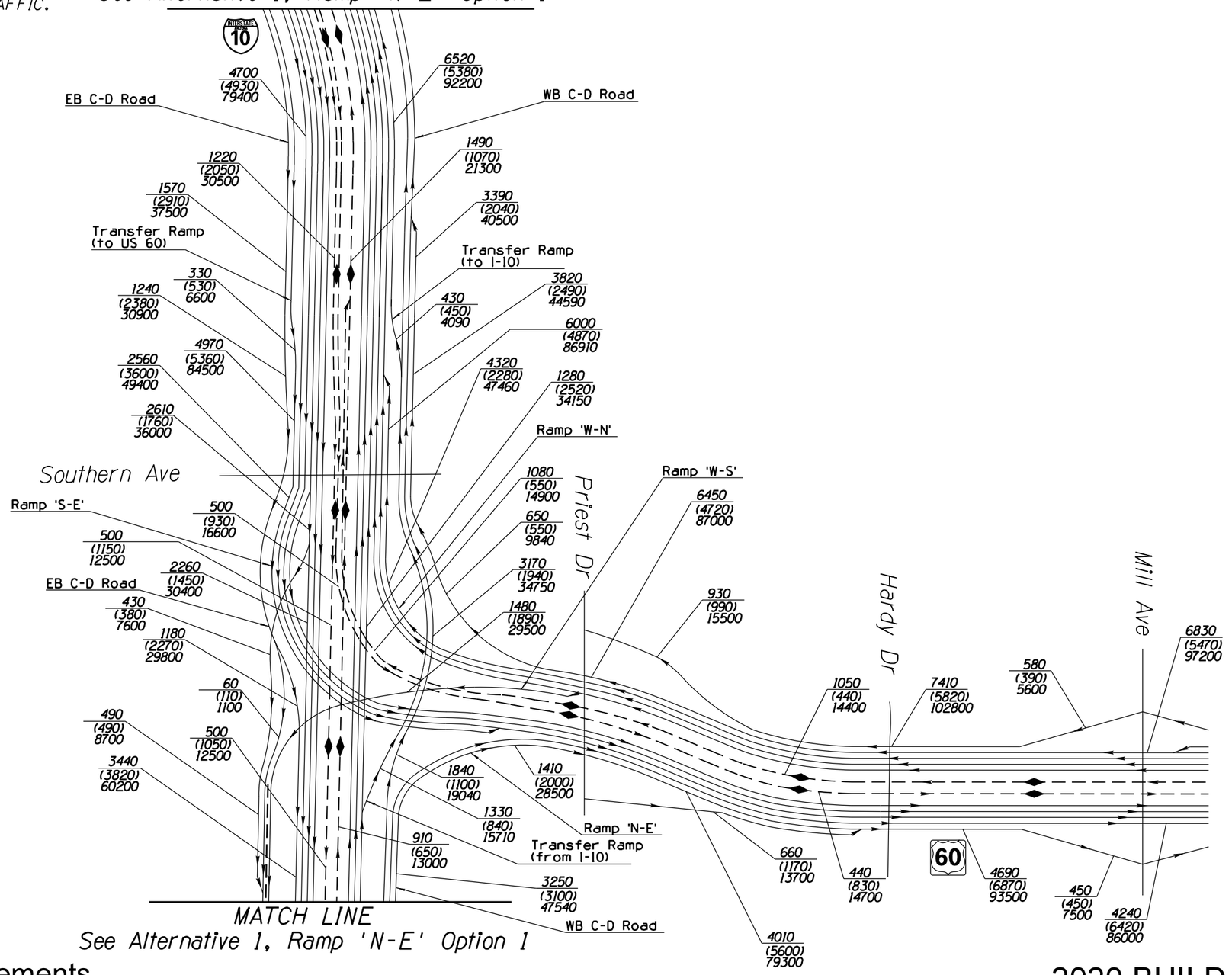
NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2020 AM Peak Hour Volume
(xxx) - 2020 PM Peak Hour Volume
xxxx - 2020 Average Daily Traffic
◆—◆ - HOV facility

MATCH LINE
See Alternative 1, Ramp 'N-E' Option 1



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 2
VOLUMES & LANE CONFIGURATION
SHEET 1 OF 1

7/26/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2020 Figures\Alt 1 Option 2\ALT1OP2_build volume 2.dgn

NOTES:

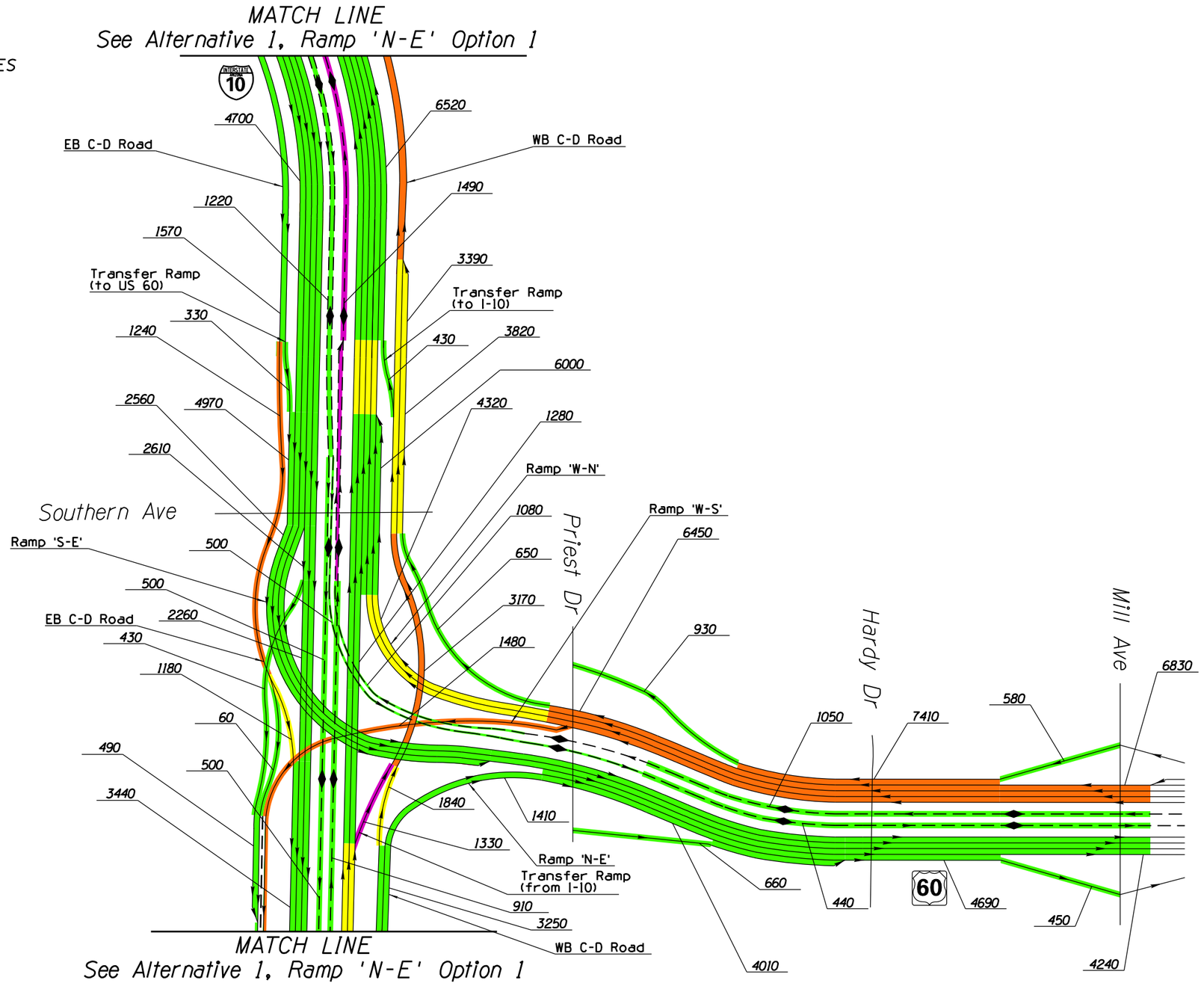
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 AM Peak Hour



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 2
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 1

U:\I10-02\Spot\Design\tra\Build\Figures\2020 Figures\Alt 1 Option 2\ALT1 OP2 AM LOS 2.dgn
7/26/2015

NOTES:

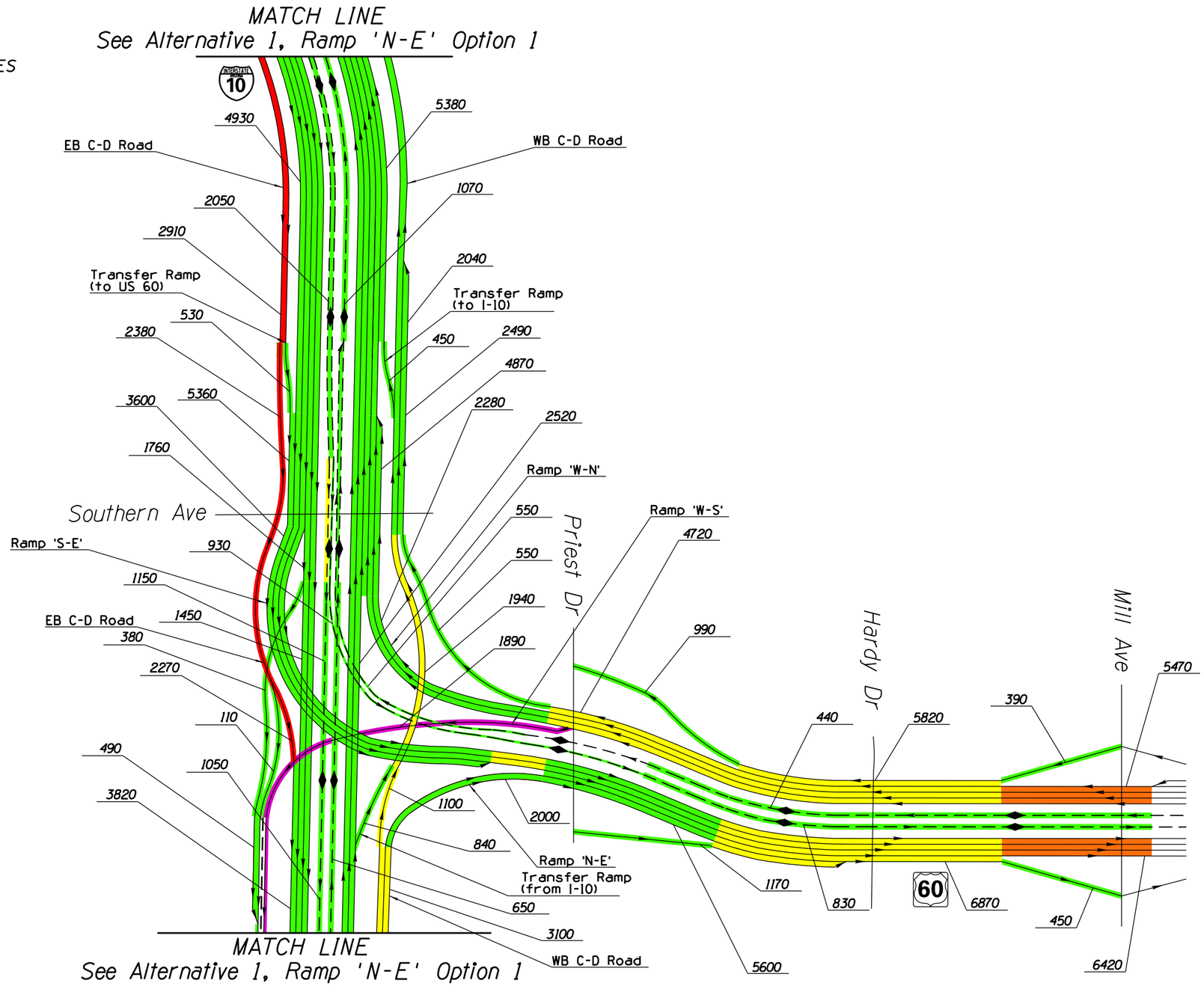
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 PM Peak Hour



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 2
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 1

U:\I10-02\Spost\Design\tra\Build\Figures\2020 Figures\Alt 1 Option 2\ALT1 OP2 PM LOS 2.dgn
7/26/2015

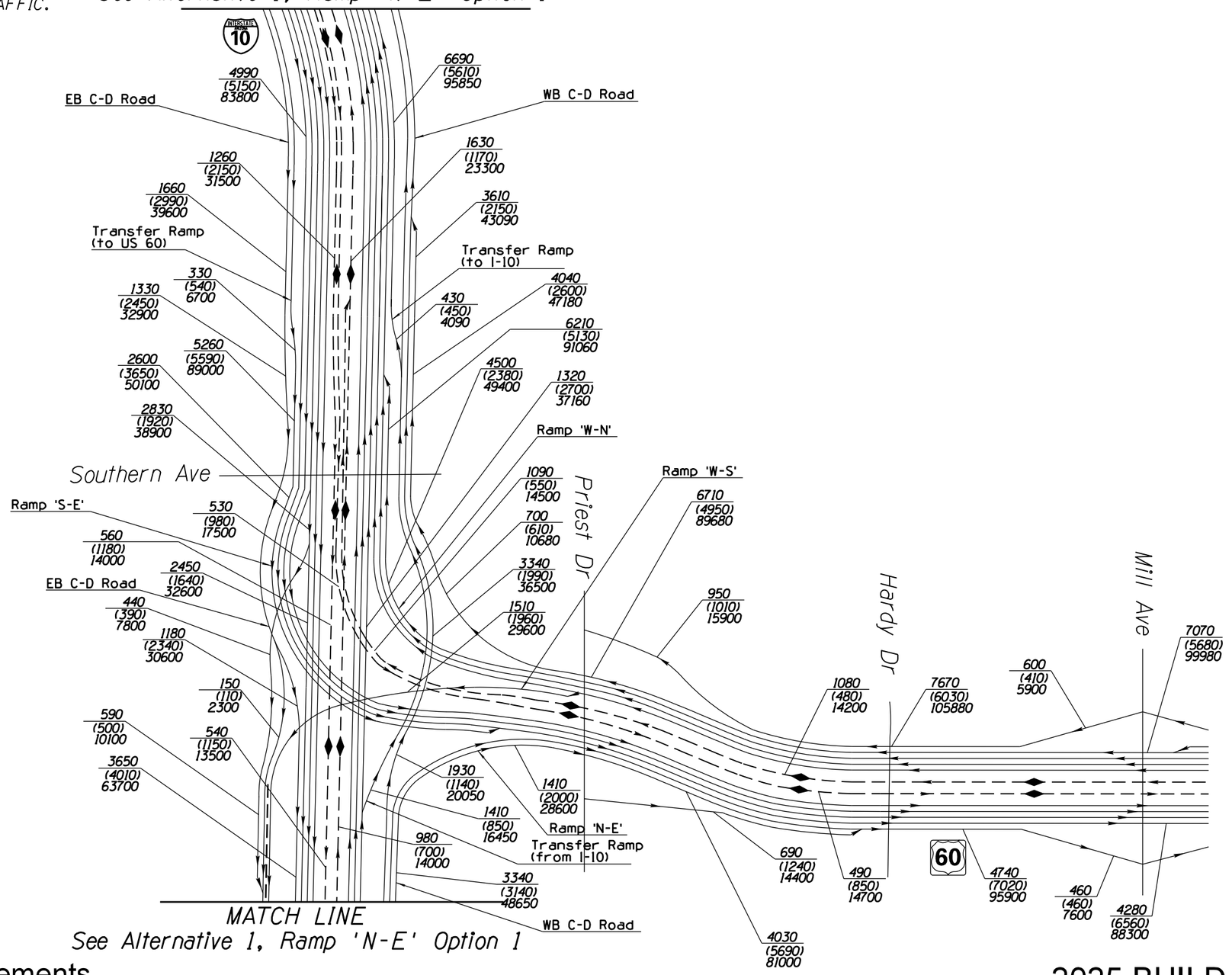
NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2025 AM Peak Hour Volume
(xxx) - 2025 PM Peak Hour Volume
xxxx - 2025 Average Daily Traffic
◆—◆ - HOV facility

MATCH LINE
See Alternative 1, Ramp 'N-E' Option 1



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 2
VOLUMES & LANE CONFIGURATION
SHEET 1 OF 1

7/26/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2025 Figures\Alt 1 Opt 2\ALT1OP2_build volume 2.dgn

NOTES:

- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

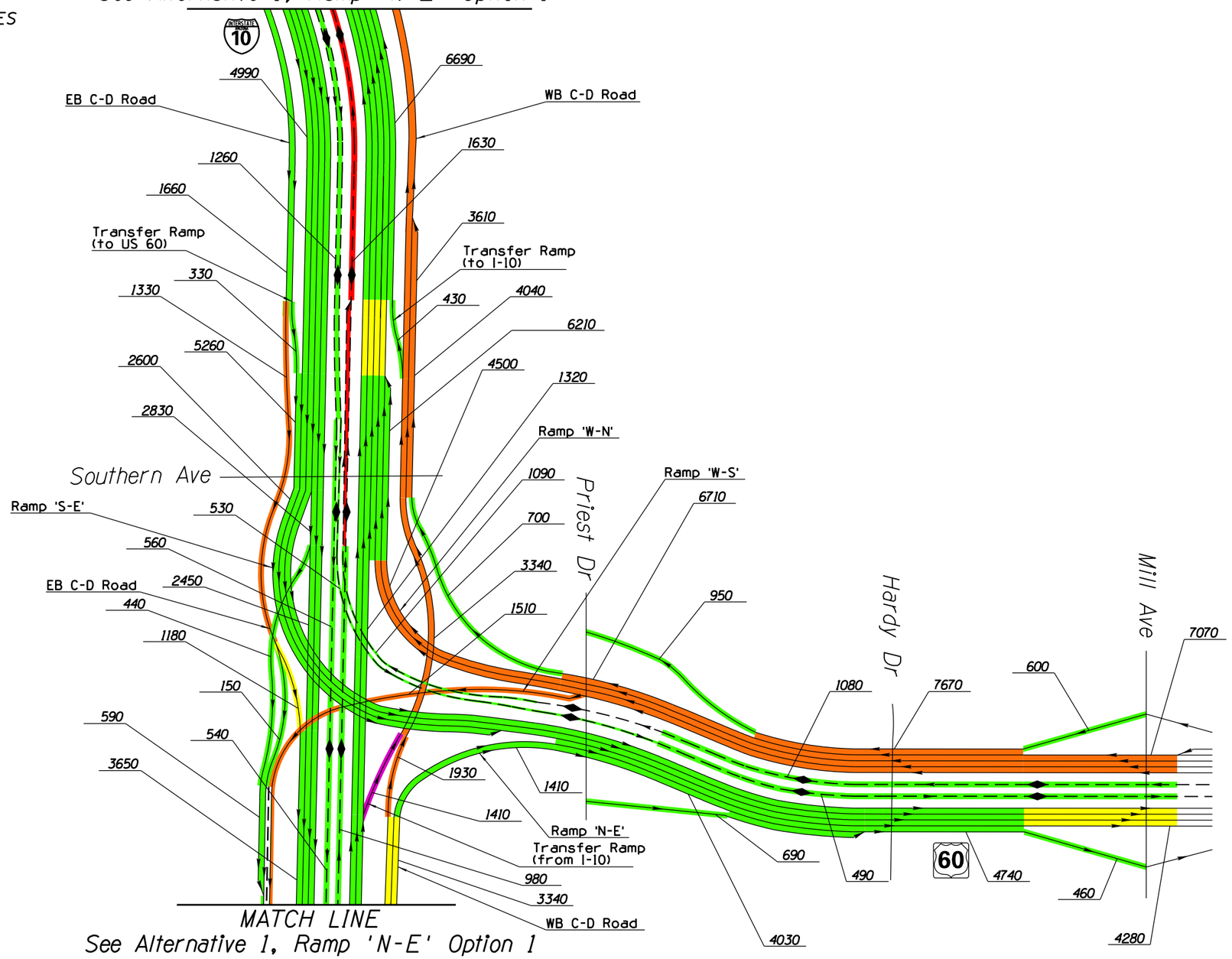
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 AM Peak Hour

MATCH LINE
See Alternative 1, Ramp 'N-E' Option 1



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 2
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 1

U:\I10-02\Spot\Design\tra\Build\Figures\2025 Figures\Alt 1 Opt 2\ALT1 OP2 AM LOS 2.dgn
7/26/2015

NOTES:

- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

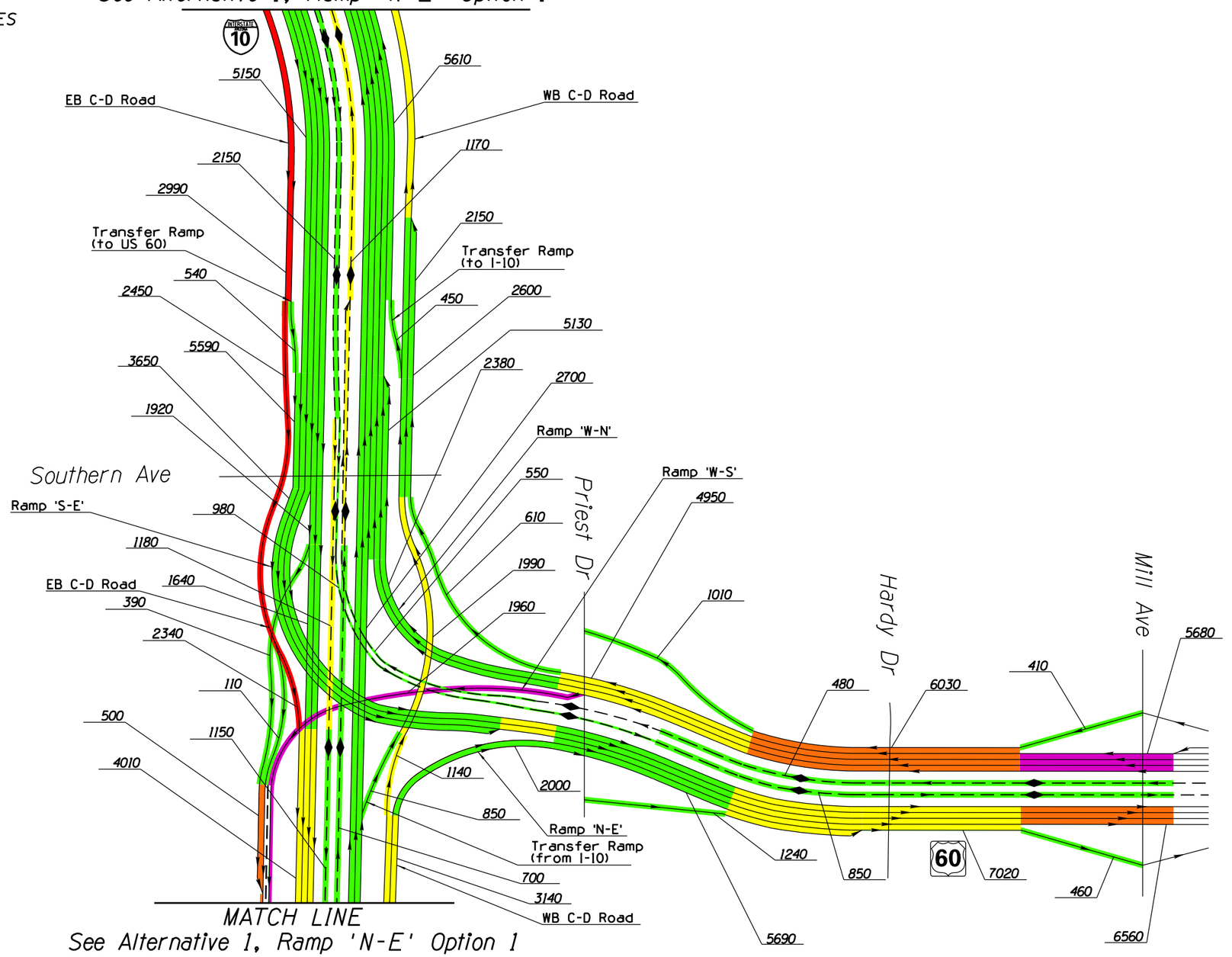
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 PM Peak Hour

MATCH LINE
See Alternative 1, Ramp 'N-E' Option 1



MATCH LINE
See Alternative 1, Ramp 'N-E' Option 1

N

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

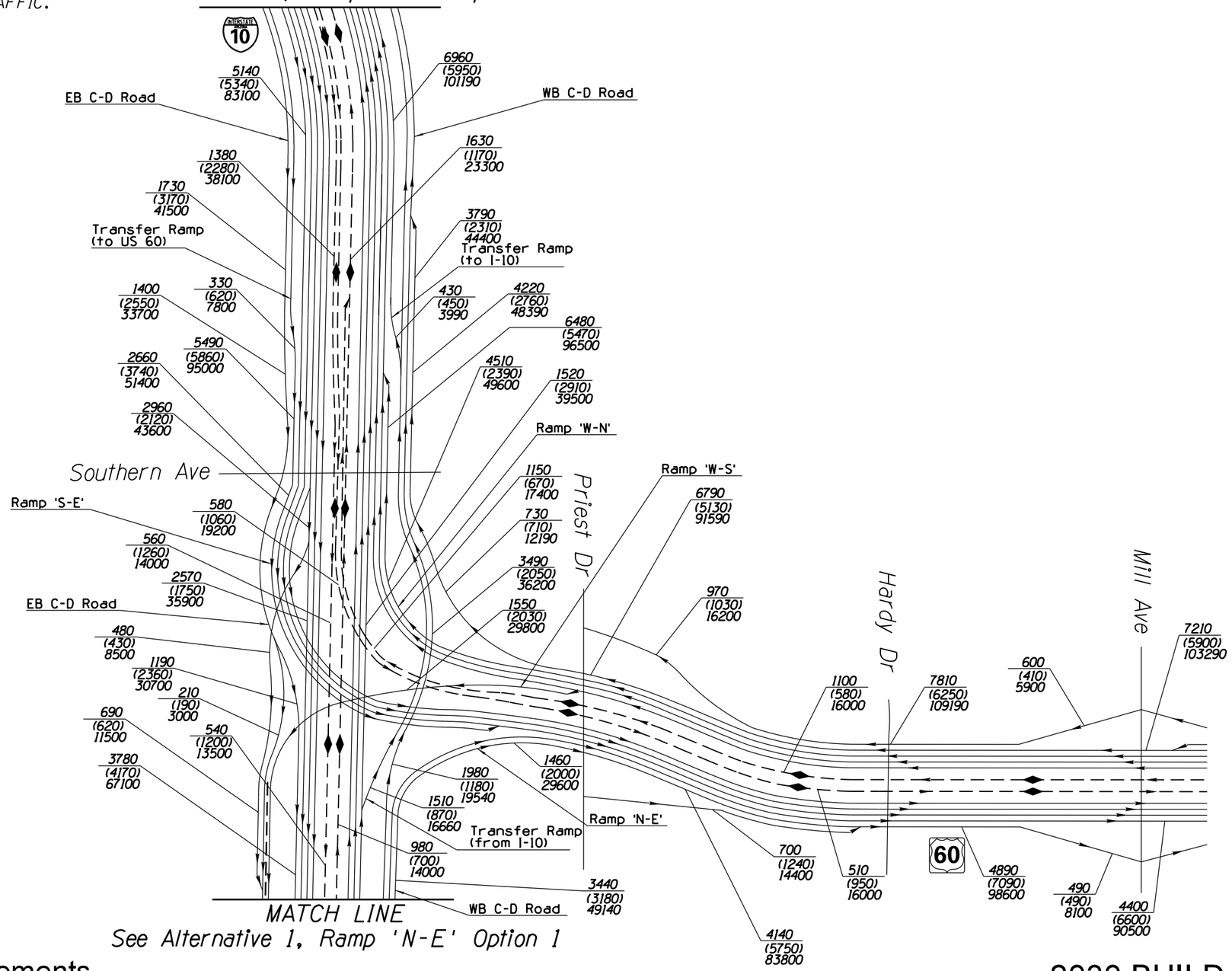
APPENDIX G
2025 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 2
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 1

U:\I10-02(Spot)\Design\tre\Build\Figures\2025 Figures\Alt 1 Opt 2\ALT1 OP2 PM LOS 2.dgn
7/26/2015

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2030 AM Peak Hour Volume
(xxx) - 2030 PM Peak Hour Volume
xxxx - 2030 Average Daily Traffic
- HOV facility

MATCH LINE
See Alternative 1, Ramp 'N-E' Option 1



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 2
VOLUMES & LANE CONFIGURATION
SHEET 1 OF 1

U:\110-02(Spot)\Design\tre\Build\Figures\2030 Figures\Alt 1 Opt 2\ALT1OP2_build volume 2.dgn
7/26/2015

MATCH LINE
See Alternative 1, Ramp 'N-E' Option 1

NOTES:

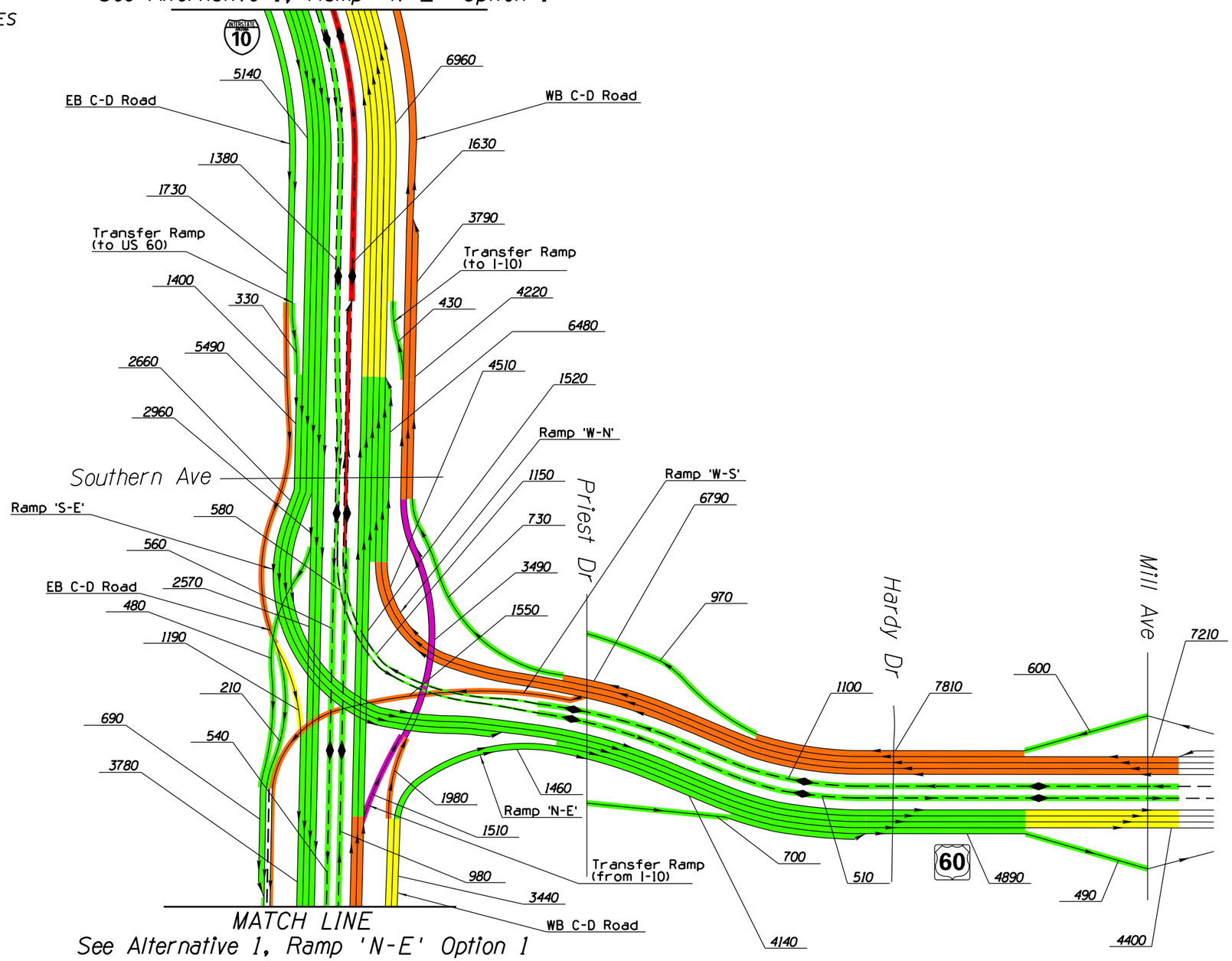
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 AM Peak Hour



MATCH LINE
See Alternative 1, Ramp 'N-E' Option 1

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 2
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 1

7/26/2015 U:\I10-02(Spot)\Design\tre\Build\Figures\2030 Figures\Alt 1 Opt 2\ALT1 OP2 AM LOS 2.dgn

NOTES:

- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

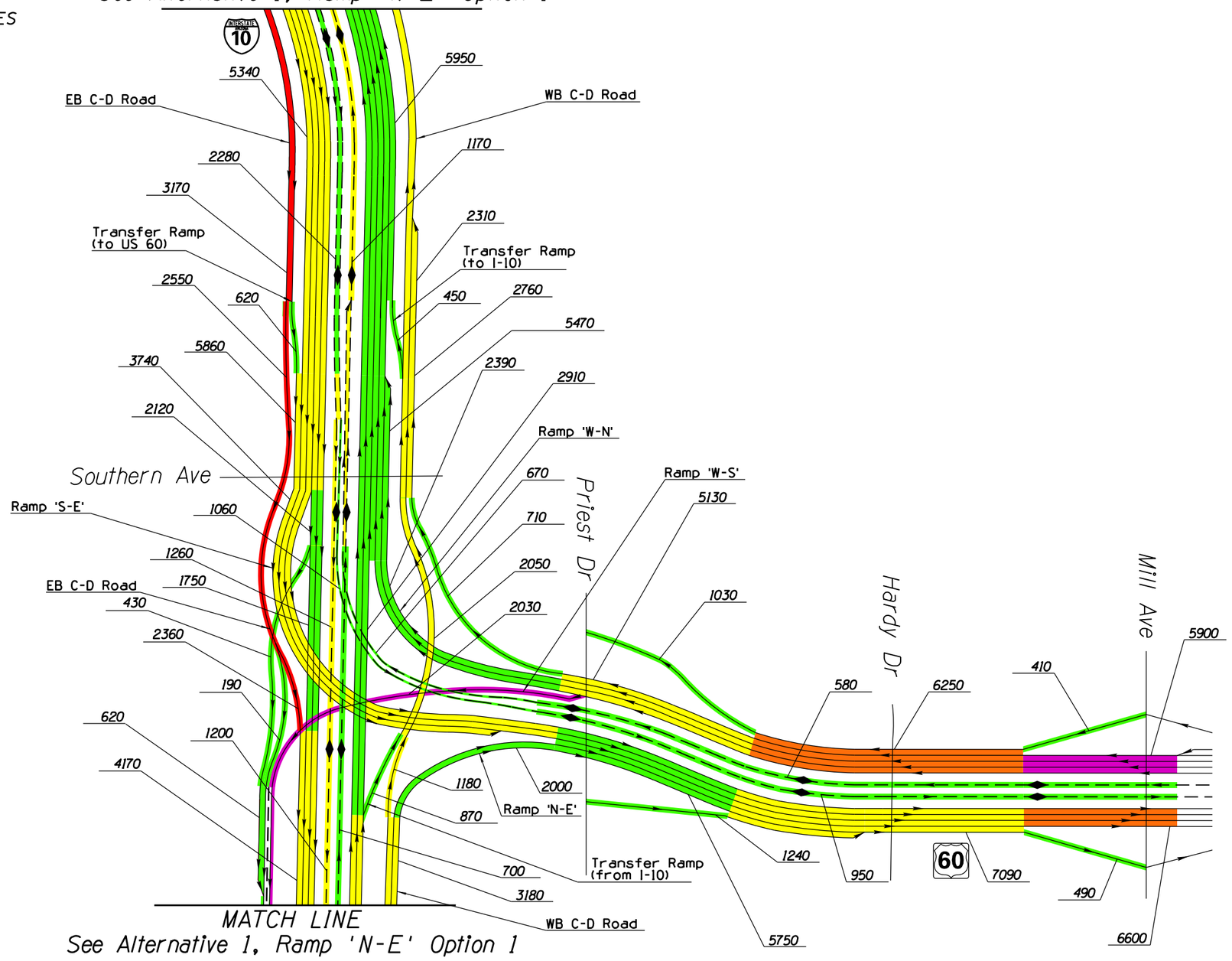
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 PM Peak Hour

MATCH LINE
See Alternative 1, Ramp 'N-E' Option 1



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

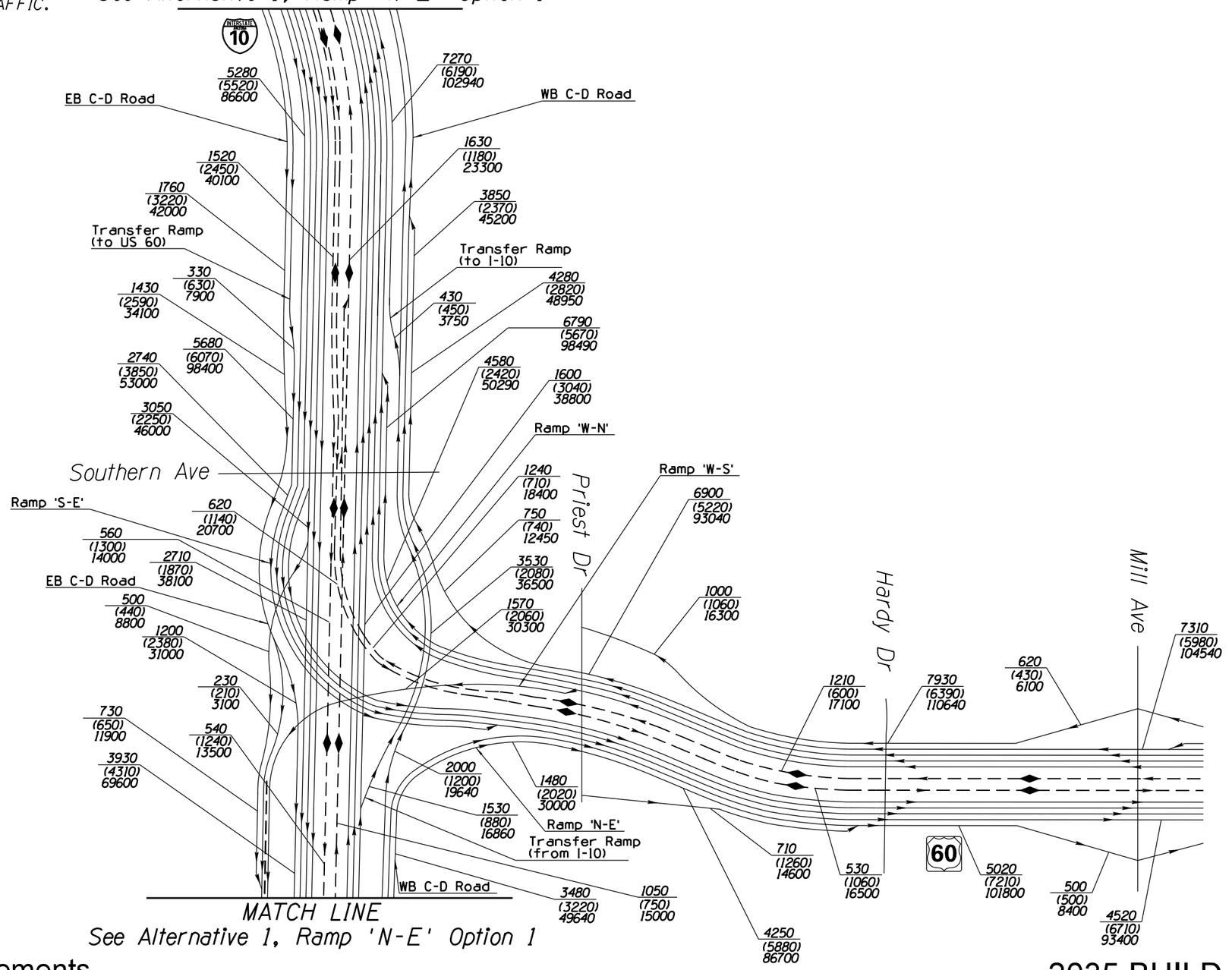
APPENDIX G
2030 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 2
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 1

U:\I10-02\Spot\Design\tra\Build\Figures\2030 Figures\Alt 1 Opt 2\ALT1 OP2 PM LOS 2.dgn
7/26/2015

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2035 AM Peak Hour Volume
(xxx) - 2035 PM Peak Hour Volume
xxxx - 2035 Average Daily Traffic
- HOV facility

MATCH LINE
See Alternative 1, Ramp 'N-E' Option 1



MATCH LINE
See Alternative 1, Ramp 'N-E' Option 1

N

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 2
VOLUMES & LANE CONFIGURATION
SHEET 1 OF 1

7/26/2015 U:\I10-02\Spot\Design\tre\Build\Figures\2035 Figures\Alt 1 Opt 2\ALT1OP2_build volume 2.dgn

NOTES:

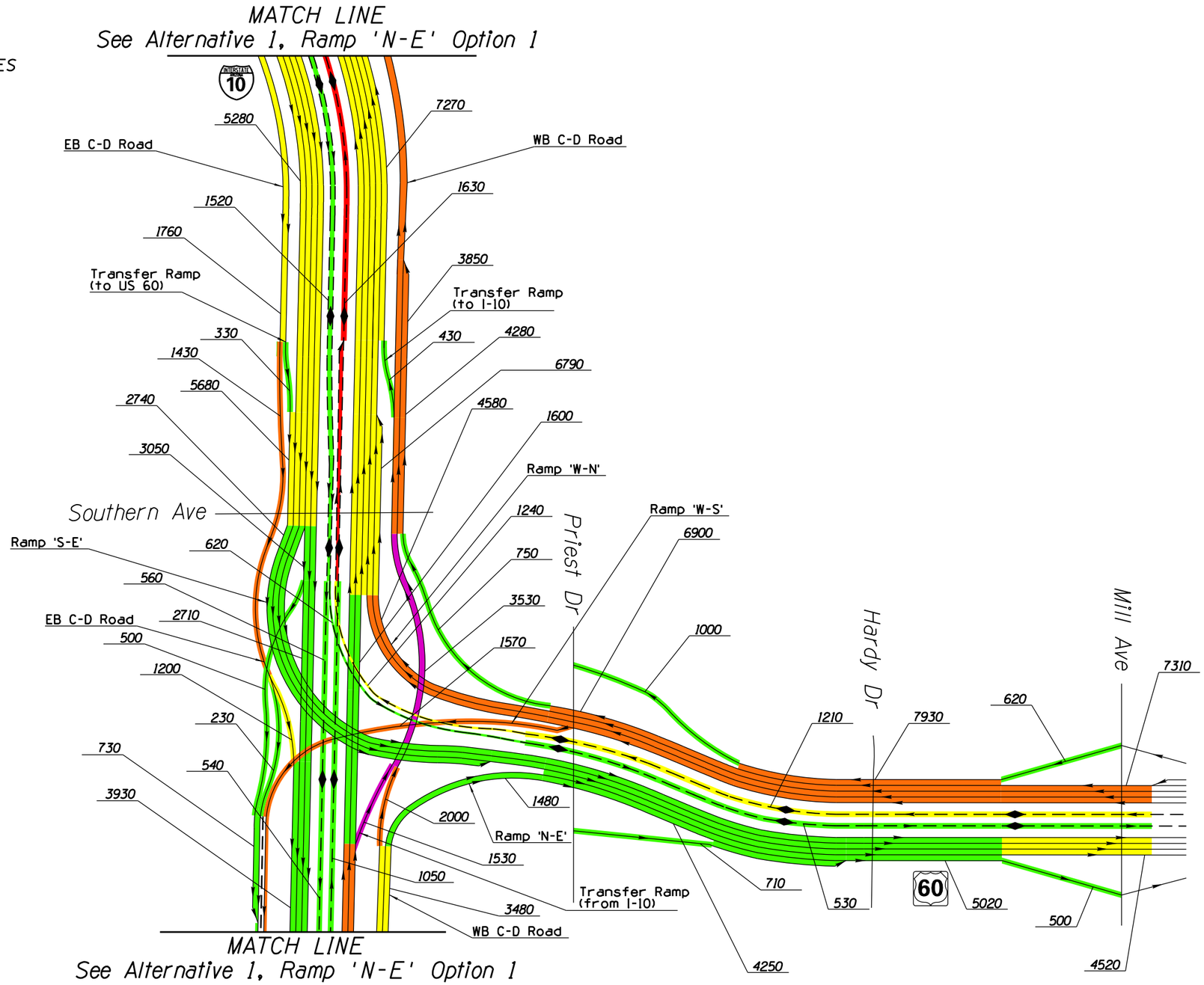
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 2
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 1

U:\I10-02\Spot\Design\tra\Build\Figures\2035 Figures\Alt 1 Opt 2\ALT1 OP2 AM LOS 2.dgn
7/26/2015

NOTES:

- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

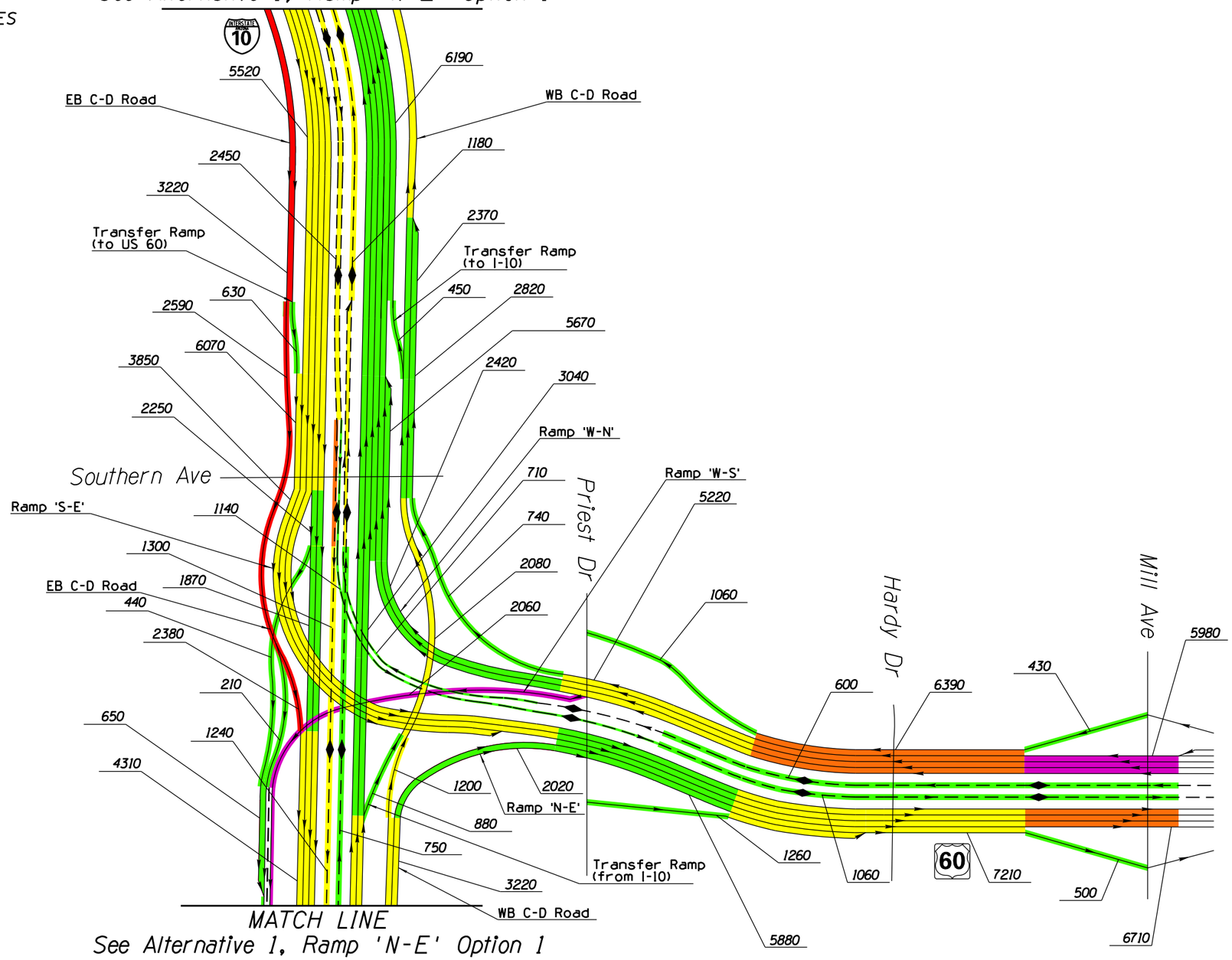
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 PM Peak Hour

MATCH LINE
See Alternative 1, Ramp 'N-E' Option 1



MATCH LINE
See Alternative 1, Ramp 'N-E' Option 1

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 2
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 1

U:\I10-02\Spot\Design\tra\Build\Figures\2035 Figures\Alt 1 Opt 2\ALT1 OP2 PM LOS 2.dgn
7/26/2015

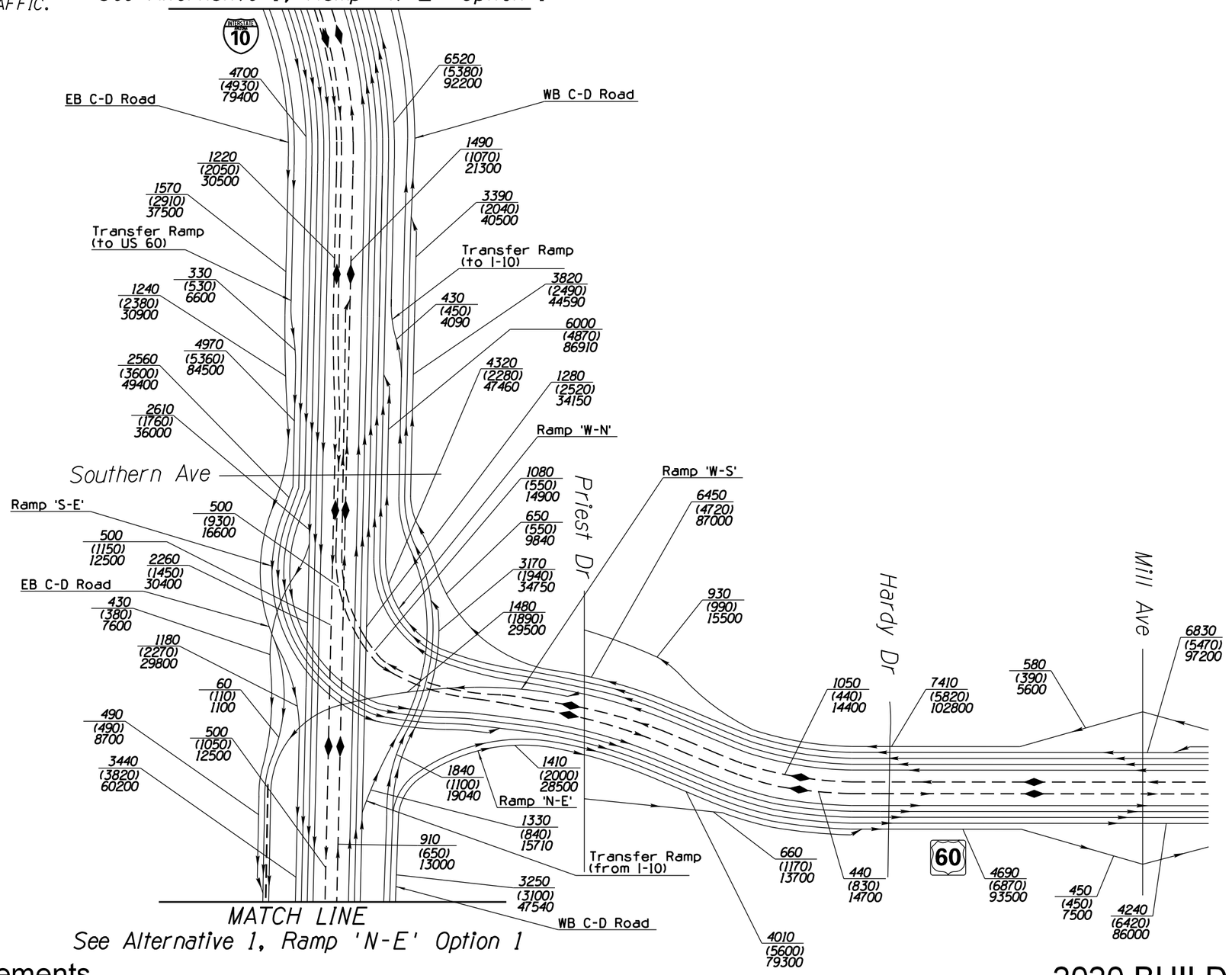
NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2020 AM Peak Hour Volume
(xxx) - 2020 PM Peak Hour Volume
xxxx - 2020 Average Daily Traffic
◆—◆ - HOV facility

MATCH LINE
See Alternative 1, Ramp 'N-E' Option 1



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 3
VOLUMES & LANE CONFIGURATION
SHEET 1 OF 1

7/26/2015 U:\I10-02\Spot\Design\tre\Build\Figures\2020 Figures\Alt 1 Option 3\ALT1OP3_build volume 2.dgn

NOTES:

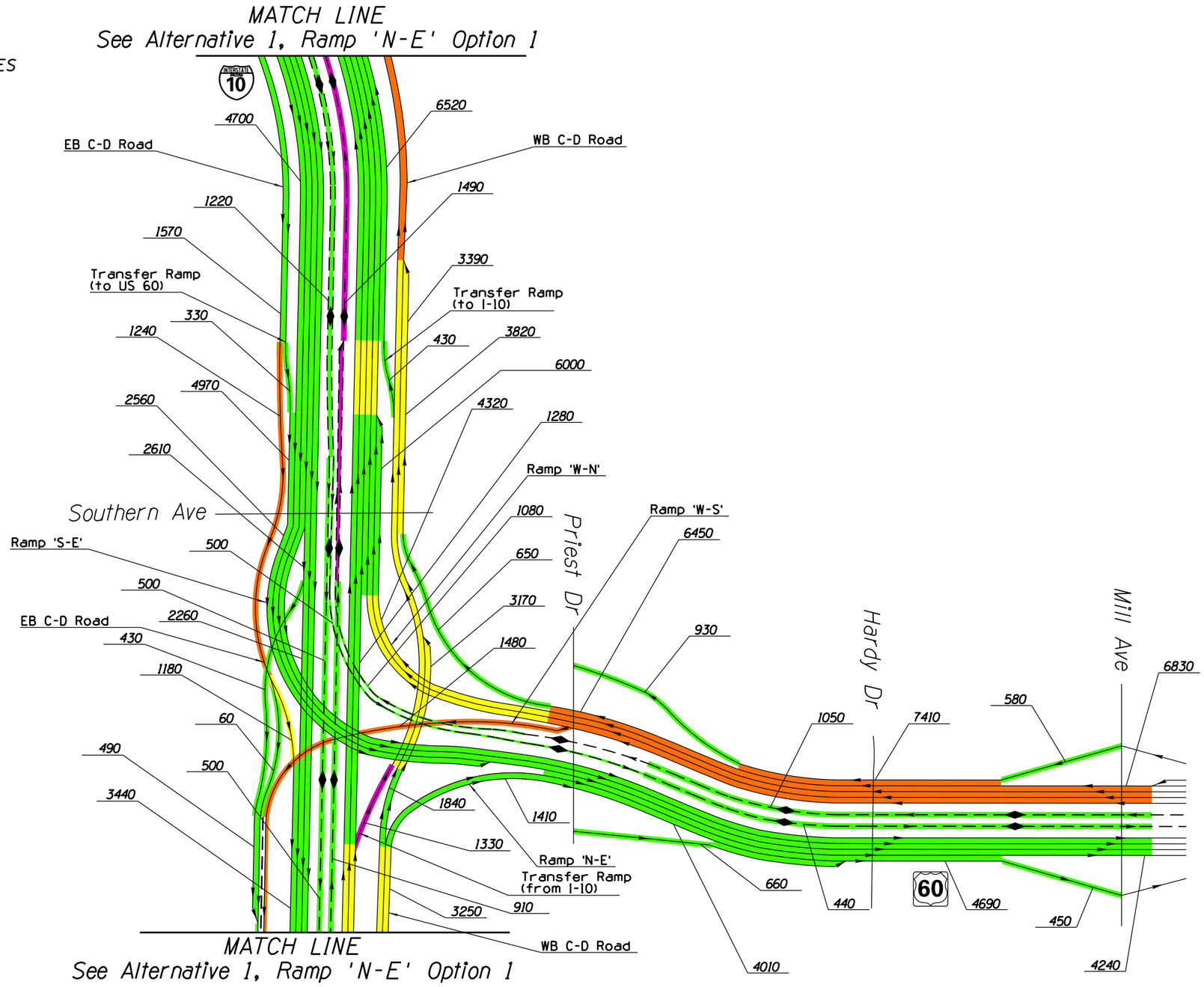
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 AM Peak Hour



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 3
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 1

U:\I10-02\Spot\Design\tra\Build\Figures\2020 Figures\Alt 1 Option 3\ALT1 OP3 AM LOS 2.dgn
7/26/2015

NOTES:

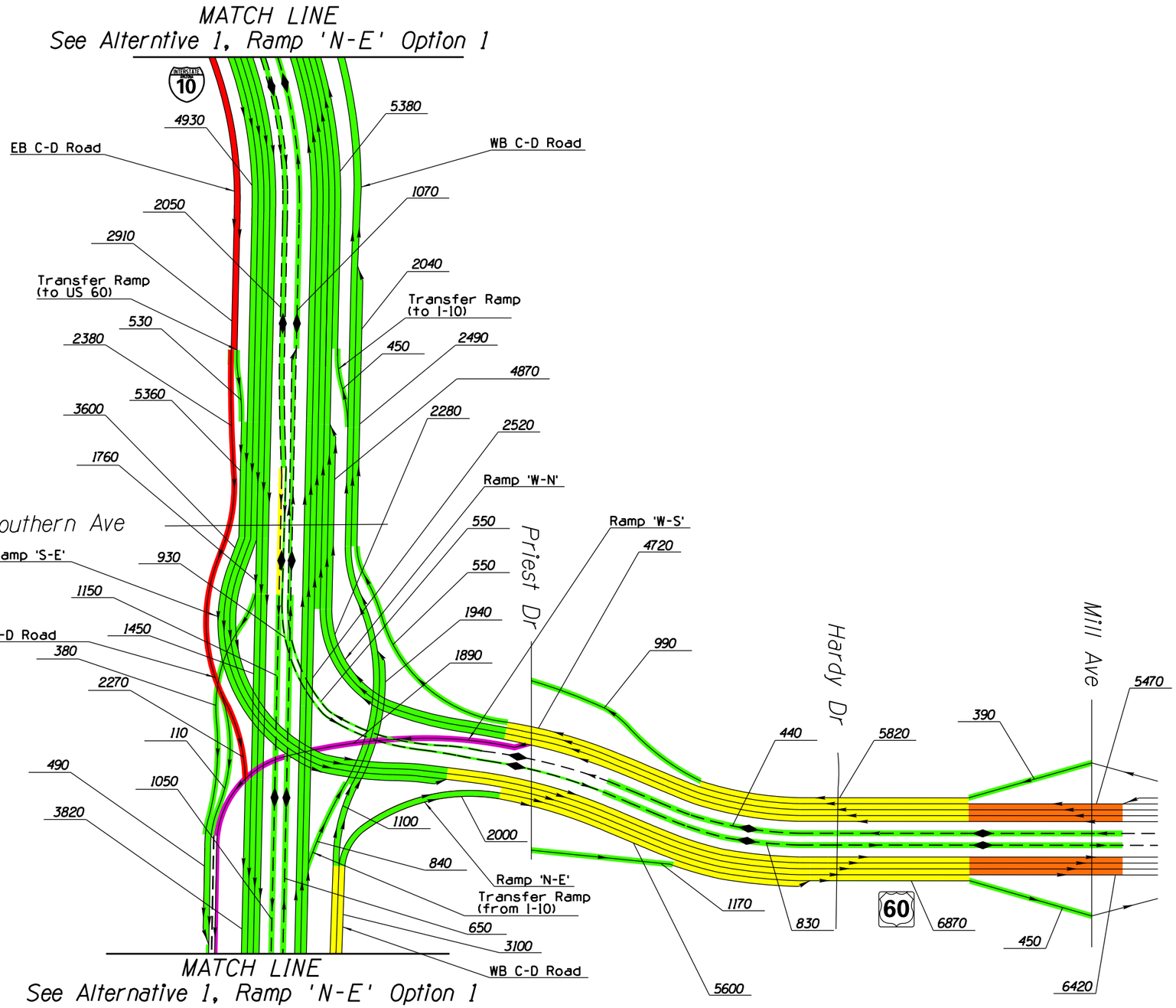
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 3
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 1

U:\I10-02\Spot\Design\tra\Build\Figures\2020 Figures\Alt 1 Option 3\ALT1 OP3 PM LOS 2.dgn
7/26/2015

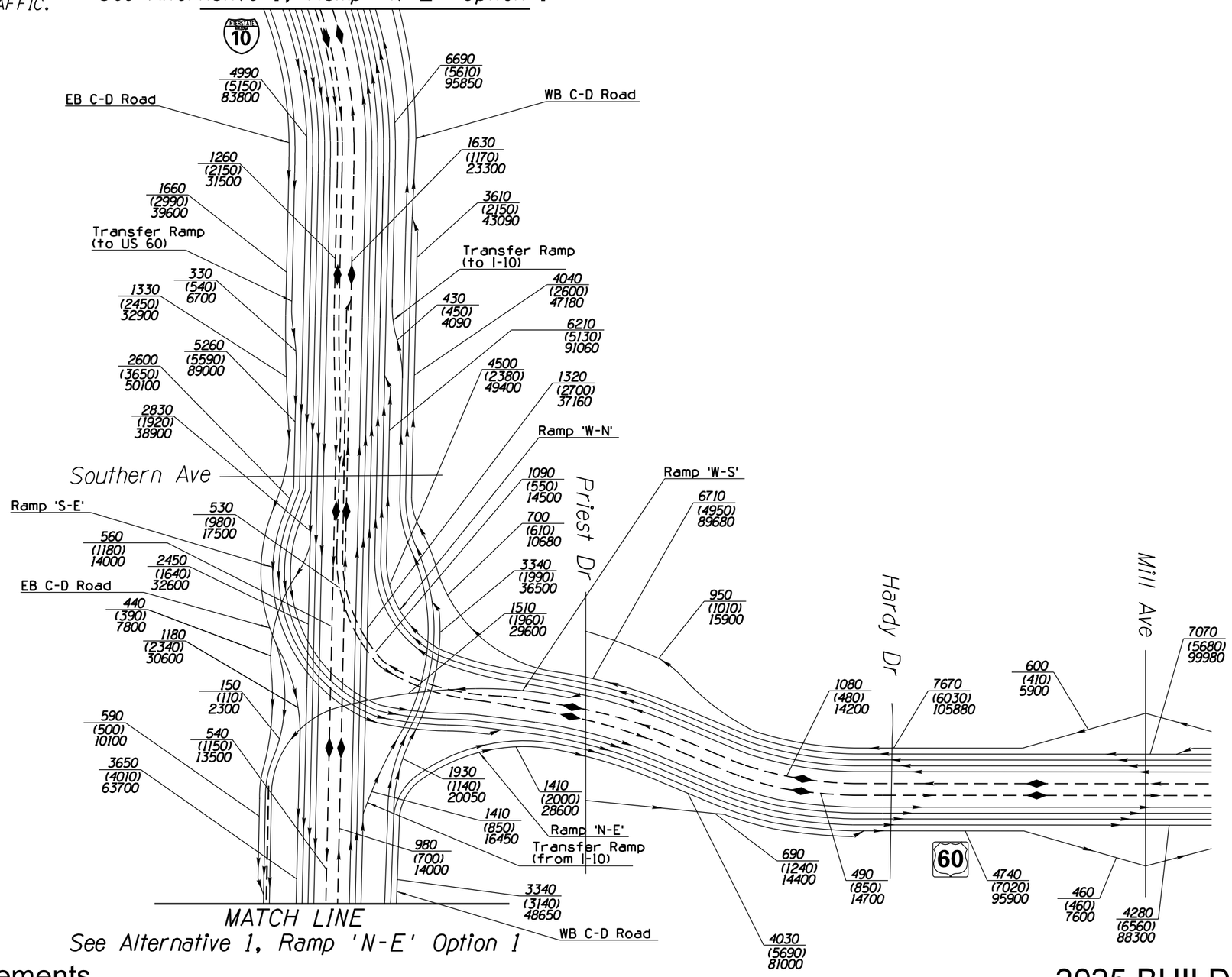
NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2025 AM Peak Hour Volume
(xxx) - 2025 PM Peak Hour Volume
xxxx - 2025 Average Daily Traffic
◆—◆ - HOV facility

MATCH LINE
See Alternative 1, Ramp 'N-E' Option 1



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 3
VOLUMES & LANE CONFIGURATION
SHEET 1 OF 1

7/26/2015 U:\I10-02\Spot\Design\tre\Build\Figures\2025 Figures\Alt 1 Opt 3\ALT1OP3_build volume 2.dgn

NOTES:

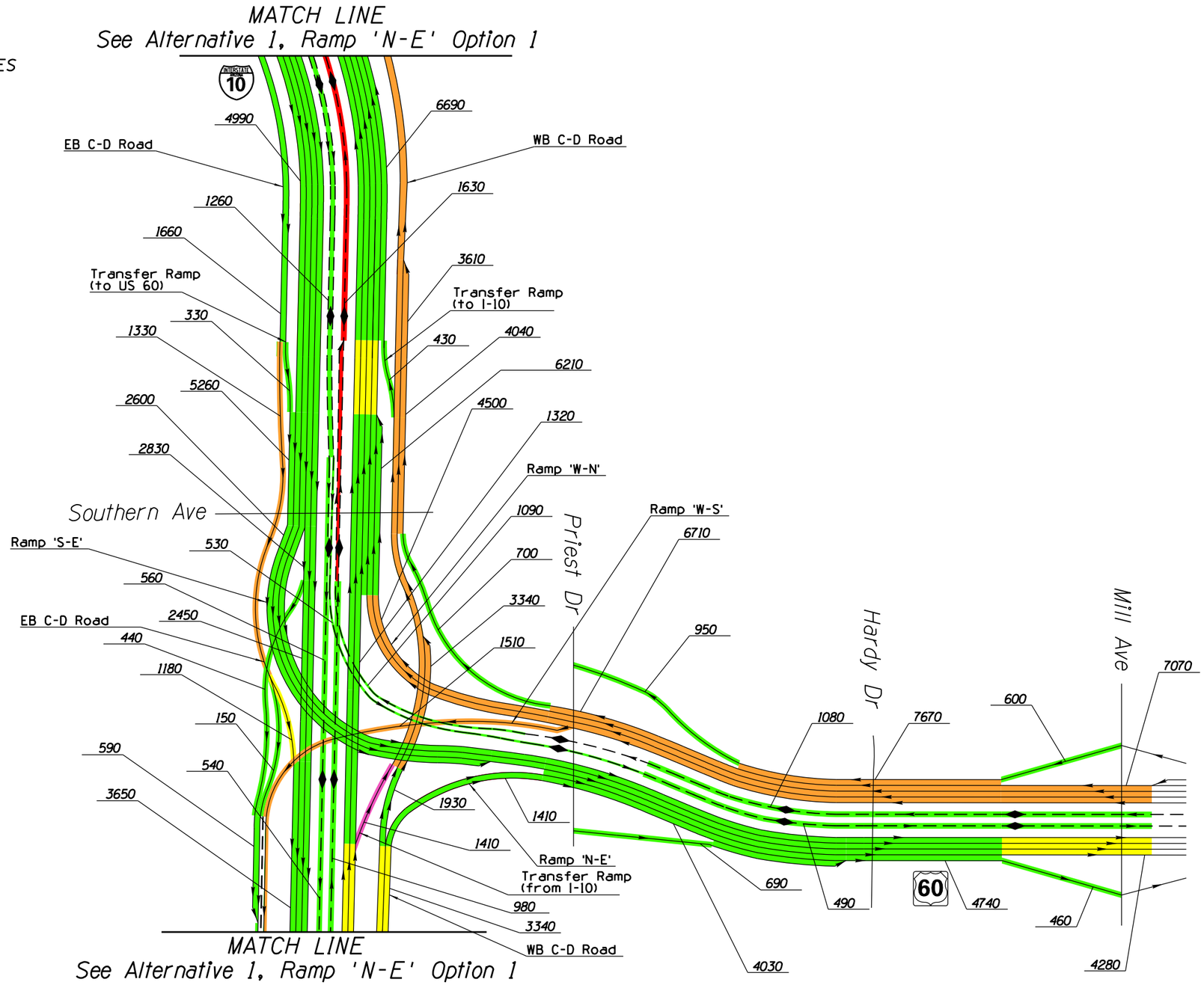
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 3
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 1

U:\I10-02\Spot\Design\tra\Build\Figures\2025 Figures\Alt 1 Opt 3\ALT1 OP3 AM LOS 2.dgn
7/26/2015

NOTES:

- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

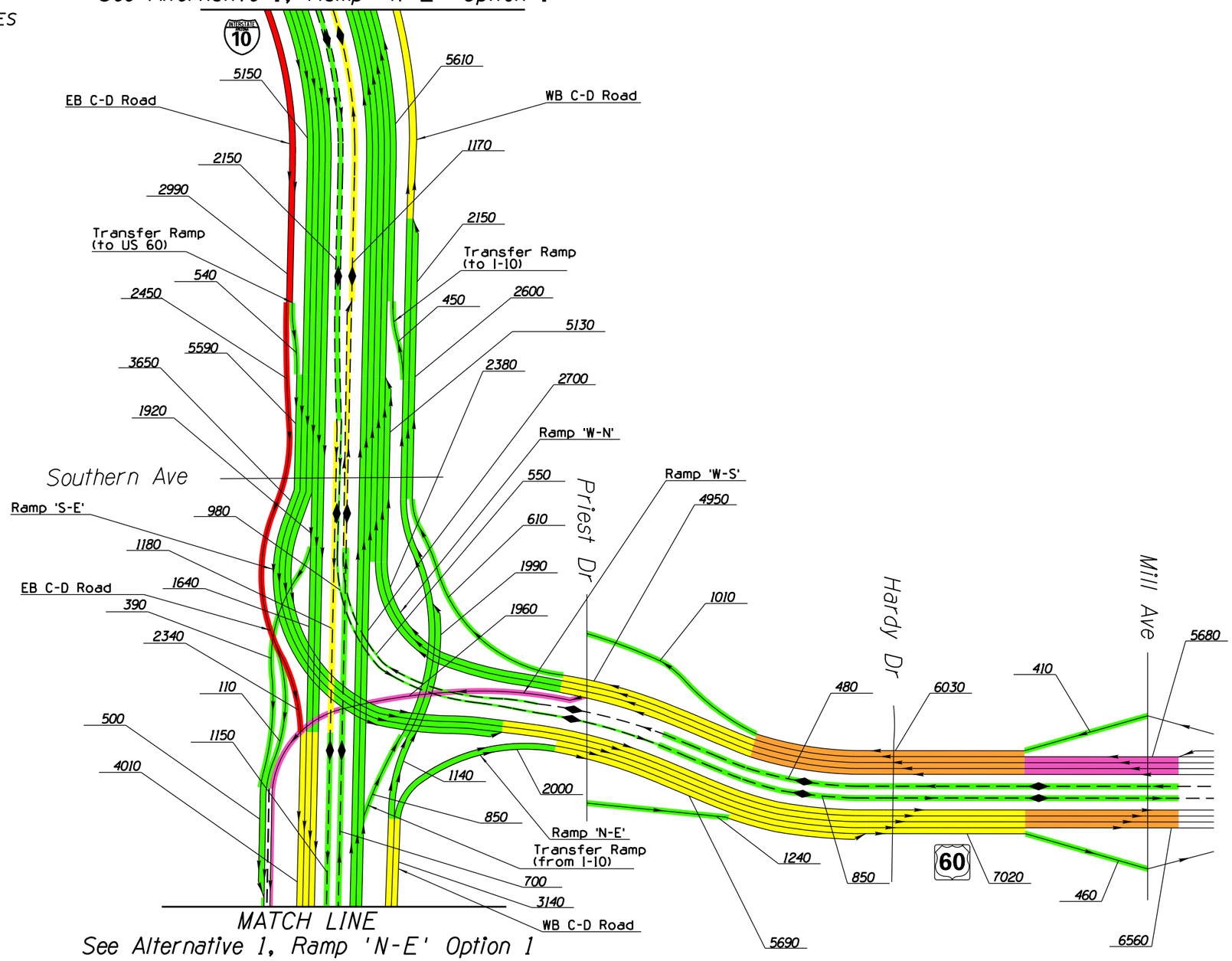
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 PM Peak Hour

MATCH LINE
See Alternative 1, Ramp 'N-E' Option 1



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

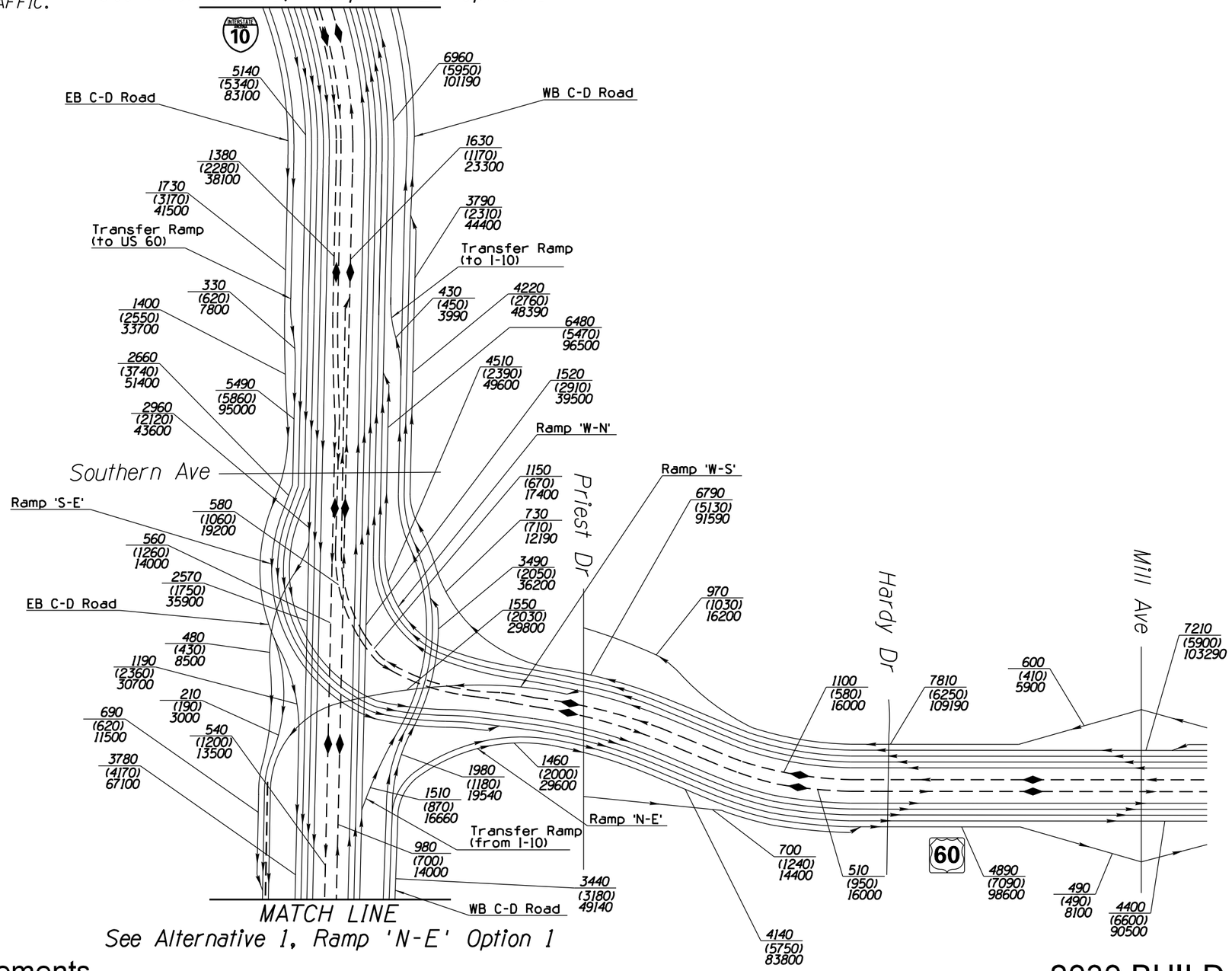
APPENDIX G
2025 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 3
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 1

U:\I10-02(Spot)\Design\tre\Build\Figures\2025 Figures\Alt 1 Opt 3\ALT1 OP3 PM LOS 2.dgn
7/26/2015

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2030 AM Peak Hour Volume
(xxx) - 2030 PM Peak Hour Volume
xxxx - 2030 Average Daily Traffic
- HOV facility

MATCH LINE
See Alternative 1, Ramp 'N-E' Option 1



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 3
VOLUMES & LANE CONFIGURATION
SHEET 1 OF 1

U:\I10-02(Spot)\Design\tre\Build\Figures\2030 Figures\Alt 1 Opt 3\ALT1OP3_build volume 2.dgn
7/27/2015

NOTES:

- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

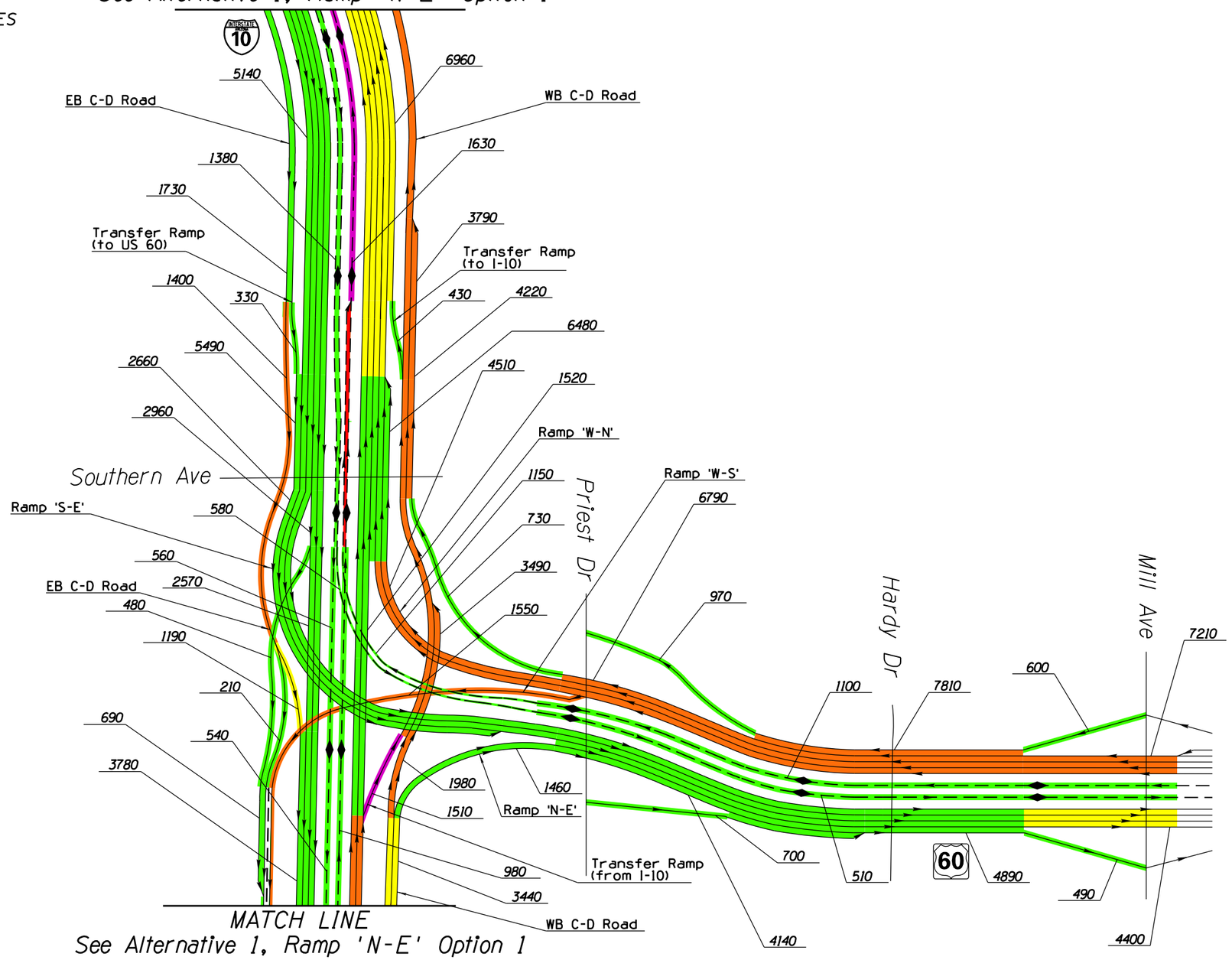
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 AM Peak Hour

MATCH LINE
See Alternative 1, Ramp 'N-E' Option 1



N

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 3
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 1

U:\I10-02(Spot)\Design\tre\Build\Figures\2030 Figures\Alt 1 Opt 3\ALT1 OP3 AM LOS 2.dgn
7/27/2015

NOTES:

- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

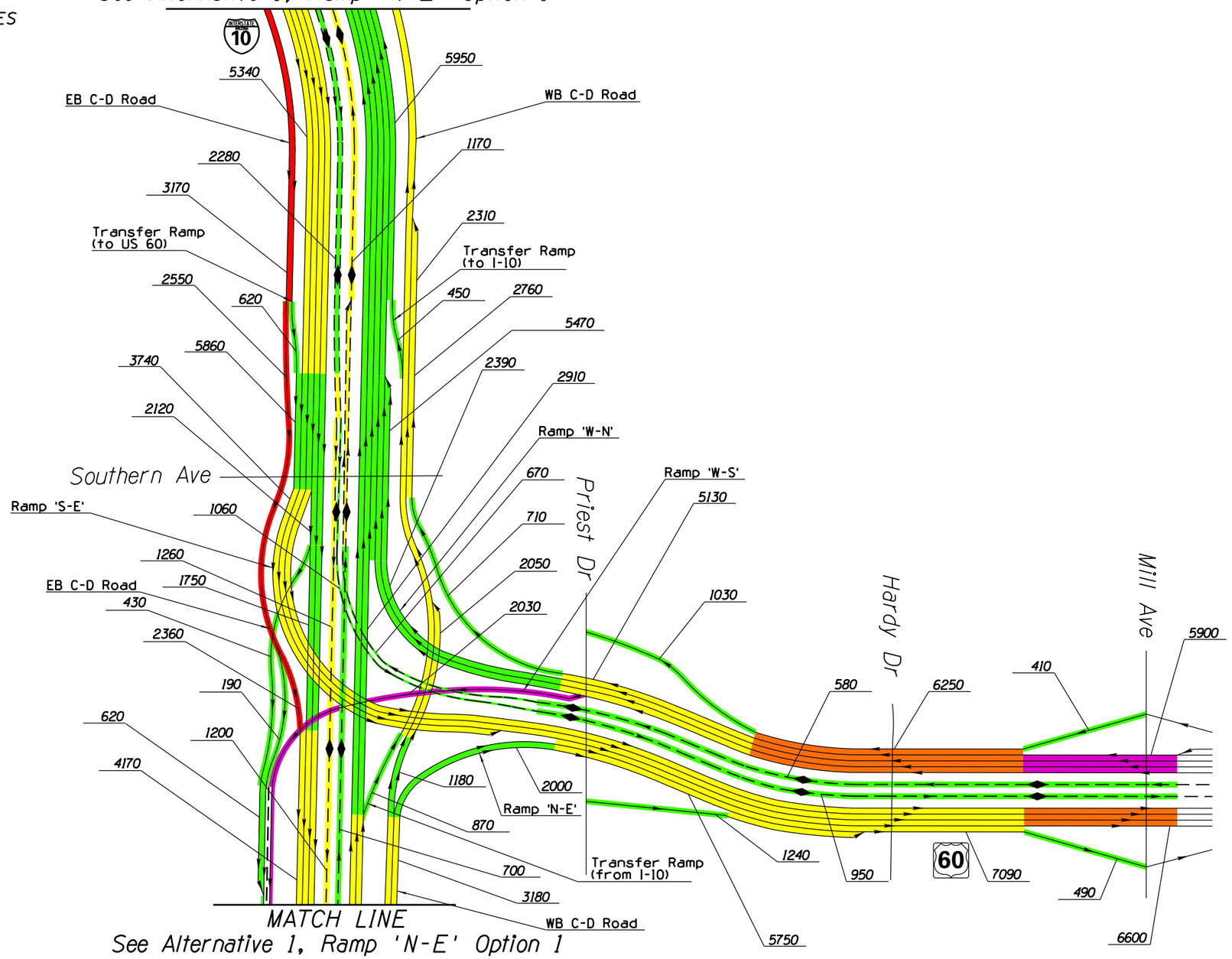
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 PM Peak Hour

MATCH LINE
See Alternative 1, Ramp 'N-E' Option 1



N

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 3
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 1

U:\I10-02\Spot\Design\tra\Build\Figures\2030 Figures\Alt 1 Opt 3\ALT1 OP3 PM LOS 2.dgn
7/27/2015

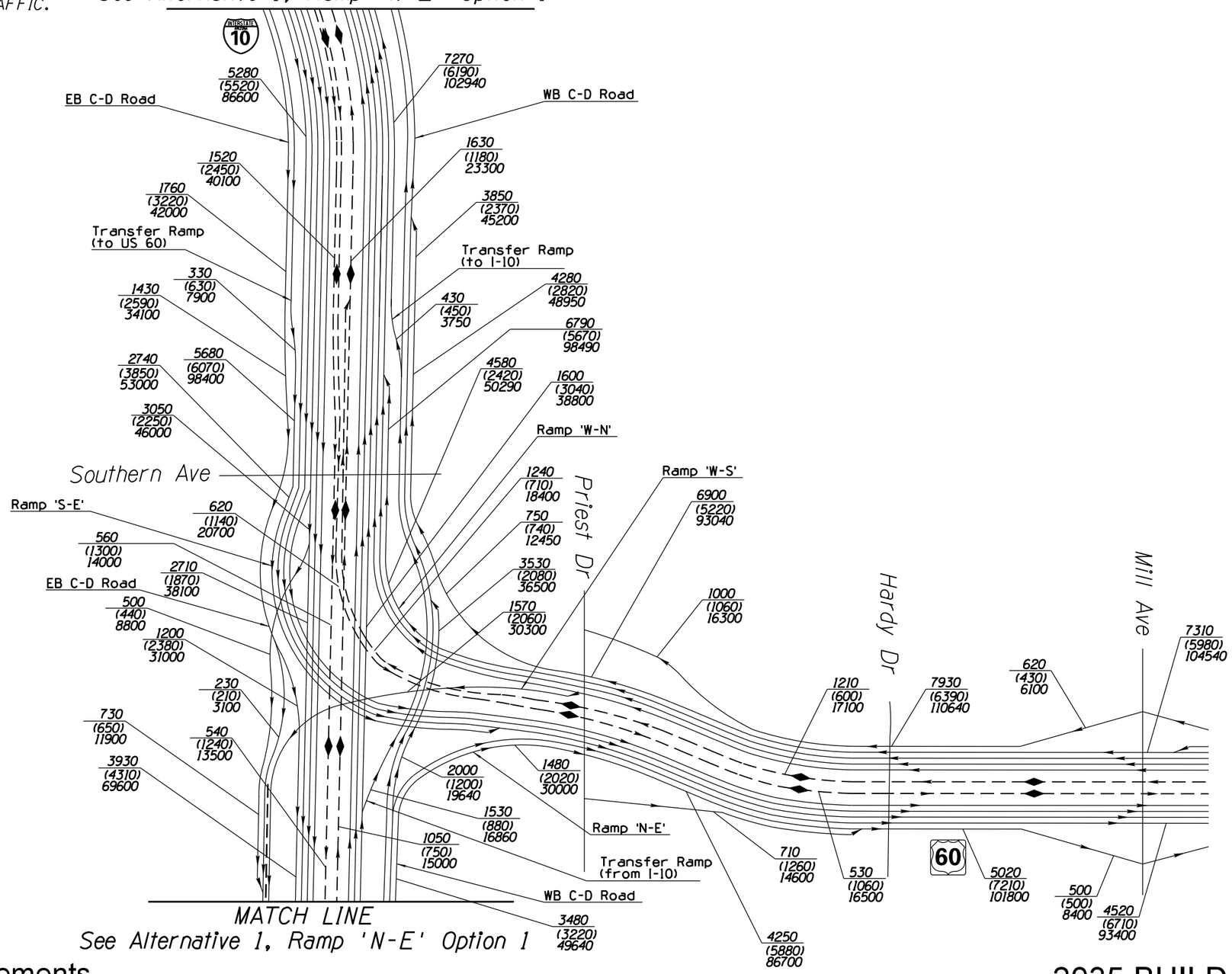
NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2035 AM Peak Hour Volume
(xxx) - 2035 PM Peak Hour Volume
xxxx - 2035 Average Daily Traffic
◆—◆ - HOV facility

MATCH LINE
See Alternative 1, Ramp 'N-E' Option 1



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 3
VOLUMES & LANE CONFIGURATION
SHEET 1 OF 1

7/27/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2035 Figures\Alt 1 Opt 3\ALT1OP3_build volume 2.dgn

NOTES:

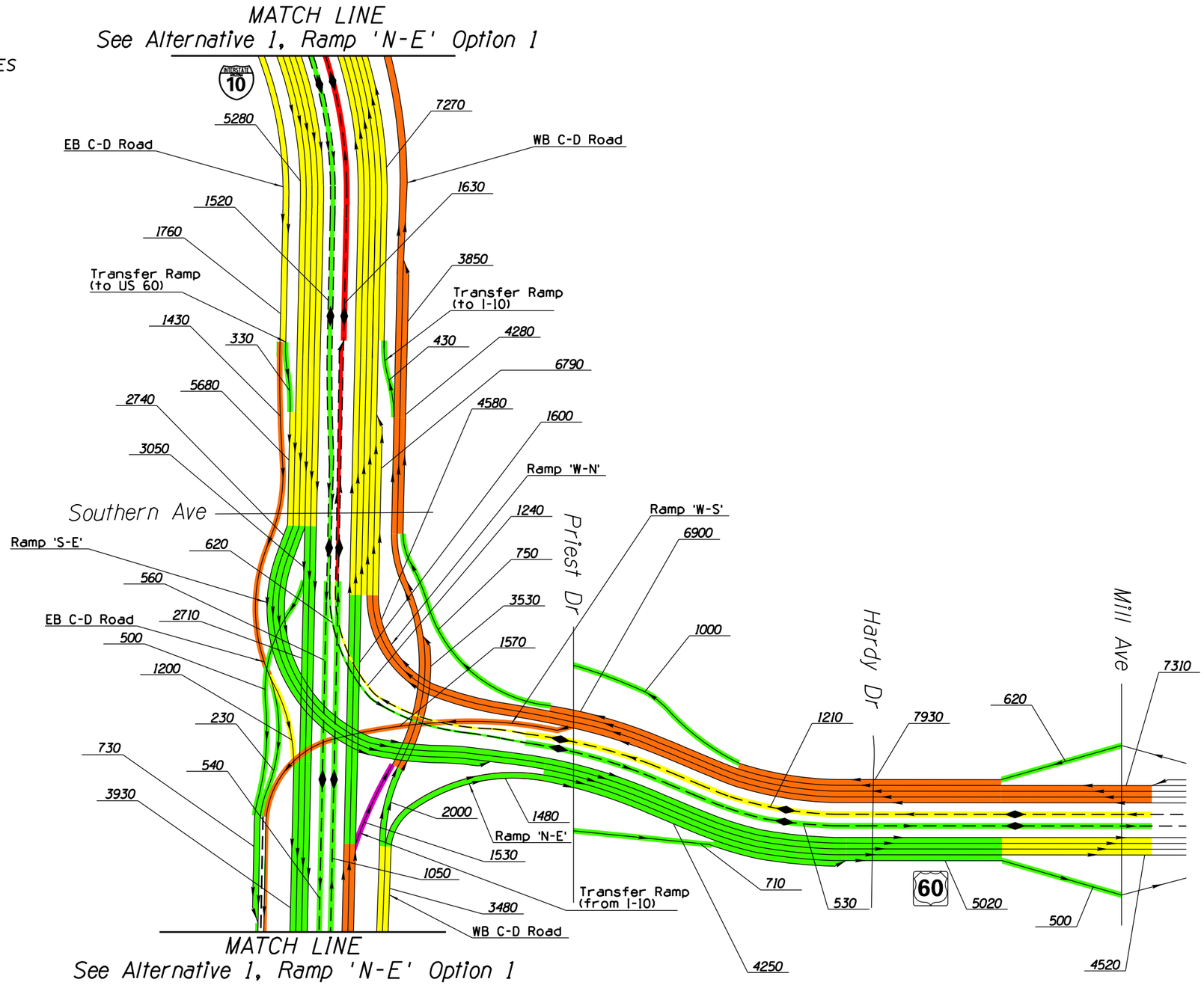
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 AM Peak Hour



N

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 3
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 1

U:\I10-02\Spot\Design\tra\Build\Figures\2035 Figures\Alt 1 Opt 3\ALT1 OP3 AM LOS 2.dgn
7/27/2015

NOTES:

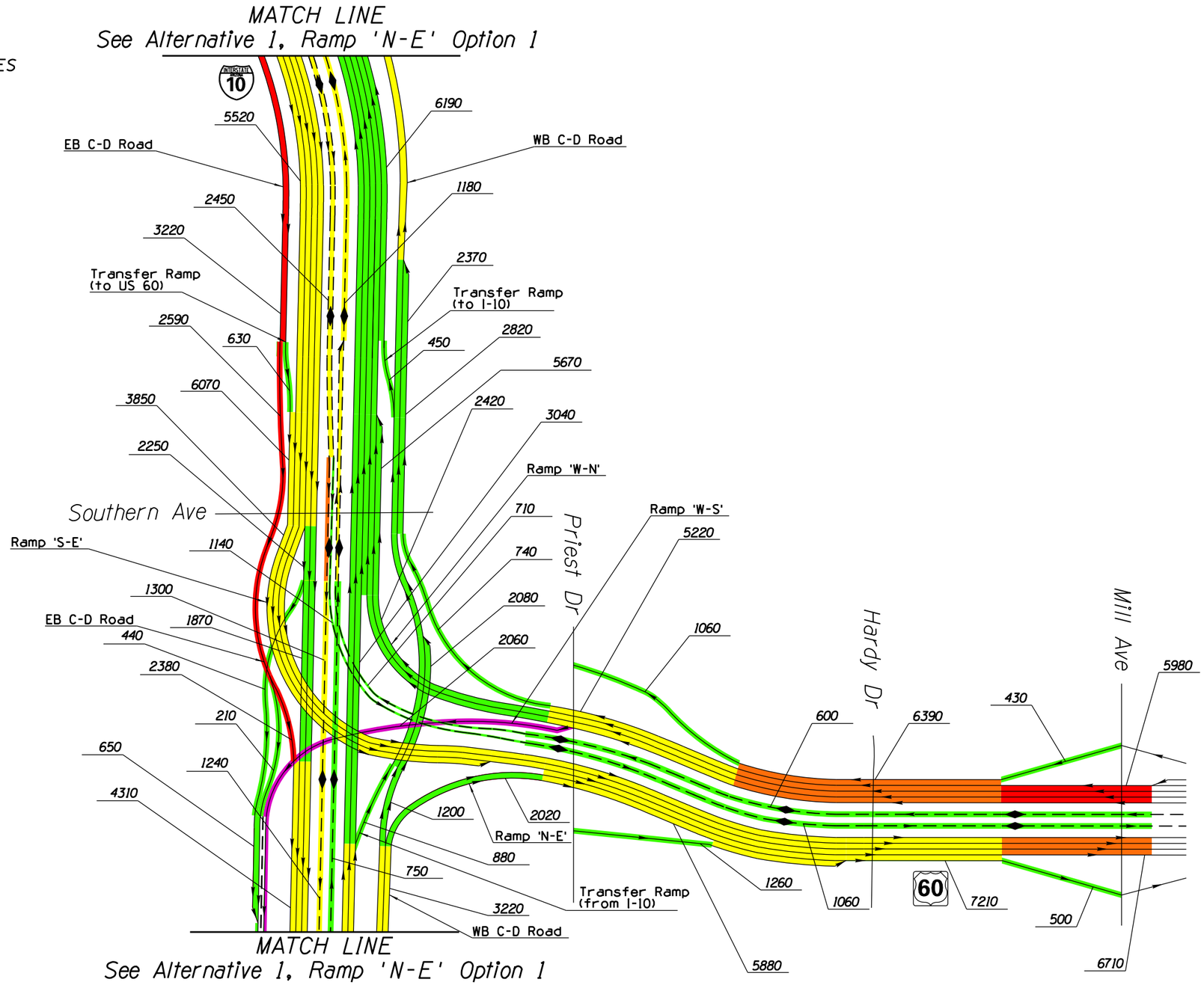
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 1
RAMP 'N-E' OPTION 3
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 1

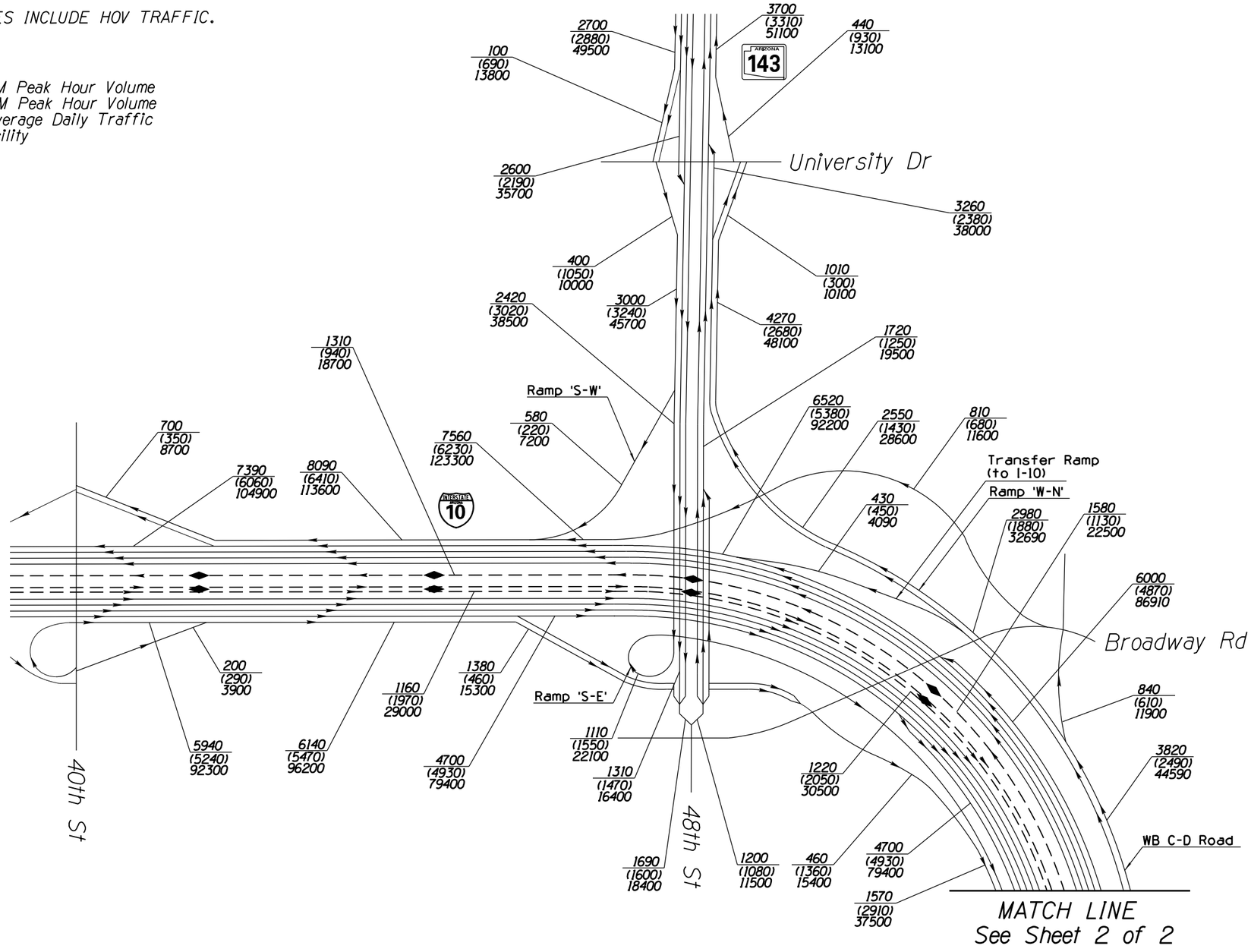
U:\I10-02\Spot\Design\tra\Build\Figures\2035 Figures\Alt 1 Opt 3\ALT1 OP3 PM LOS 2.dgn
7/27/2015

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2020 AM Peak Hour Volume
(xxx) - 2020 PM Peak Hour Volume
xxxx - 2020 Average Daily Traffic
— ◆ — - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 1 OF 4

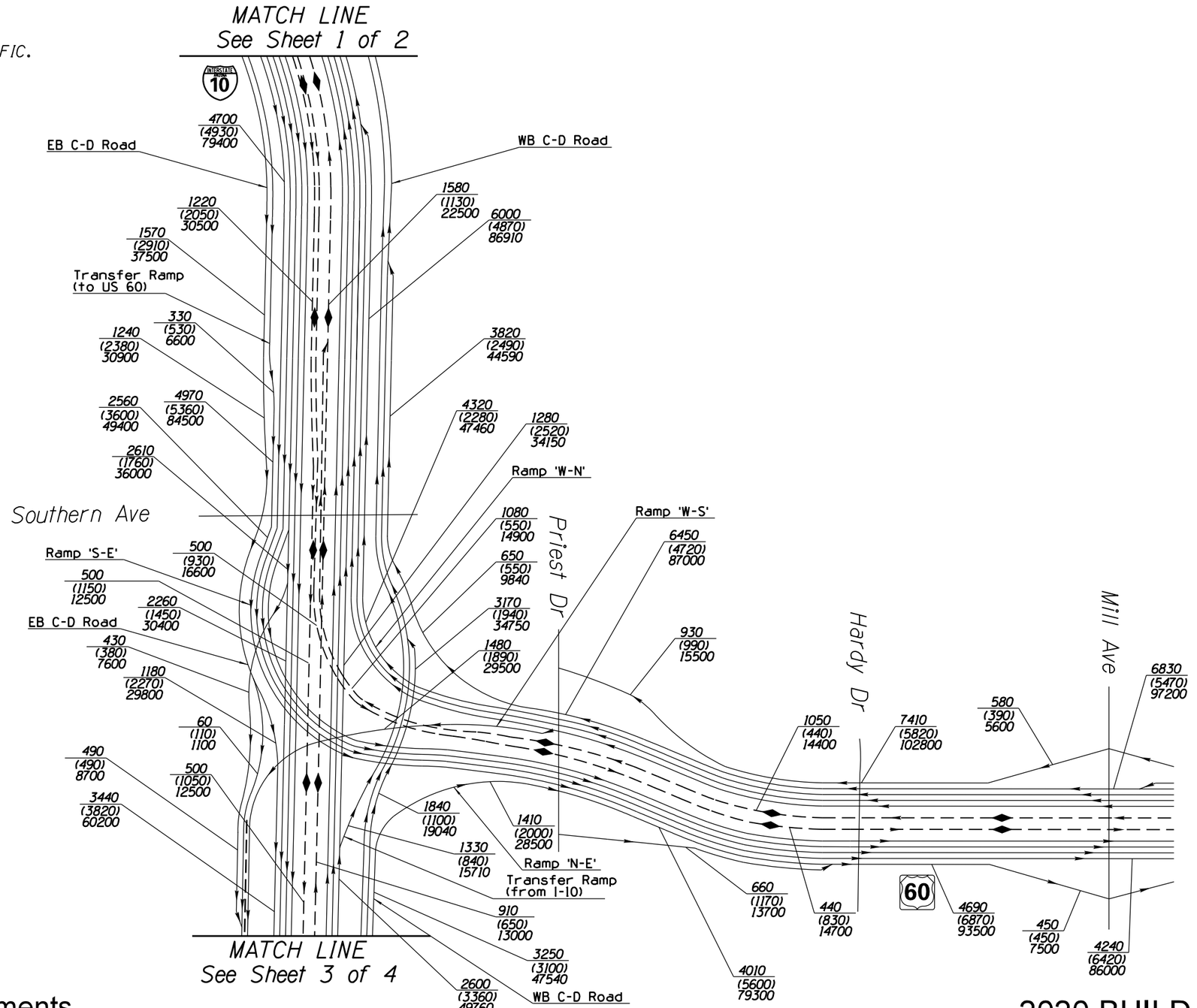
7/27/2015 U:\110-02\Spot\Design\tre\Build\Figures\2020 Figures\Alt 1A Option 1\ALT1A_build volume 1.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2020 AM Peak Hour Volume
(xxx) - 2020 PM Peak Hour Volume
xxxx - 2020 Average Daily Traffic
◆—◆ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

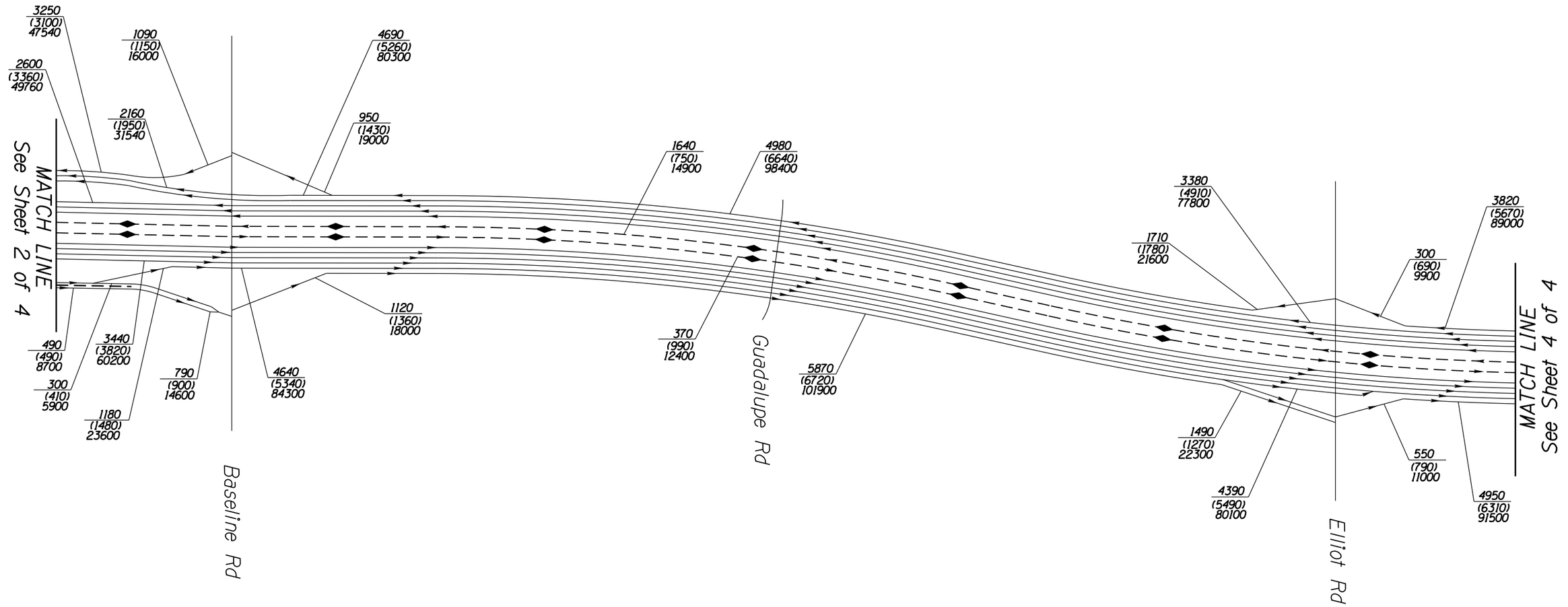
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 2 OF 4

7/27/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2020 Figures\Alt 1A Option 1\ALT1A_build volume 2.dgn

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2020 AM Peak Hour Volume
(xxx) - 2020 PM Peak Hour Volume
xxxx - 2020 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

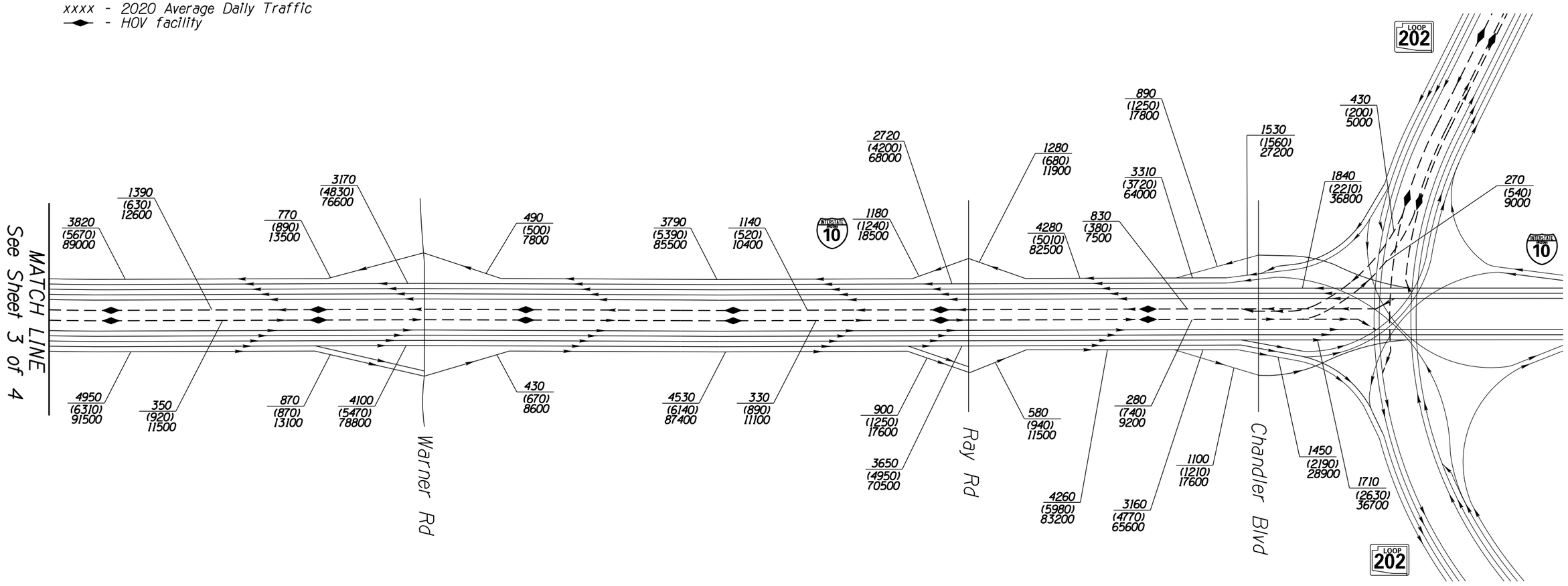
APPENDIX G
2020 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 3 OF 4

7/27/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2020 Figures\Alt 1A Option 1\ALT1A_build volume 3.dgn

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2020 AM Peak Hour Volume
(xxx) - 2020 PM Peak Hour Volume
xxxx - 2020 Average Daily Traffic
◆—◆ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 4 OF 4

7/27/2015 U:\110-02\Spot\Design\tre\Build\Figures\2020 Figures\Alt 1A Option 1\ALT1A_build volume 4.dgn

NOTES:

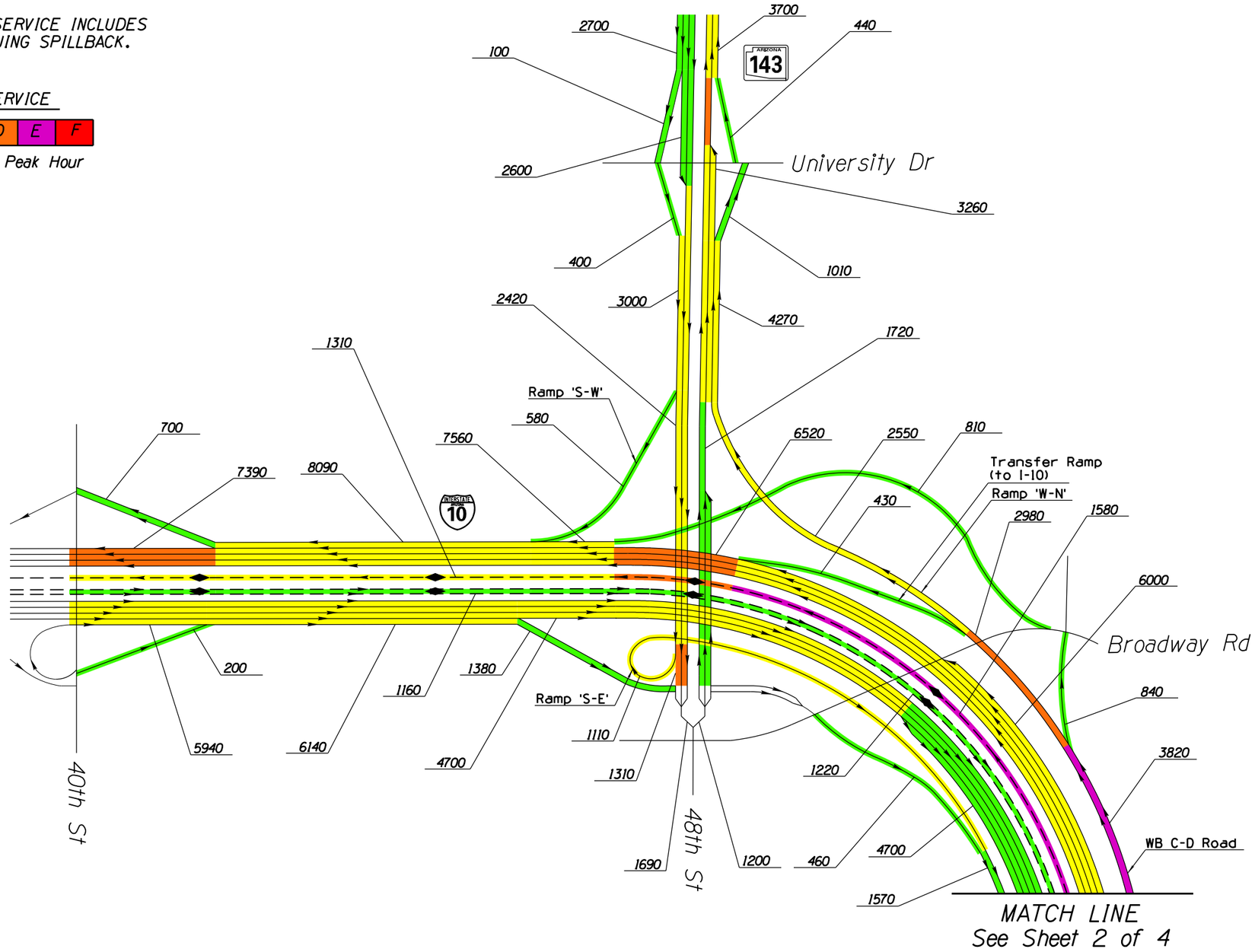
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 2

7/27/2015 U:\110-02\Spot\Design\tre\Build\Figures\2020 Figures\Alt 1A Option 1\ALT1A B AM LOS 1.dgn

NOTES:

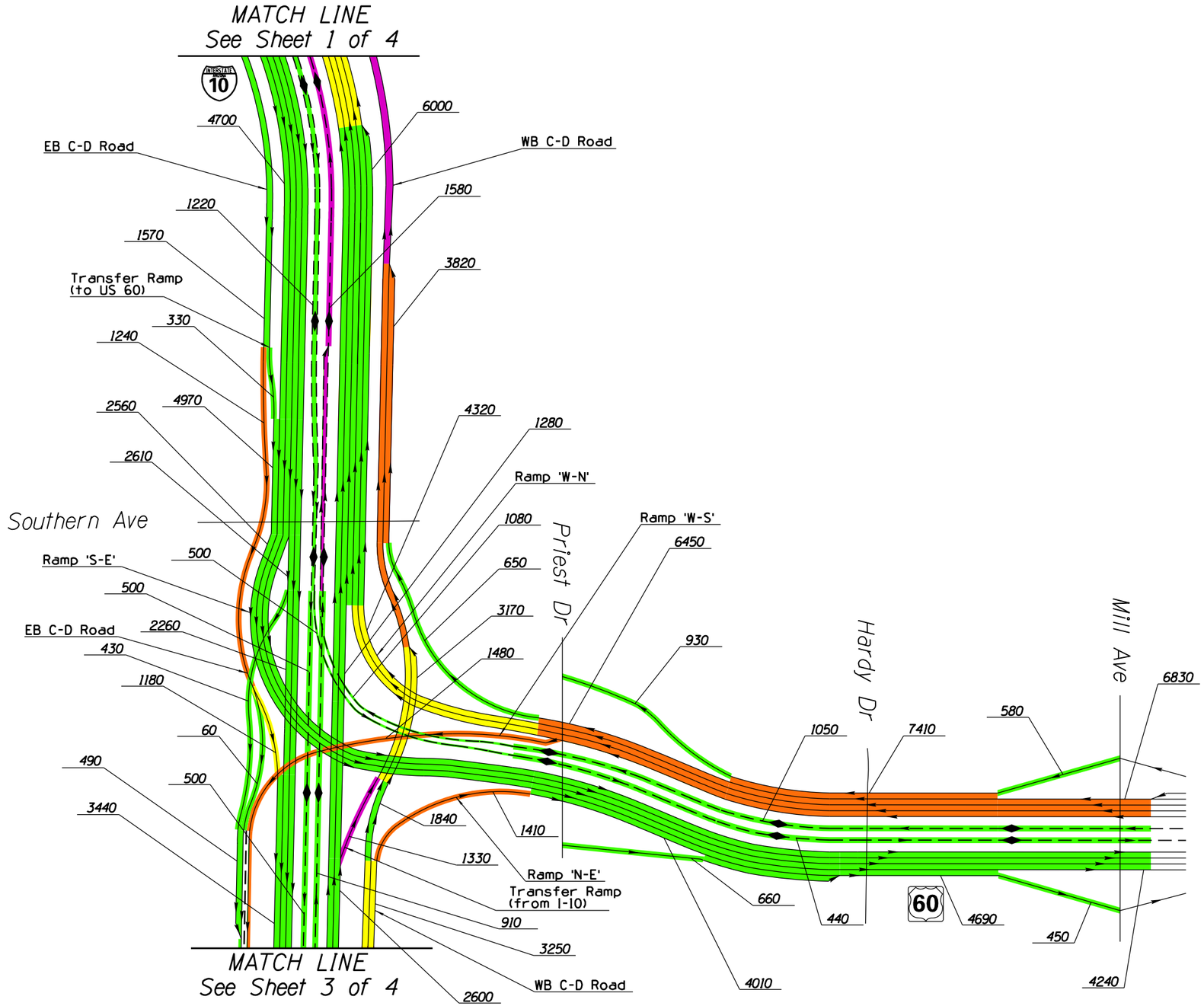
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 2
WESTBOUND C-D- ROAD OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

7/27/2015 U:\I10-02\Spod\Design\tra\Build\Figures\2020 Figures\Alt 1A Option 1\ALT1A B AM LOS 2.dgn

NOTES:

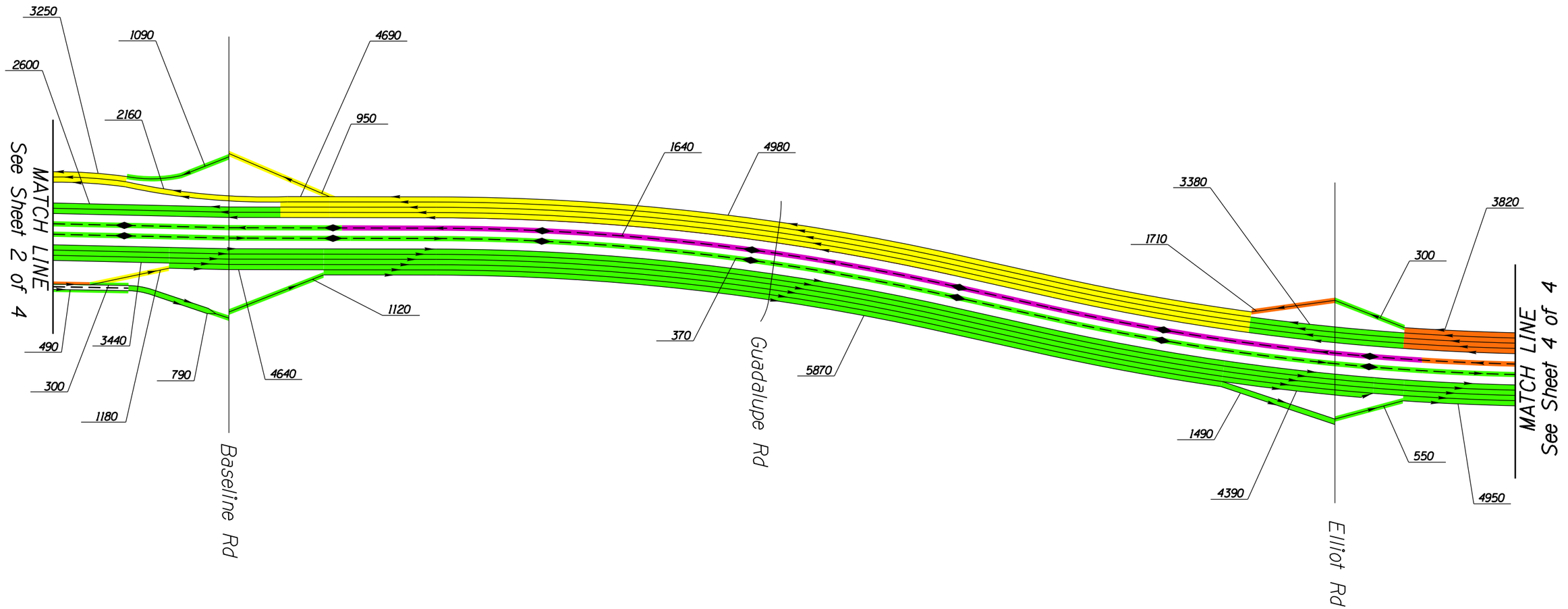
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

U:\I10-02\Spot\Design\tre\Build\Figures\2020 Figures\Alt 1A Option 1\ALT1A B AM LOS 3.dgn
7/27/2015

NOTES:

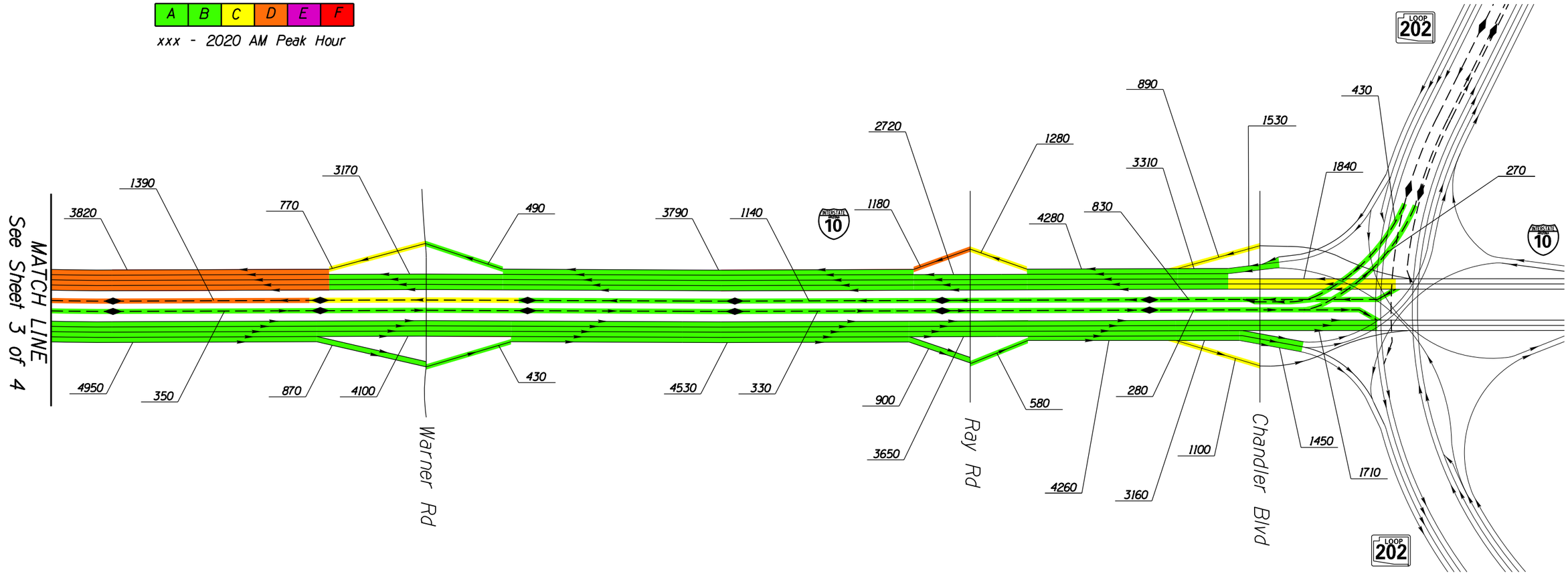
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

7/27/2015 U:\I10-02\Spots\Design\tra\Build\Figures\2020 Figures\Alt 1A Option 1\ALT1A B AM LOS 4.dgn

NOTES:

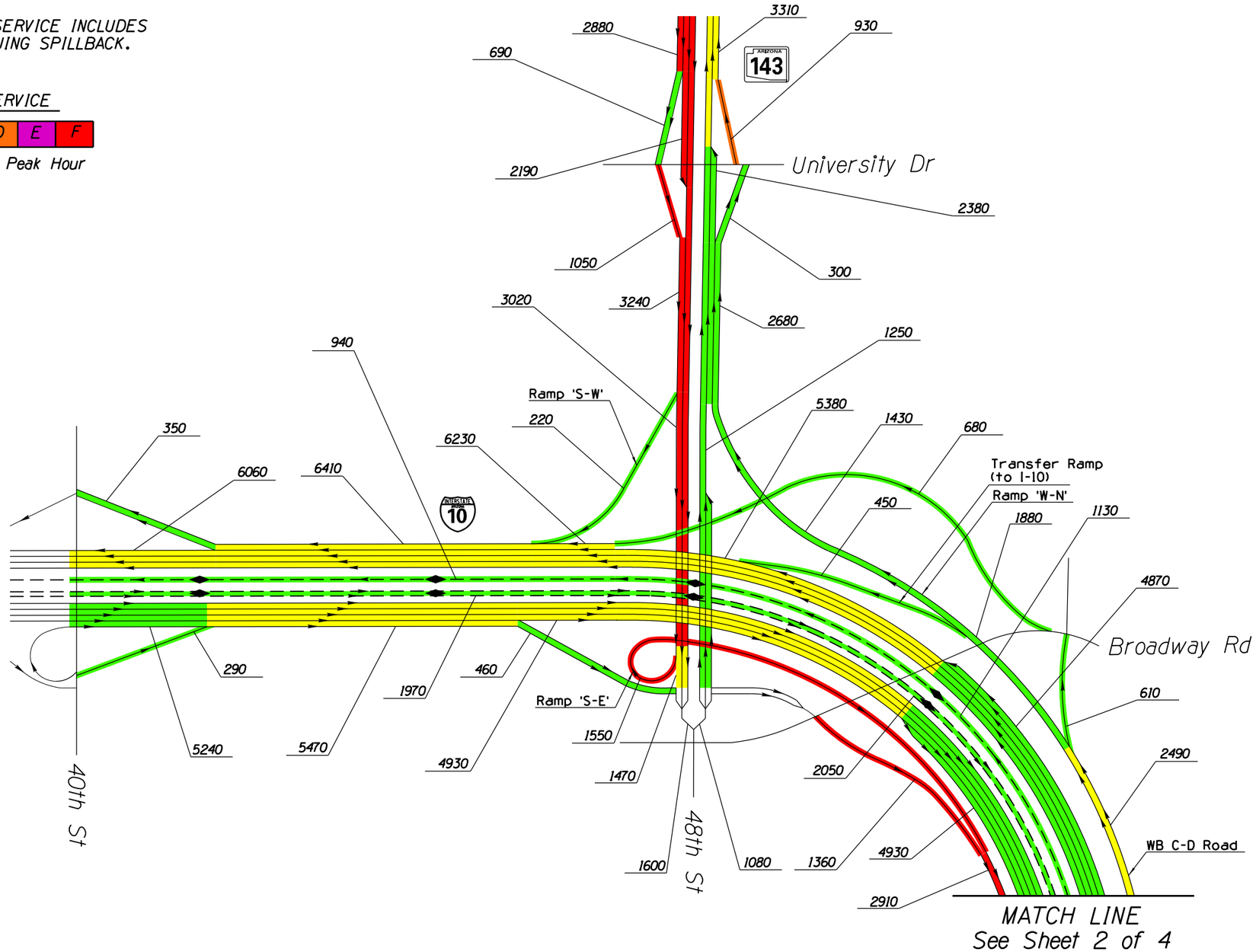
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

7/27/2015 U:\I10-02\Spot1\Design\tra\Build\Figures\2020 Figures\Alt 1A Option 1\ALT1A B PM LOS 1.dgn

NOTES:

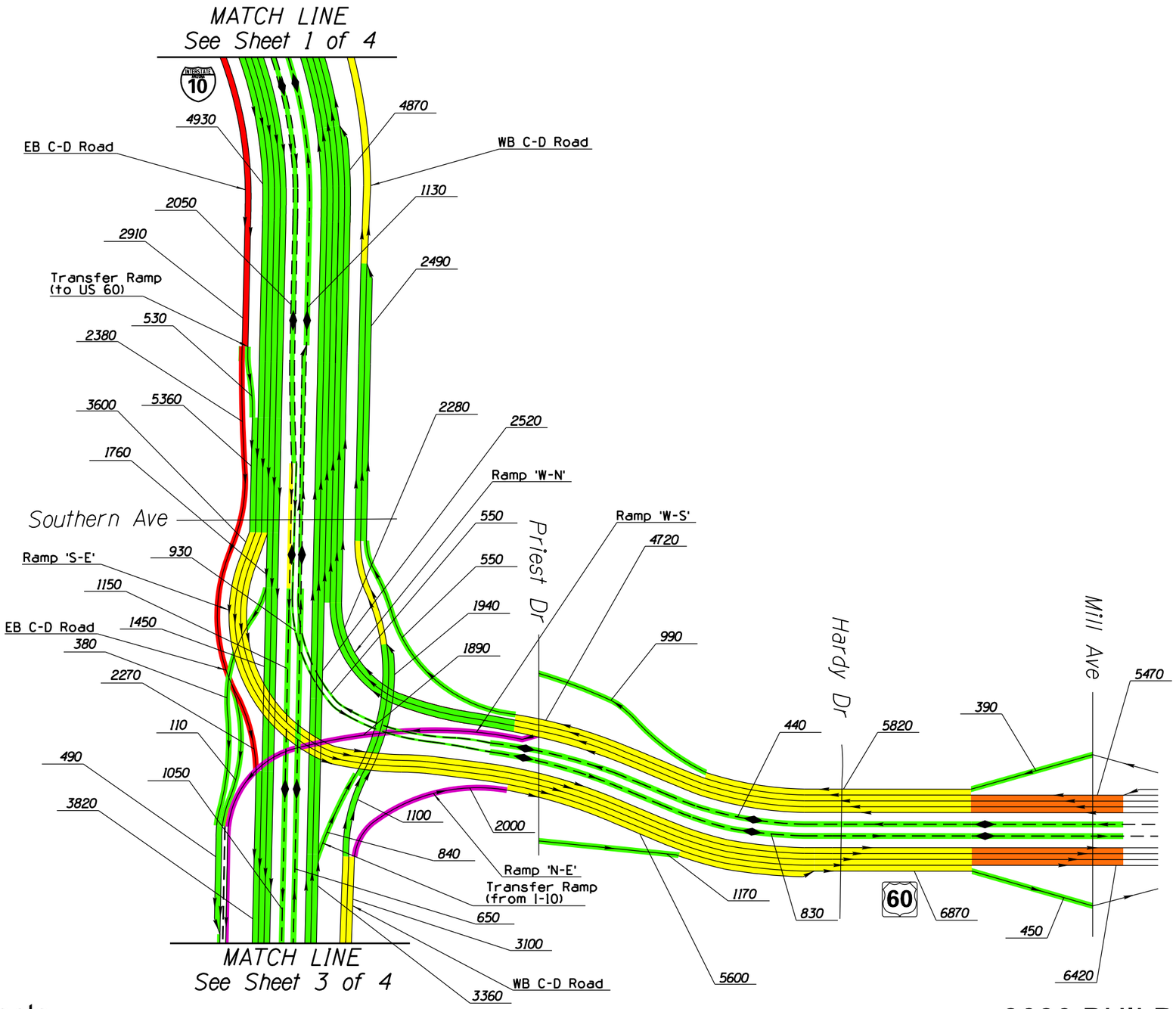
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

U:\I10-02\Spot1\Design\tra\Build\Figures\2020 Figures\Alt 1A Option 1\ALT1A B PM LOS 2.dgn
7/27/2015

NOTES:

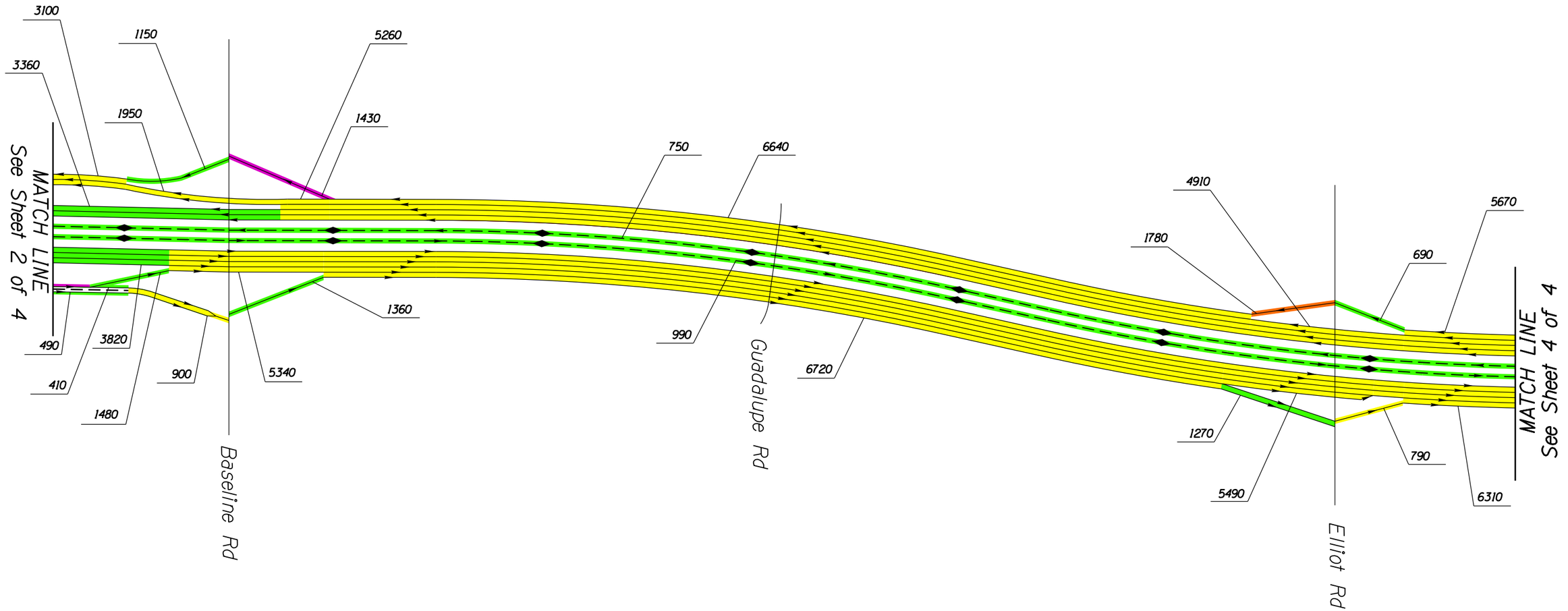
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

7/27/2015 U:\I10-02\Spot\Design\tre\Build\Figures\2020 Figures\Alt 1A Option 1\ALT1A B PM LOS 3.dgn

NOTES:

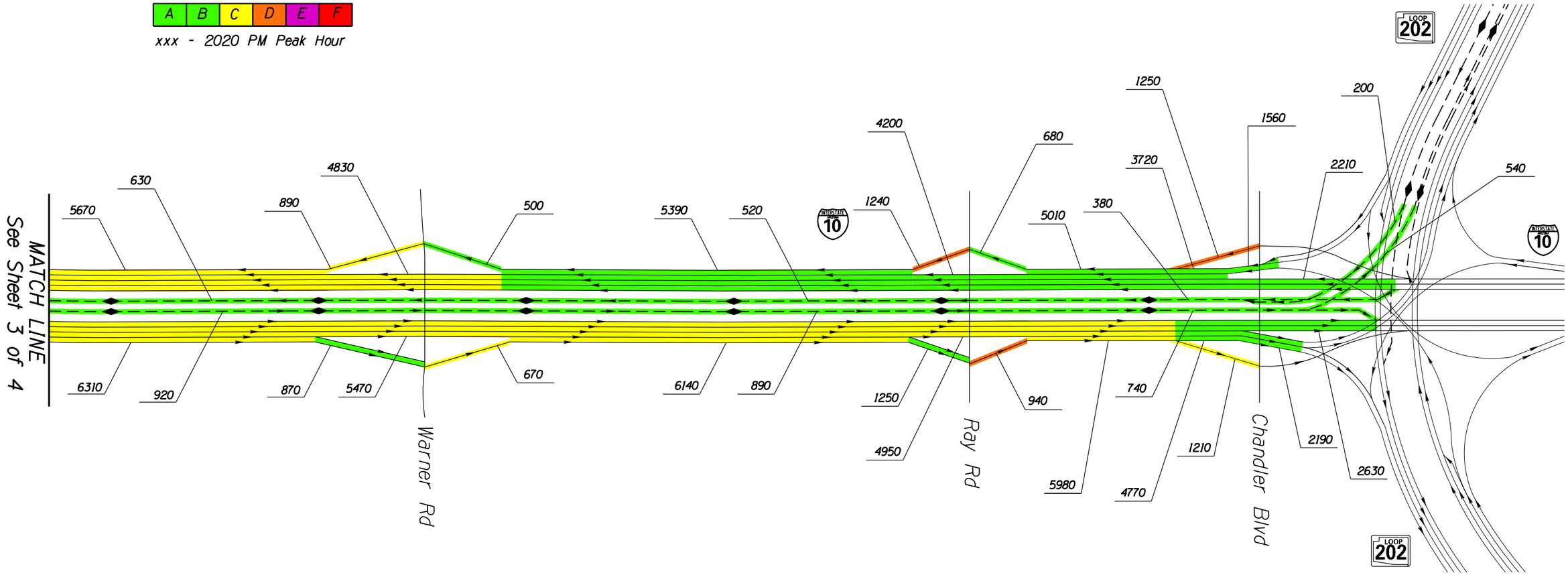
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

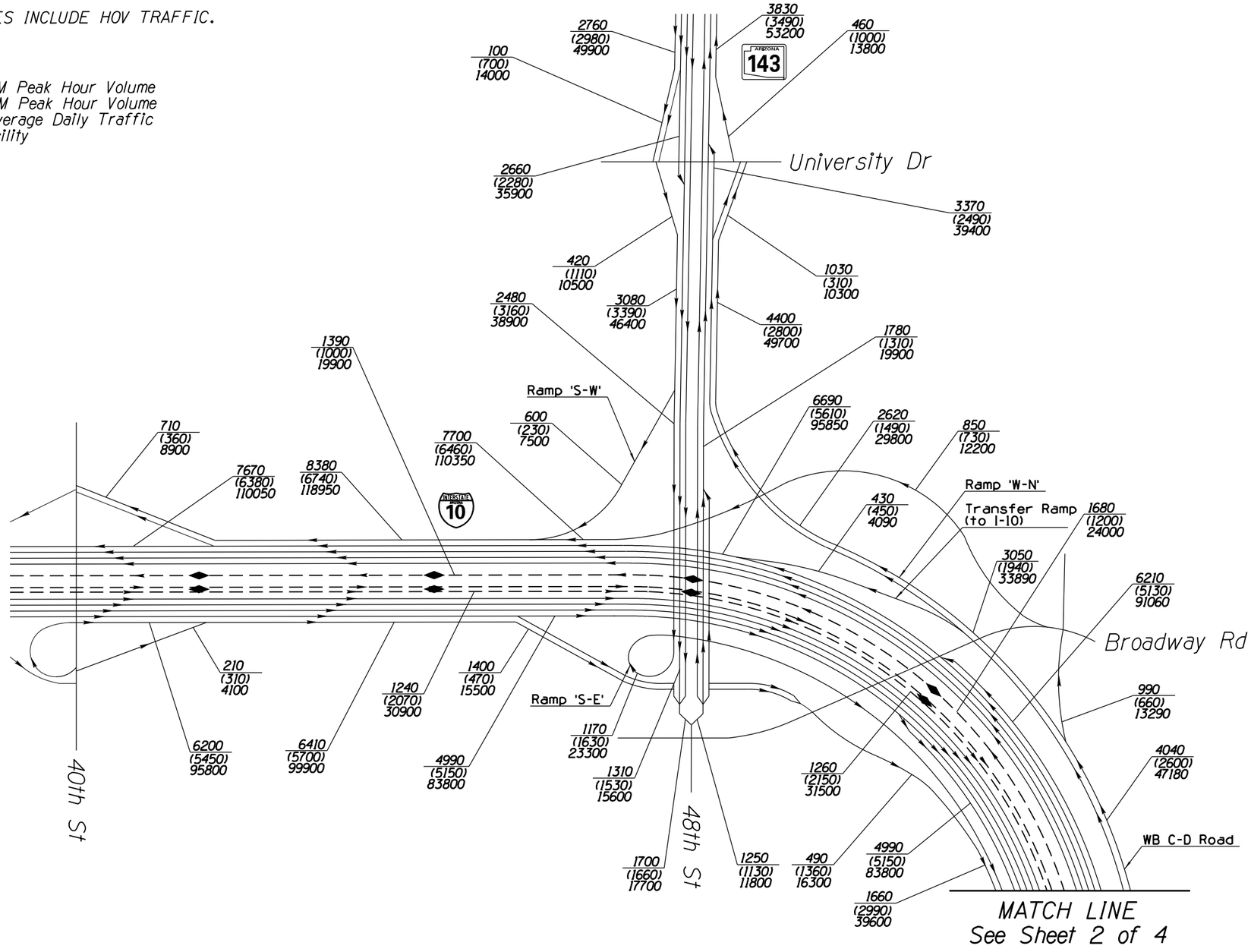
7/27/2015 U:\I10-02\Spots\Design\tra\Build\Figures\2020 Figures\Alt 1A Option 1\ALT1A B PM LOS 4.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2025 AM Peak Hour Volume
(xxx) - 2025 PM Peak Hour Volume
xxxx - 2025 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 1 OF 4

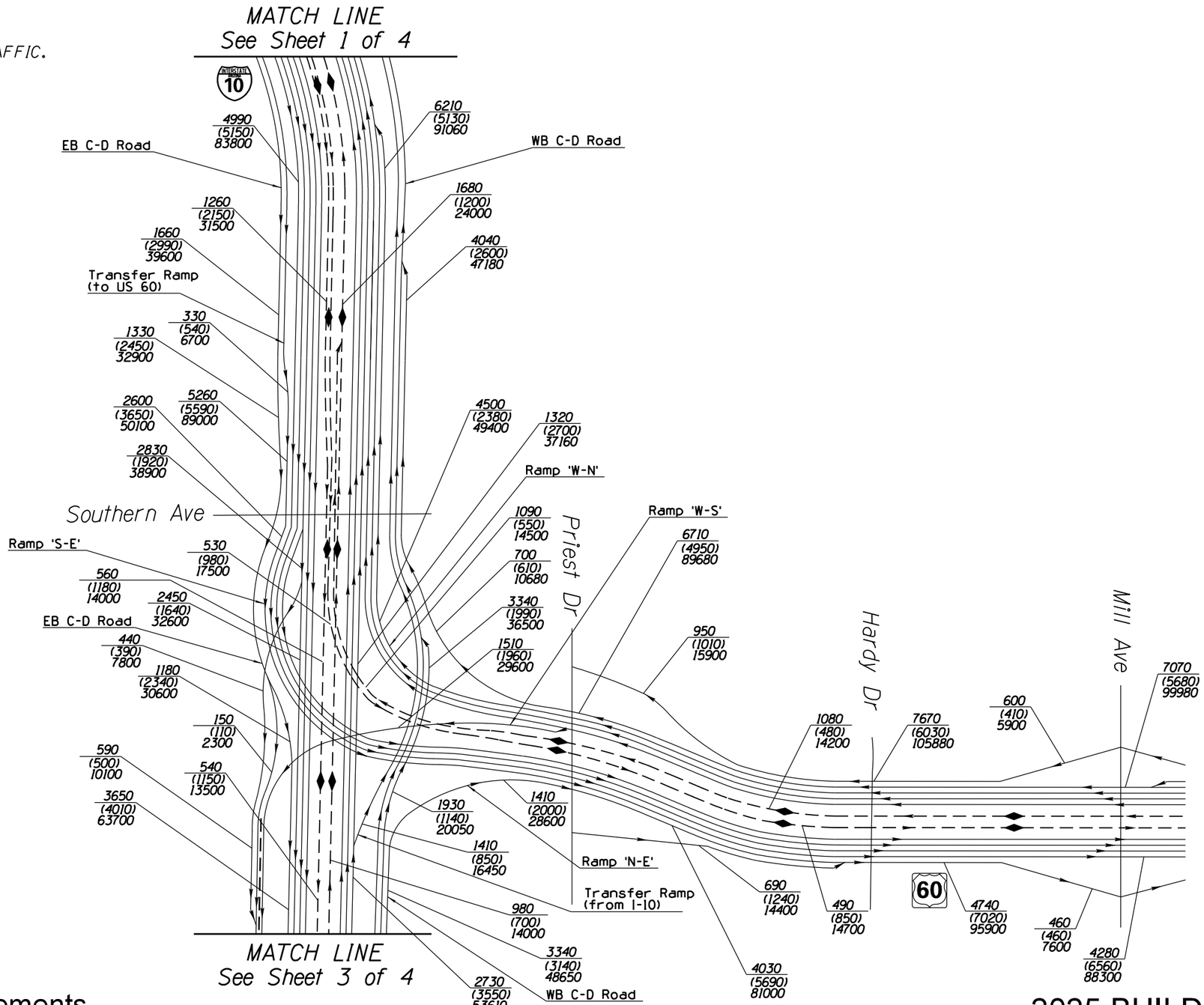
7/27/2015 U:\110-02\Spot\Design\tre\Build\Figures\2025 Figures\Alt 1A Opt 1\ALT1A_build volume 1.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2025 AM Peak Hour Volume
(xxx) - 2025 PM Peak Hour Volume
xxxx - 2025 Average Daily Traffic
◆—◆ - HOV facility



N

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

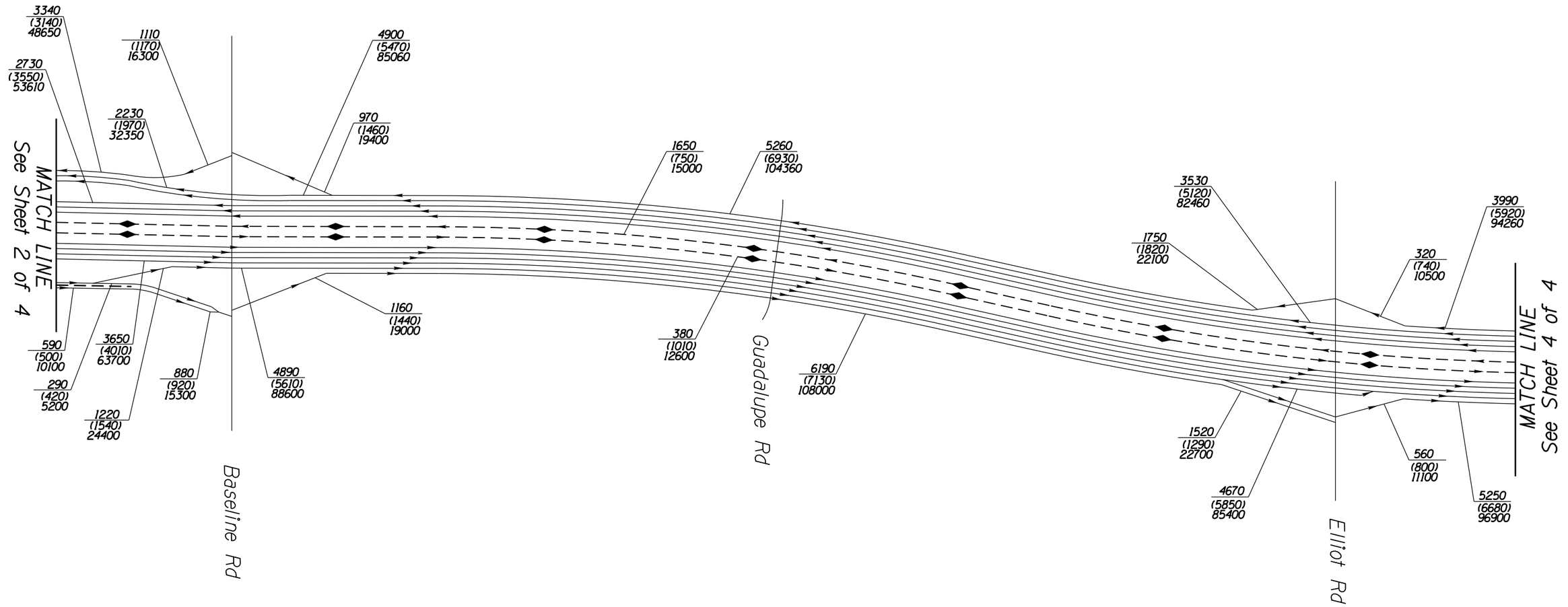
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 2 OF 4

U:\I10-02\Spot\Design\tre\Build\Figures\2025 Figures\Alt 1A Opt 1\ALT1A_build volume 2.dgn
7/27/2015

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2025 AM Peak Hour Volume
(xxx) - 2025 PM Peak Hour Volume
xxxx - 2025 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

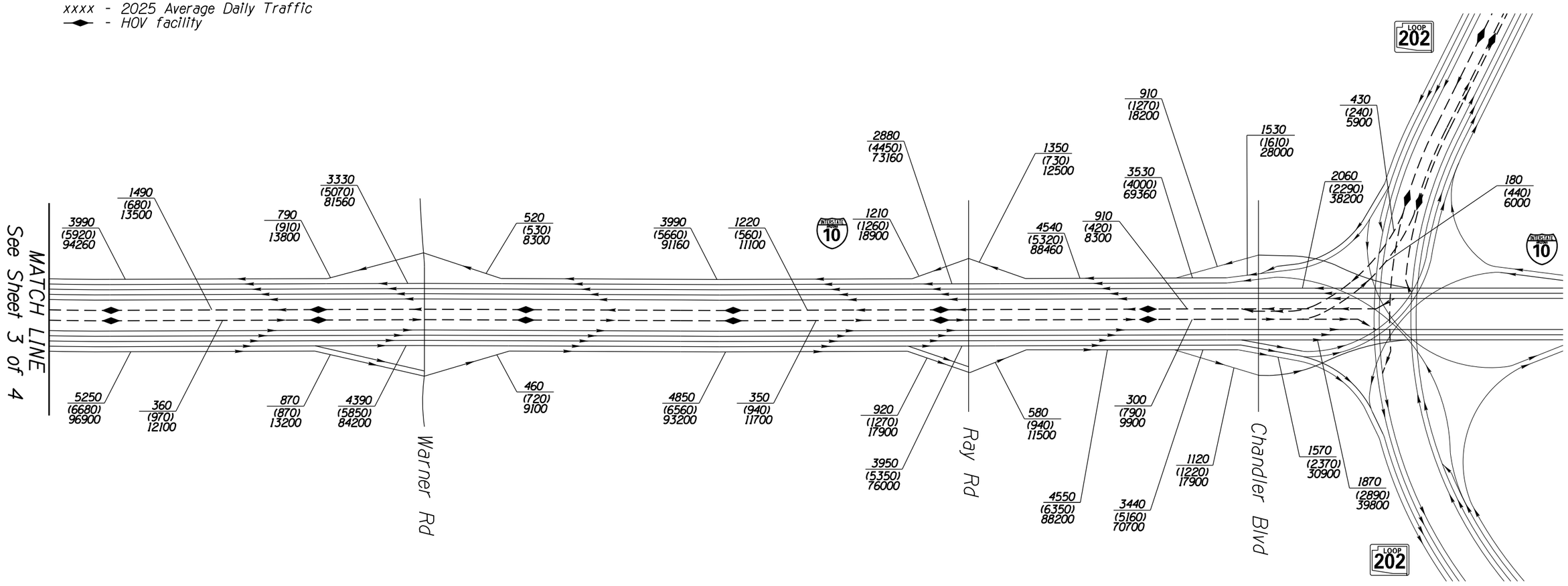
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 3 OF 4

7/27/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2025 Figures\Alt 1A Opt 1\ALTIA_build volume 3.dgn

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2025 AM Peak Hour Volume
(xxx) - 2025 PM Peak Hour Volume
xxxx - 2025 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
VOLUMES & LANE CONFIGURATION
SHEET 4 OF 4

7/27/2015 U:\I10-02(Spot)\Design\tre\Build\Figures\2025 Figures\Alt 1A Opt 1\ALT1A_build volume 4.dgn

NOTES:

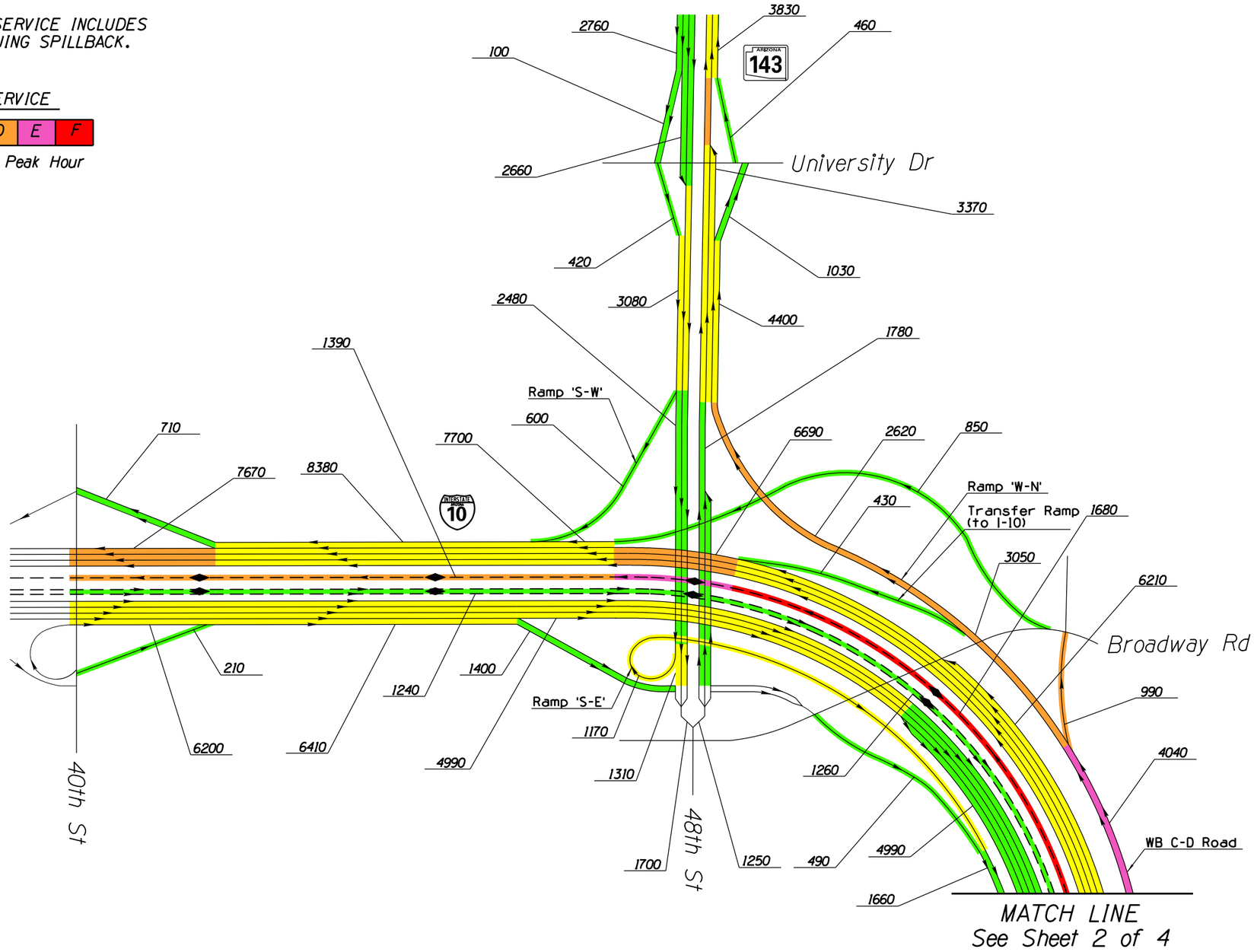
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

7/27/2015 U:\110-02\Spot\Design\tre\Build\Figures\2025 Figures\Alt 1A Opt 1\ALT1A B AM LOS 1.dgn

NOTES:

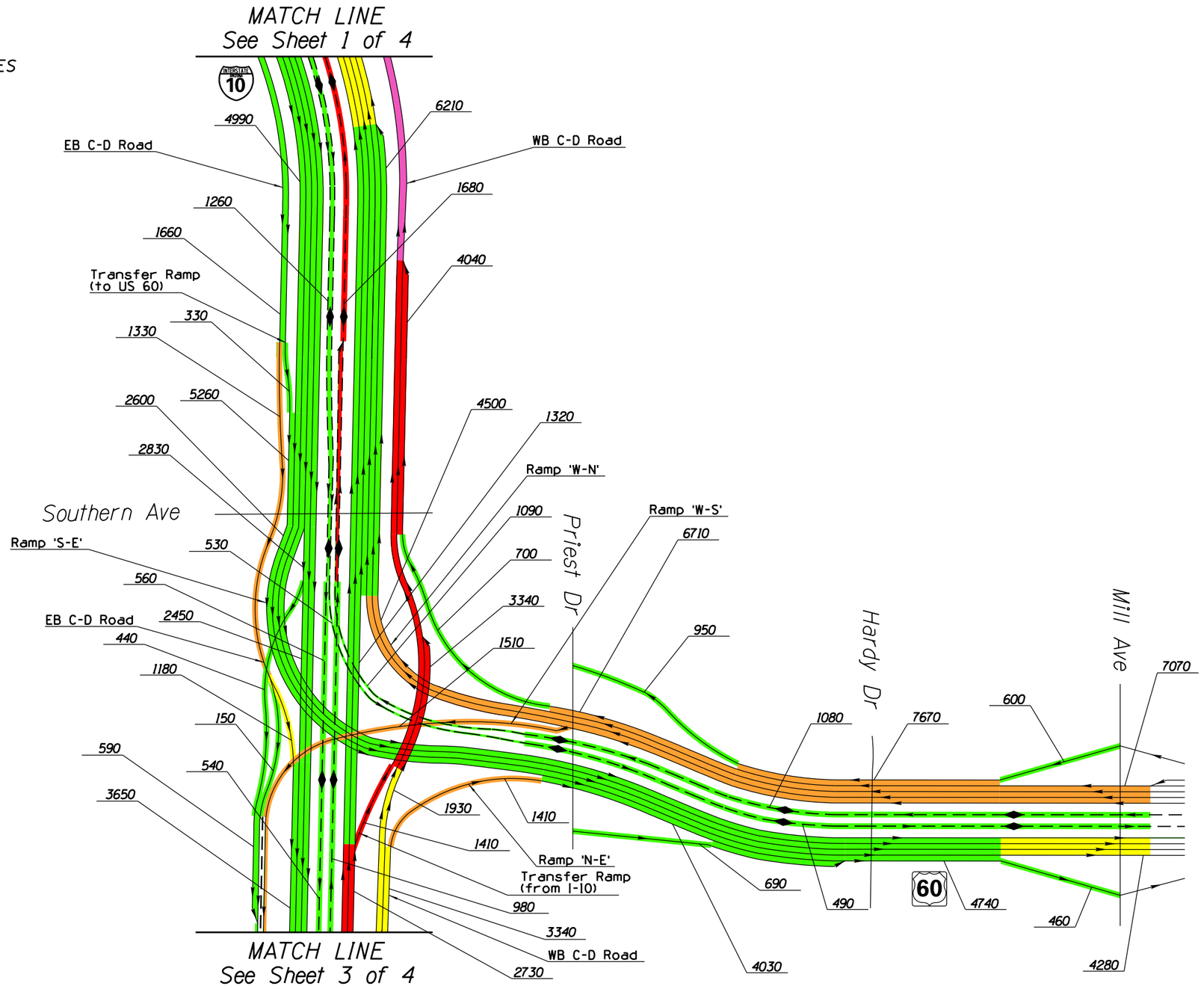
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

U:\I10-02(Spot)\Design\tre\Build\Figures\2025 Figures\Alt 1A Opt 1\ALT1A B AM LOS 2.dgn
7/27/2015

NOTES:

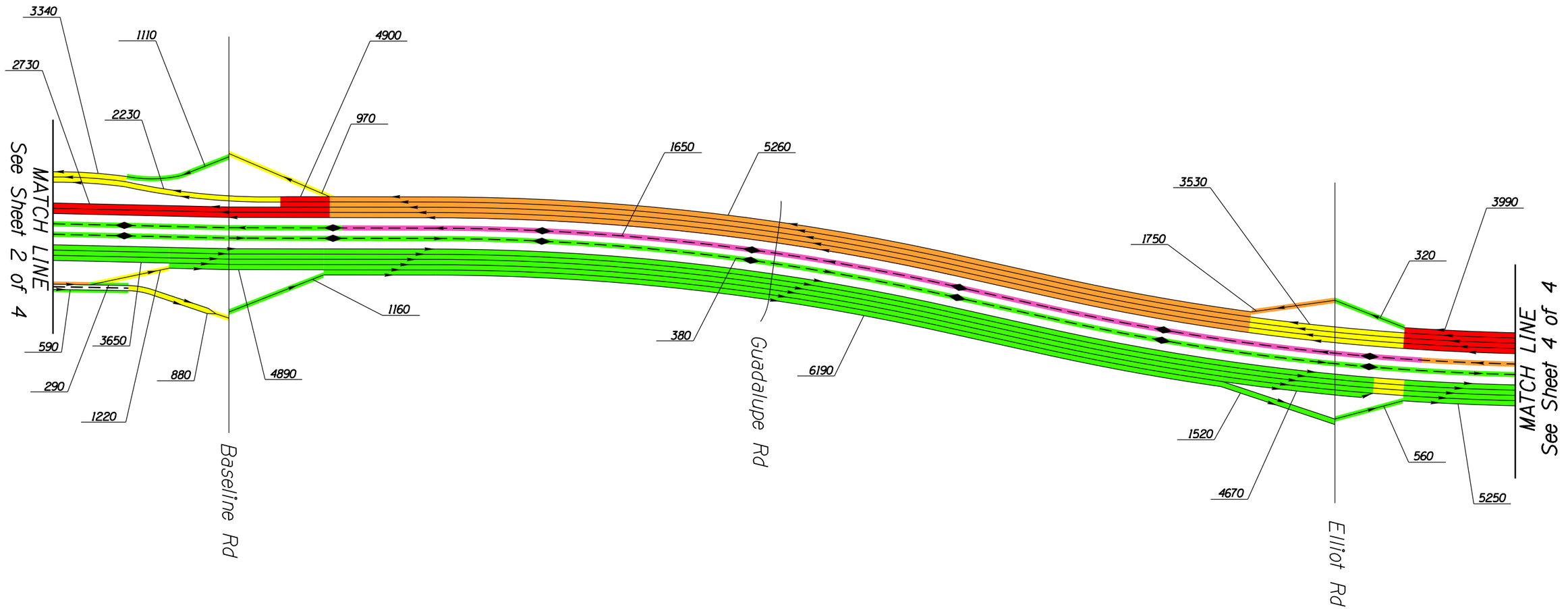
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

U:\I10-02\Spot\Design\tre\Build\Figures\2025 Figures\Alt 1A Opt 1\ALT1A B AM LOS 3.dgn
7/27/2015

NOTES:

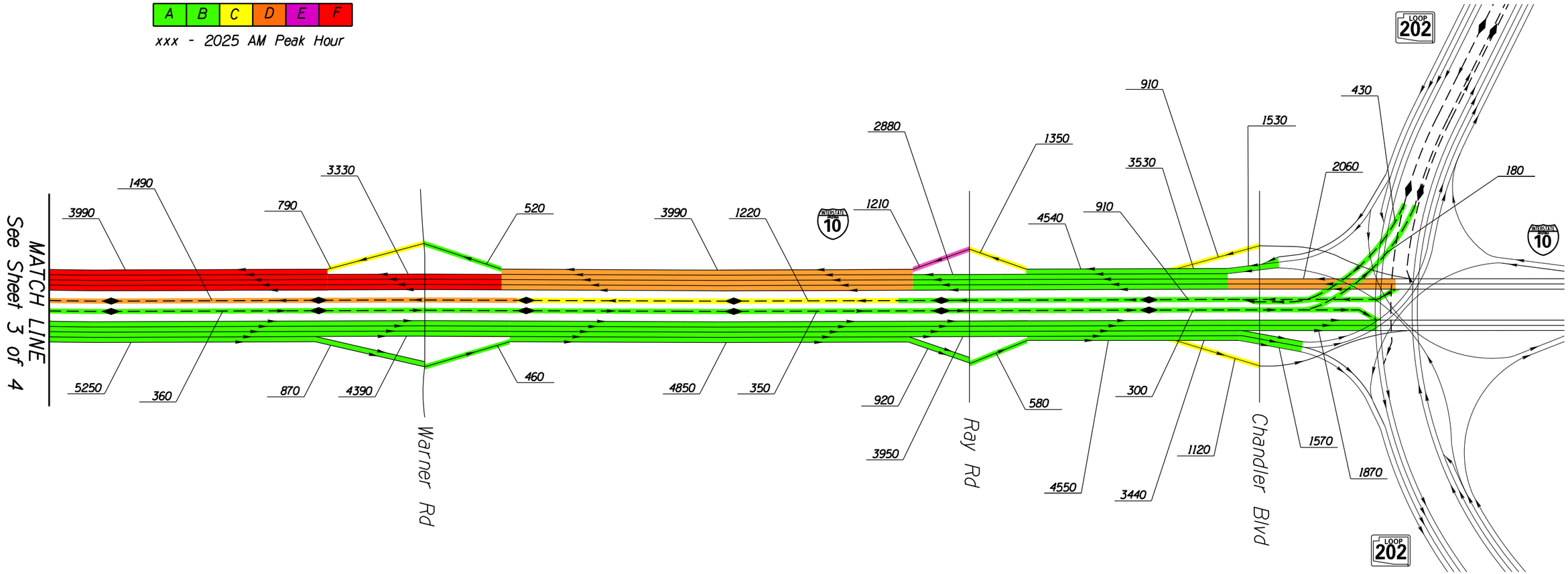
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
AM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

7/27/2015 U:\I10-02\Spot1\Design\tra\Build\Figures\2025 Figures\Alt 1A Opt 1\ALT1A B AM LOS 4.dgn

NOTES:

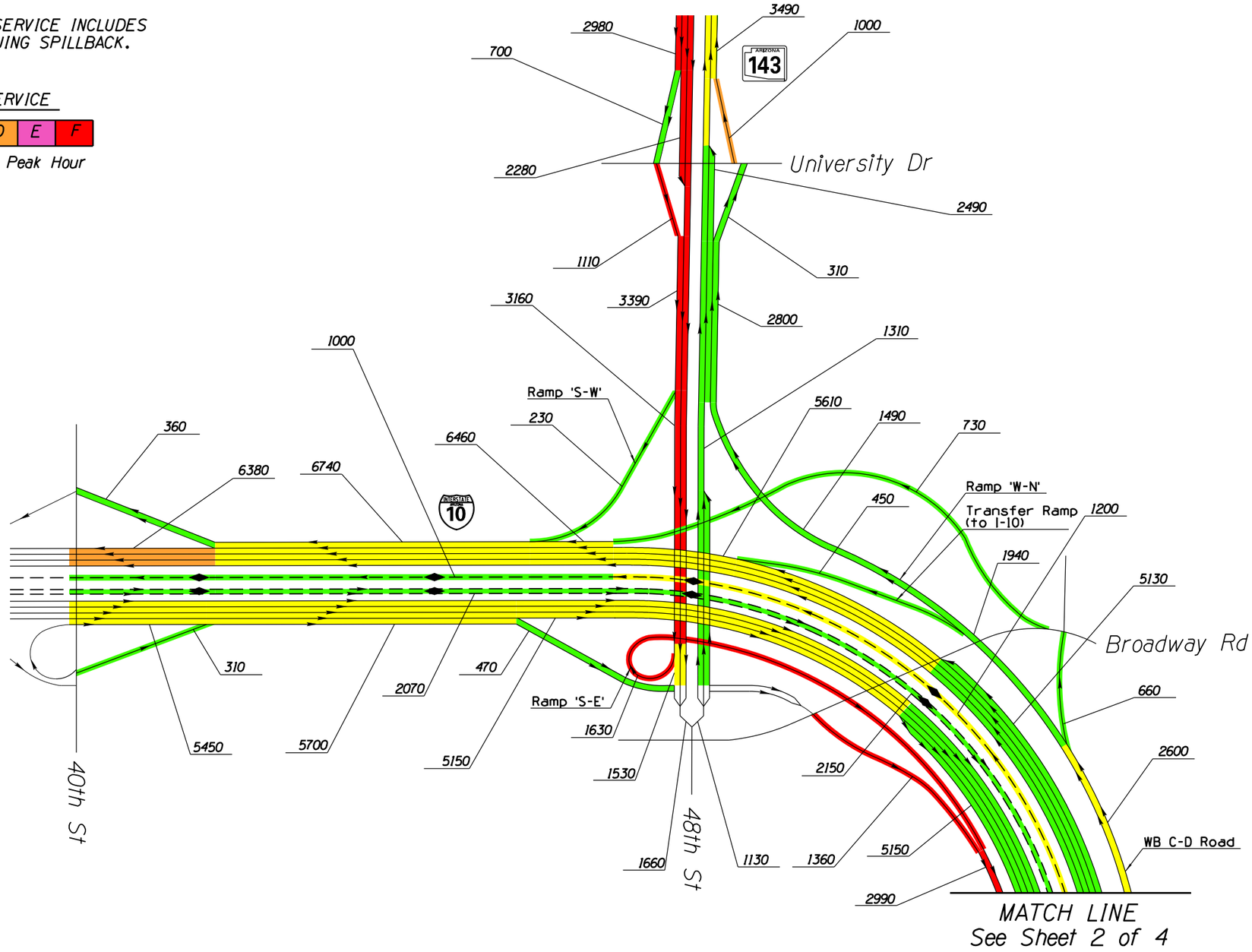
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

U:\110-02\Spot\Design\tra\Build\Figures\2025 Figures\Alt 1A Opt 1\ALT1A B PM LOS 1.dgn
7/27/2015

NOTES:

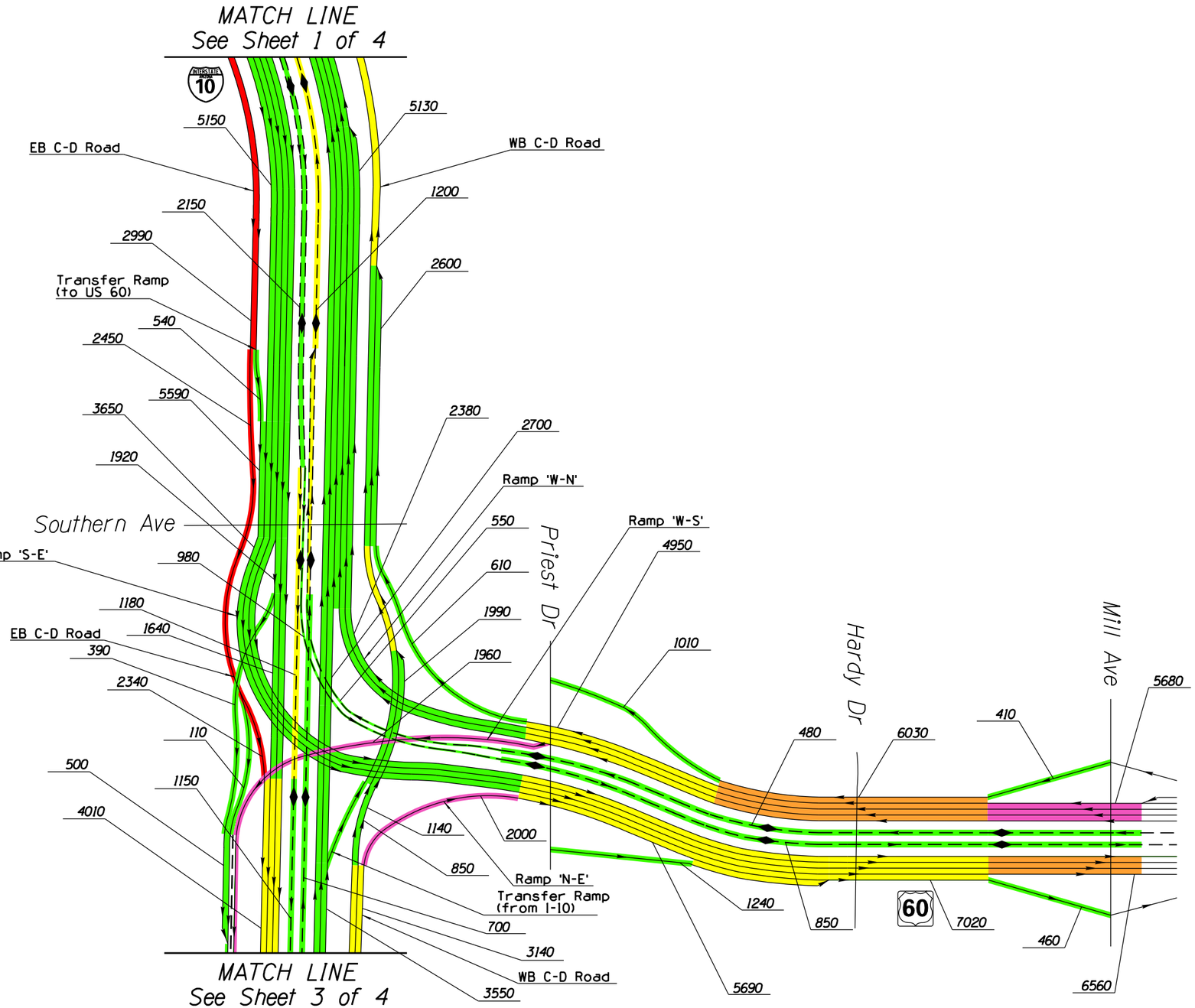
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

7/27/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2025 Figures\Alt 1A Opt 1\ALT1A B PM LOS 2.dgn

NOTES:

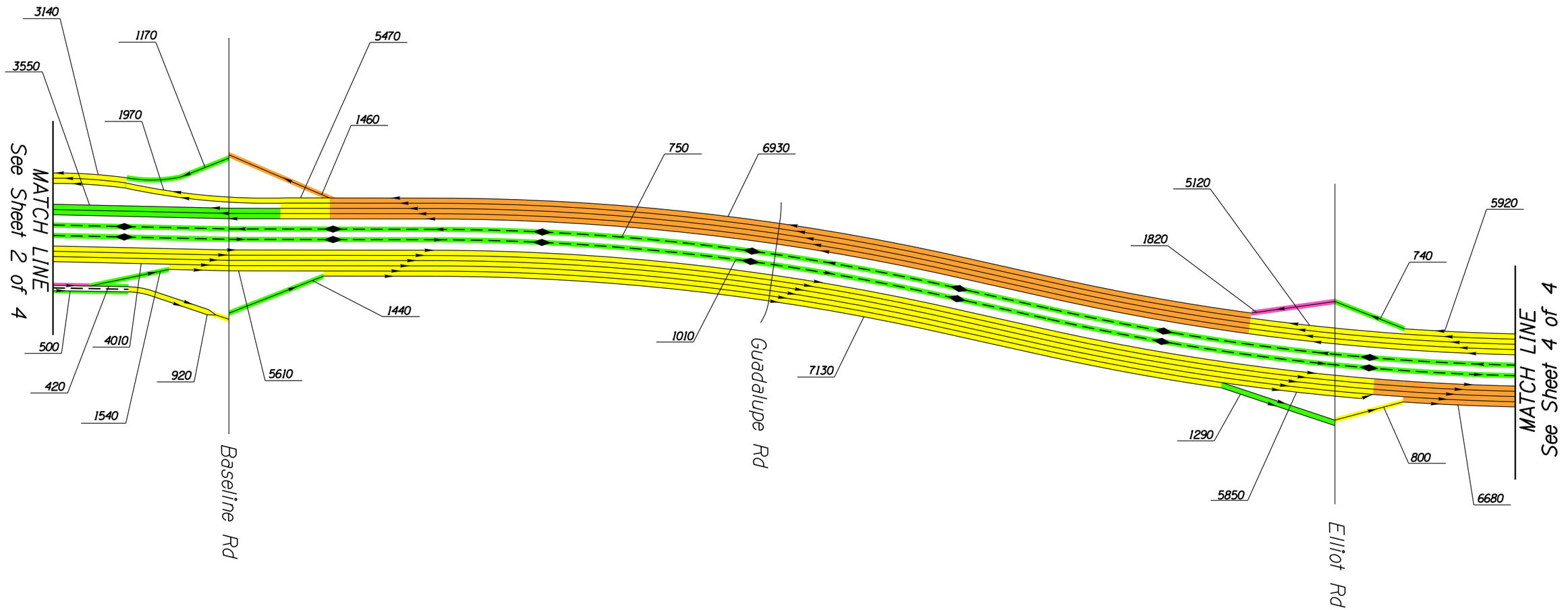
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

U:\I10-02\Spot\Design\tra\Build\Figures\2025 Figures\Alt 1A Opt 1\ALT1A B PM LOS 3.dgn
7/27/2015

NOTES:

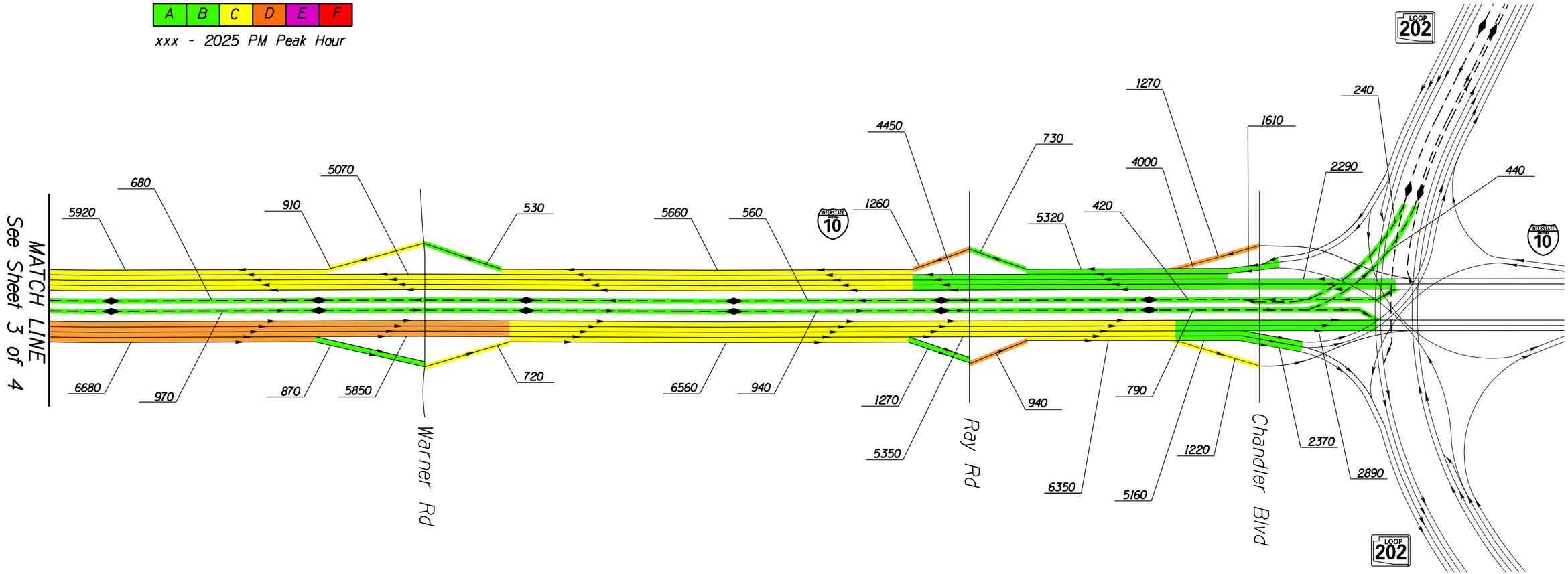
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

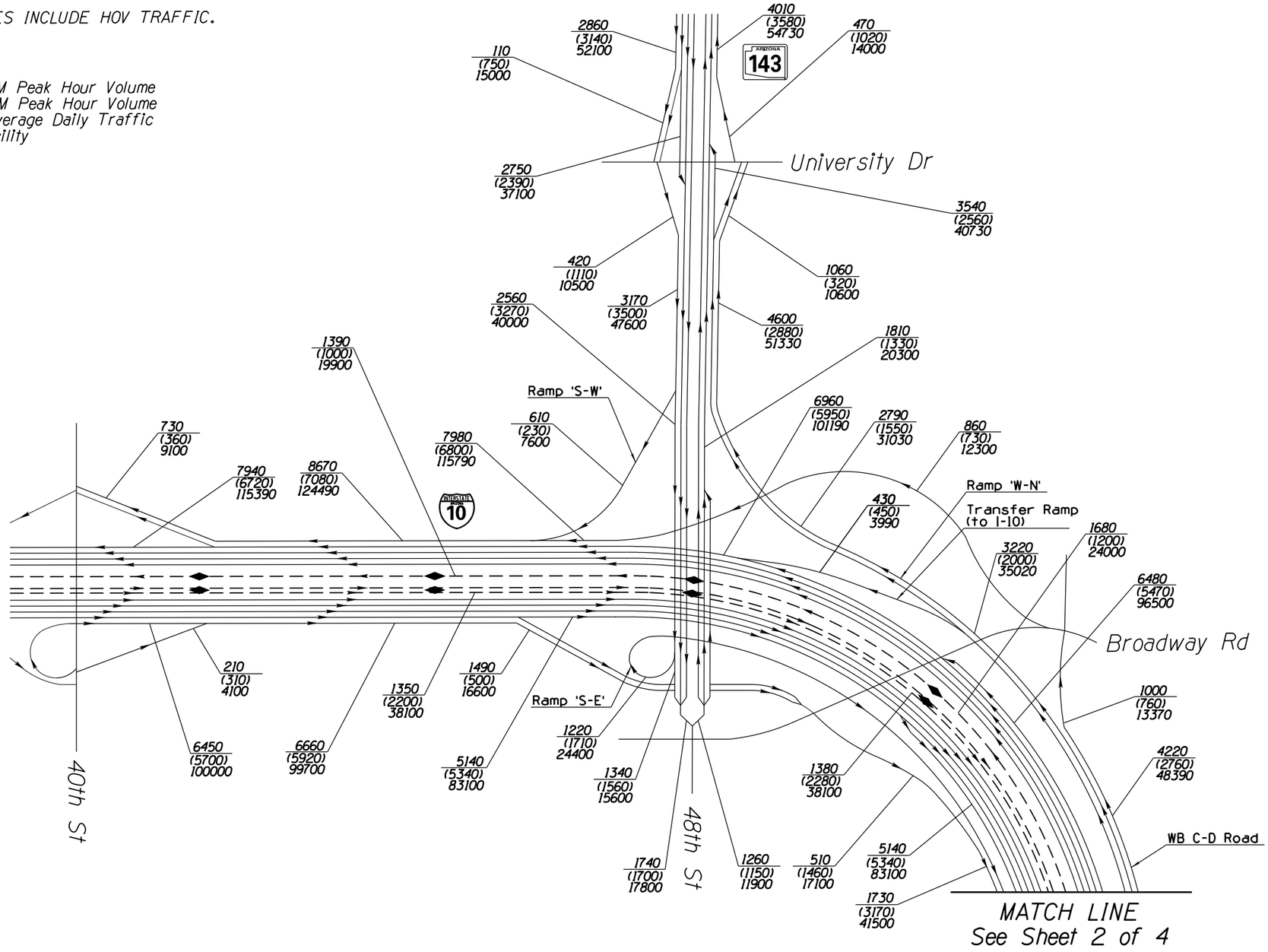
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 1
PM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

U:\I10-02\Spot\Design\tra\Build\Figures\2025 Figures\Alt 1A Opt 1\ALT1A B PM LOS 4.dgn
7/27/2015

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2030 AM Peak Hour Volume
(xxx) - 2030 PM Peak Hour Volume
xxxx - 2030 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
VOLUMES & LANE CONFIGURATION
SHEET 1 OF 4

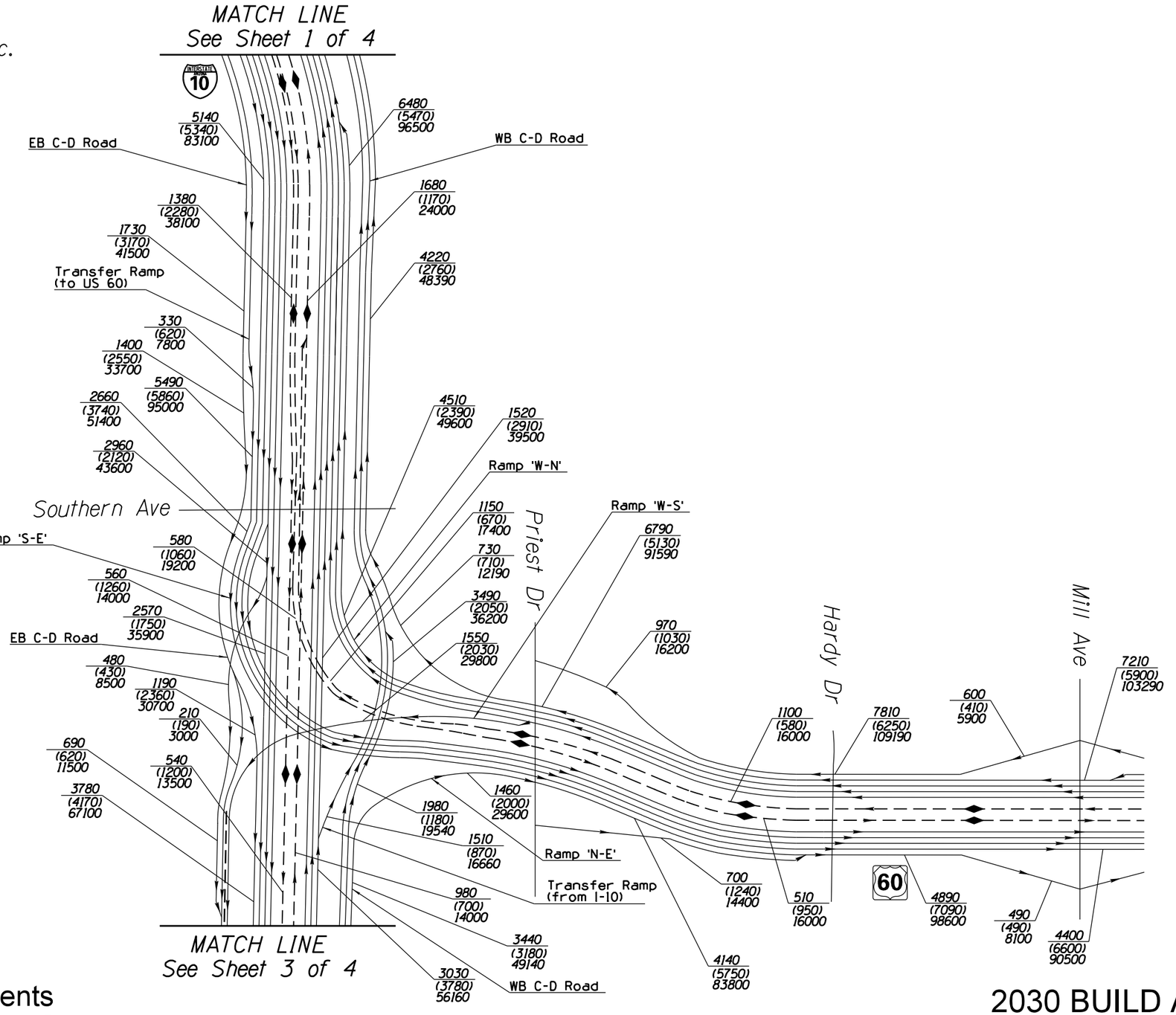
7/27/2015 U:\I10-02\Spot\Design\tre\Build\Figures\2030 Figures\Alt 1A Opt 2\ALT1AOP2_build volume 1.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2030 AM Peak Hour Volume
(xxx) - 2030 PM Peak Hour Volume
xxxx - 2030 Average Daily Traffic
◆—◆ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

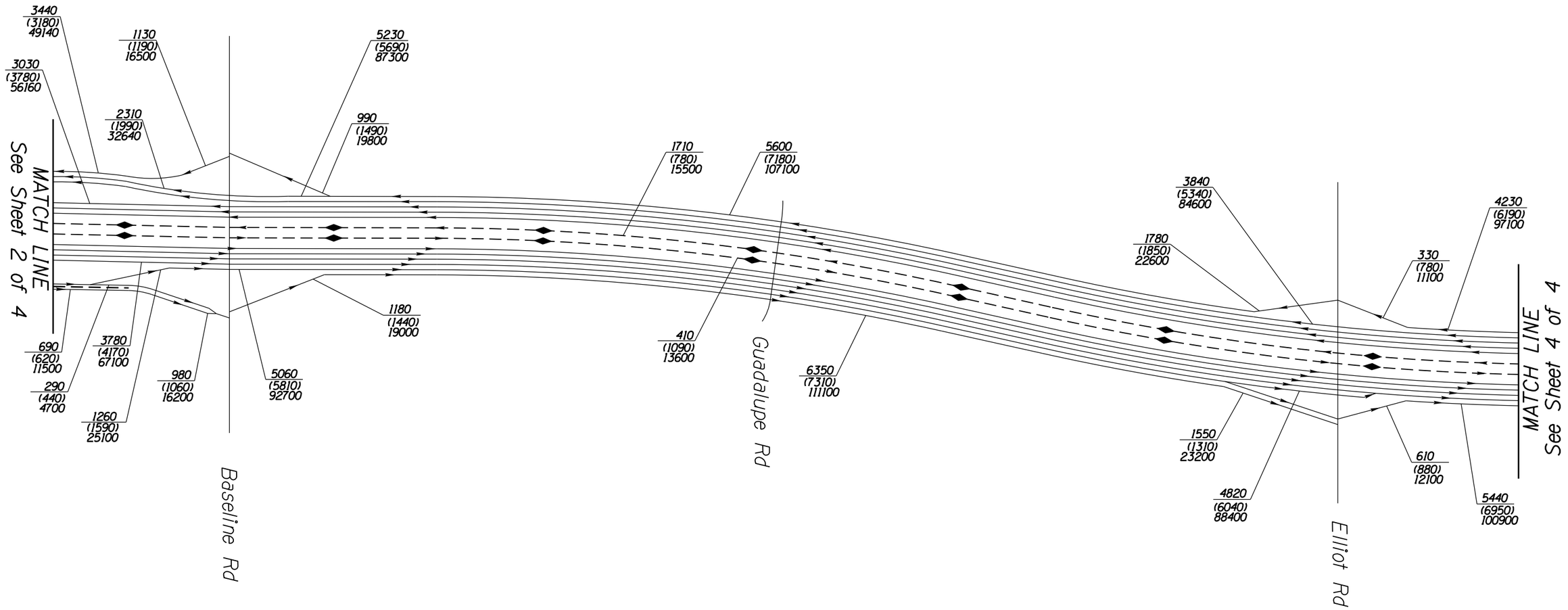
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
VOLUMES & LANE CONFIGURATION
SHEET 2 OF 4

7/27/2015 U:\110-02(Spot)\Design\tre\Build\Figures\2030 Figures\Alt 1A Opt 2\ALT1AOP2.build volume 2.dgn

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2030 AM Peak Hour Volume
(xxx) - 2030 PM Peak Hour Volume
xxxx - 2030 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
VOLUMES & LANE CONFIGURATION
SHEET 3 OF 4

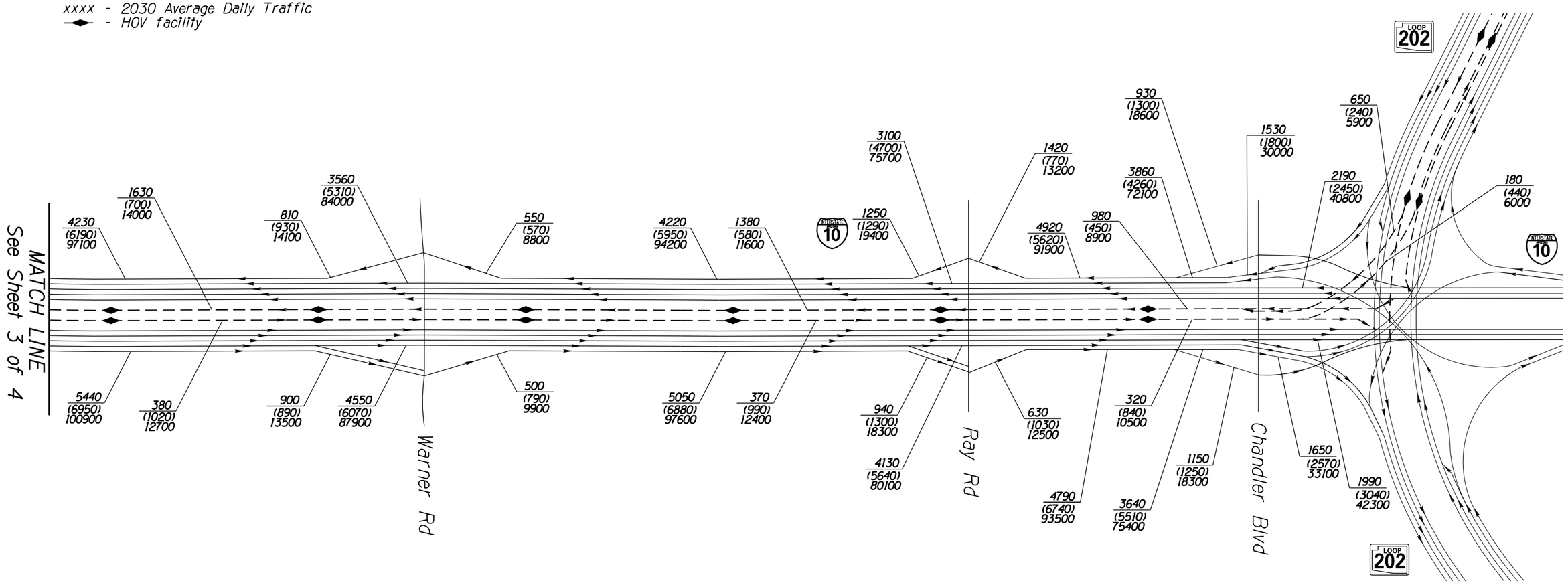
7/27/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2030 Figures\Alt 1A Opt 2\ALT1AOP2_build volume 3.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2030 AM Peak Hour Volume
(xxx) - 2030 PM Peak Hour Volume
xxxx - 2030 Average Daily Traffic
◆—◆ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
VOLUMES & LANE CONFIGURATION
SHEET 4 OF 4

7/27/2015 U:\I10-02(Spot)\Design\tre\Build\Figures\2030 Figures\Alt 1A Opt 2\ALT1AOP2_build volume 4.dgn

NOTES:

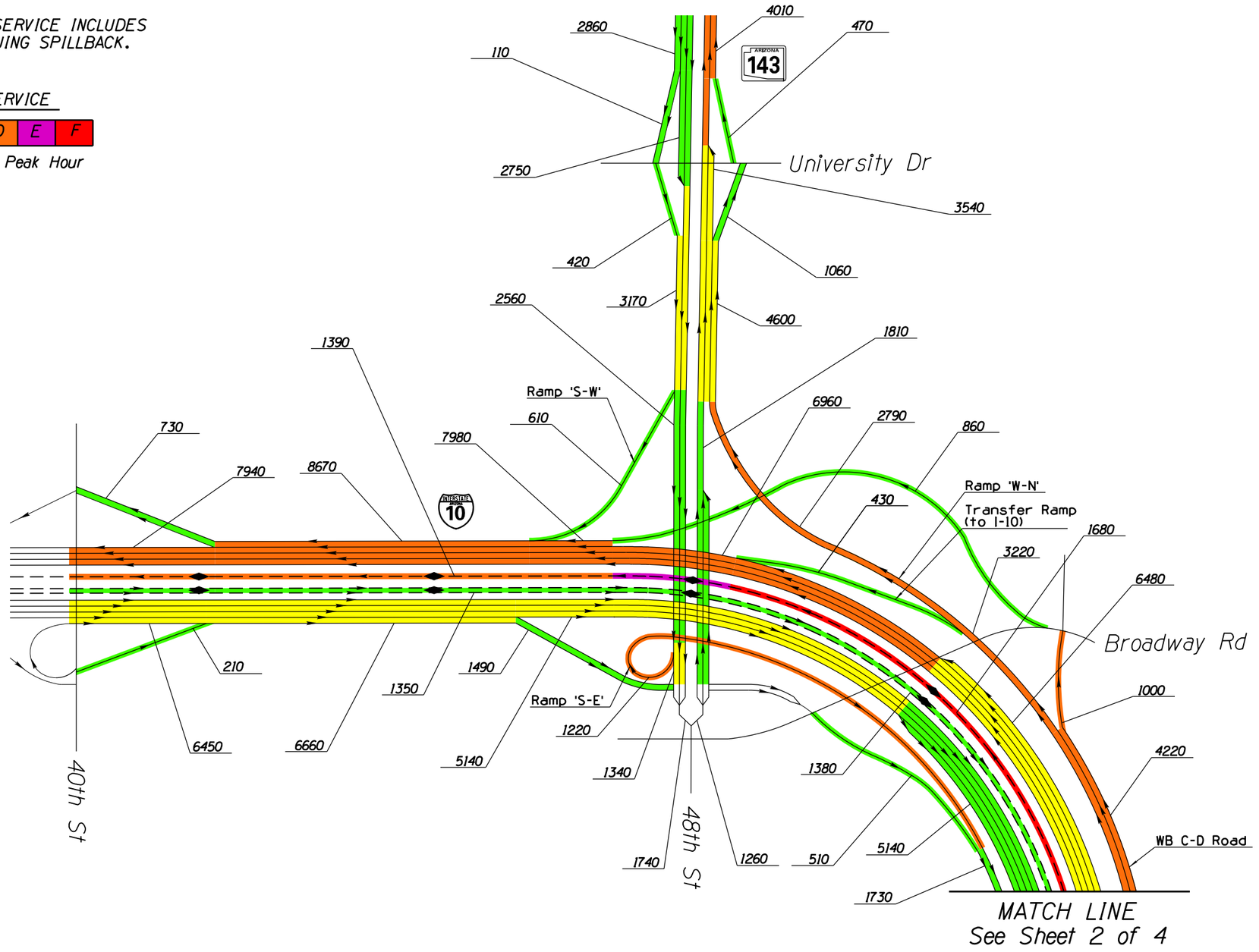
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

U:\I10-02\Spot\Design\tre\Build\Figures\2030 Figures\Alt 1A Opt 2\ALT1A OP2 AM LOS 1.dgn
7/27/2015

NOTES:

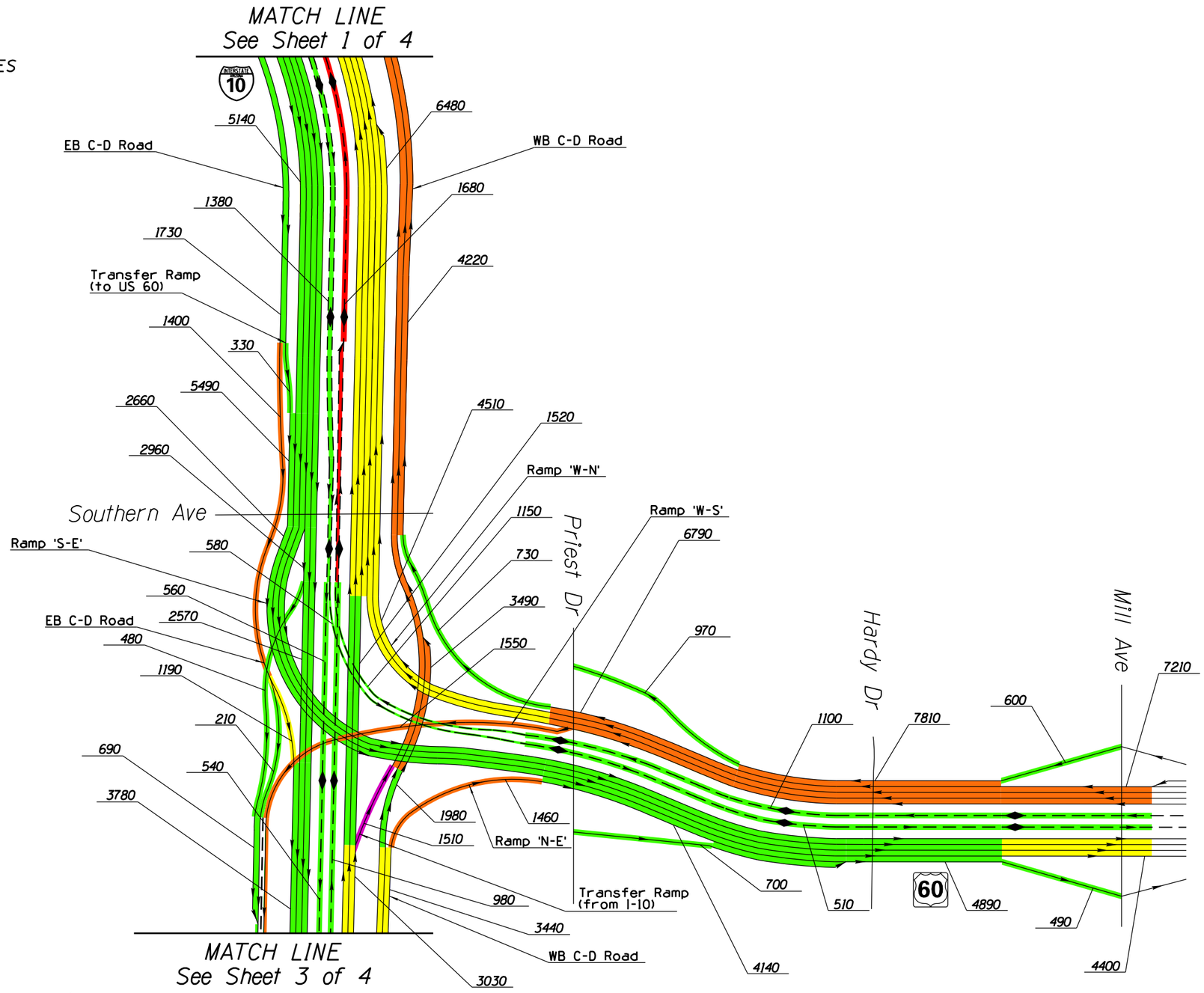
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 AM Peak Hour



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
AM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

U:\I10-02(Spot)\Design\tre\Build\Figures\2030 Figures\Alt 1A Opt 2\ALT1A OP2 AM LOS 2.dgn
7/27/2015

NOTES:

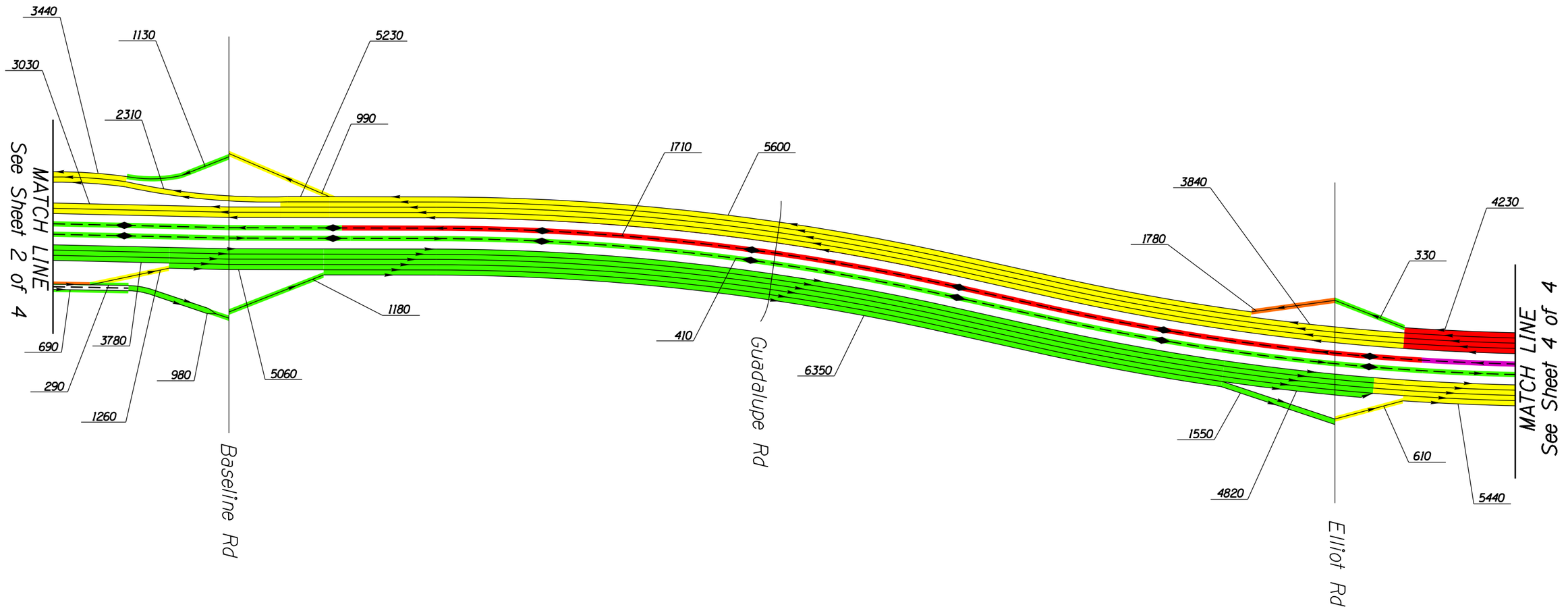
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
AM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

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7/27/2015

NOTES:

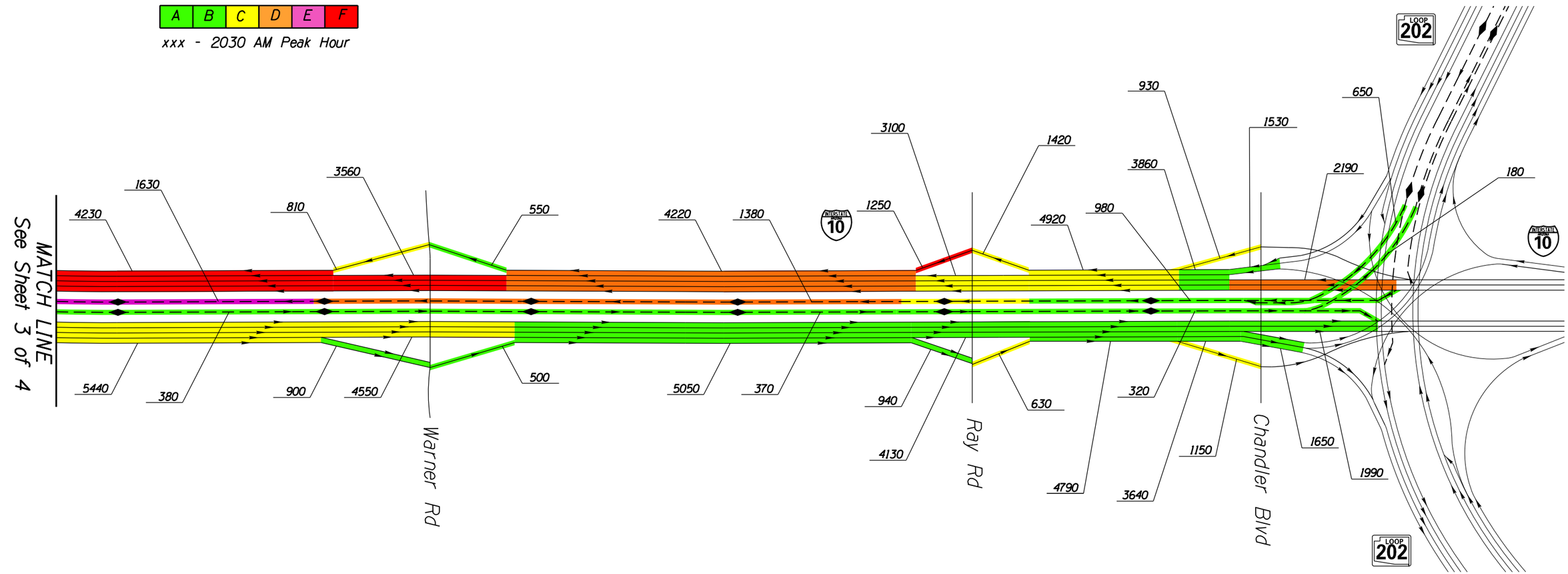
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
AM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

7/27/2015 U:\I10-02\Spot1\Design\tra\Build\Figures\2030 Figures\Alt 1A Opt 2\ALT1A OP2 AM LOS 4.dgn

NOTES:

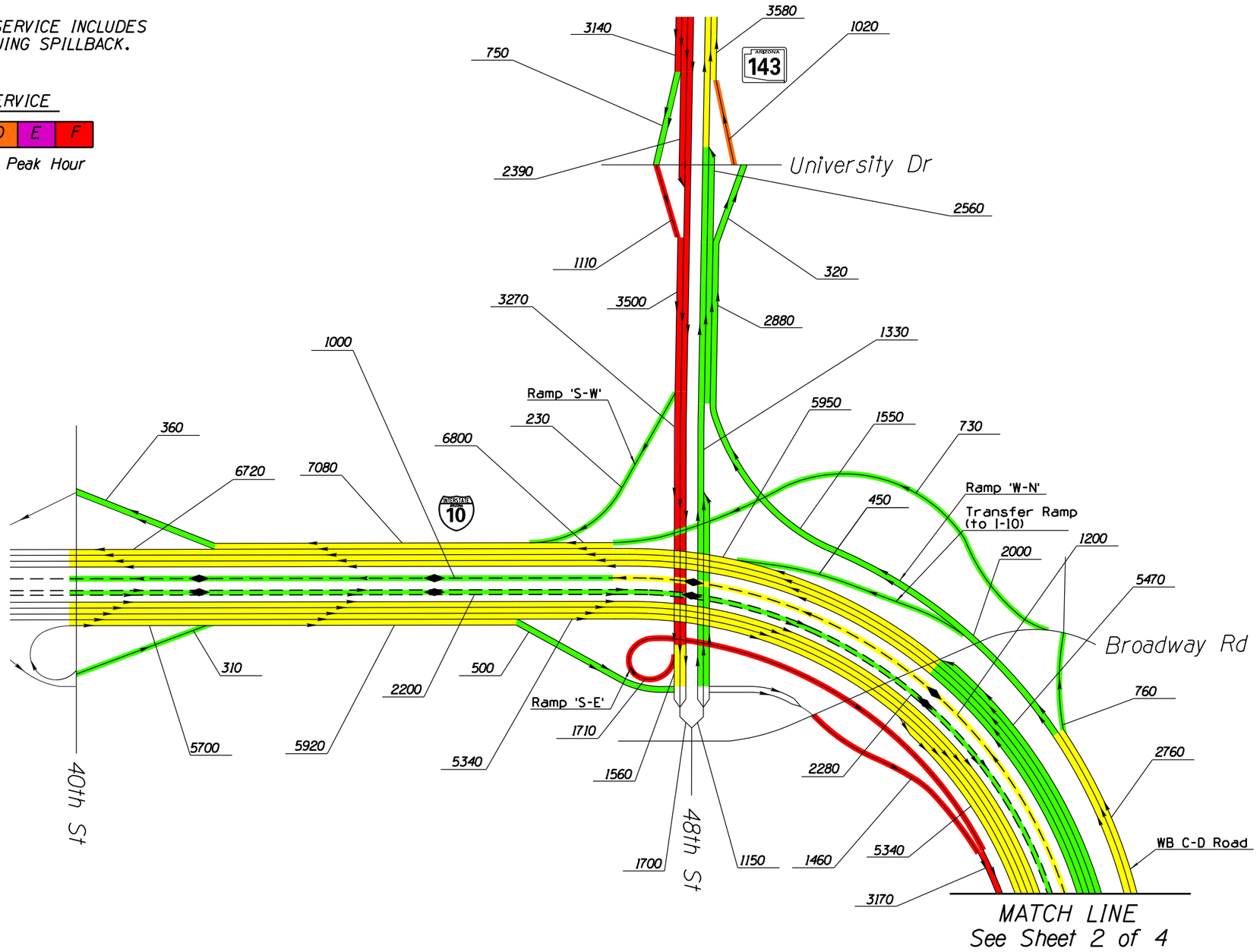
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

7/27/2015 U:\10-02\Spot\Design\tre\Build\Figures\2030 Figures\Alt 1A Opt 2\ALT1A OP2 PM LOS 1.dgn

NOTES:

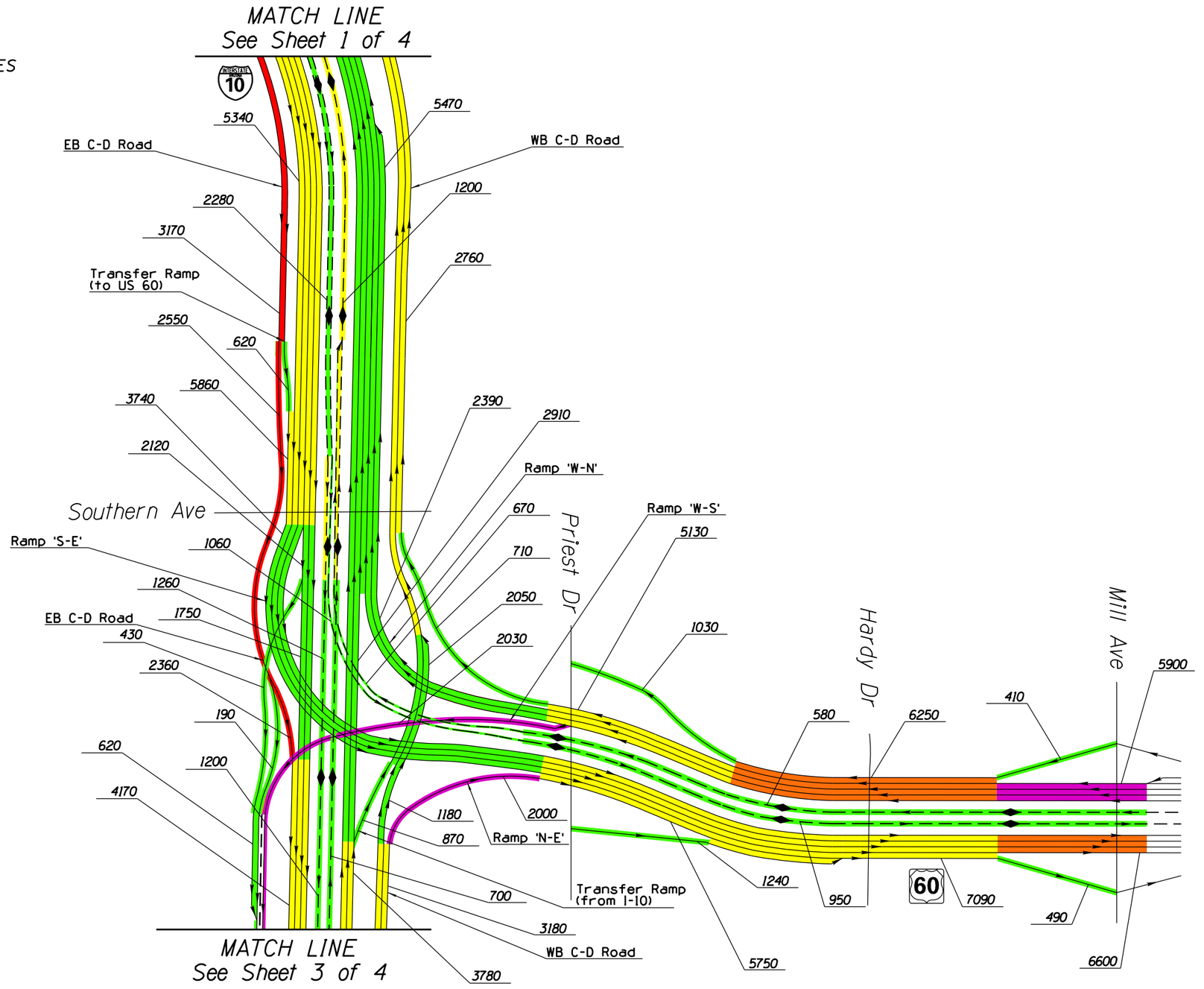
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
PM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

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7/27/2015

NOTES:

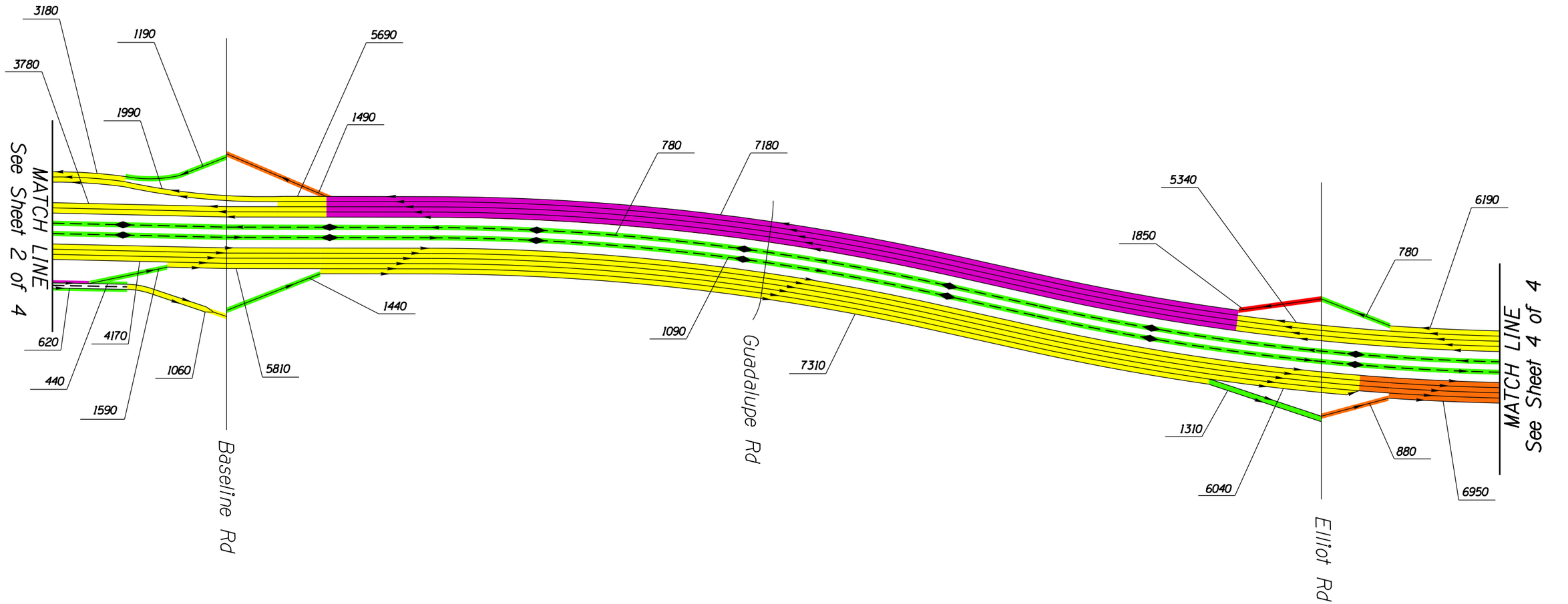
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
PM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

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7/27/2015

NOTES:

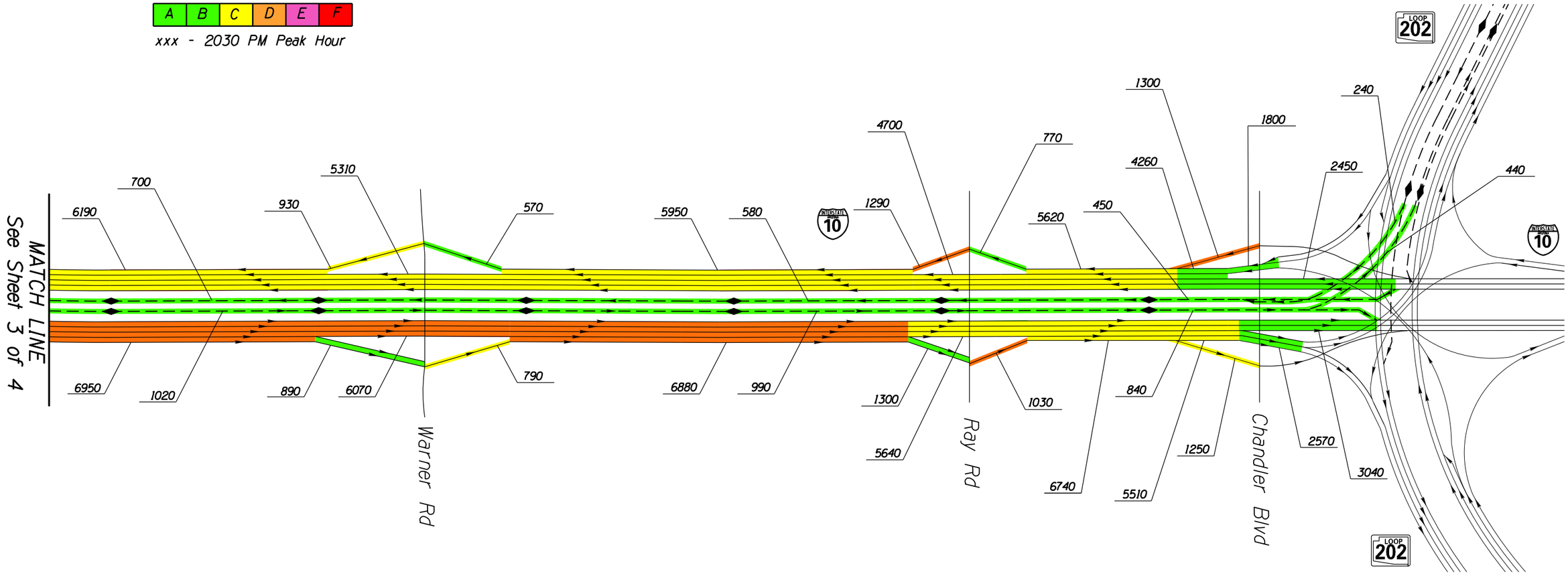
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
PM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

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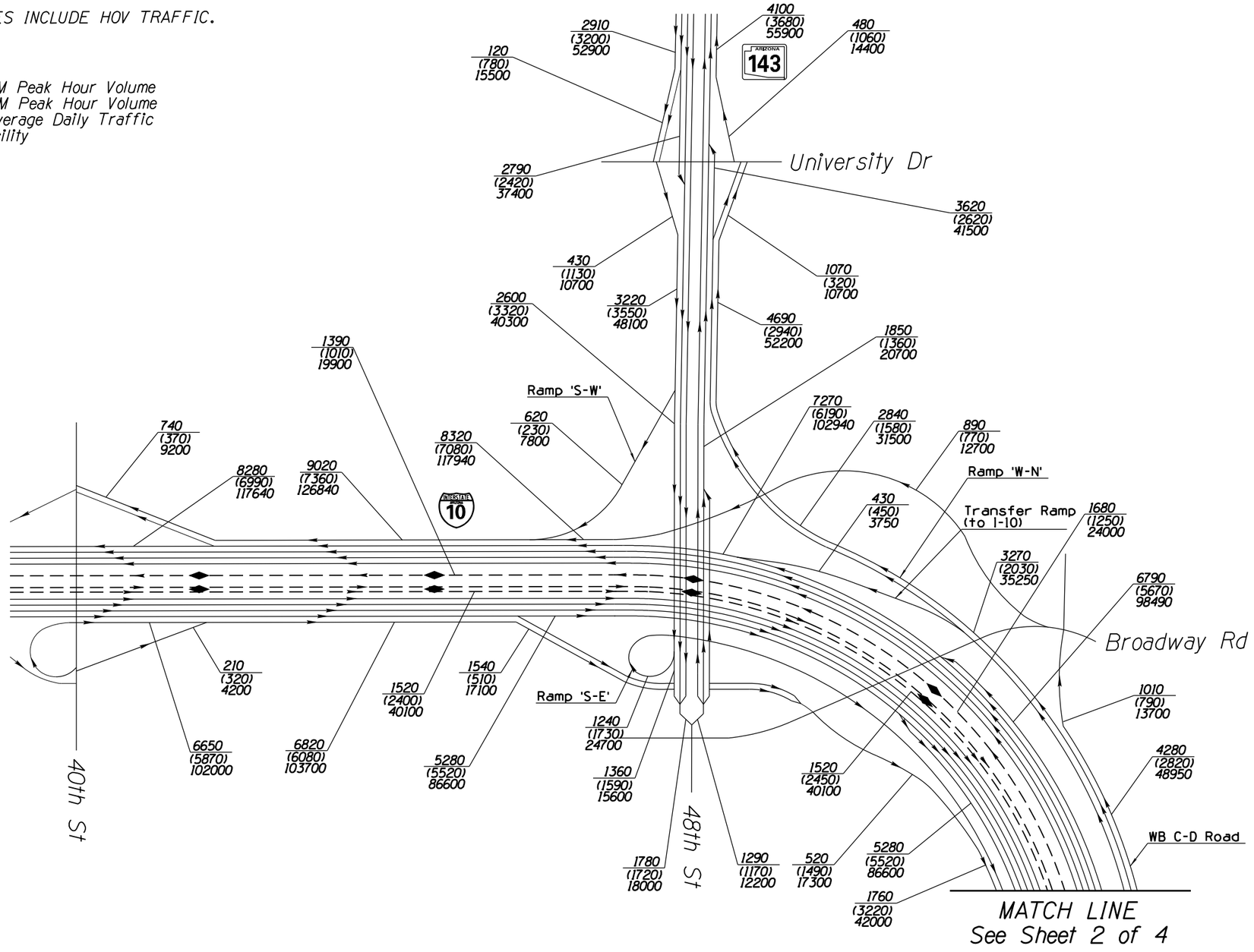
7/27/2015

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2035 AM Peak Hour Volume
(xxx) - 2035 PM Peak Hour Volume
xxxx - 2035 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
VOLUMES & LANE CONFIGURATION
SHEET 1 OF 4

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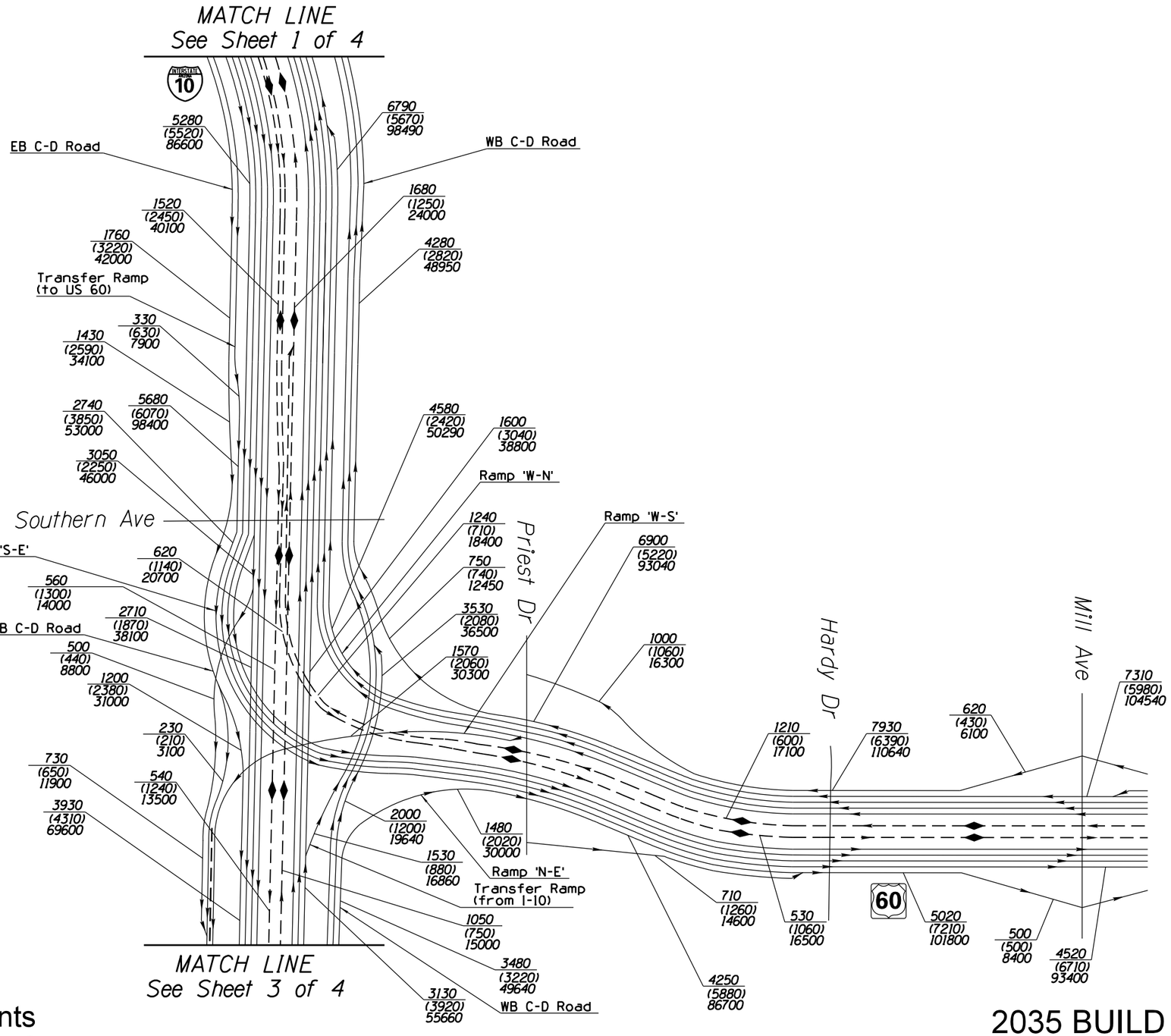
7/27/2015

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2035 AM Peak Hour Volume
(xxx) - 2035 PM Peak Hour Volume
xxxx - 2035 Average Daily Traffic
◆—◆ - HOV facility



N

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

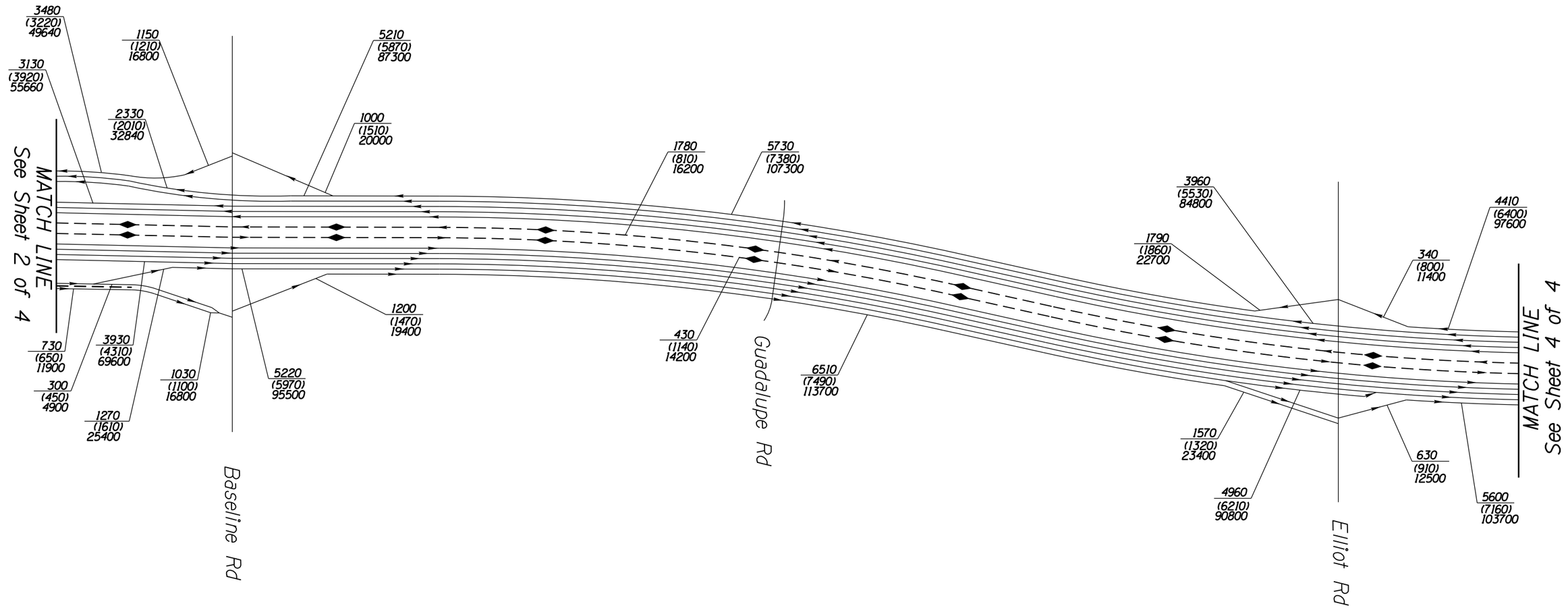
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
VOLUMES & LANE CONFIGURATION
SHEET 2 OF 4

7/27/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2035 Figures\Alt 1A Opt 2\ALT1AOP2_build volume 2.dgn

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2035 AM Peak Hour Volume
(xxx) - 2035 PM Peak Hour Volume
xxxx - 2035 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
VOLUMES & LANE CONFIGURATION
SHEET 3 OF 4

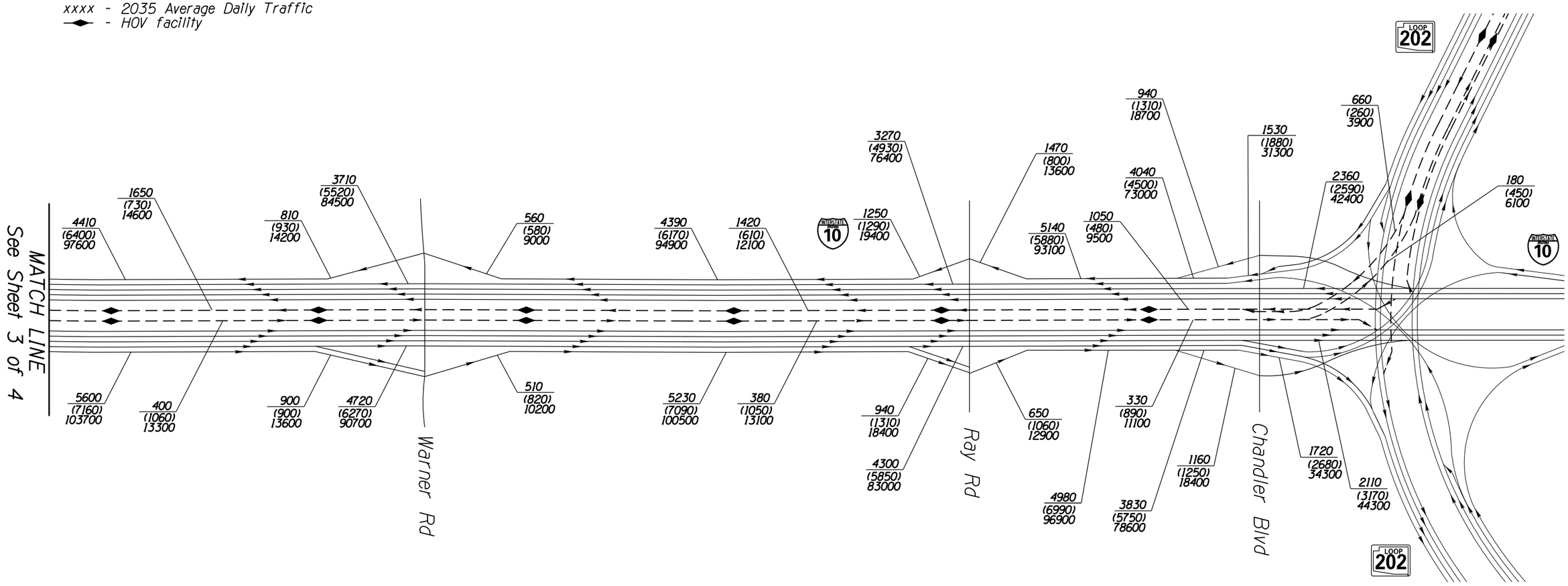
7/27/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2035 Figures\Alt 1A Opt 2\ALT1AOP2_build volume 3.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2035 AM Peak Hour Volume
(xxx) - 2035 PM Peak Hour Volume
xxxx - 2035 Average Daily Traffic
◆—◆ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
VOLUMES & LANE CONFIGURATION
SHEET 4 OF 4

7/27/2015 U:\110-02\Spot\Design\tre\Build\Figures\2035 Figures\Alt 1A Opt 2\ALT1AOP2_build volume 4.dgn

NOTES:

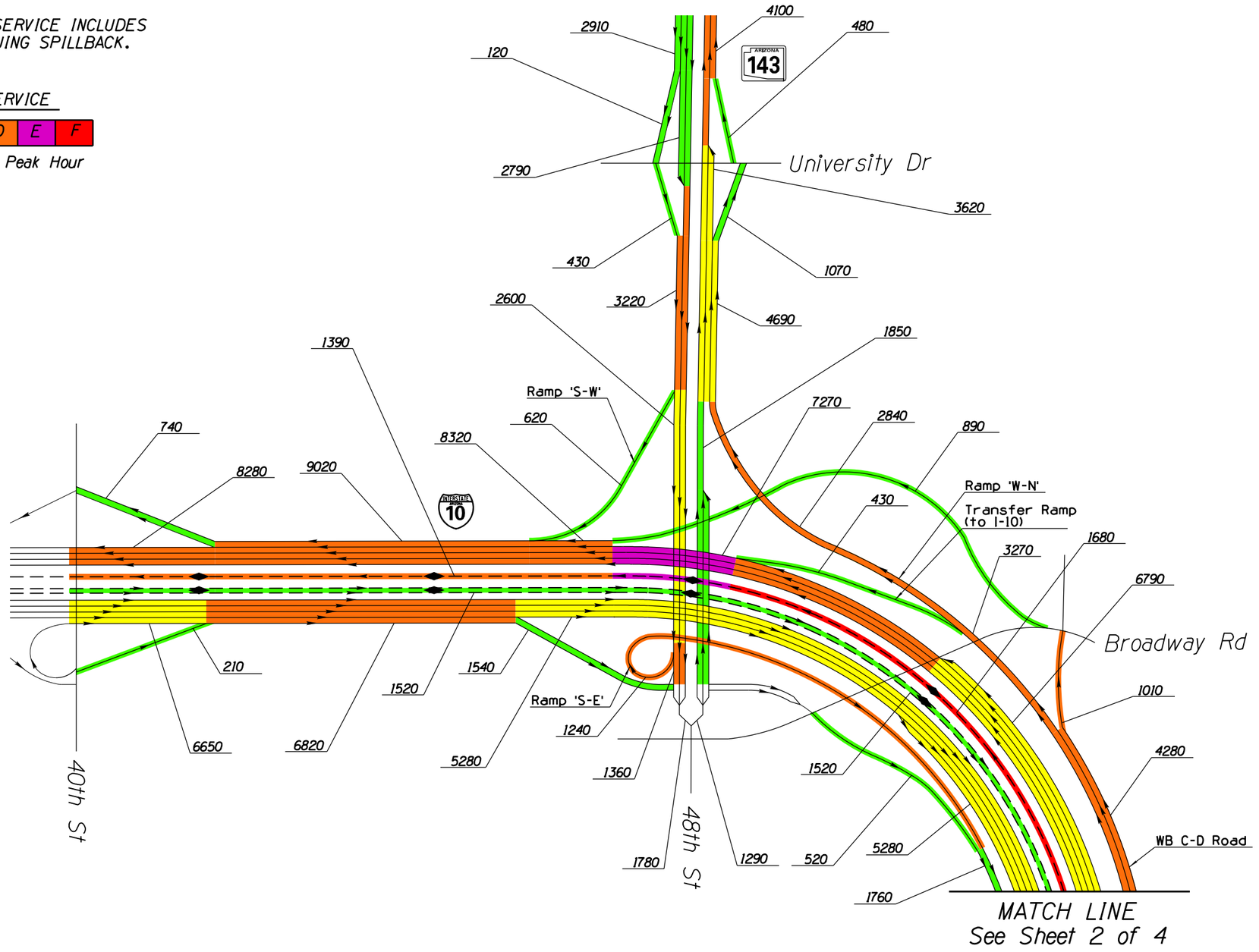
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

7/27/2015 U:\I10-02\Spot\Design\tre\Build\Figures\2035 Figures\Alt 1A Opt 2\ALT1A OP2 AM LOS 1.dgn

NOTES:

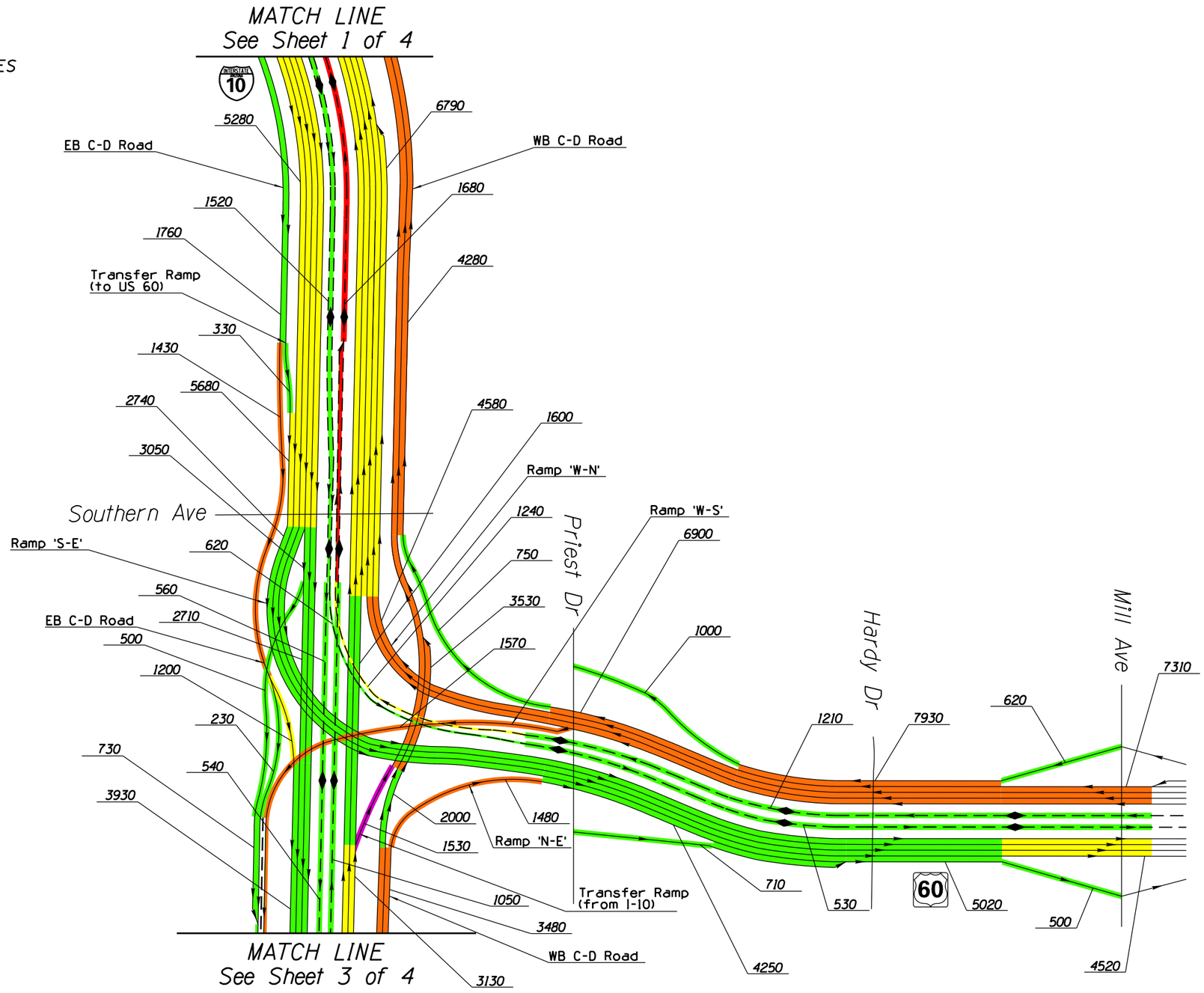
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
AM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

U:\I10-02(Spot)\Design\tre\Build\Figures\2035 Figures\Alt 1A Opt 2\ALT1A OP2 AM LOS 2.dgn
7/27/2015

NOTES:

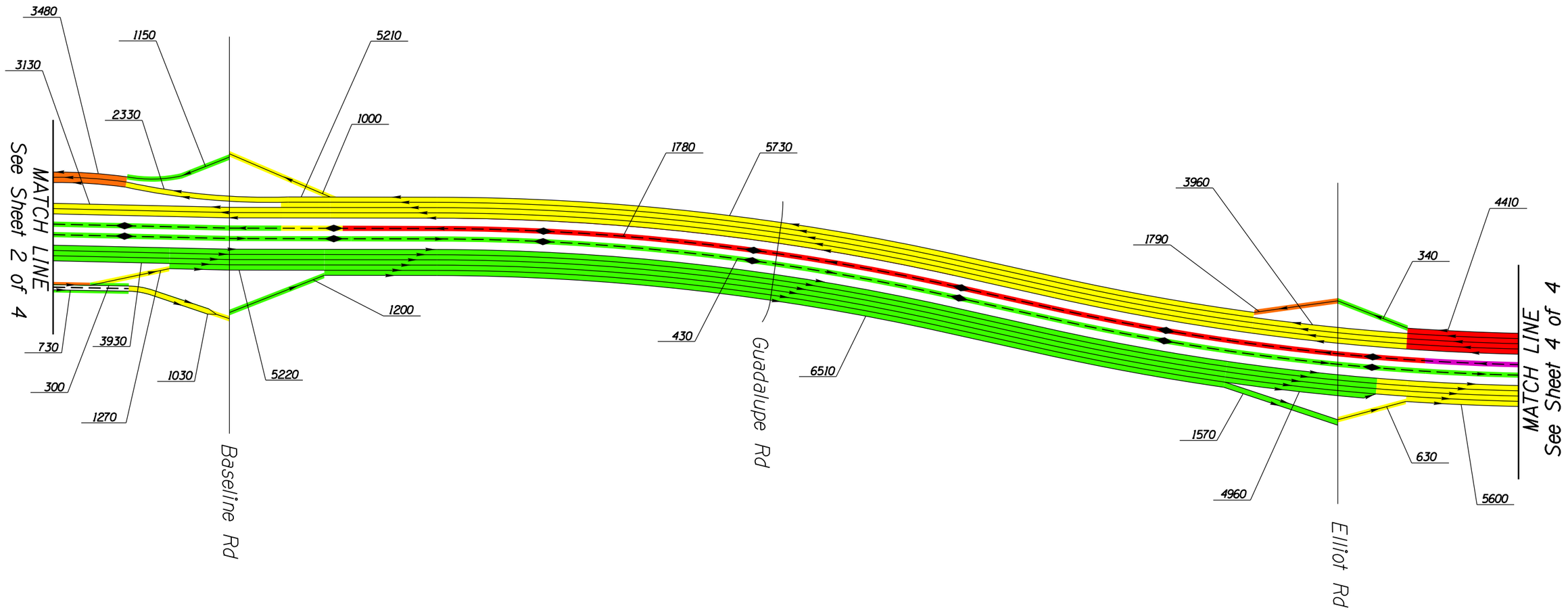
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
AM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

U:\I10-02\Spot\Design\tre\Build\Figures\2035 Figures\Alt 1A Opt 2\ALT1A OP2 AM LOS 3.dgn
7/27/2015

NOTES:

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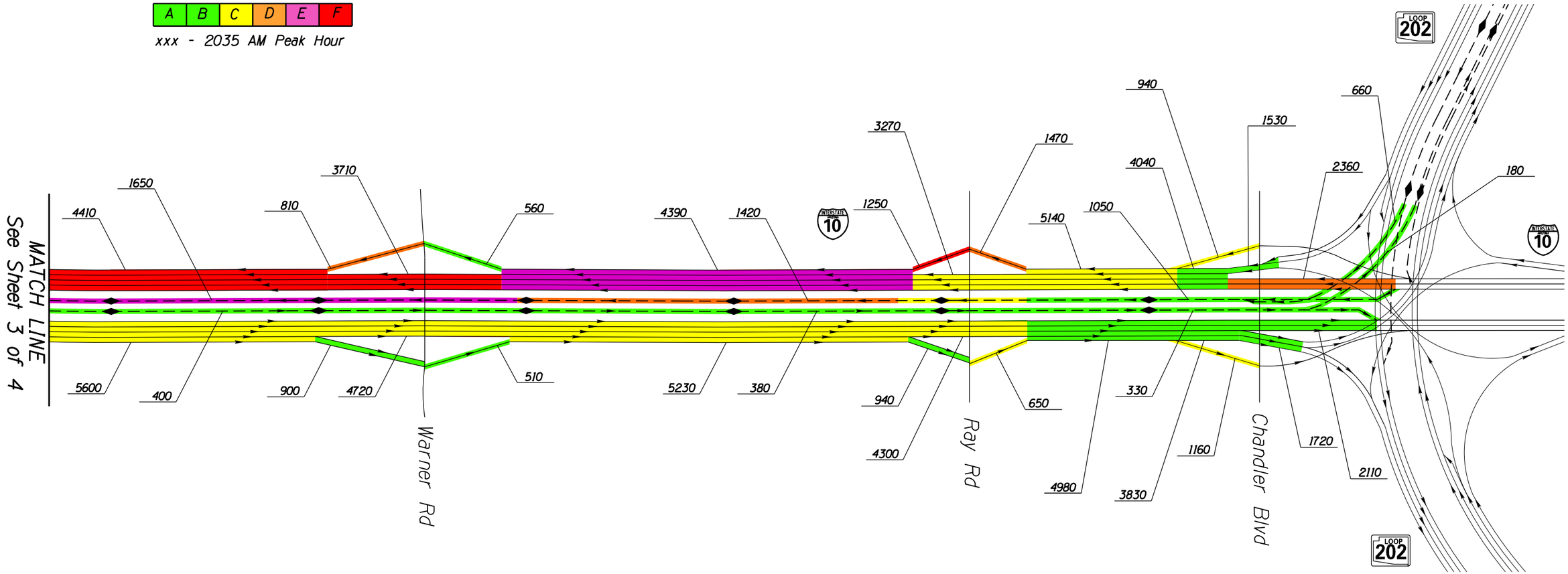
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
AM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

7/27/2015 U:\I10-02\Spot1\Design\tra\Build\Figures\2035 Figures\Alt 1A Opt 2\ALT1A OP2 AM LOS 4.dgn

NOTES:

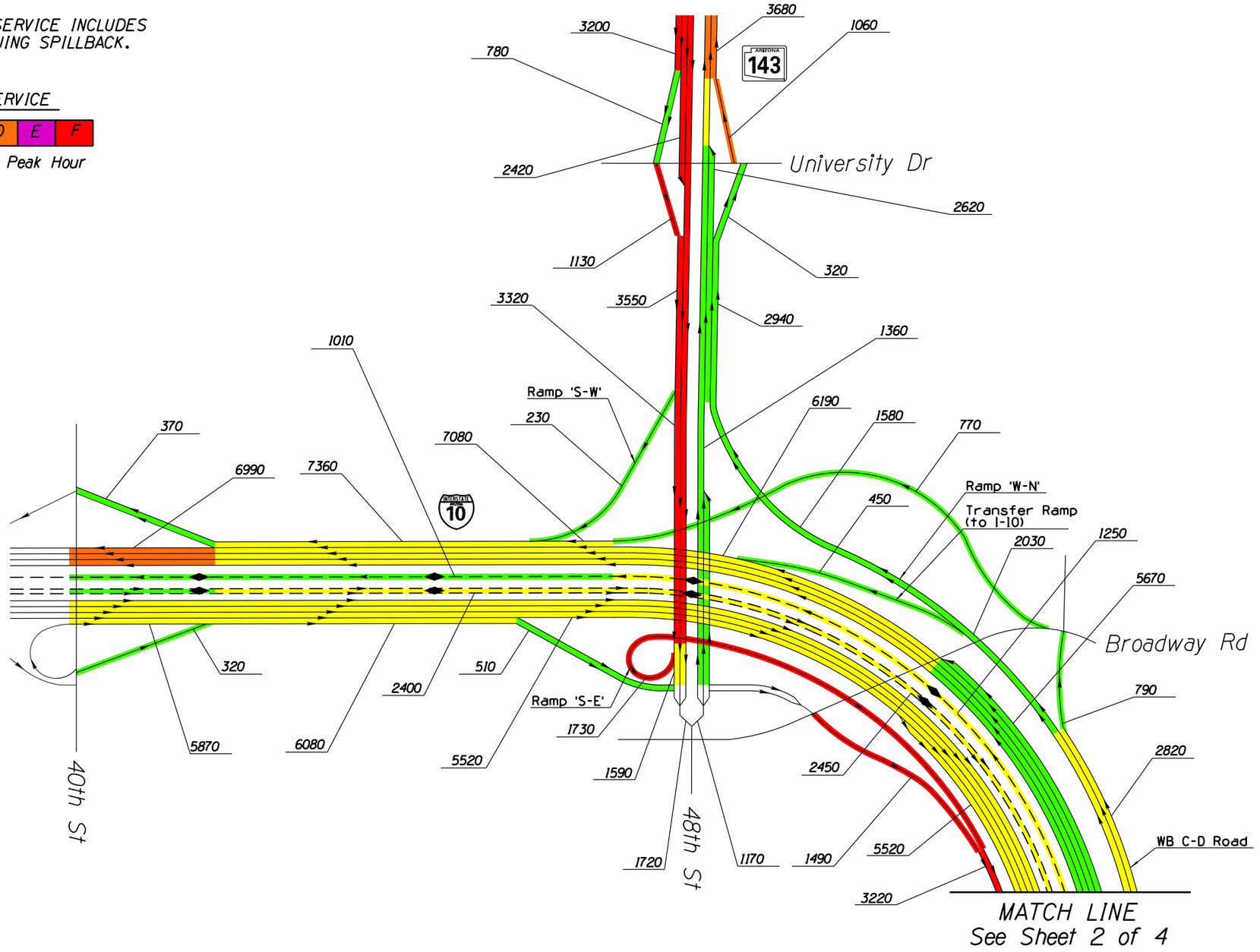
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

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7/27/2015

NOTES:

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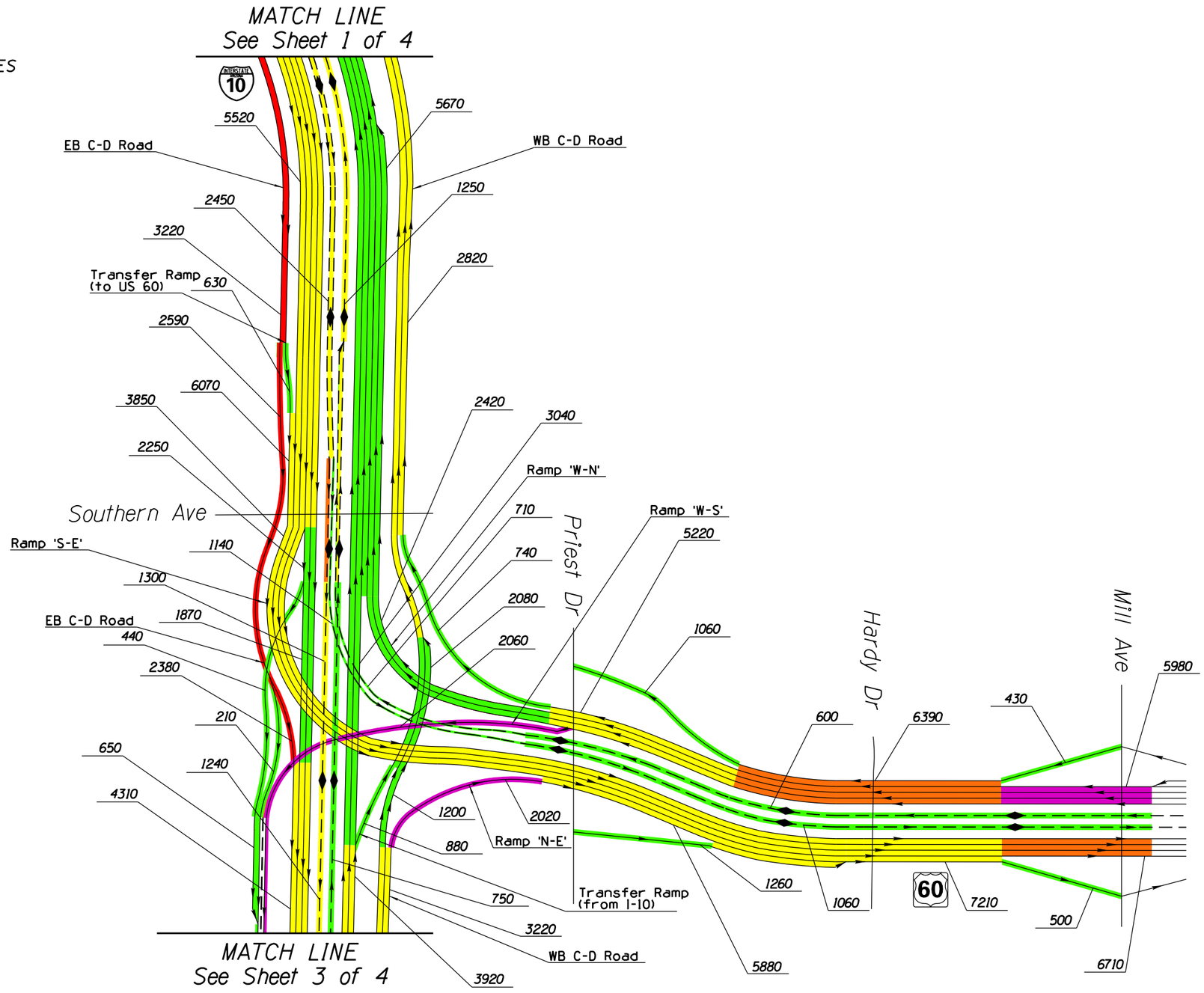
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 PM Peak Hour



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
PM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

7/27/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2035 Figures\Alt 1A Opt 2\ALT1A OP2 PM LOS 2.dgn

NOTES:

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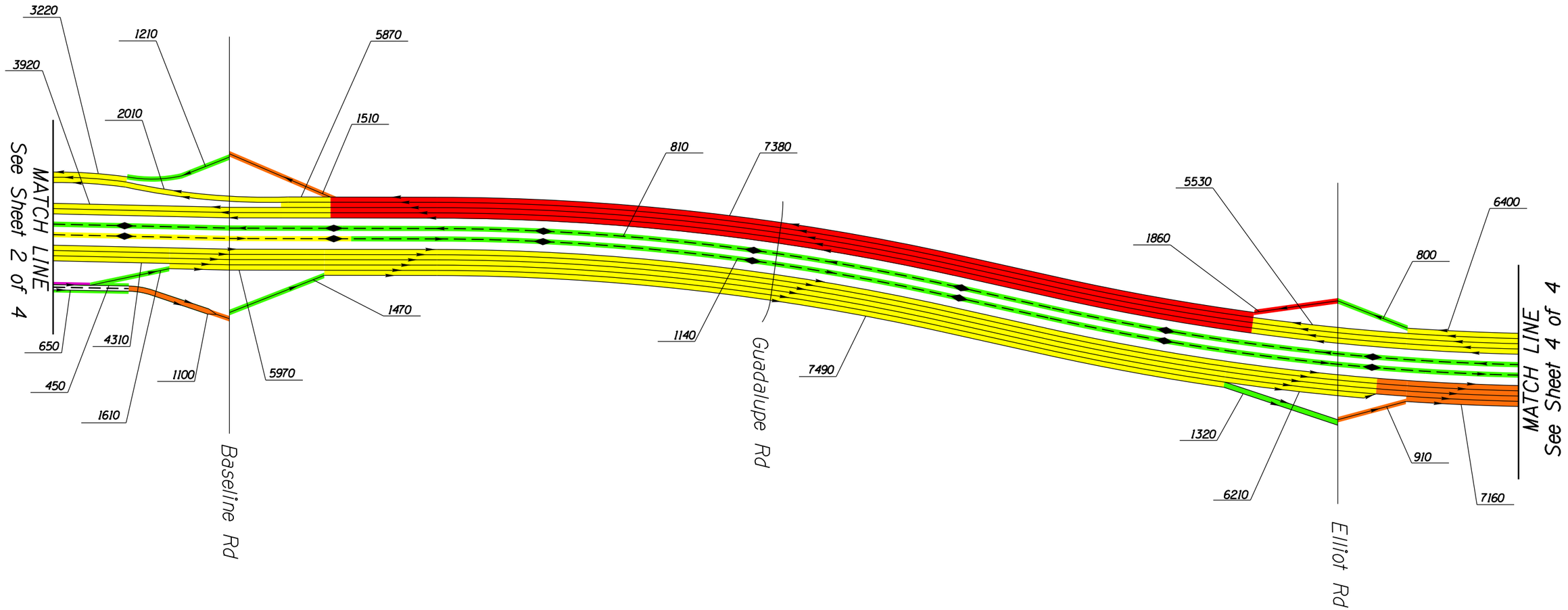
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 2
PM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

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7/27/2015

NOTES:

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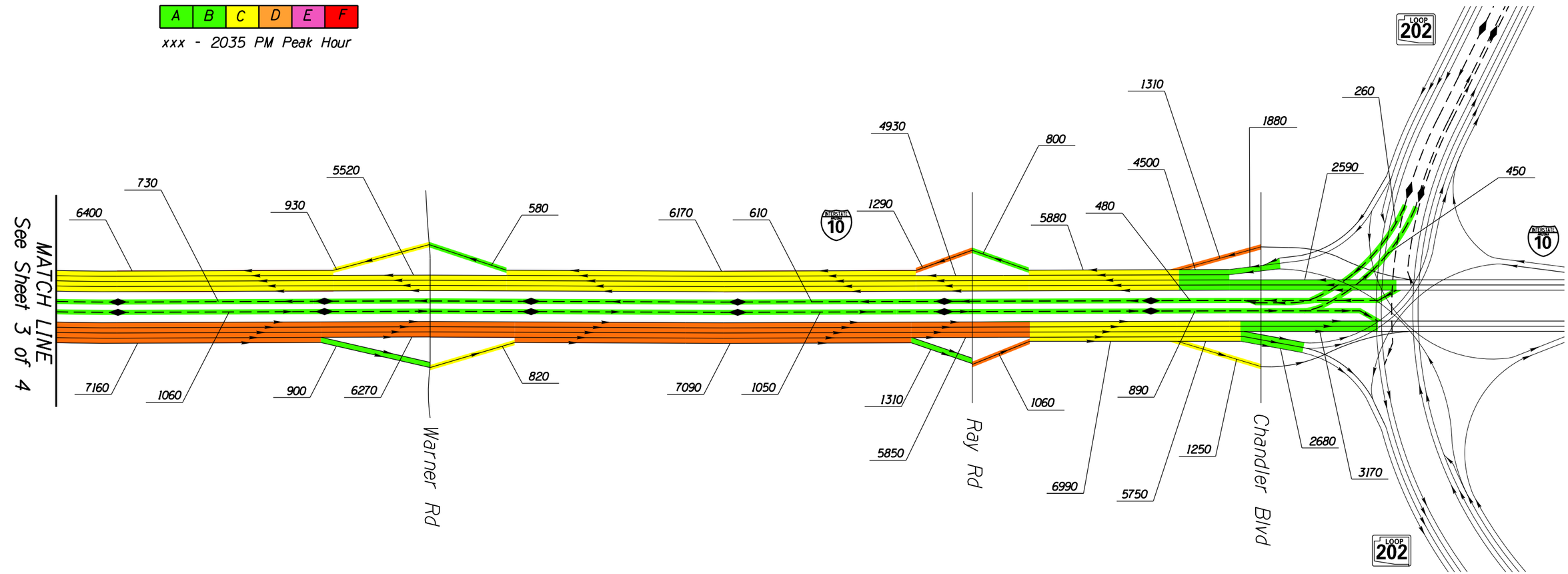
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

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ON THE MOVE
PARTNERS IN PROGRESS

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APPENDIX G
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WESTBOUND C-D ROAD OPTION 2
PM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

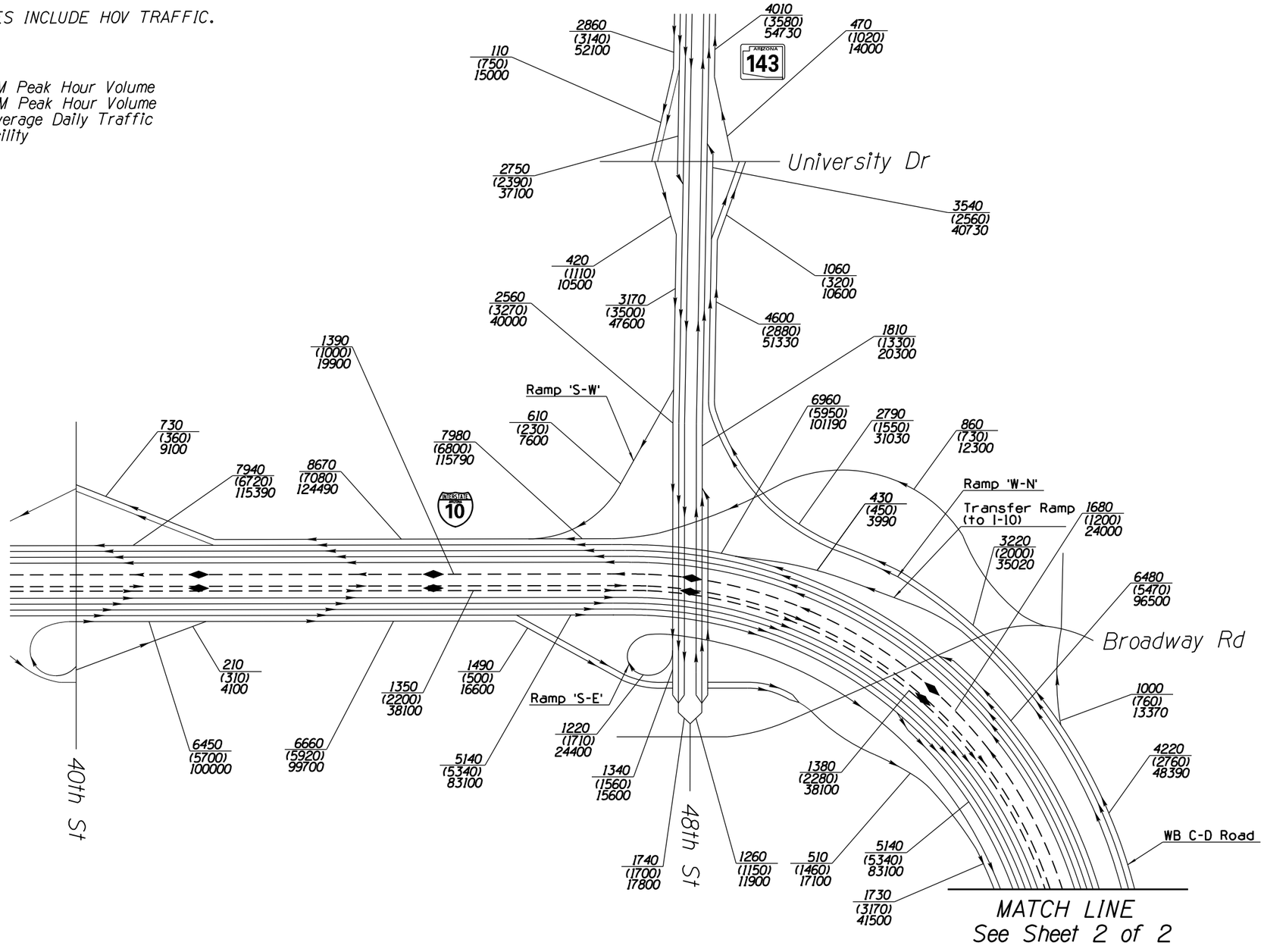
7/27/2015 U:\I10-02\Spot1\Design\tra\Build\Figures\2035 Figures\Alt 1A Opt 2\ALT1A OP2 PM LOS 4.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2030 AM Peak Hour Volume
(xxx) - 2030 PM Peak Hour Volume
xxxx - 2030 Average Daily Traffic
— ◆ — - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 3
VOLUMES & LANE CONFIGURATION
SHEET 1 OF 2

7/27/2015 U:\110-02(Spot)\Design\tra\Build\Figures\2030 Figures\Alt 1A Opt 3\ALT1AOP3_build volume 1.dgn

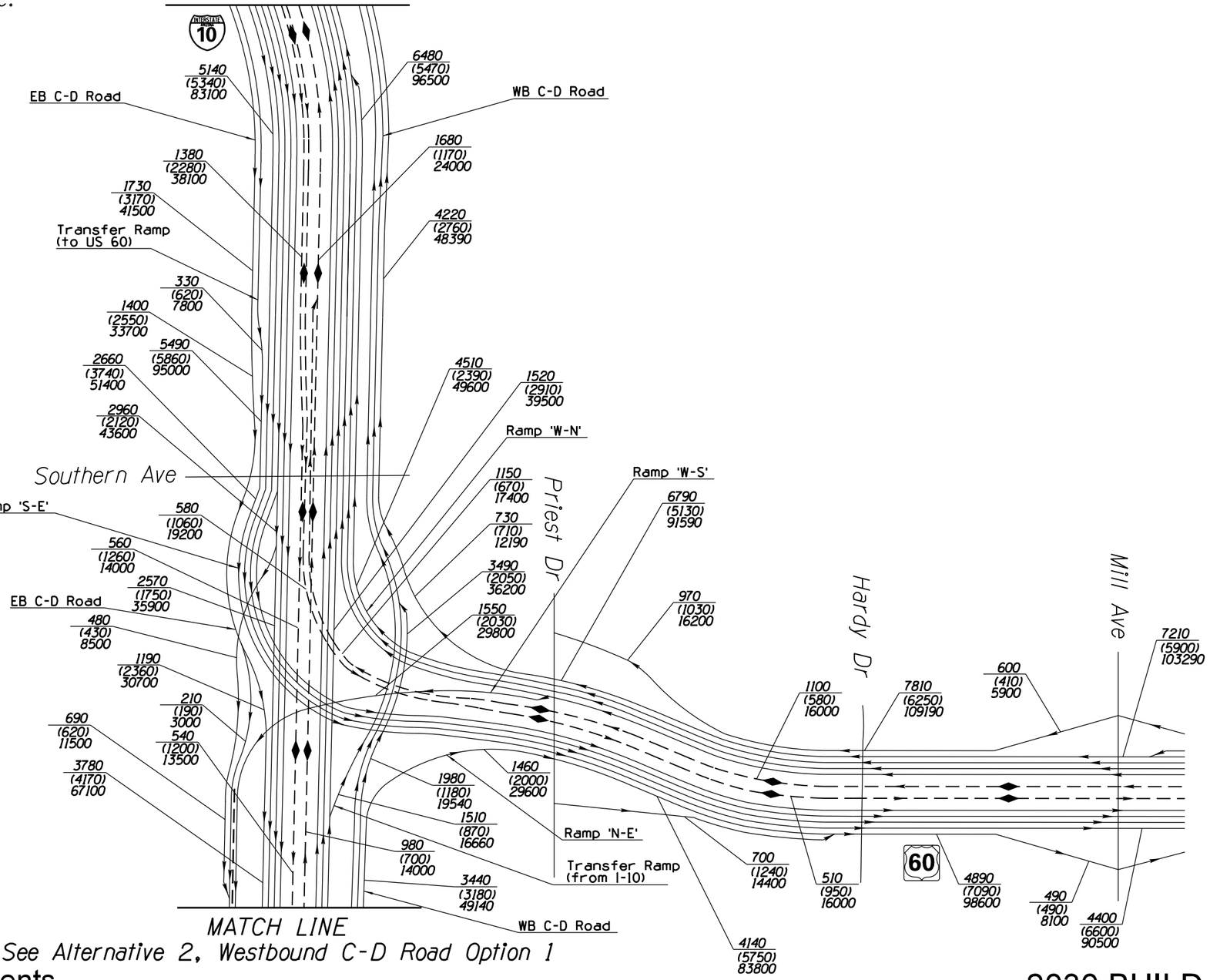
NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2030 AM Peak Hour Volume
(xxx) - 2030 PM Peak Hour Volume
xxxx - 2030 Average Daily Traffic
◆—◆ - HOV facility

MATCH LINE
See Sheet 1 of 2



MATCH LINE
See Alternative 2, Westbound C-D Road Option 1

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 2
WESTBOUNC C-D ROAD OPTION 3
VOLUMES & LANE CONFIGURATION
SHEET 2 OF 2

7/27/2015 U:\110-02\Spot\Design\tre\Build\Figures\2030 Figures\Alt 1A Opt 3\ALT1A0P3.build volume 2.dgn

NOTES:

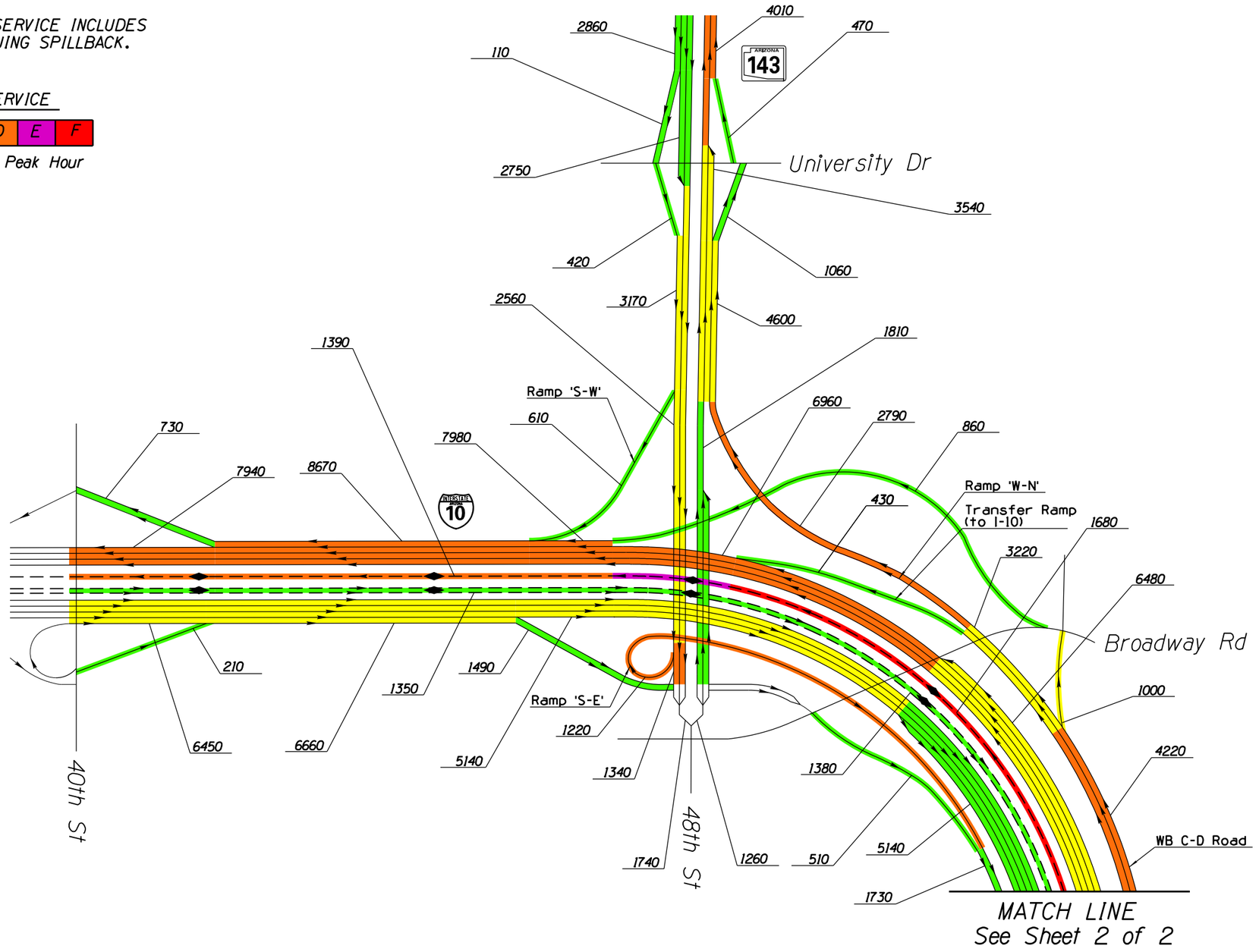
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 AM Peak Hour



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 3
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 2

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7/27/2015

NOTES:

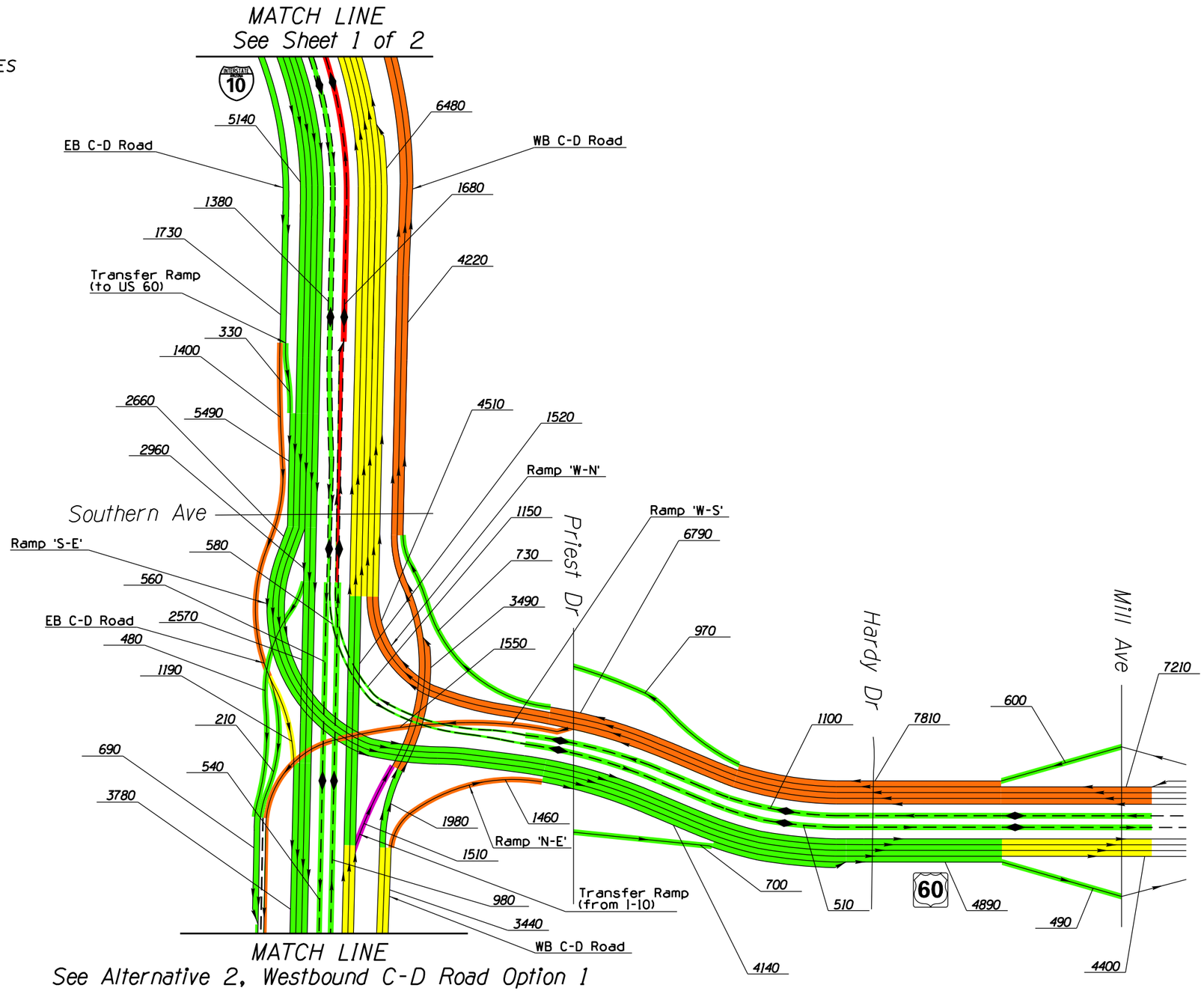
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 3
AM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 2

U:\I10-02\Spot\Design\tre\Build\Figures\2030 Figures\Alt 1A Opt 3\ALT1A OP3 AM LOS 2.dgn
7/27/2015

NOTES:

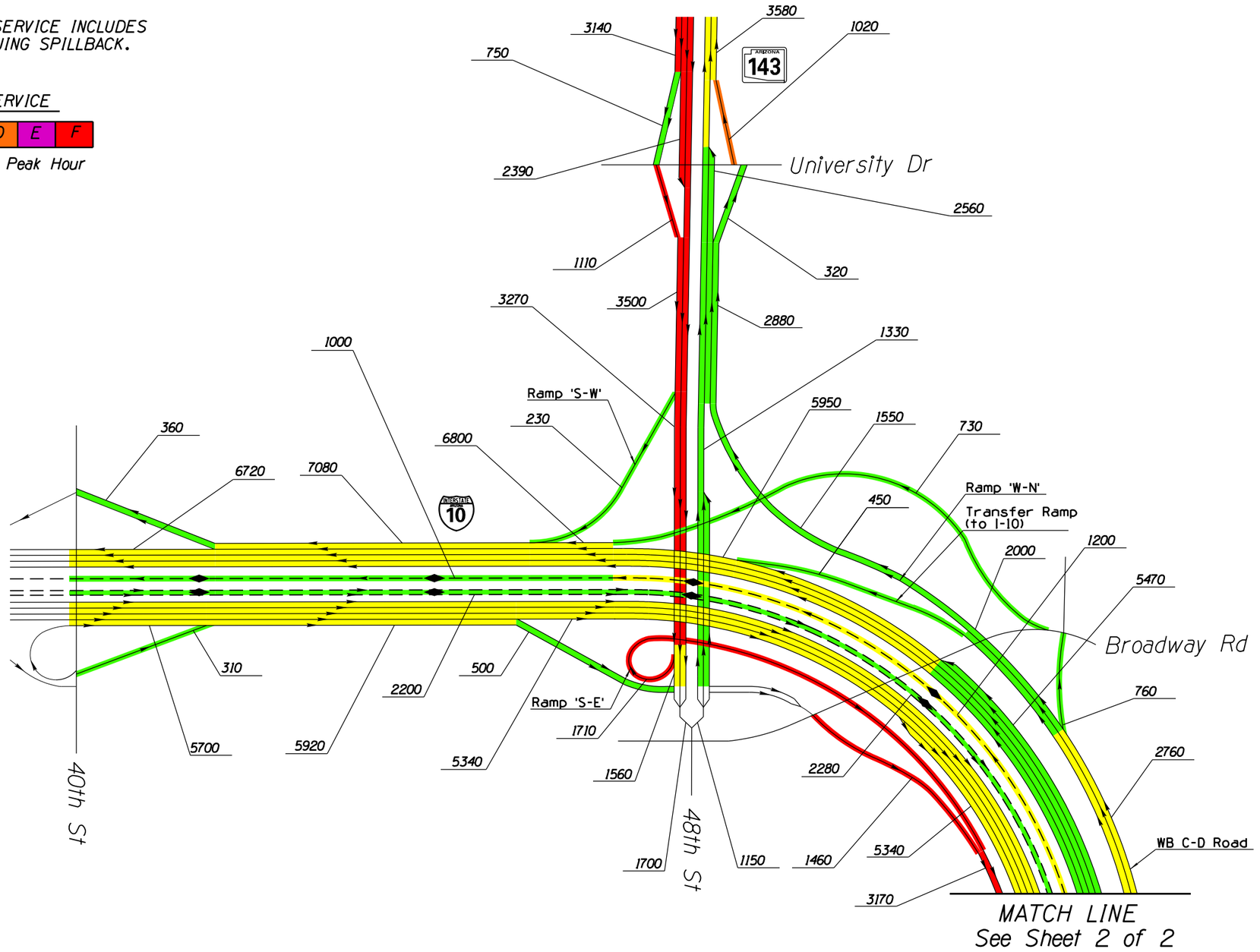
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 3
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 2

7/27/2015 U:\110-02\Spot\Design\tre\Build\Figures\2030 Figures\Alt 1A Opt 3\ALT1A OP3 PM LOS 1.dgn

NOTES:

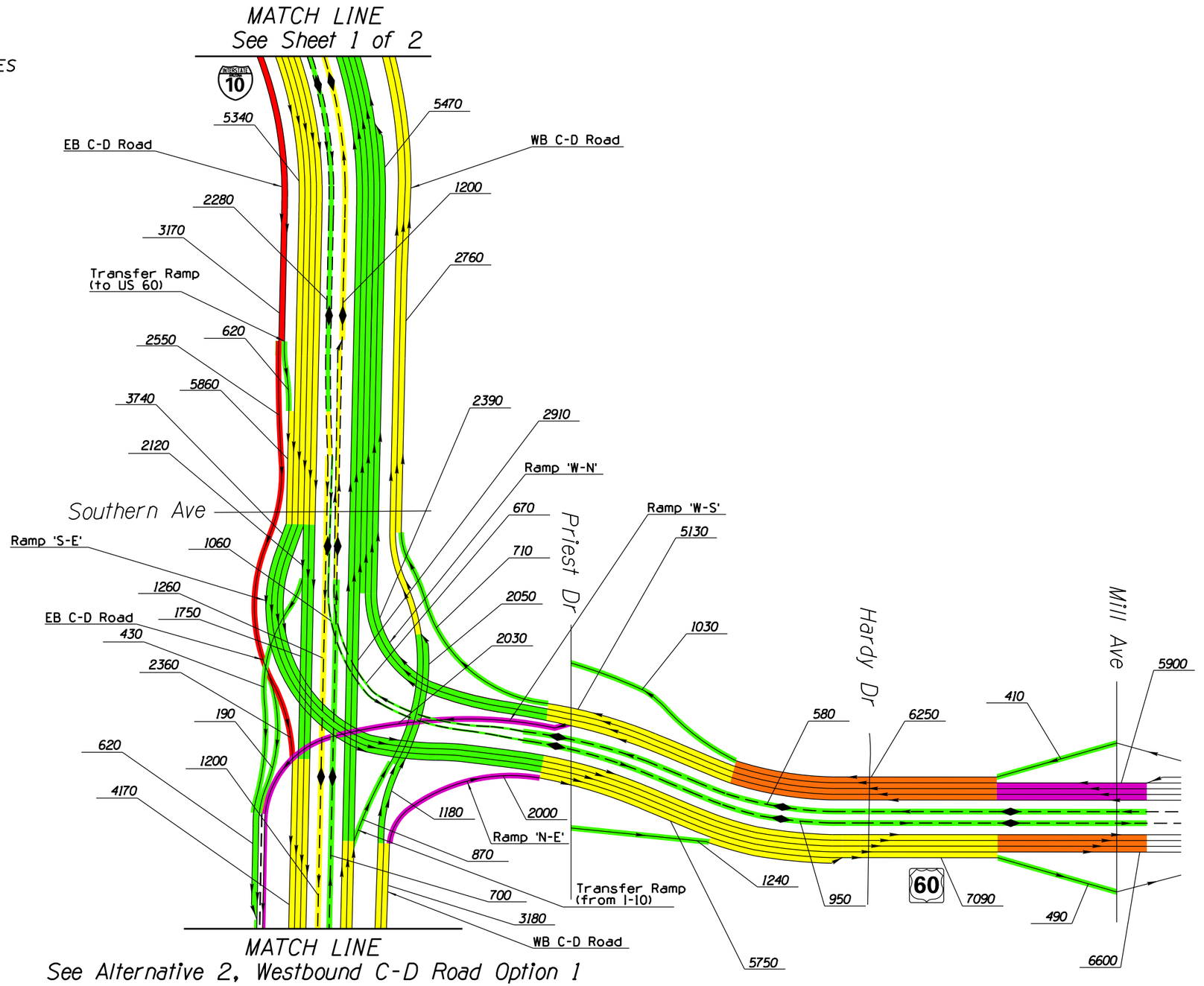
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 PM Peak Hour



N

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

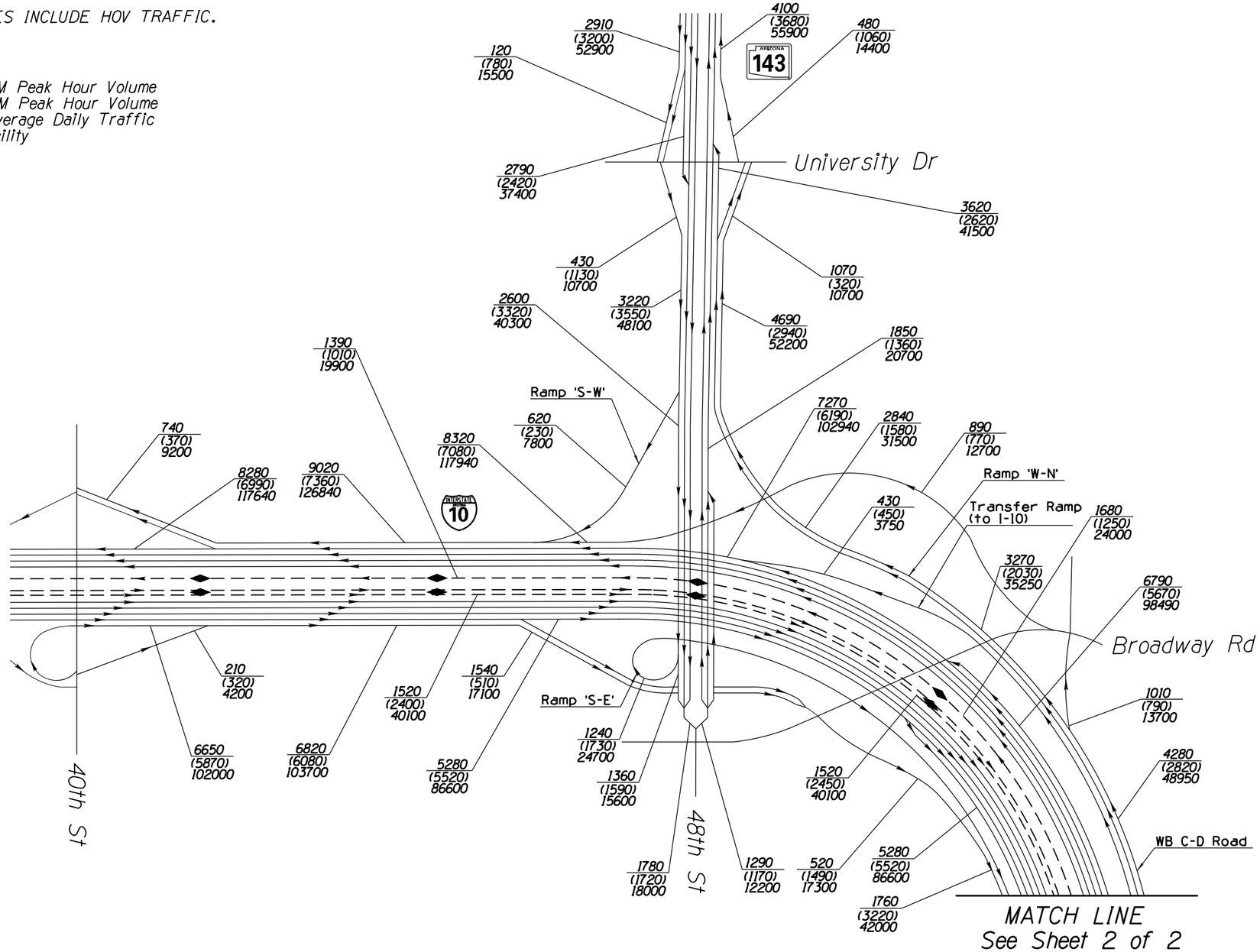
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 3
PM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 2

7/27/2015 U:\I10-02(Spot)\Design\tre\Build\Figures\2030 Figures\Alt 1A Opt 3\ALT1A OP3 PM LOS 2.dgn

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2035 AM Peak Hour Volume
(xxx) - 2035 PM Peak Hour Volume
xxxx - 2035 Average Daily Traffic
— - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

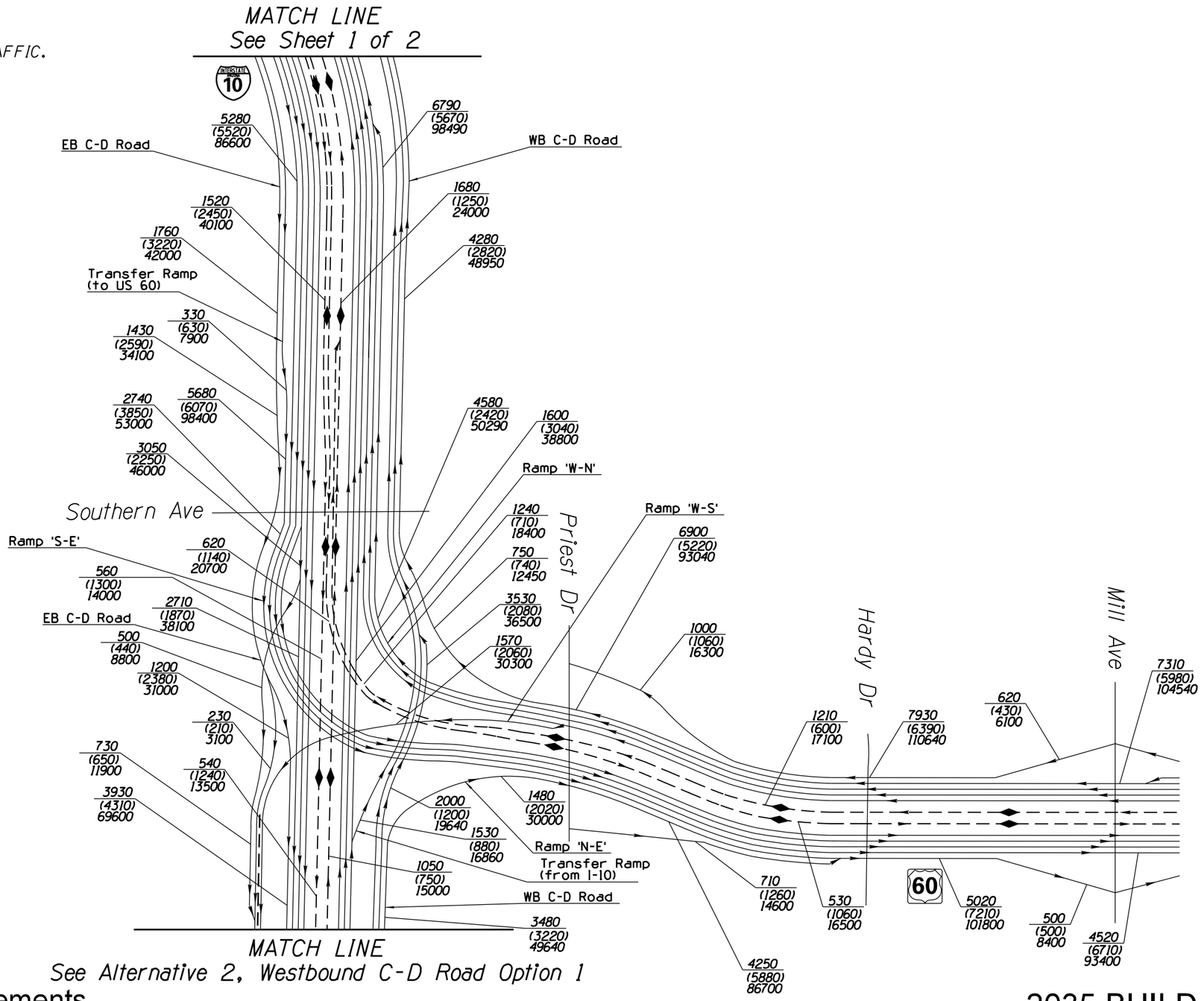
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 3
VOLUMES & LANE CONFIGURATION
SHEET 1 OF 2

U:\I10-02\Spot1\Design\tra\Build\Figures\2035 Figures\Alt 1A Opt 3\ALT1AOP3_build volume 1.dgn
7/27/2015

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2035 AM Peak Hour Volume
(xxx) - 2035 PM Peak Hour Volume
xxxx - 2035 Average Daily Traffic
- HOV facility



N

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 3
VOLUMES & LANE CONFIGURATION
SHEET 2 OF 2

7/27/2015 U:\110-02\Spot\Design\tre\Build\Figures\2035 Figures\Alt 1A Opt 3\ALT1AOP3_build volume 2.dgn

NOTES:

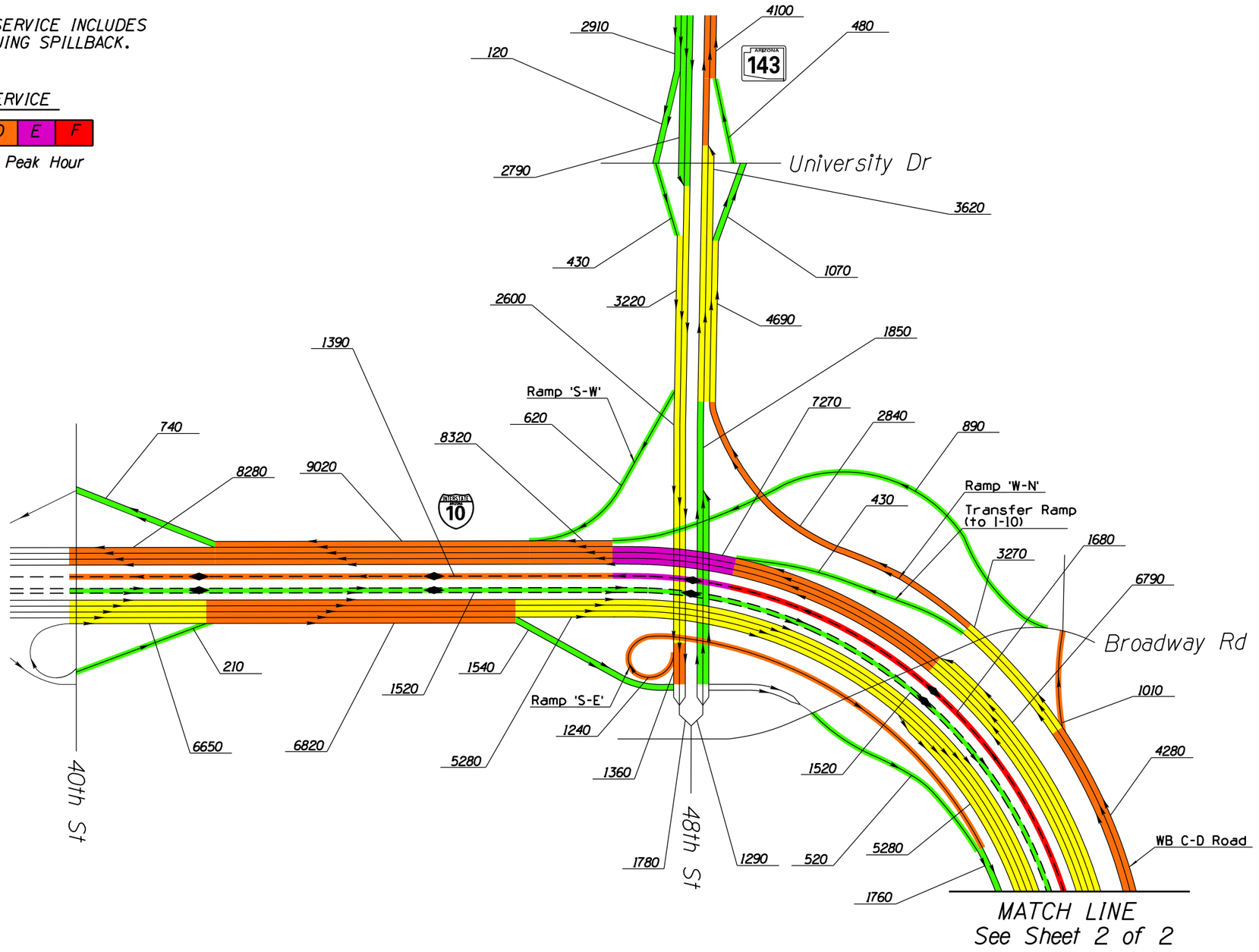
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 AM Peak Hour



MATCH LINE
See Sheet 2 of 2

N

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 3
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 2

U:\I10-02\Spot\Design\tre\Build\Figures\2035 Figures\Alt 1A Opt 3\ALT1A OP3 AM LOS 1.dgn
7/27/2015

NOTES:

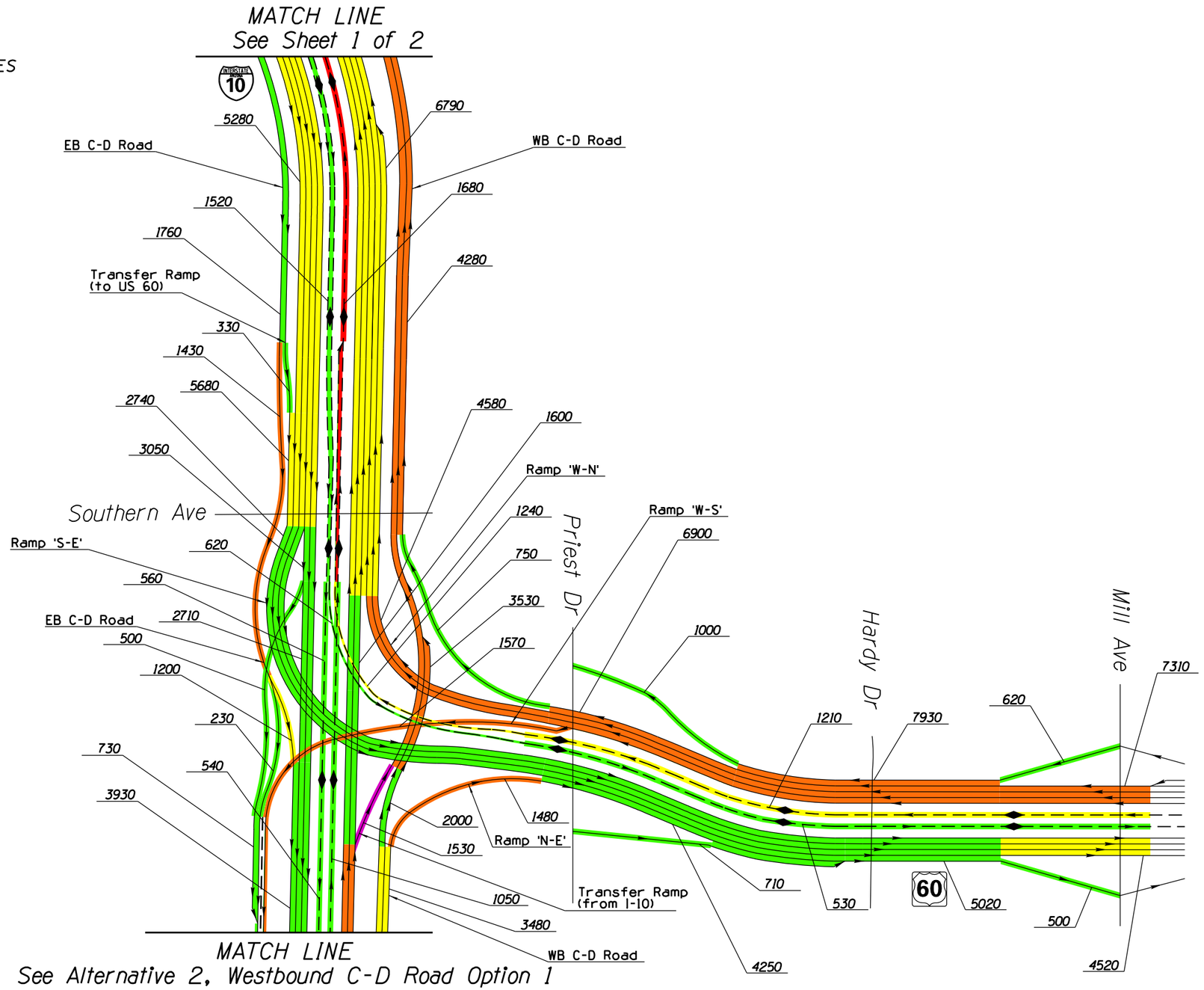
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 AM Peak Hour



N

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 3
AM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 2

7/27/2015 U:\I10-02(Spot)\Design\tre\Build\Figures\2035 Figures\Alt 1A Opt 3\ALT1A OP3 AM LOS 2.dgn

NOTES:

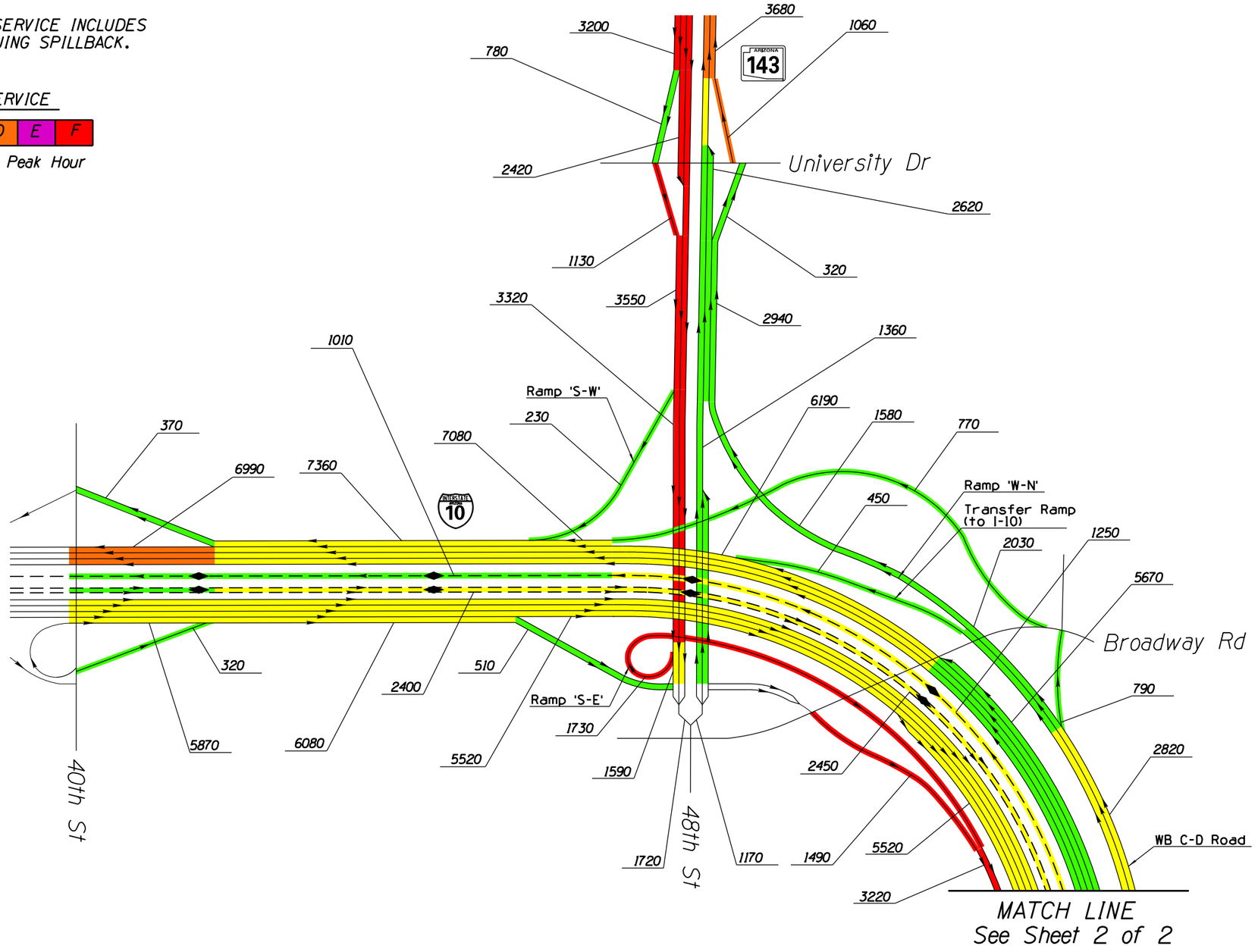
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 3
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 2

7/27/2015 U:\110-02\Spot\Design\tre\Build\Figures\2035 Figures\Alt 1A Opt 3\ALT1A OP3 PM LOS 1.dgn

NOTES:

- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

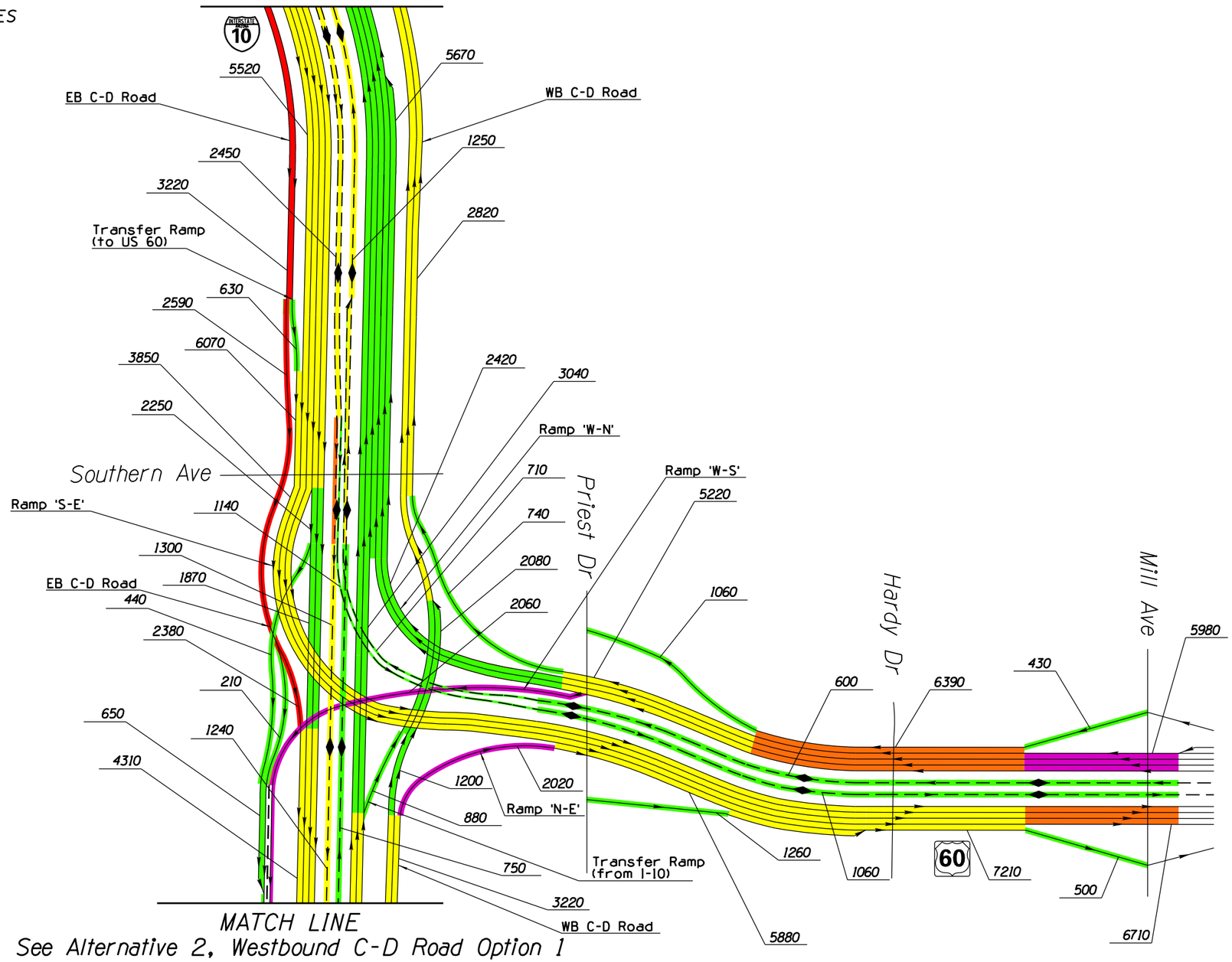
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 PM Peak Hour

MATCH LINE
See Sheet 1 of 2



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 BUILD ALTERNATIVE 2
WESTBOUND C-D ROAD OPTION 3
PM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 2

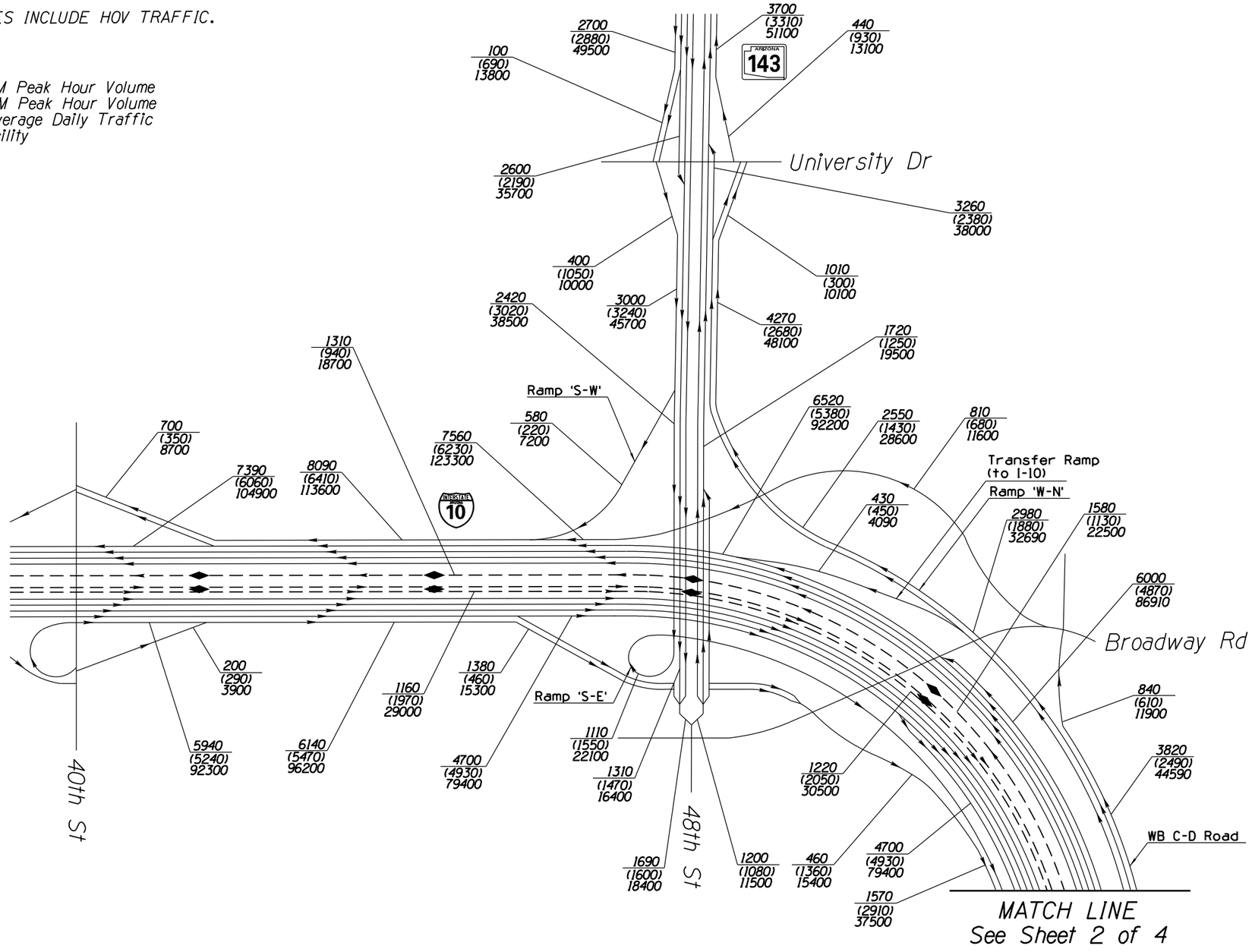
7/27/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2035 Figures\Alt 1A Opt 3\ALT1A OP3 PM LOS 2.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2020 AM Peak Hour Volume
(xxx) - 2020 PM Peak Hour Volume
xxxx - 2020 Average Daily Traffic
◆—◆ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 RECOMMENDED BUILD ALTERNATIVE VOLUMES & LANE CONFIGURATION
SHEET 1 OF 4

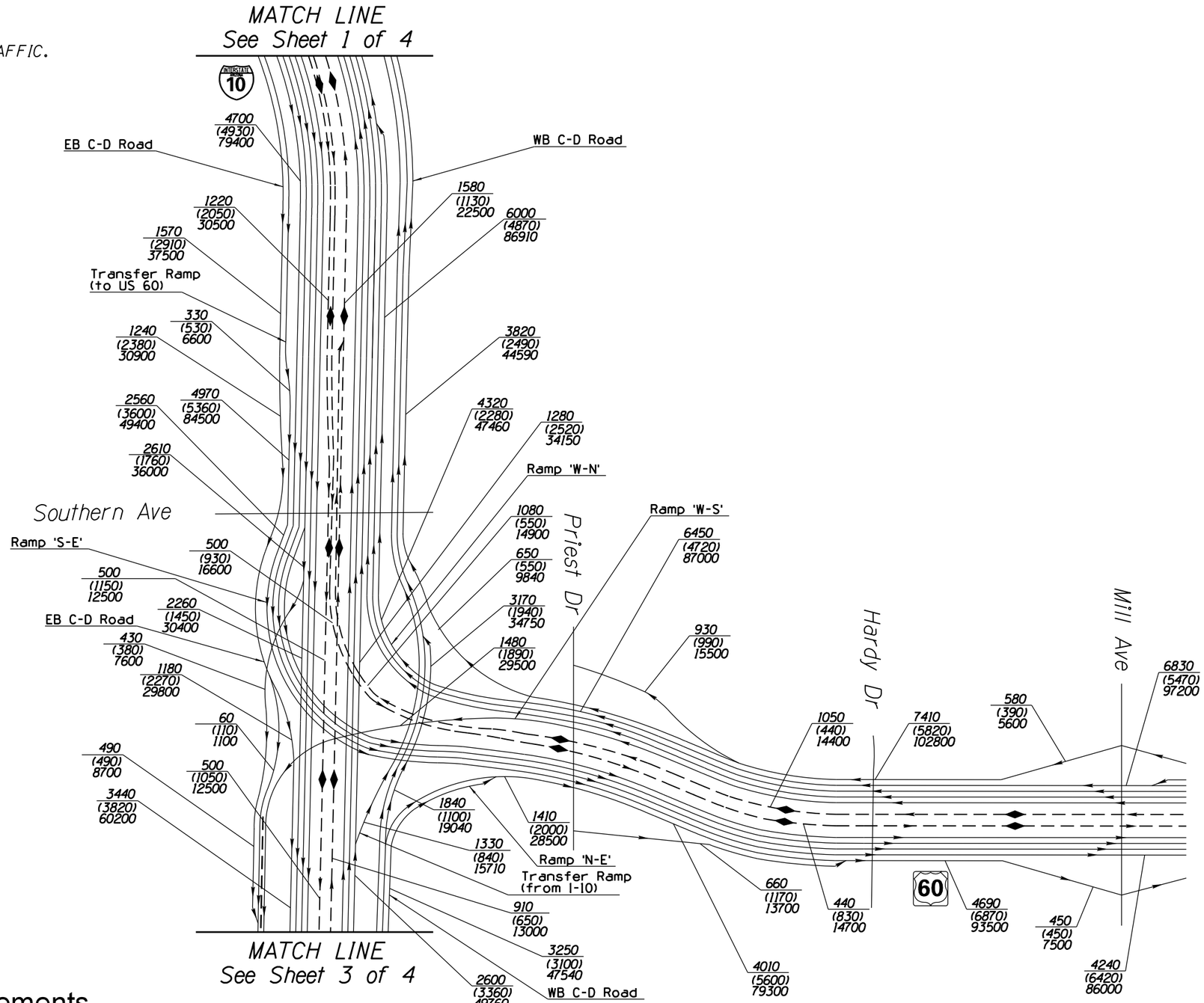
7/27/2015 U:\I10-02\Spot\Design\tre\Build\Figures\2020 Figures\RecommendedAlt\Rec_Alt_build volume 1.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2020 AM Peak Hour Volume
(xxx) - 2020 PM Peak Hour Volume
xxxx - 2020 Average Daily Traffic
◆—◆ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

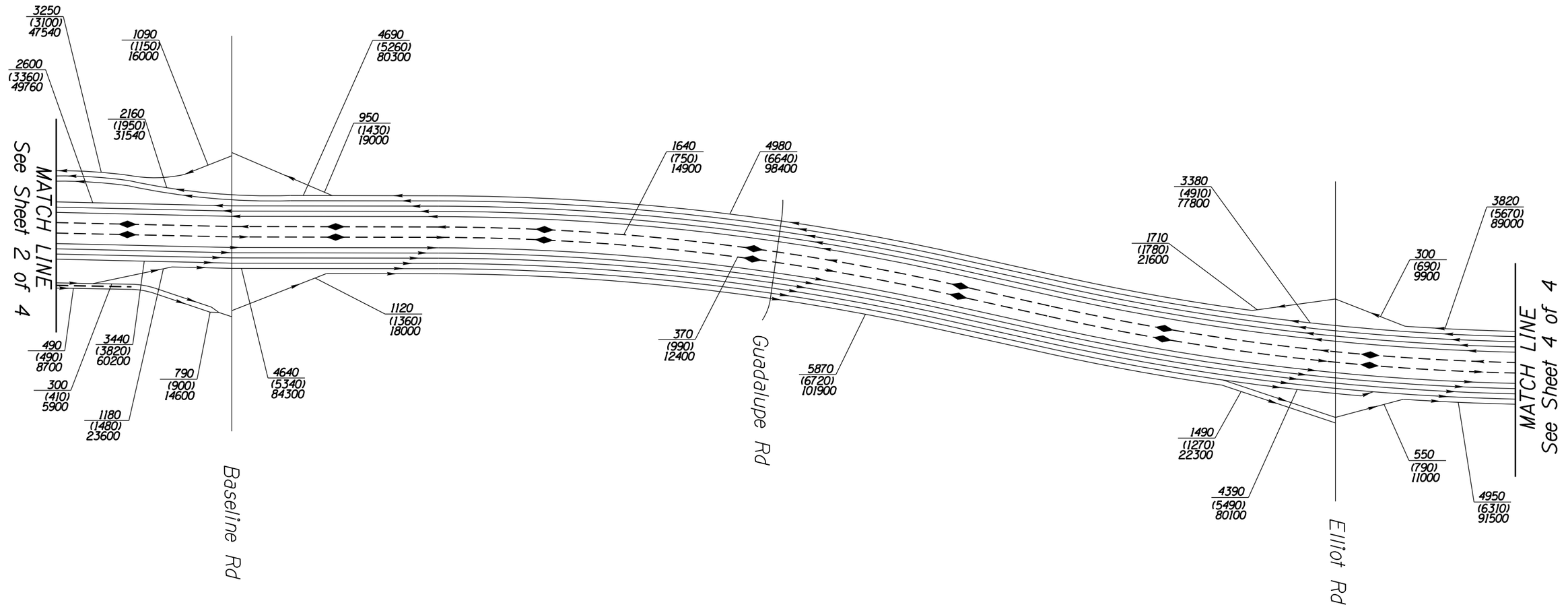
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 RECOMMENDED BUILD ALTERNATIVE VOLUMES & LANE CONFIGURATION
SHEET 2 OF 4

7/27/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2020 Figures\RecommendedAlt\Rec_Alt_build volume 2.dgn

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2020 AM Peak Hour Volume
(xxx) - 2020 PM Peak Hour Volume
xxxx - 2020 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

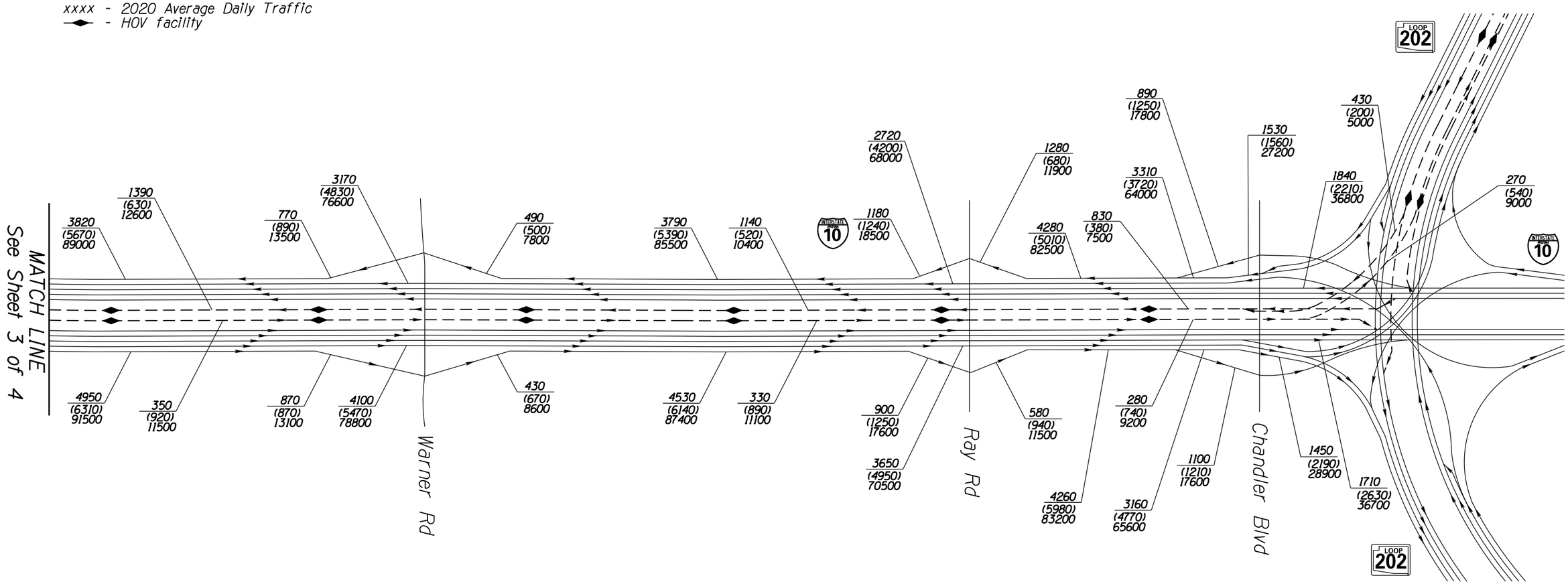
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 RECOMMENDED BUILD ALTERNATIVE
VOLUMES & LANE CONFIGURATION
SHEET 3 OF 4

7/27/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2020 Figures\RecommendedAlt\Rec_Alt_build volume 3.dgn

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2020 AM Peak Hour Volume
(xxx) - 2020 PM Peak Hour Volume
xxxx - 2020 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 RECOMMENDED BUILD ALTERNATIVE
VOLUMES & LANE CONFIGURATION
SHEET 4 OF 4

7/27/2015 U:\I10-02\Spot\Design\tre\Build\Figures\2020 Figures\RecommendedAlt\Rec_Alt_build volume 4.dgn

NOTES:

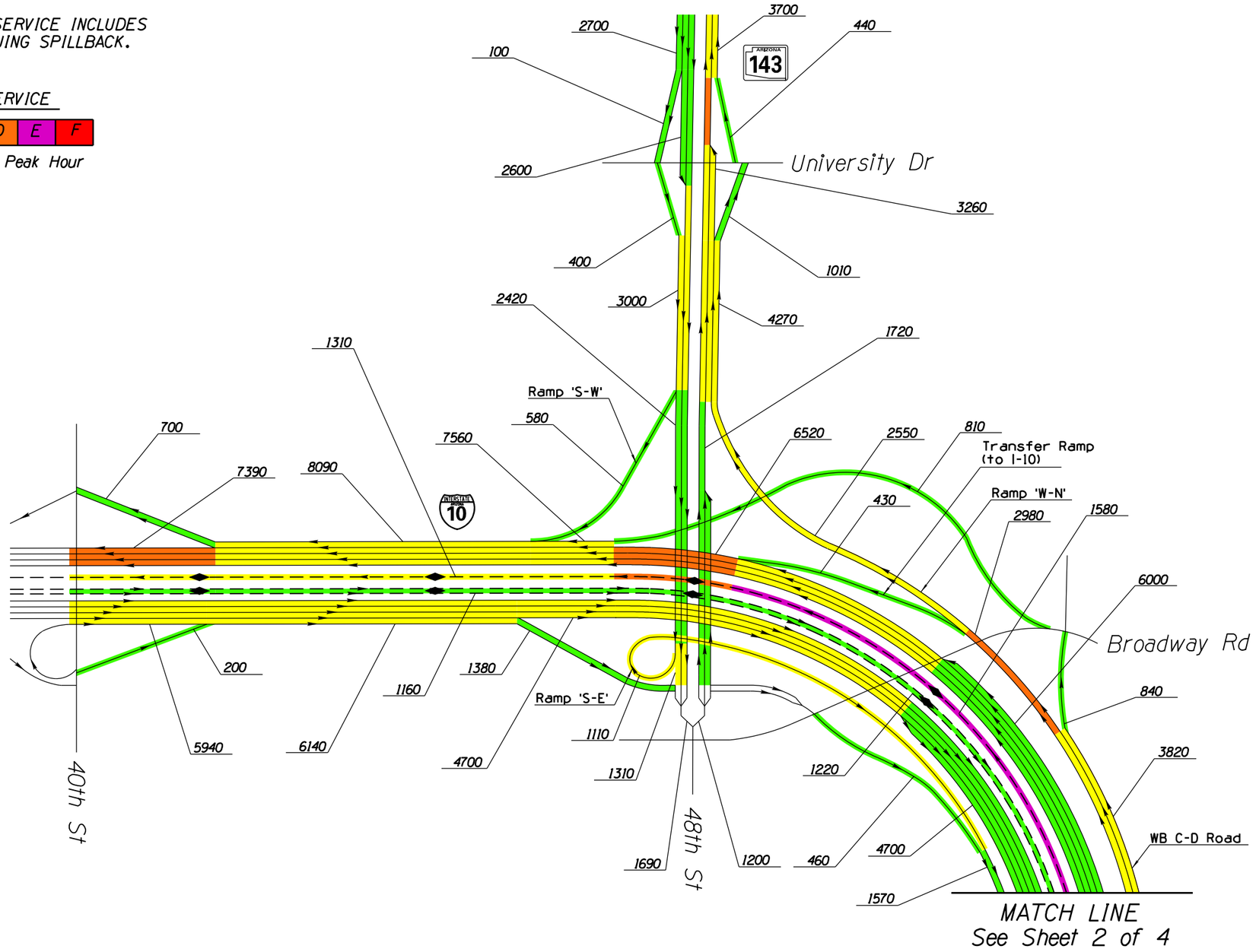
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 RECOMMENDED BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

U:\110-02\Spot\Design\tra\Build\Figures\2020 Figures\RecommendedAlt\Rec Alt AM LOS 1.dgn
7/27/2015

NOTES:

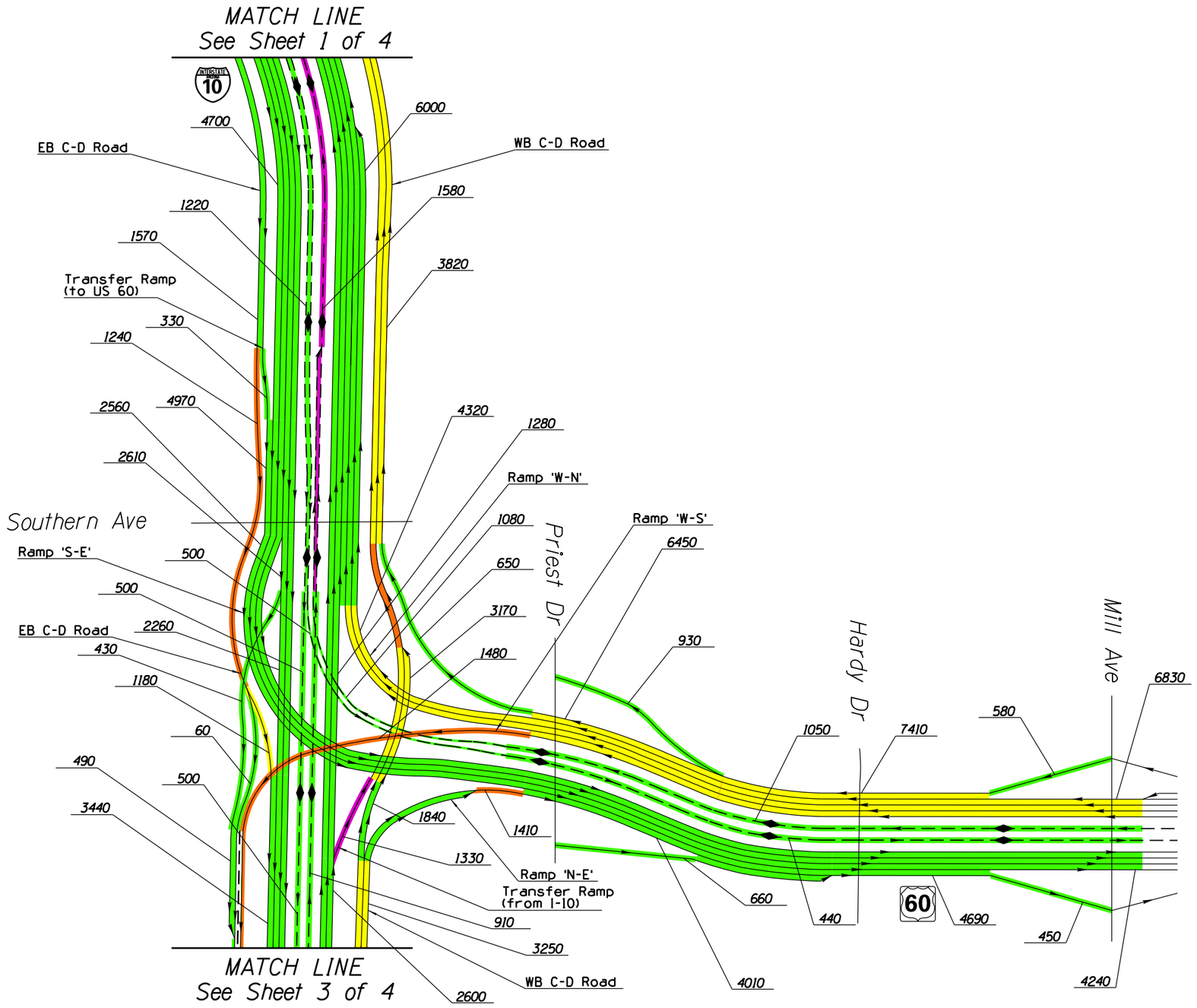
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 RECOMMENDED BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

U:\I10-02\Spot1\Design\tra\Build\Figures\2020 Figures\RecommendedAlt\Rec Alt AM LOS 2.dgn
7/27/2015

NOTES:

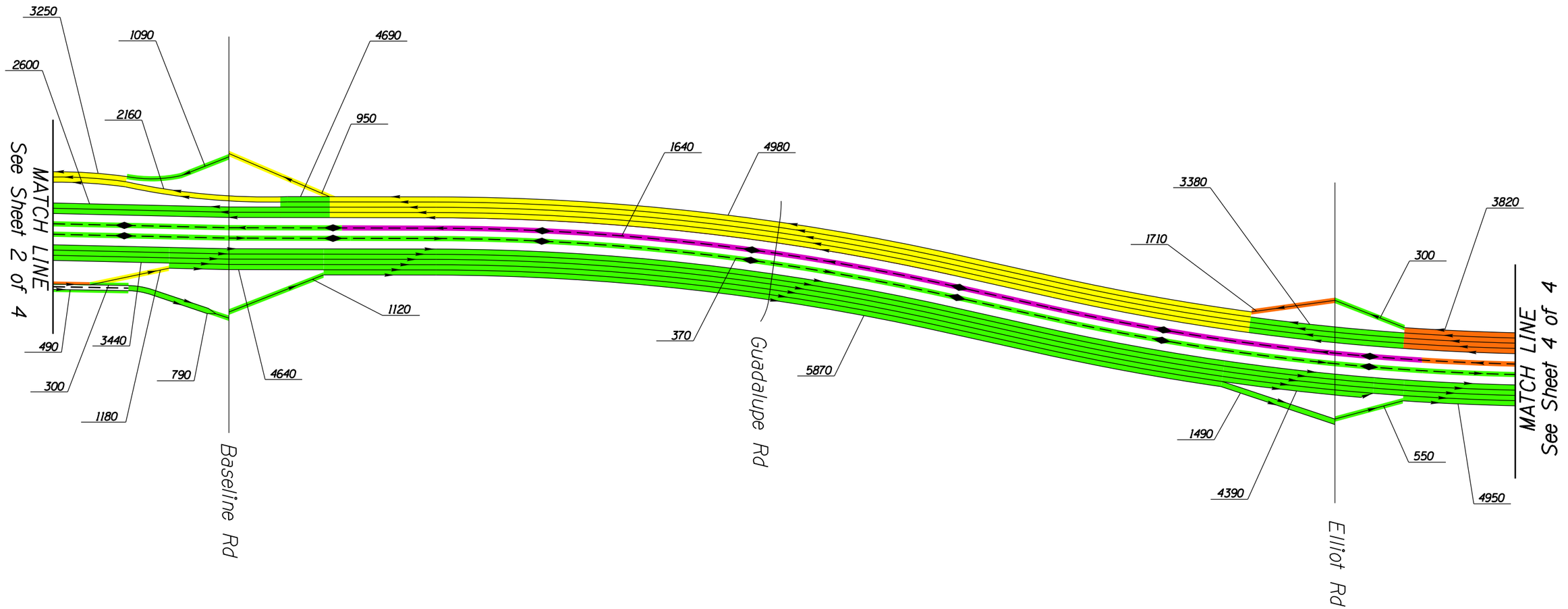
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 RECOMMENDED BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

U:\I10-02\Spot\Design\tre\Build\Figures\2020 Figures\RecommendedAlt\Rec Alt AM LOS 3.dgn
7/27/2015

NOTES:

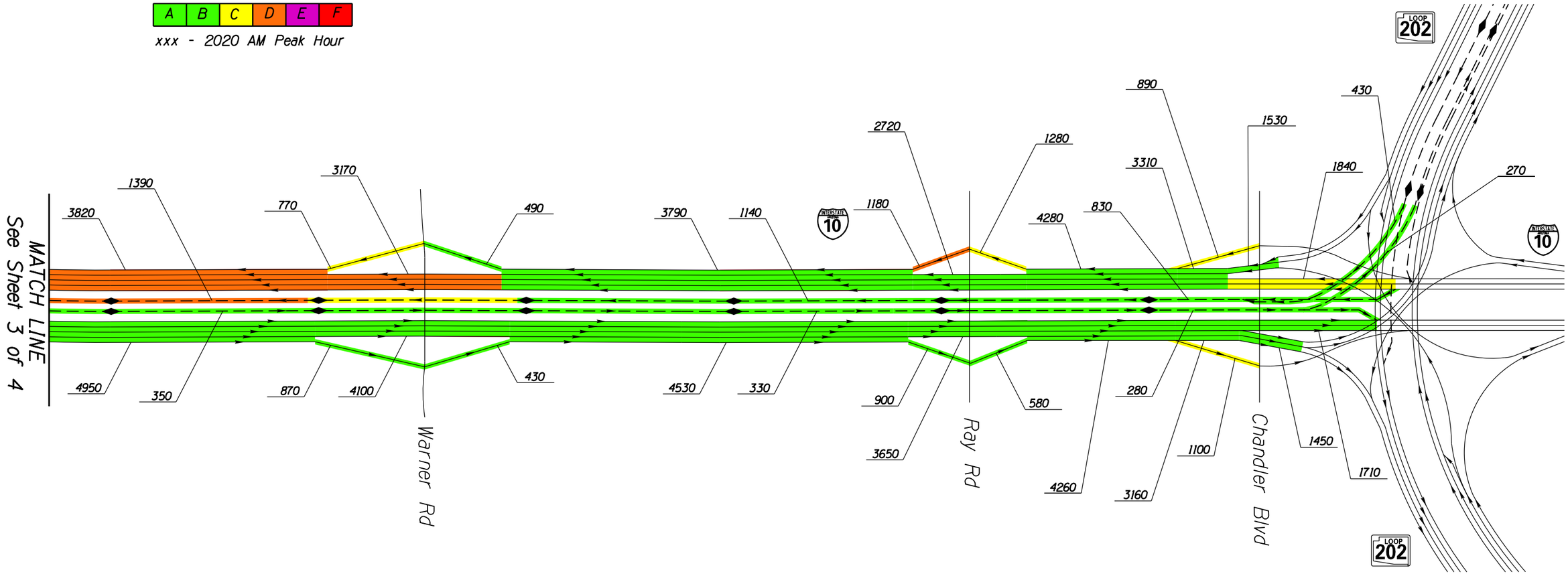
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 RECOMMENDED BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

7/27/2015 U:\I10-02\Spot1\Design\tra\Build\Figures\2020 Figures\RecommendedAlt\Rec Alt AM LOS 4.dgn

NOTES:

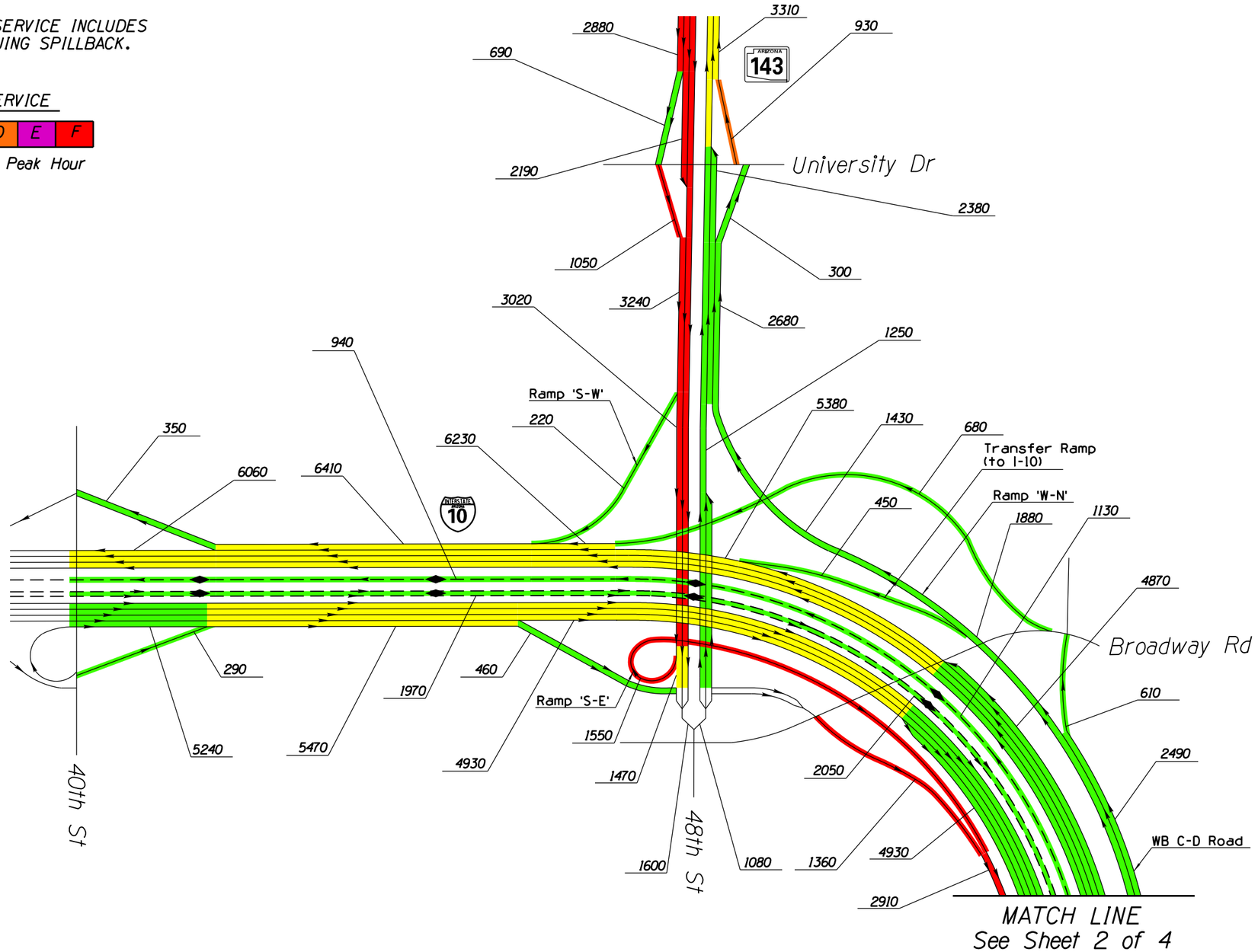
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 RECOMMENDED BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

7/27/2015 U:\I10-02\Spot1\Design\tra\Build\Figures\2020 Figures\RecommendedAlt\Rec Alt PM LOS 1.dgn

NOTES:

- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

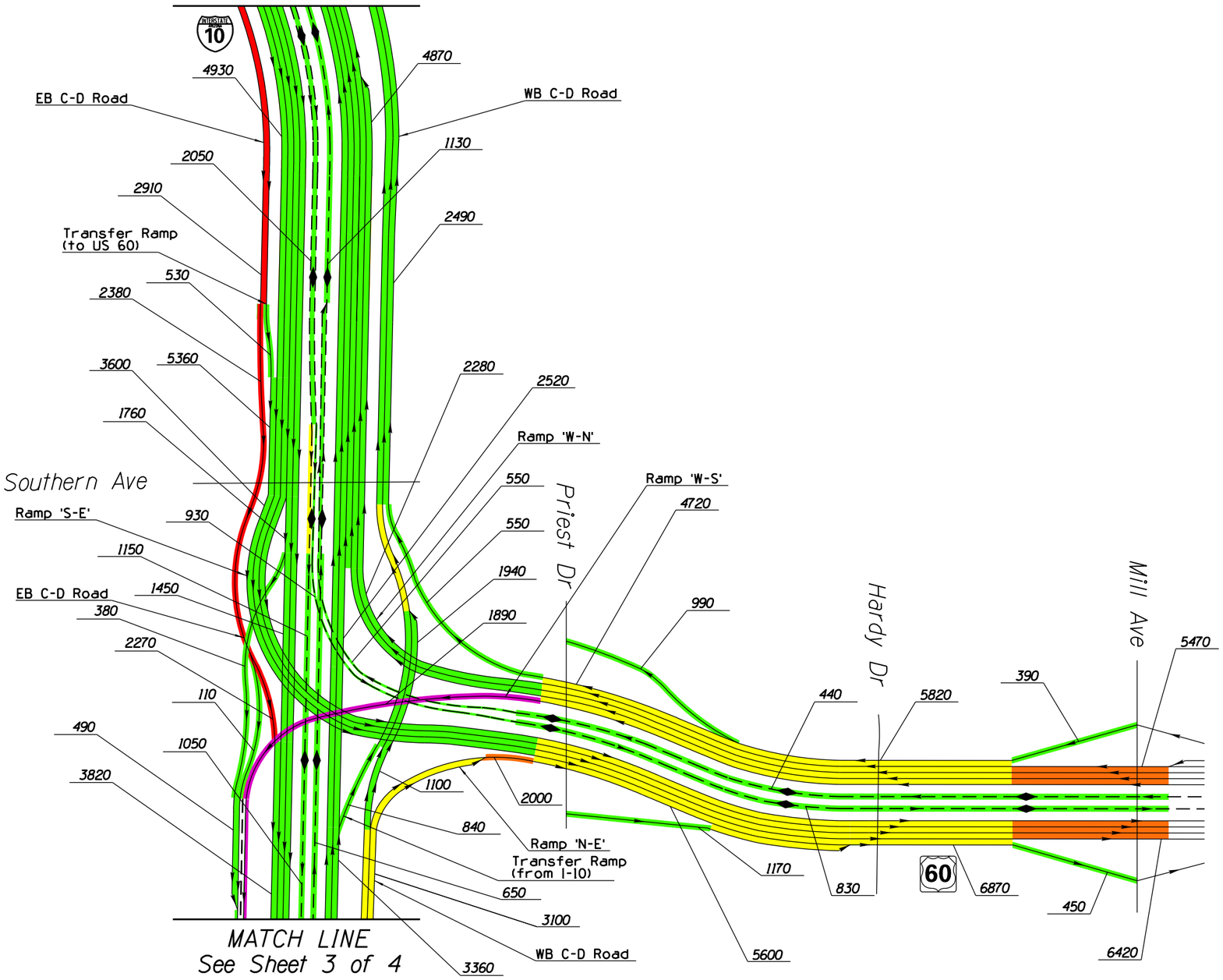
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 PM Peak Hour

MATCH LINE
See Sheet 1 of 4



MATCH LINE
See Sheet 3 of 4

N

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 RECOMMENDED BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

7/27/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2020 Figures\RecommendedAlt\Rec Alt PM LOS 2.dgn

NOTES:

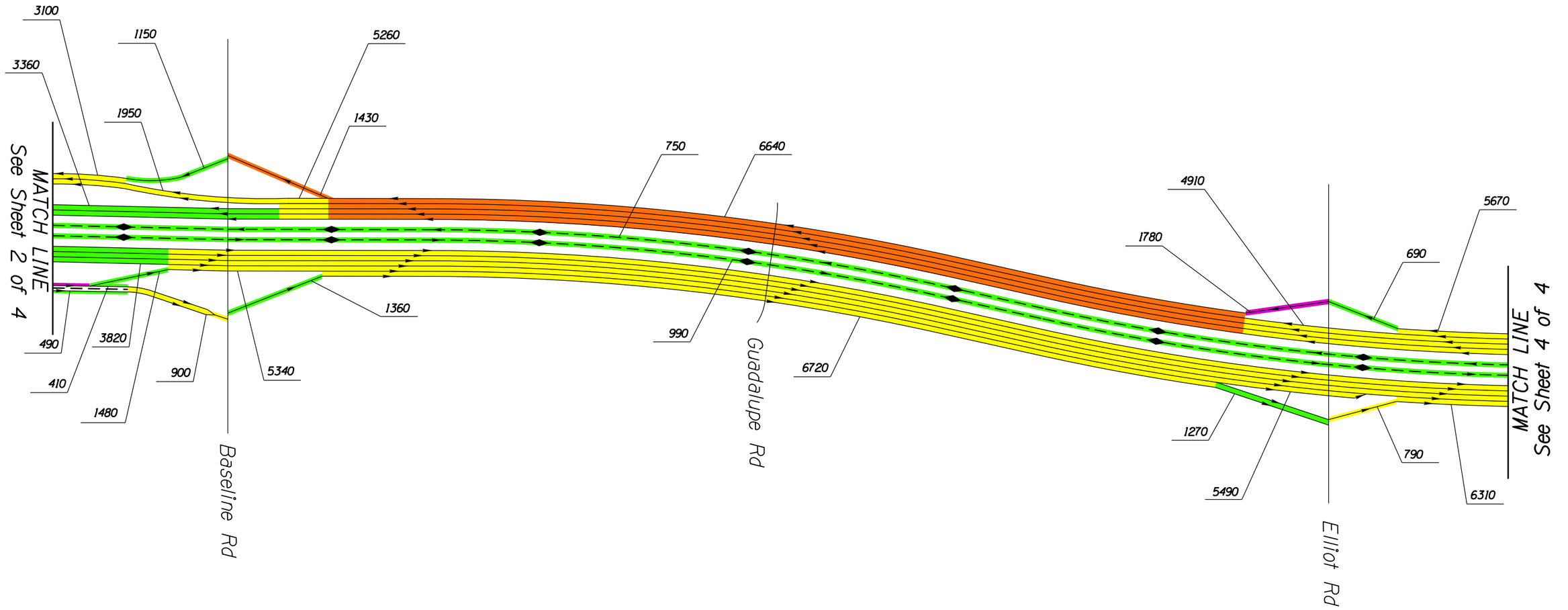
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 RECOMMENDED BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

U:\I10-02\Spot\Design\tre\Build\Figures\2020 Figures\RecommendedAlt\Rec Alt PM LOS 3.dgn
7/27/2015

NOTES:

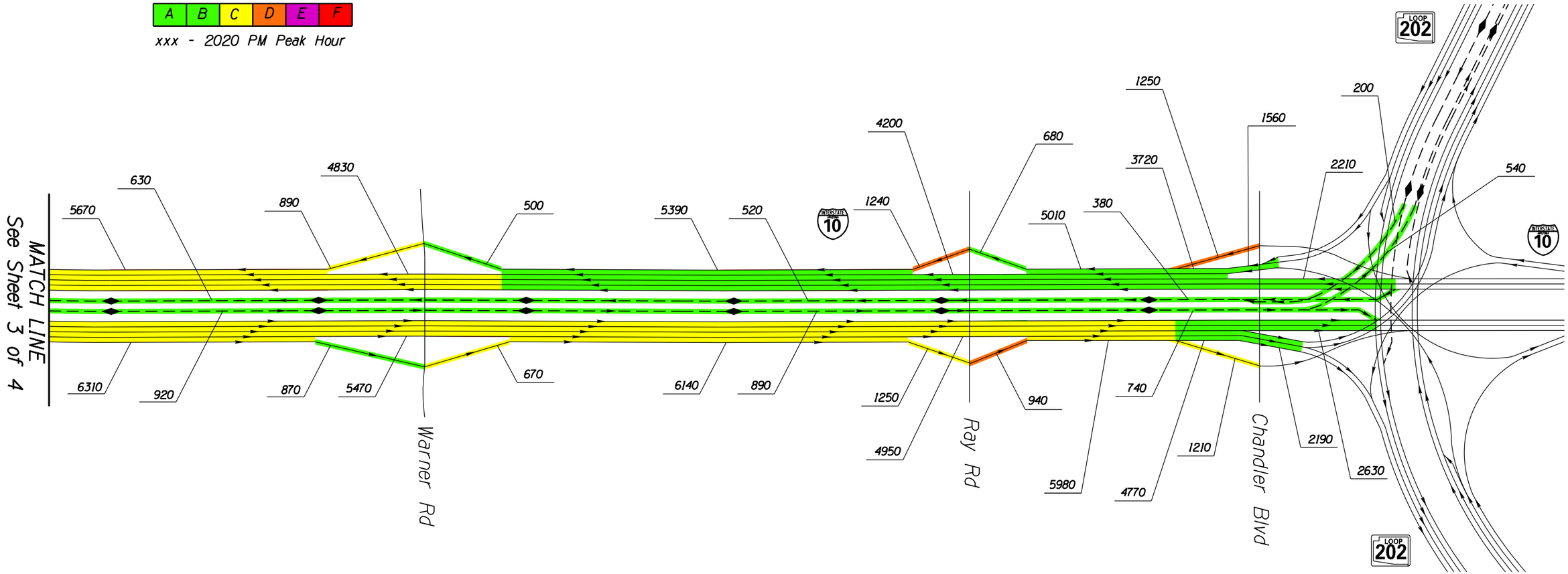
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2020 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2020 RECOMMENDED BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

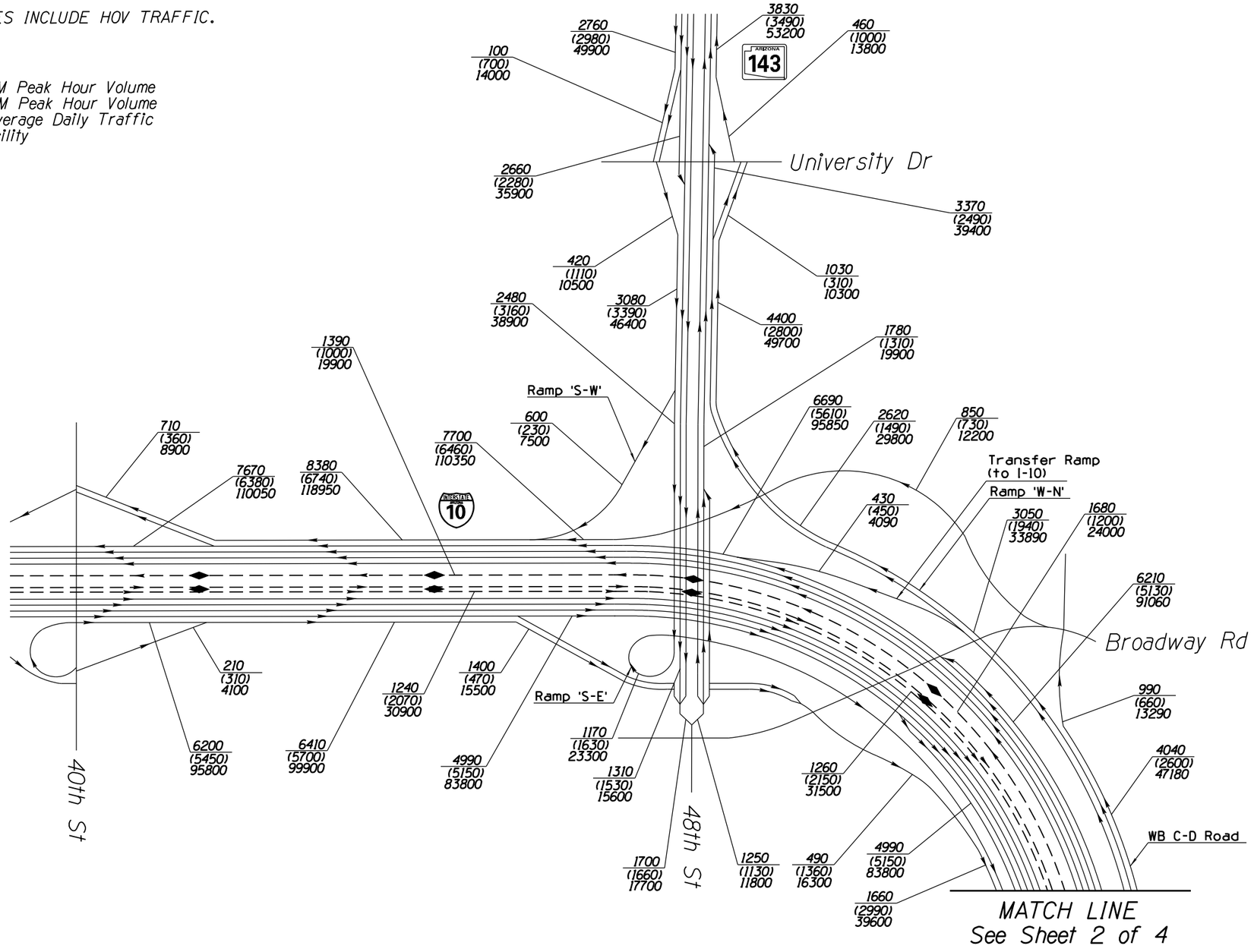
7/27/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2020 Figures\RecommendedAlt\Rec Alt PM LOS 4.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2025 AM Peak Hour Volume
(xxx) - 2025 PM Peak Hour Volume
xxxx - 2025 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 RECOMMENDED BUILD ALTERNATIVE
VOLUMES & LANE CONFIGURATION
SHEET 1 OF 4

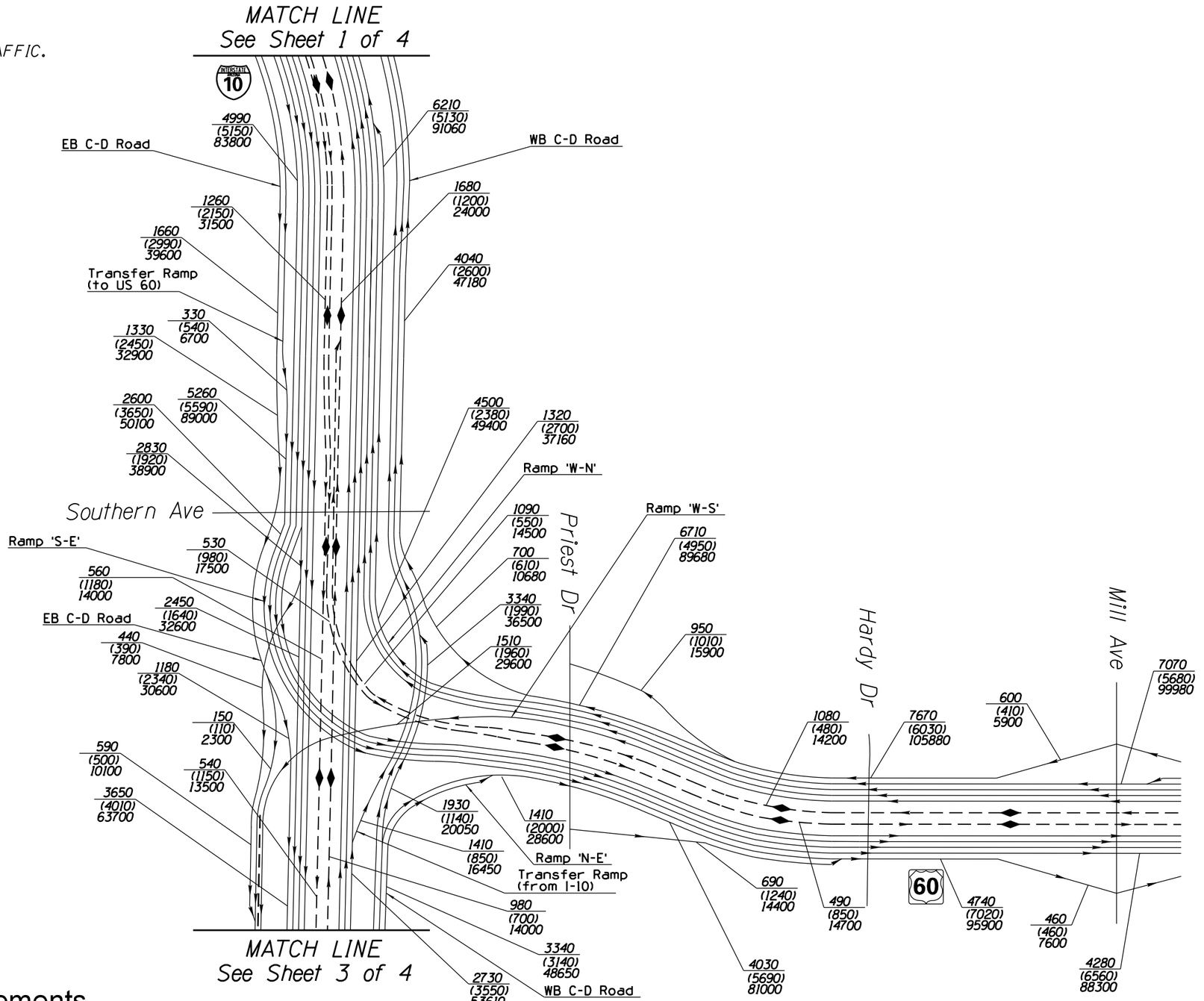
U:\I10-02\Spot\Design\tre\Build\Figures\2025 Figures\RecommendedAlt\Rec_Alt_build volume 1.dgn
7/27/2015

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2025 AM Peak Hour Volume
(xxx) - 2025 PM Peak Hour Volume
xxxx - 2025 Average Daily Traffic
◆— - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

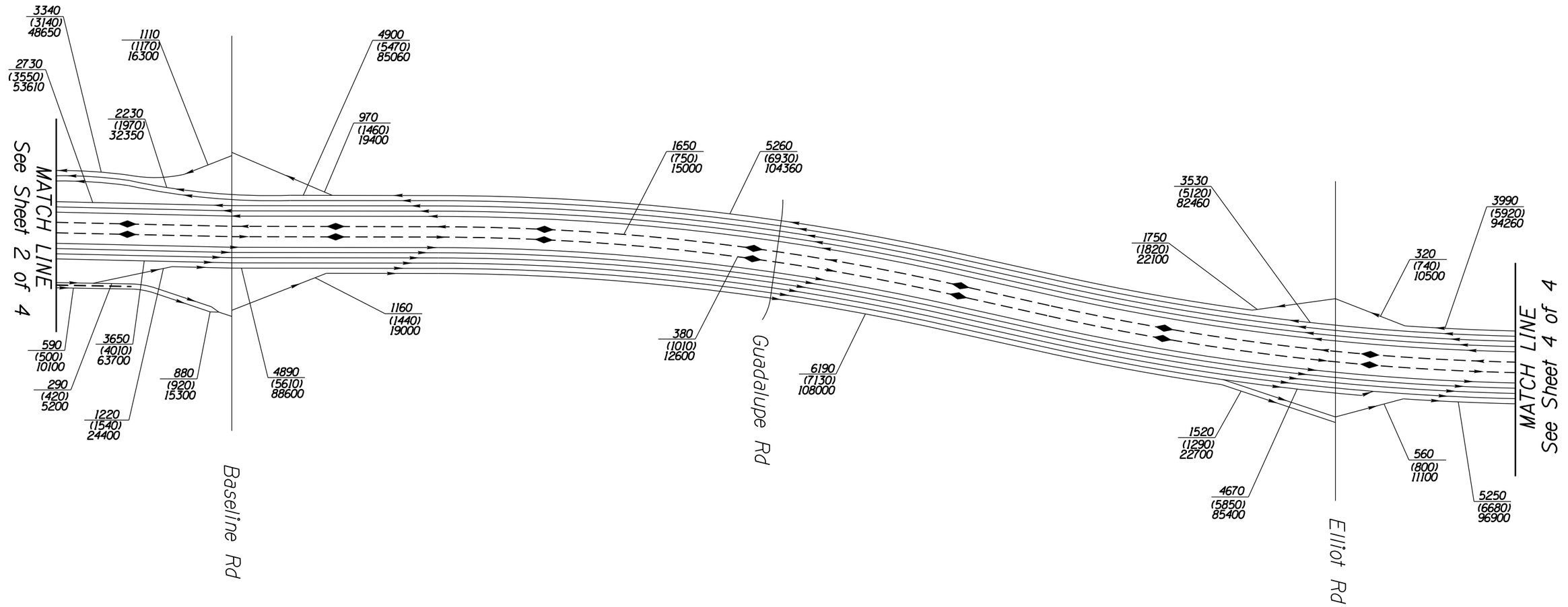
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 RECOMMENDED BUILD ALTERNATIVE VOLUMES & LANE CONFIGURATION
SHEET 2 OF 4

7/27/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2025 Figures\RecommendedAlt\Rec_Alt_build volume 2.dgn

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2025 AM Peak Hour Volume
(xxx) - 2025 PM Peak Hour Volume
xxxx - 2025 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 RECOMMENDED BUILD ALTERNATIVE
VOLUMES & LANE CONFIGURATION
SHEET 3 OF 4

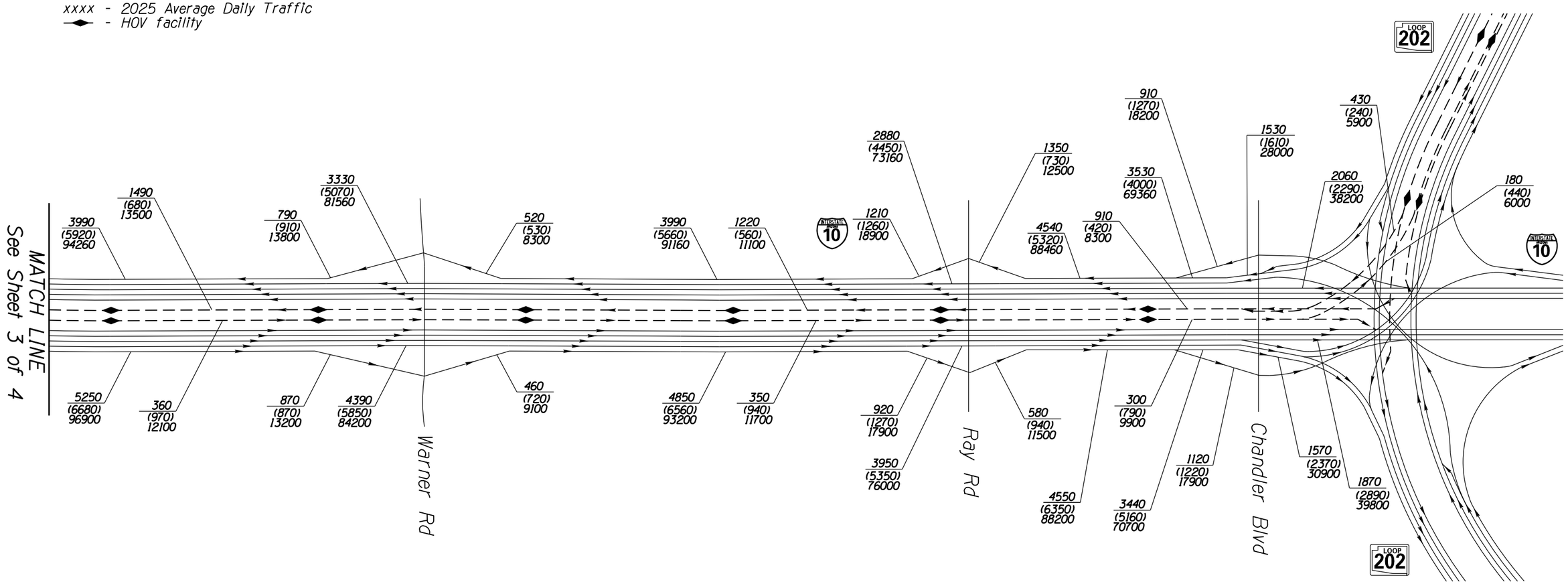
7/27/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2025 Figures\RecommendedAlt\Rec_Alt_build volume 3.dgn

NOTES:

- *RAMP VOLUMES INCLUDE HOV TRAFFIC.*

LEGEND

xxx - 2025 AM Peak Hour Volume
(xxx) - 2025 PM Peak Hour Volume
xxxx - 2025 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 RECOMMENDED BUILD ALTERNATIVE
VOLUMES & LANE CONFIGURATION
SHEET 4 OF 4

7/27/2015 U:\I10-02\Spot\Design\tre\Build\Figures\2025 Figures\RecommendedAlt\Rec_Alt_build volume 4.dgn

NOTES:

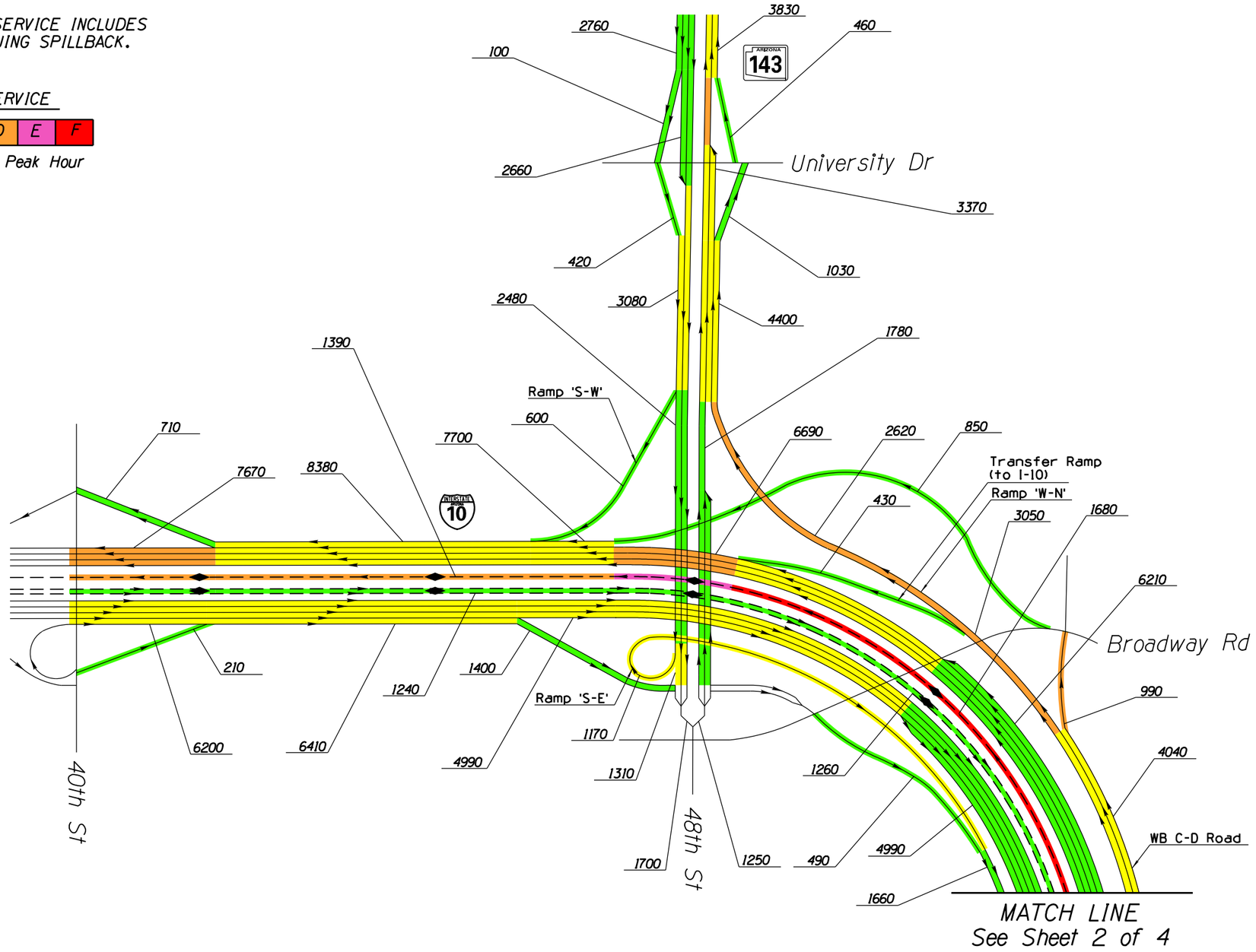
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 RECOMMENDED BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

U:\110-02\Spot\Design\tra\Build\Figures\2025 Figures\RecommendedAlt\Rec Alt AM LOS 1.dgn
7/27/2015

NOTES:

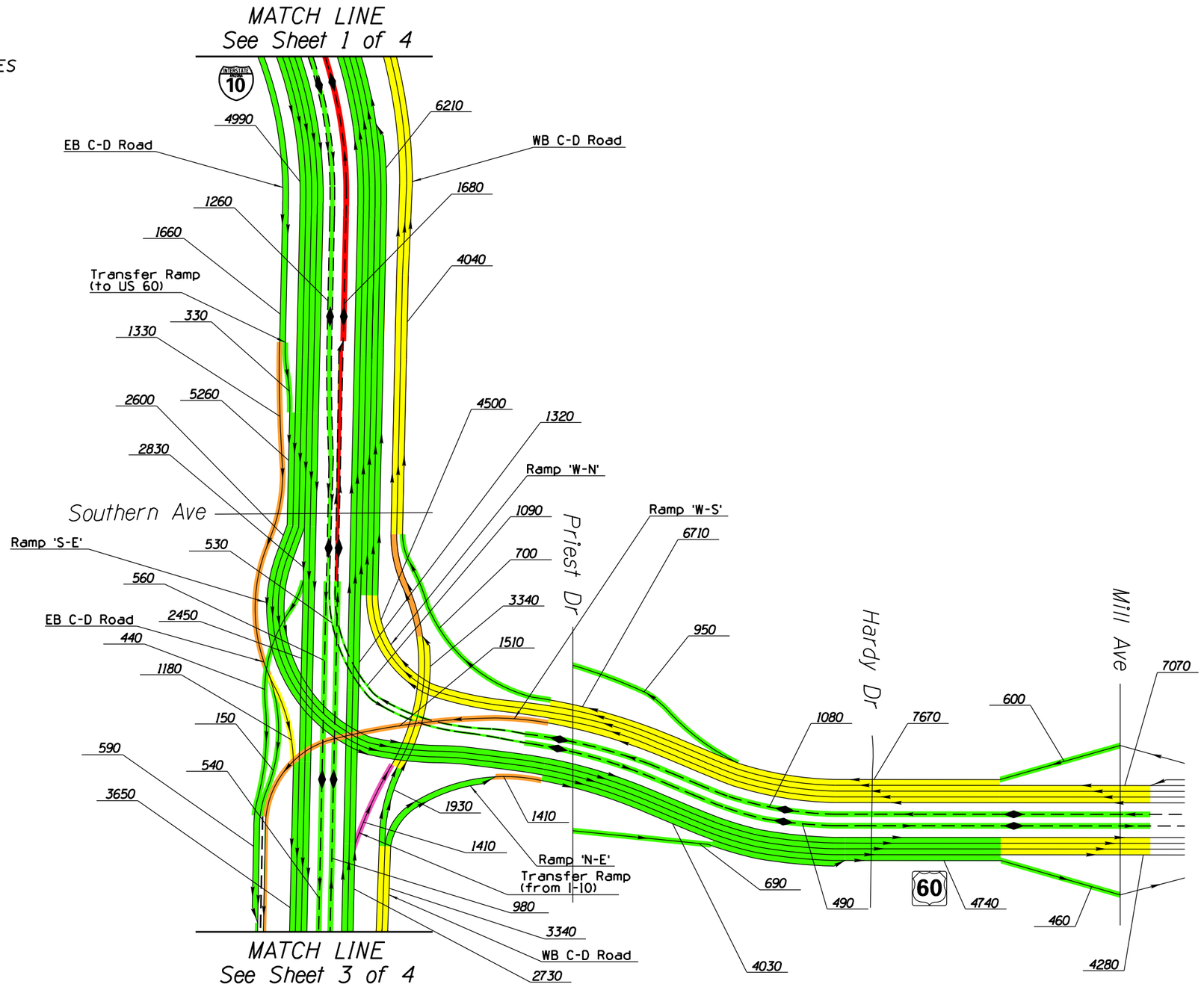
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 AM Peak Hour



N

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 RECOMMENDED BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

U:\I10-02\Spot1\Design\tra\Build\Figures\2025 Figures\RecommendedAlt\Rec Alt AM LOS 2.dgn
7/27/2015

NOTES:

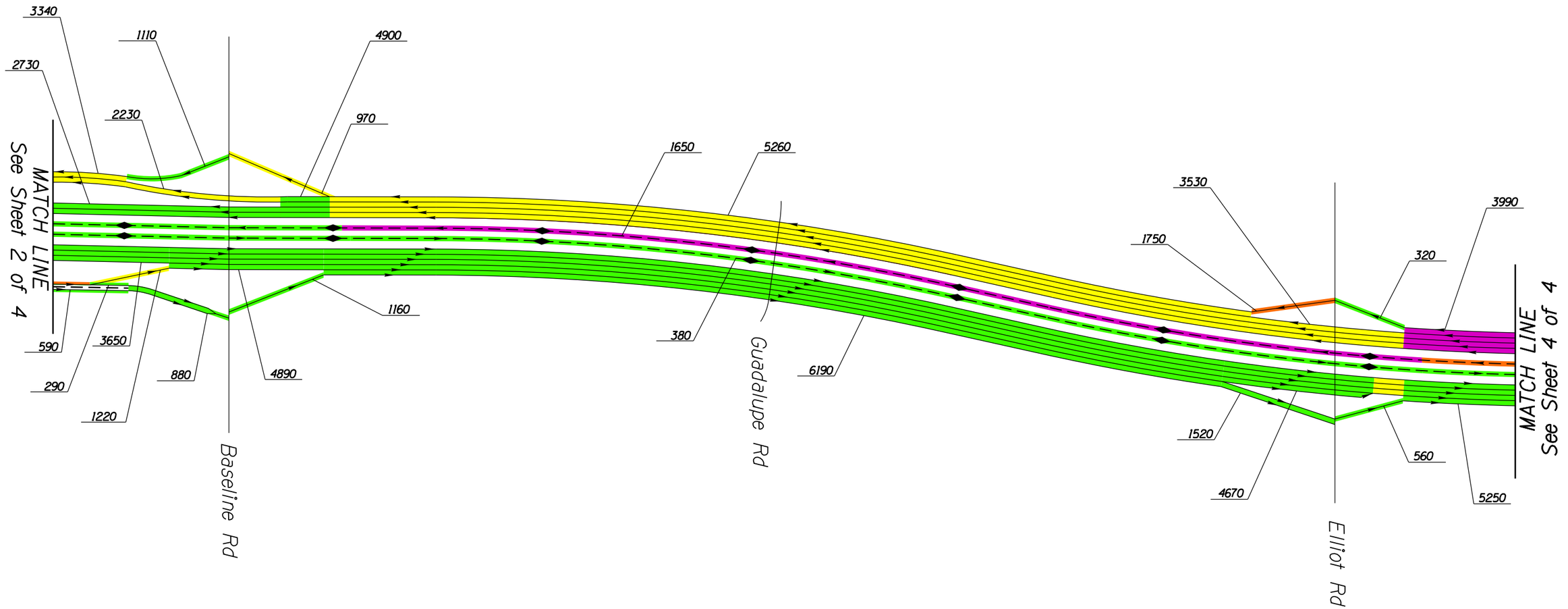
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 RECOMMENDED BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

7/27/2015 U:\I10-02\Spot\Design\tre\Build\Figures\2025 Figures\RecommendedAlt\Rec Alt AM LOS 3.dgn

NOTES:

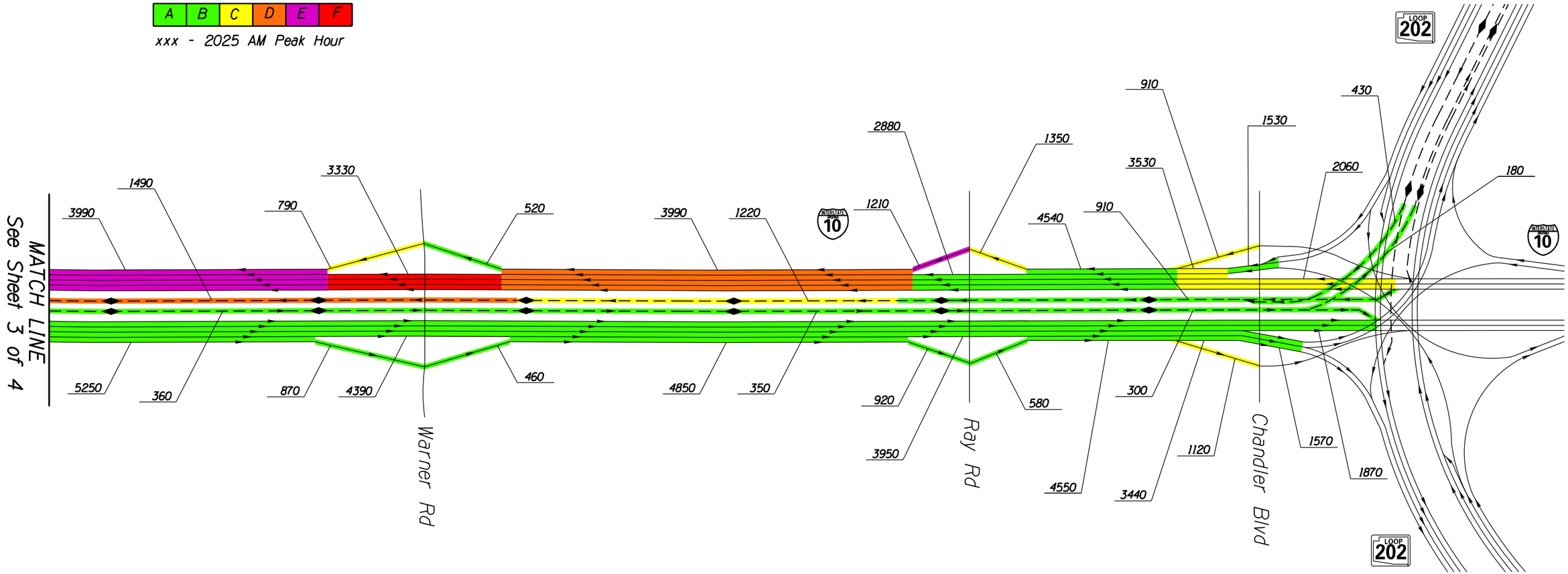
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 RECOMMENDED BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

U:\I10-02\Spot1\Design\tra\Build\Figures\2025 Figures\RecommendedAlt\Rec Alt AM LOS 4.dgn
7/27/2015

NOTES:

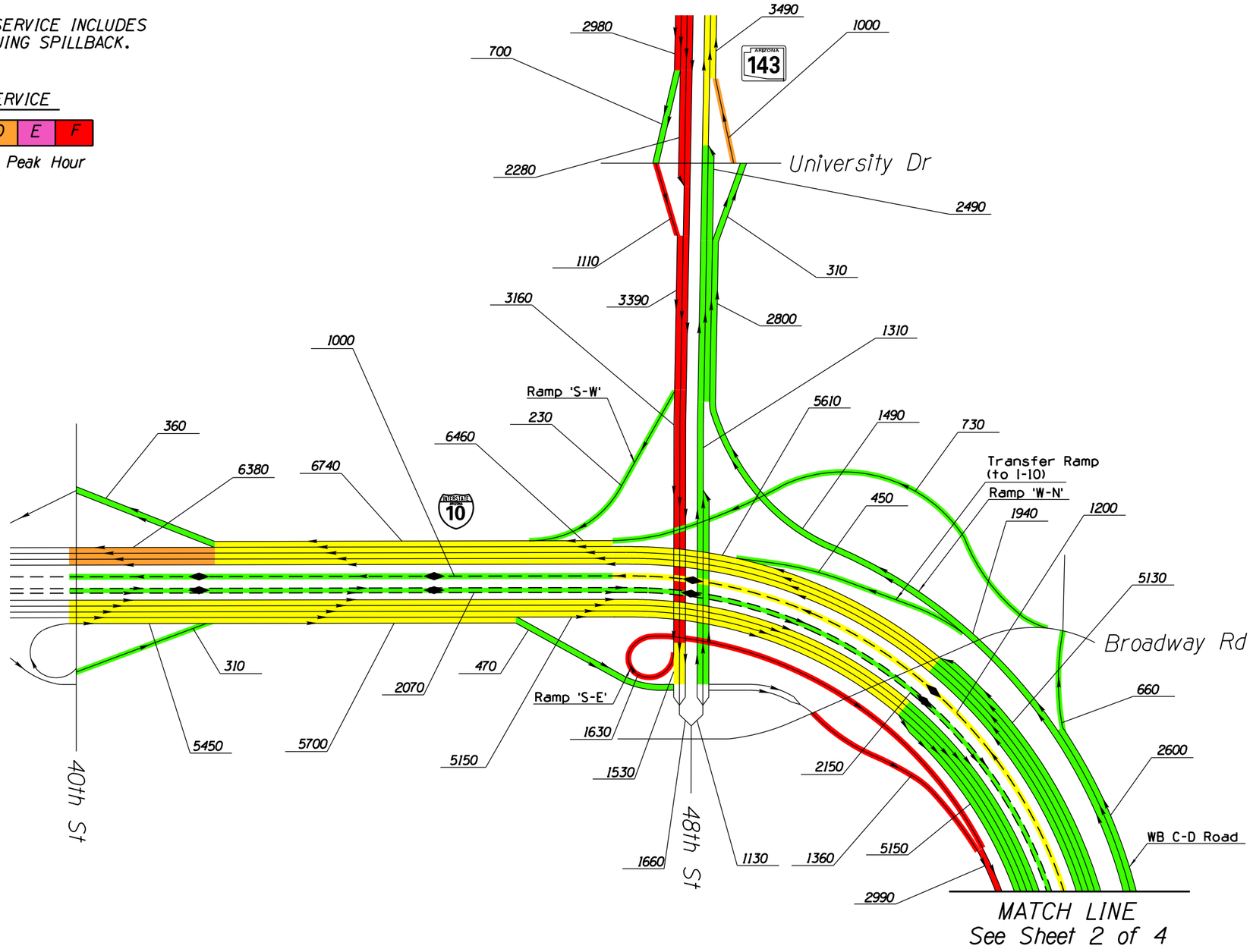
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

2025 RECOMMENDED BUILD ALTERNATIVE PM VOLUMES & LEVEL OF SERVICE

SHEET 1 OF 4

U:\110-02\Spot\Design\tra\Build\Figures\2025 Figures\RecommendedAlt\Rec Alt PM LOS 1.dgn
7/27/2015

NOTES:

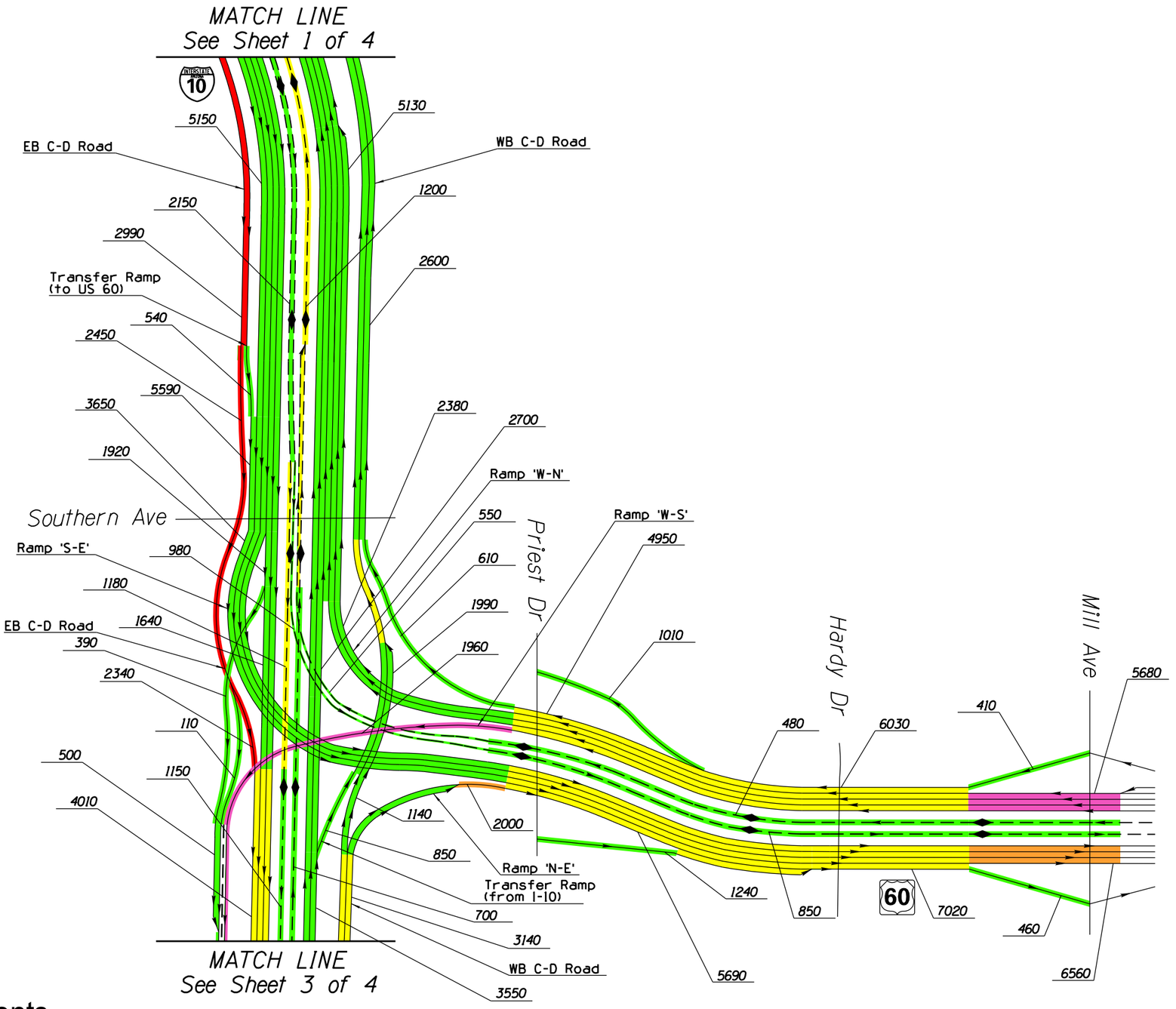
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 PM Peak Hour



N

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 RECOMMENDED BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

7/27/2015 U:\I10-02\Spot\Design\tre\Build\Figures\2025 Figures\RecommendedAlt\Rec Alt PM LOS 2.dgn

NOTES:

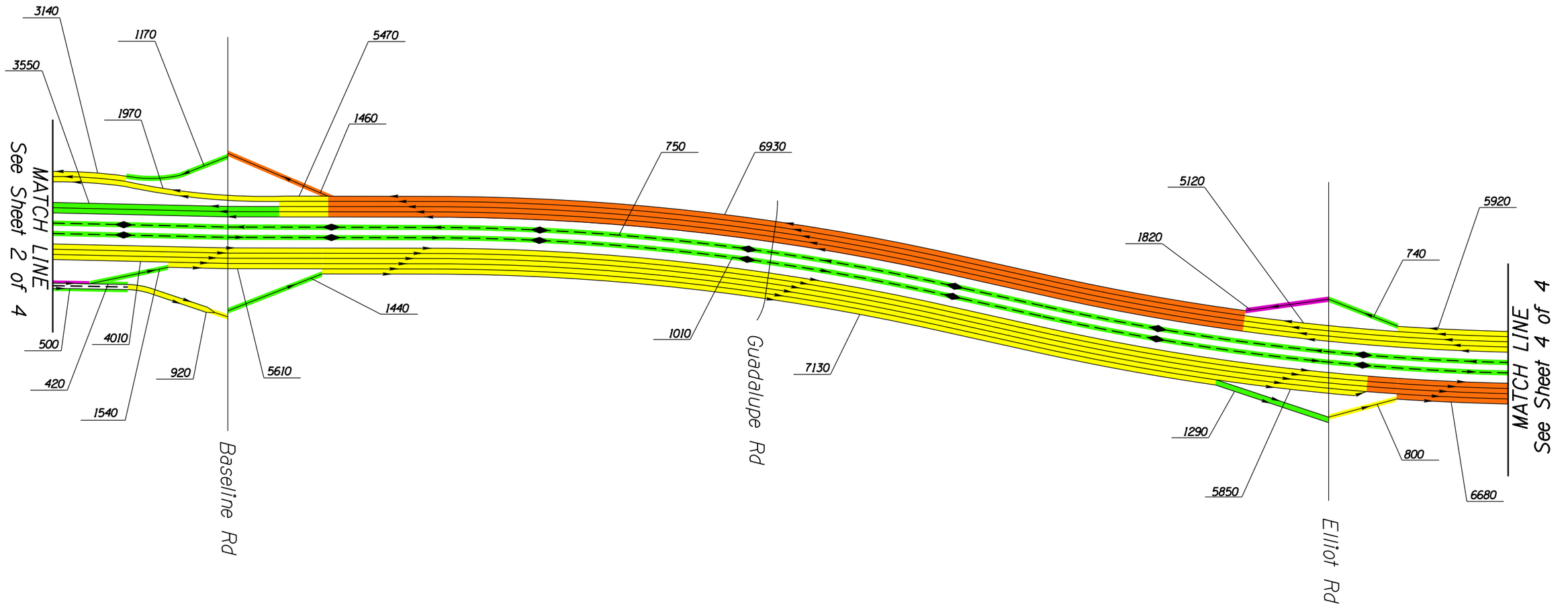
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 RECOMMENDED BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

U:\I10-02\Spot\Design\tre\Build\Figures\2025 Figures\RecommendedAlt\Rec Alt PM LOS 3.dgn
7/27/2015

NOTES:

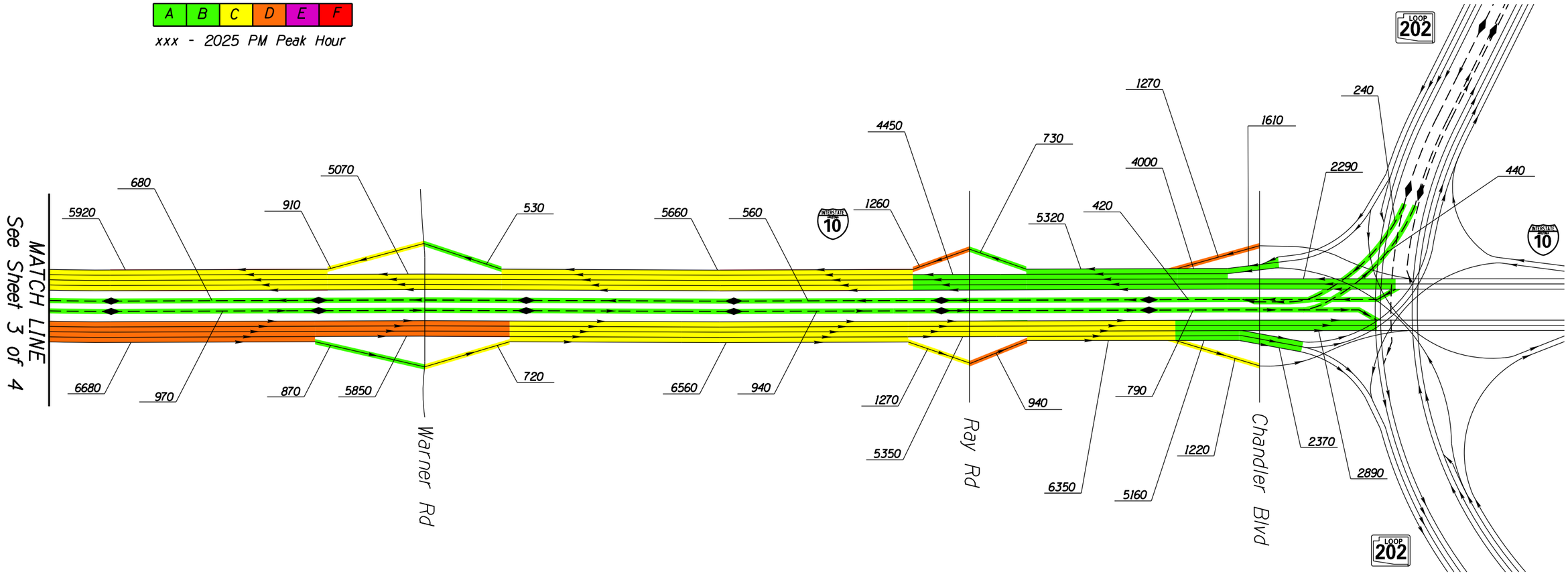
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2025 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2025 RECOMMENDED BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

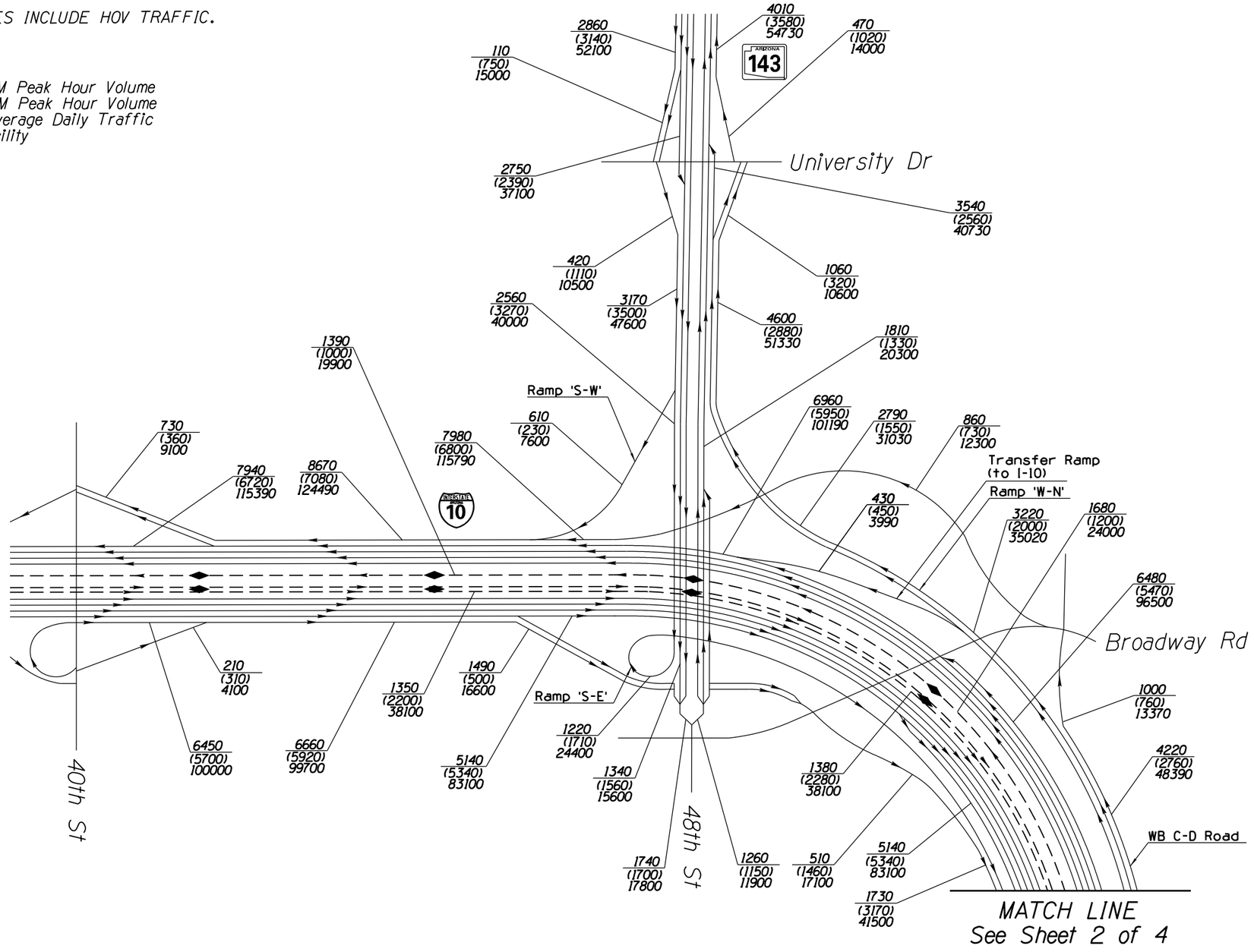
U:\I10-02\Spot\Design\traBuild\Figures\2025 Figures\RecommendedAlt\Rec Alt PM LOS 4.dgn
7/27/2015

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2030 AM Peak Hour Volume
(xxx) - 2030 PM Peak Hour Volume
xxxx - 2030 Average Daily Traffic
— - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 RECOMMENDED BUILD ALTERNATIVE
VOLUMES & LANE CONFIGURATION
SHEET 1 OF 4

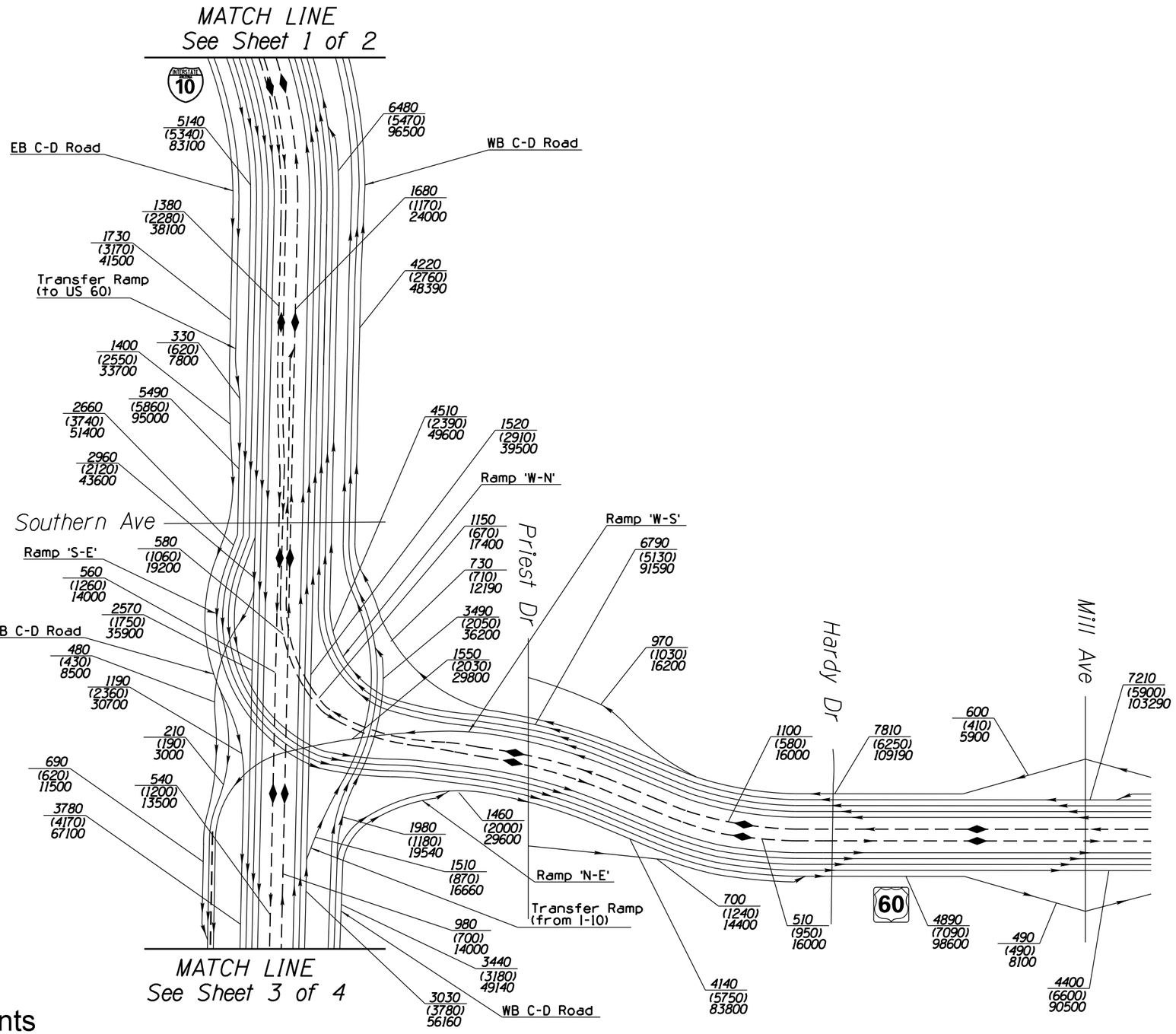
7/27/2015 U:\110-02\Spot\Design\tre\Build\Figures\2030 Figures\RecommendedAlt\Rec_Alt_build volume 1.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2030 AM Peak Hour Volume
(xxx) - 2030 PM Peak Hour Volume
xxxx - 2030 Average Daily Traffic
◆—◆ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

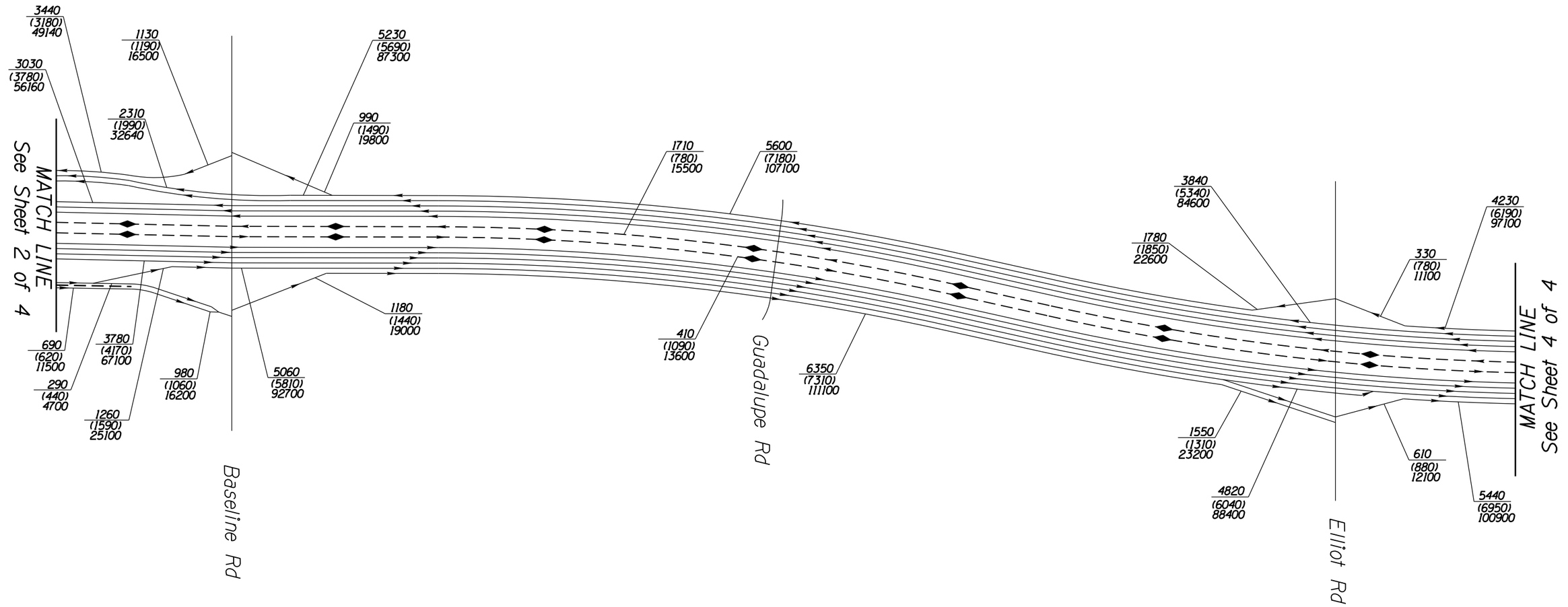
NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 RECOMMENDED BUILD ALTERNATIVE
VOLUMES & LANE CONFIGURATION
SHEET 2 OF 4

7/27/2015 U:\110-02\Spot\Design\tre\Build\Figures\2030 Figures\RecommendedAlt\Rec_Alt_build volume 2.dgn

NOTES:
- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND
xxx - 2030 AM Peak Hour Volume
(xxx) - 2030 PM Peak Hour Volume
xxxx - 2030 Average Daily Traffic
- HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 RECOMMENDED BUILD ALTERNATIVE
VOLUMES & LANE CONFIGURATION
SHEET 3 OF 4

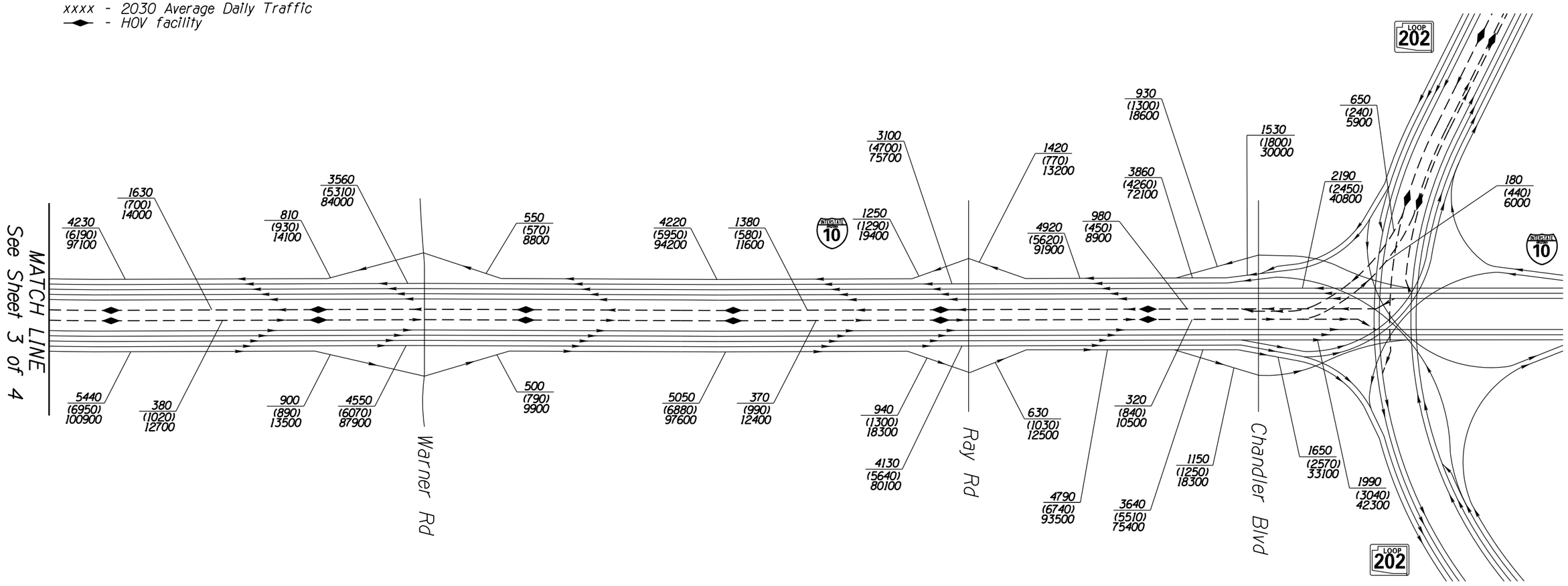
7/27/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2030 Figures\RecommendedAlt\Rec_Alt_build volume 3.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2030 AM Peak Hour Volume
(xxx) - 2030 PM Peak Hour Volume
xxxx - 2030 Average Daily Traffic
◆—◆ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 RECOMMENDED BUILD ALTERNATIVE
VOLUMES & LANE CONFIGURATION
SHEET 4 OF 4

7/27/2015 U:\110-02\Spot\Design\tre\Build\Figures\2030 Figures\RecommendedAlt\Rec_Alt_build volume 4.dgn

NOTES:

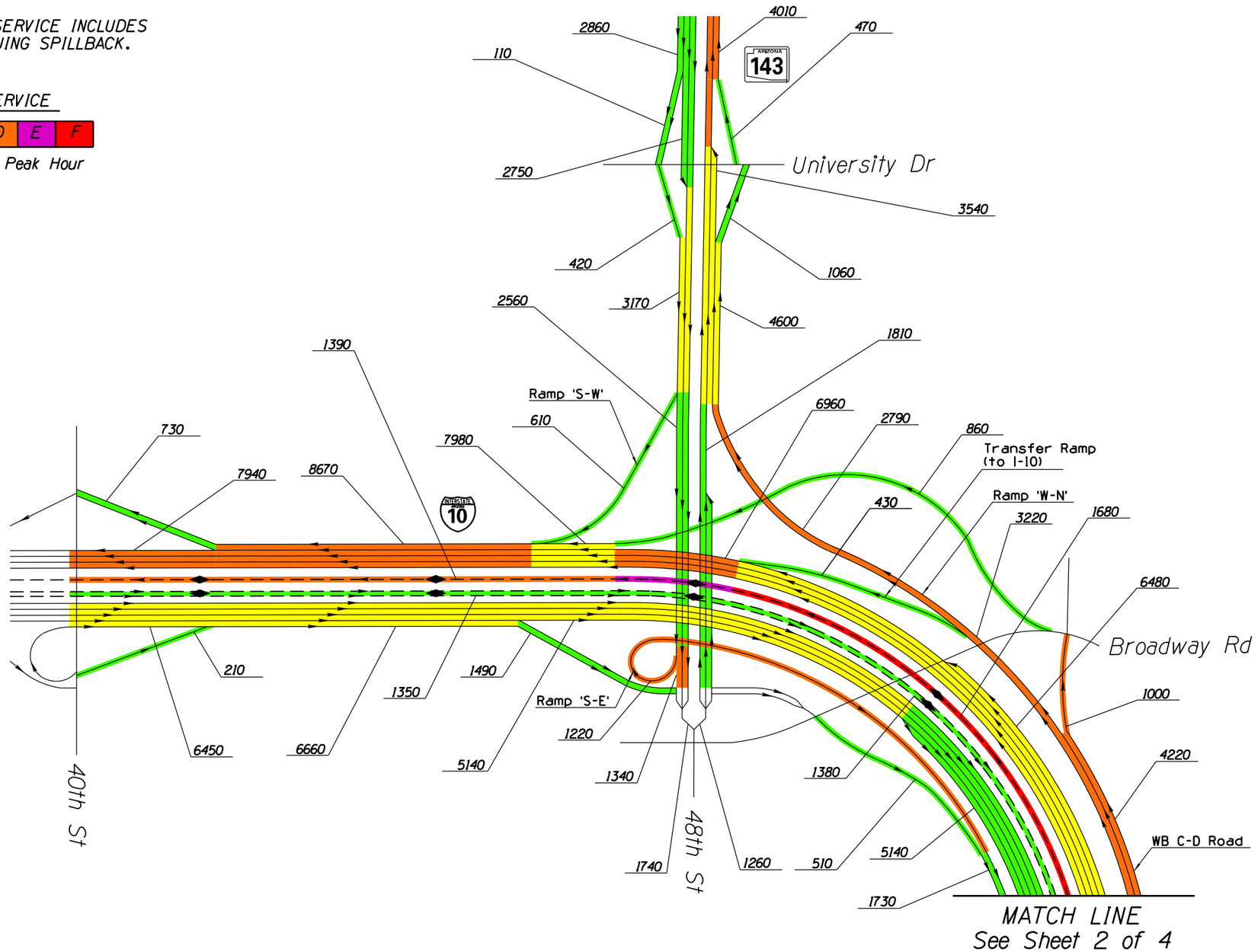
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 RECOMMENDED BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

7/27/2015 U:\I10-02\Spots\Design\tra\Build\Figures\2030 Figures\RecommendedAlt\Rec Alt AM LOS 1.dgn

NOTES:

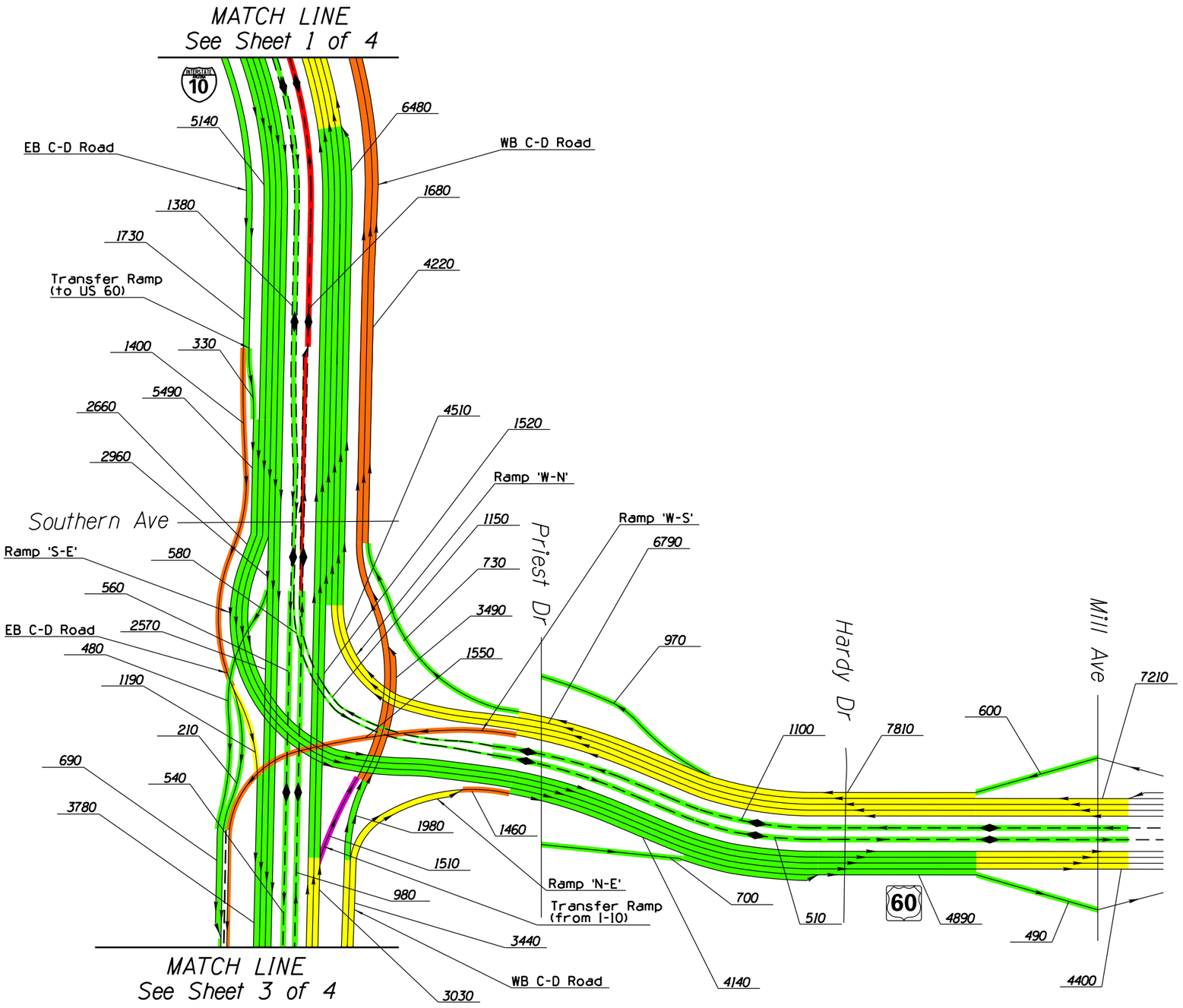
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 AM Peak Hour



N

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 RECOMMENDED BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

U:\110-02\Spot\Design\tre\Build\Figures\2030 Figures\RecommendedAlt\Rec Alt AM LOS 2.dgn
7/27/2015

NOTES:

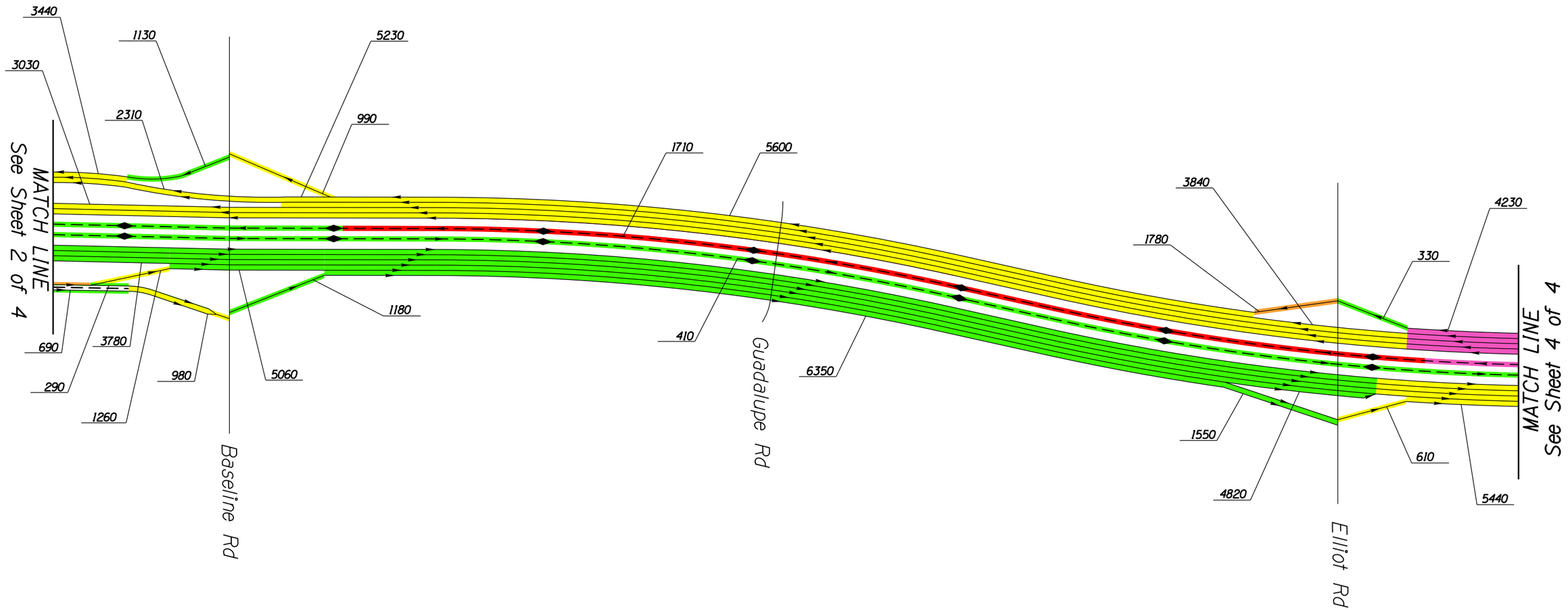
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 RECOMMENDED BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

7/27/2015 U:\I10-02\Spot\Design\tre\Build\Figures\2030 Figures\RecommendedAlt\Rec Alt AM LOS 3.dgn

NOTES:

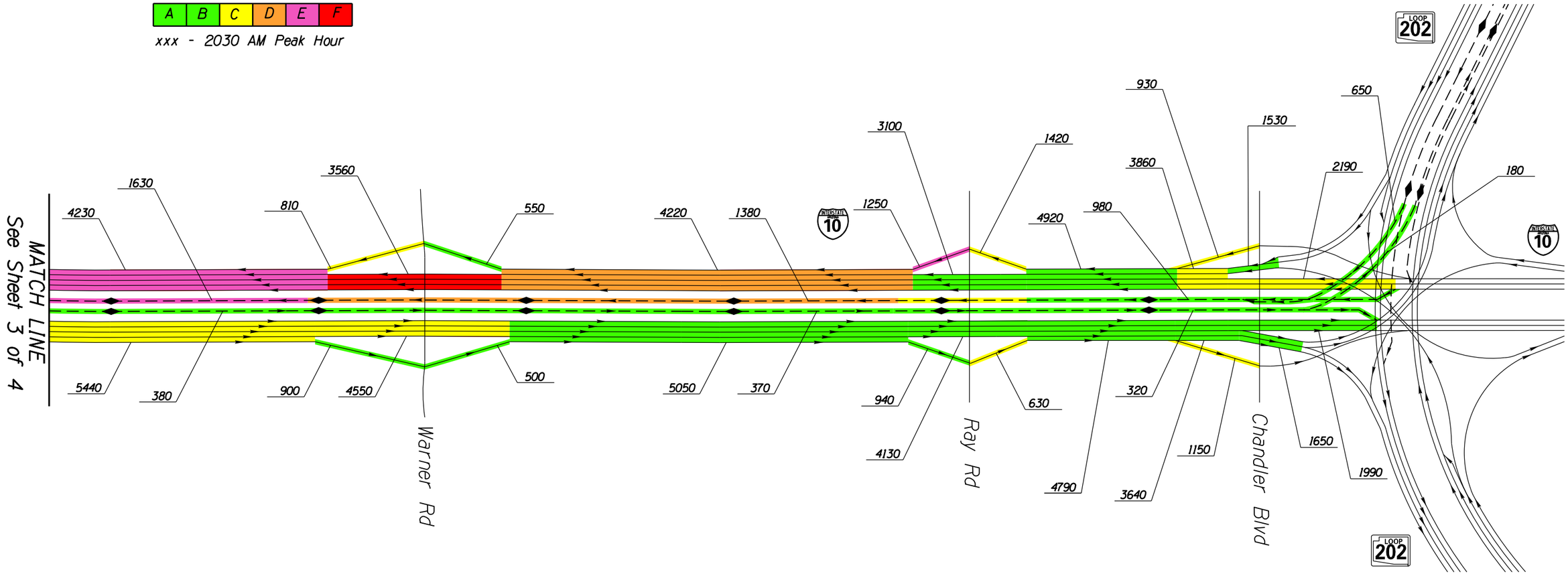
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 RECOMMENDED BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

U:\I10-02\Spot1\Design\tra\Build\Figures\2030 Figures\RecommendedAlt\Rec Alt AM LOS 4.dgn
7/27/2015

NOTES:

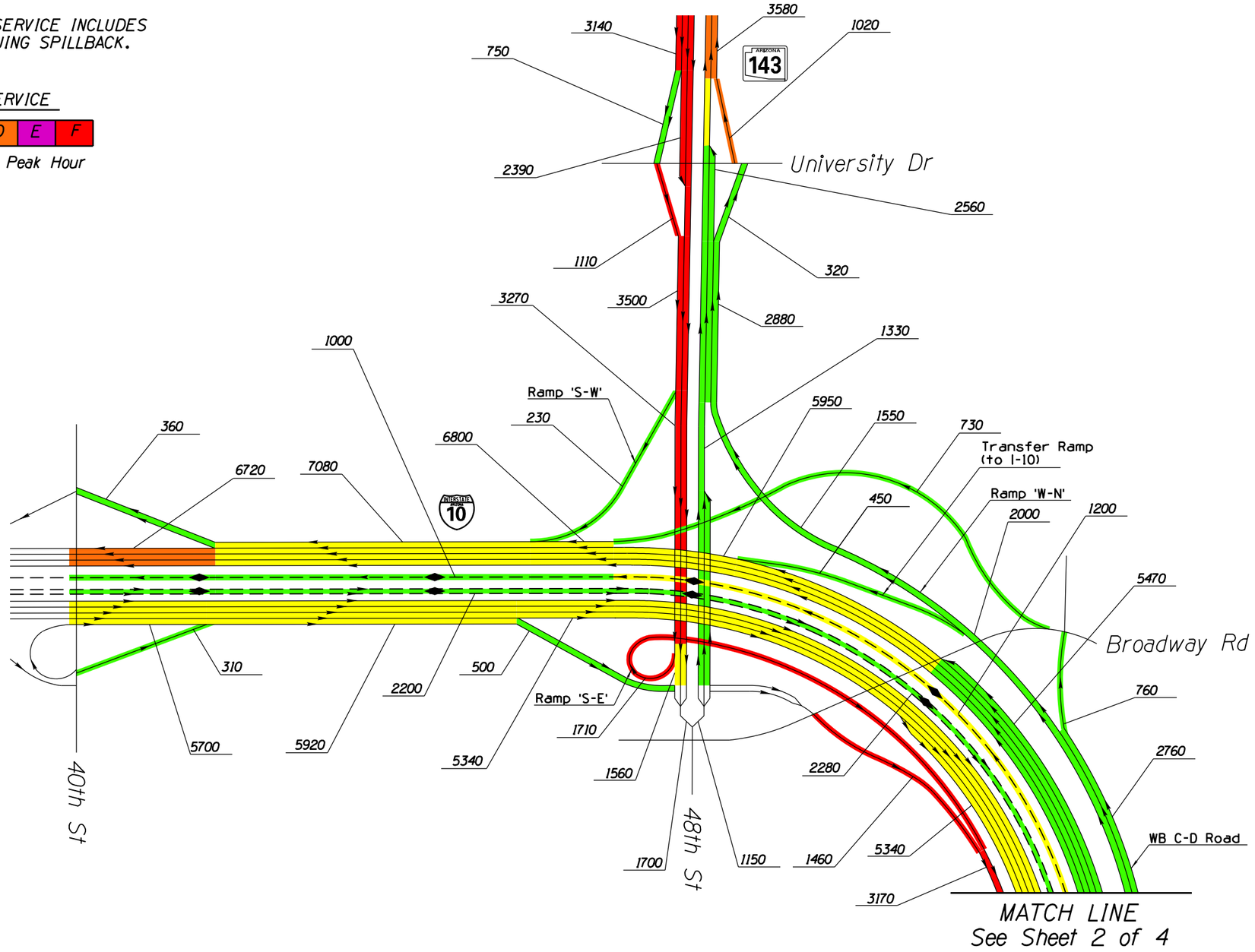
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 RECOMMENDED BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

U:\110-02\Spot\Design\tra\Build\Figures\2030 Figures\RecommendedAlt\Rec Alt PM LOS 1.dgn
7/27/2015

NOTES:

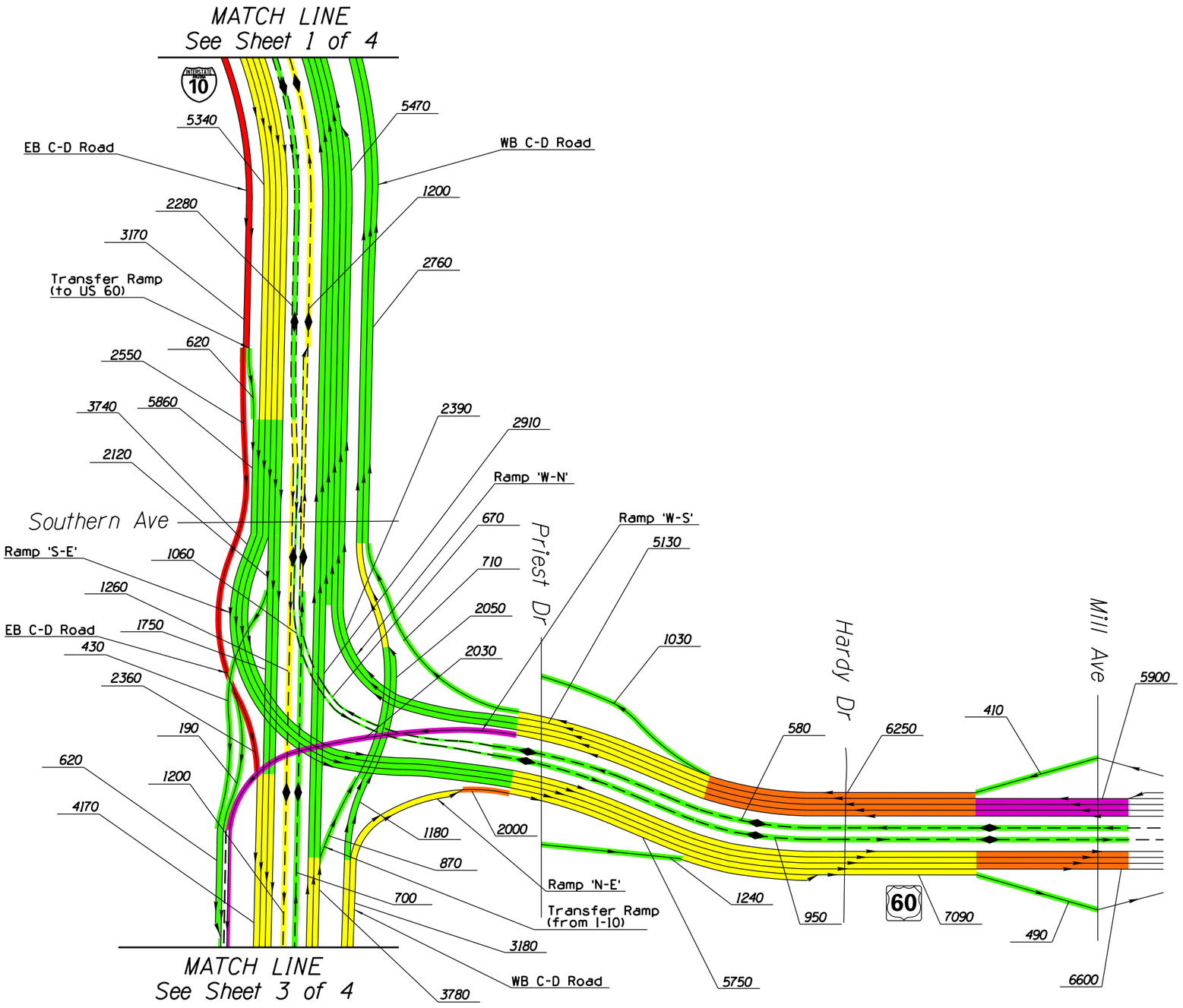
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 RECOMMENDED BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

7/27/2015 U:\I10-02(Spot)\Design\tre\Build\Figures\2030 Figures\RecommendedAlt\Rec Alt PM LOS 2.dgn

NOTES:

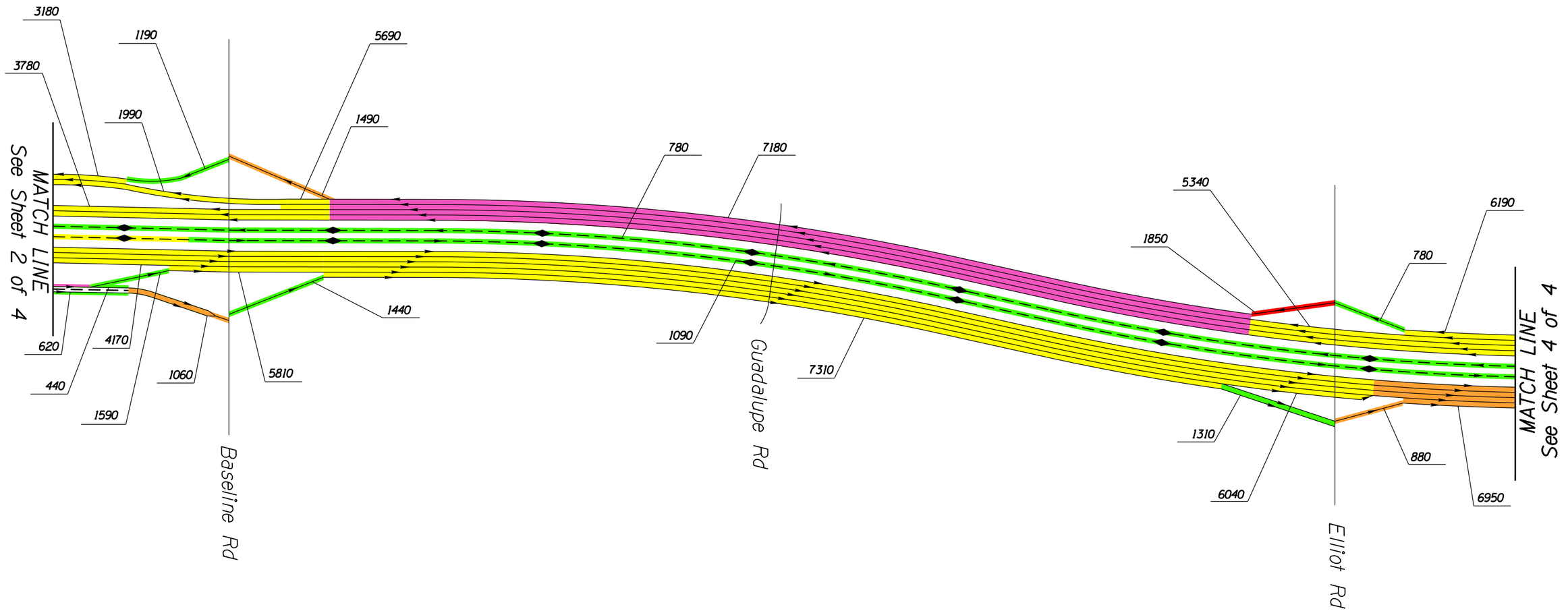
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 RECOMMENDED BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

7/27/2015 U:\I10-02\Spot\Design\tre\Build\Figures\2030 Figures\RecommendedAlt\Rec Alt PM LOS 3.dgn

NOTES:

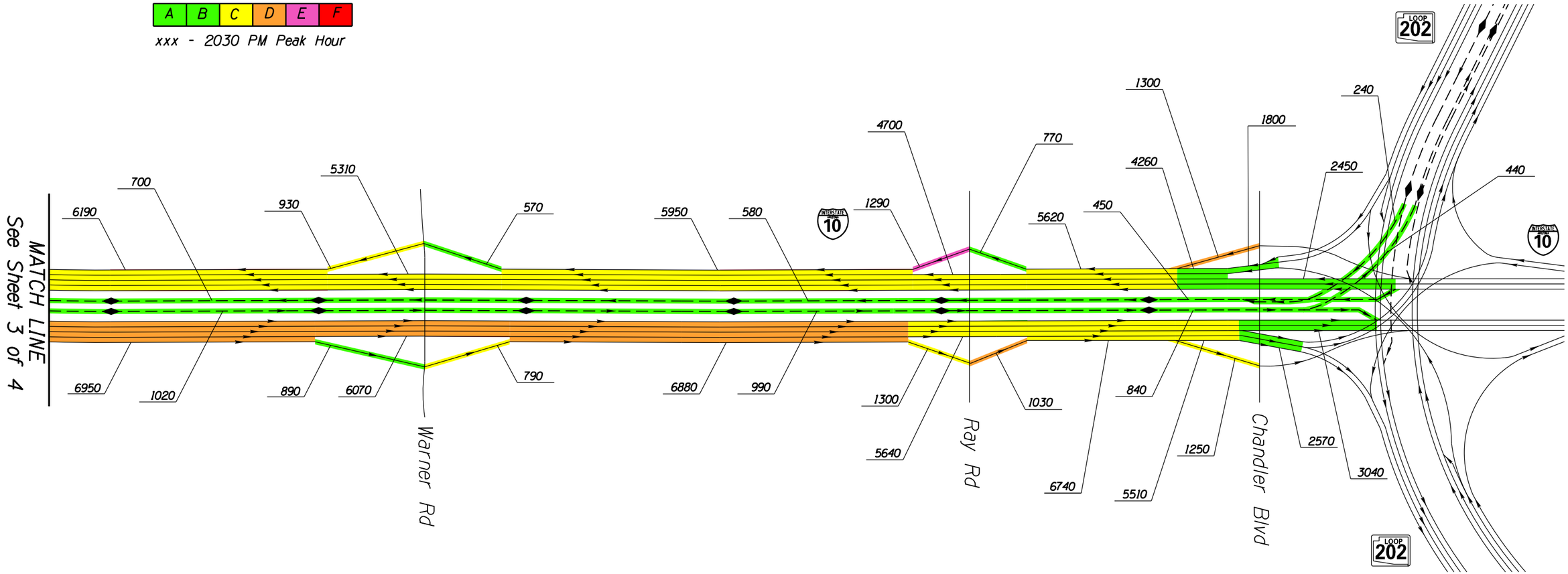
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2030 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2030 RECOMMENDED BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

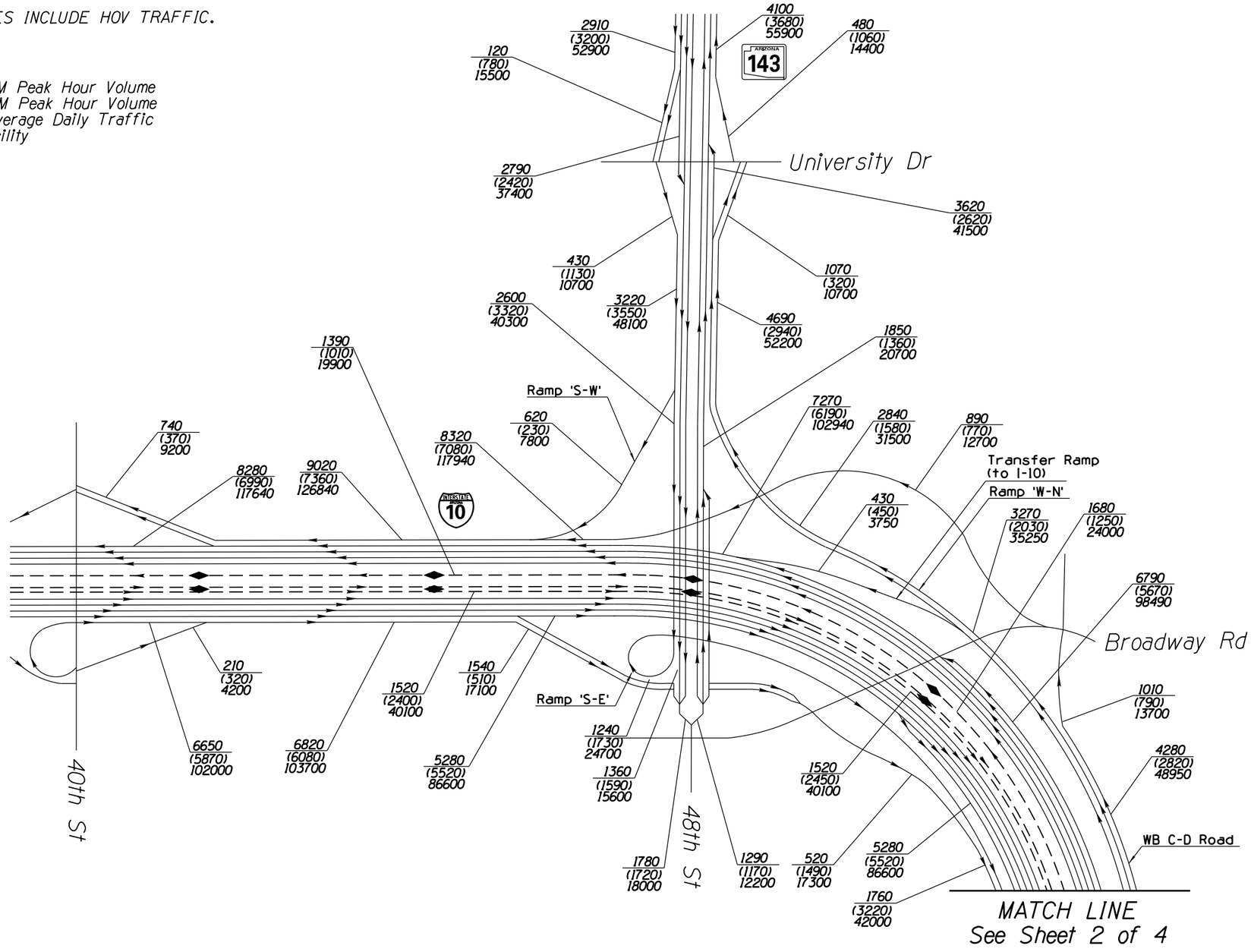
7/27/2015 U:\I10-02\Spot\Design\tra\Build\Figures\2030 Figures\RecommendedAlt\Rec Alt PM LOS 4.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2035 AM Peak Hour Volume
(xxx) - 2035 PM Peak Hour Volume
xxxx - 2035 Average Daily Traffic
— - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 RECOMMENDED BUILD ALTERNATIVE VOLUMES & LANE CONFIGURATION
SHEET 1 OF 4

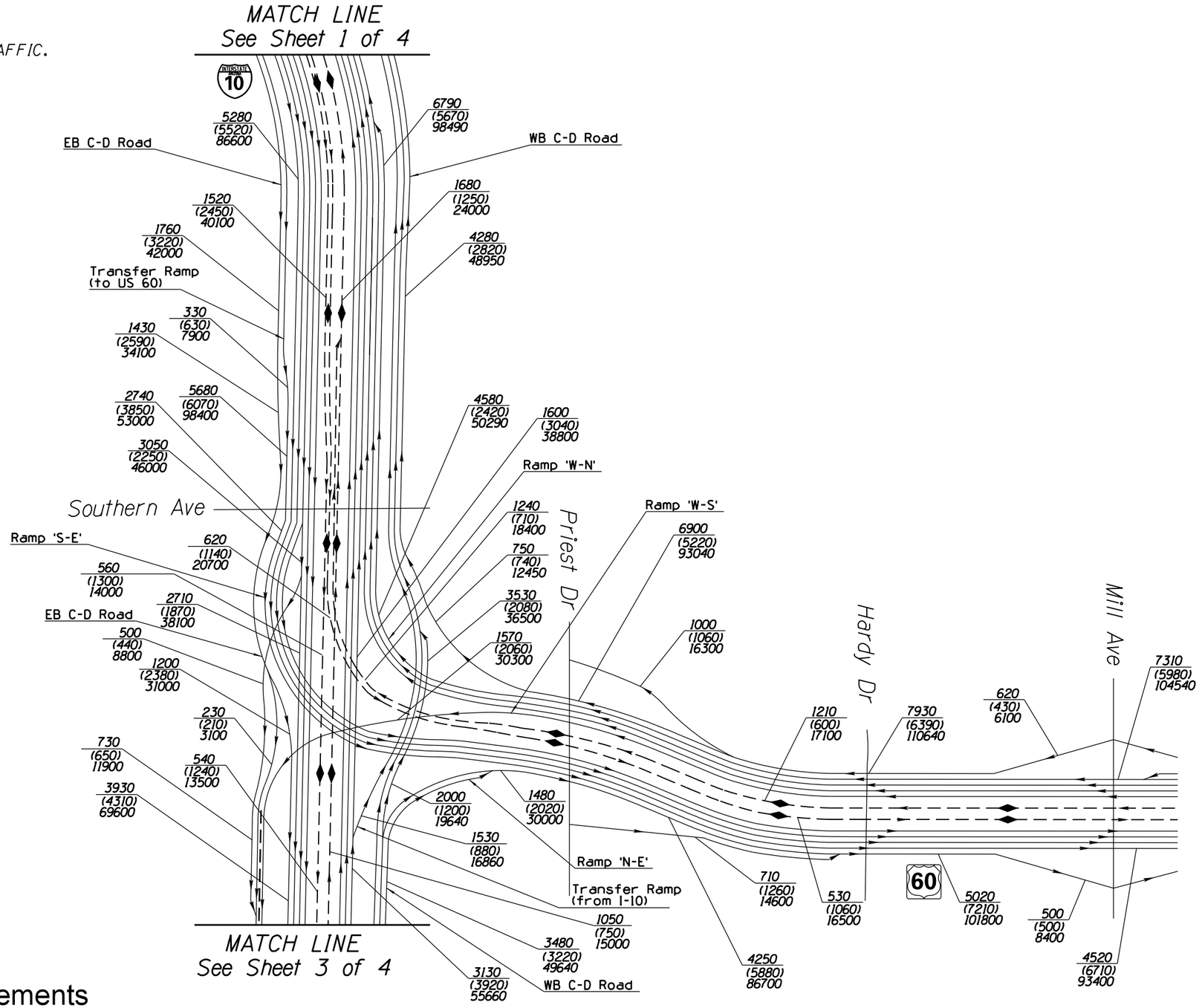
7/27/2015 U:\110-02\Spot\Design\tre\Build\Figures\2035 Figures\RecommendedAlt\Rec_Alt_build volume 1.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2035 AM Peak Hour Volume
(xxx) - 2035 PM Peak Hour Volume
xxxx - 2035 Average Daily Traffic
◆—◆ - HOV facility



N

I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 RECOMMENDED BUILD ALTERNATIVE
VOLUMES & LANE CONFIGURATION
SHEET 2 OF 4

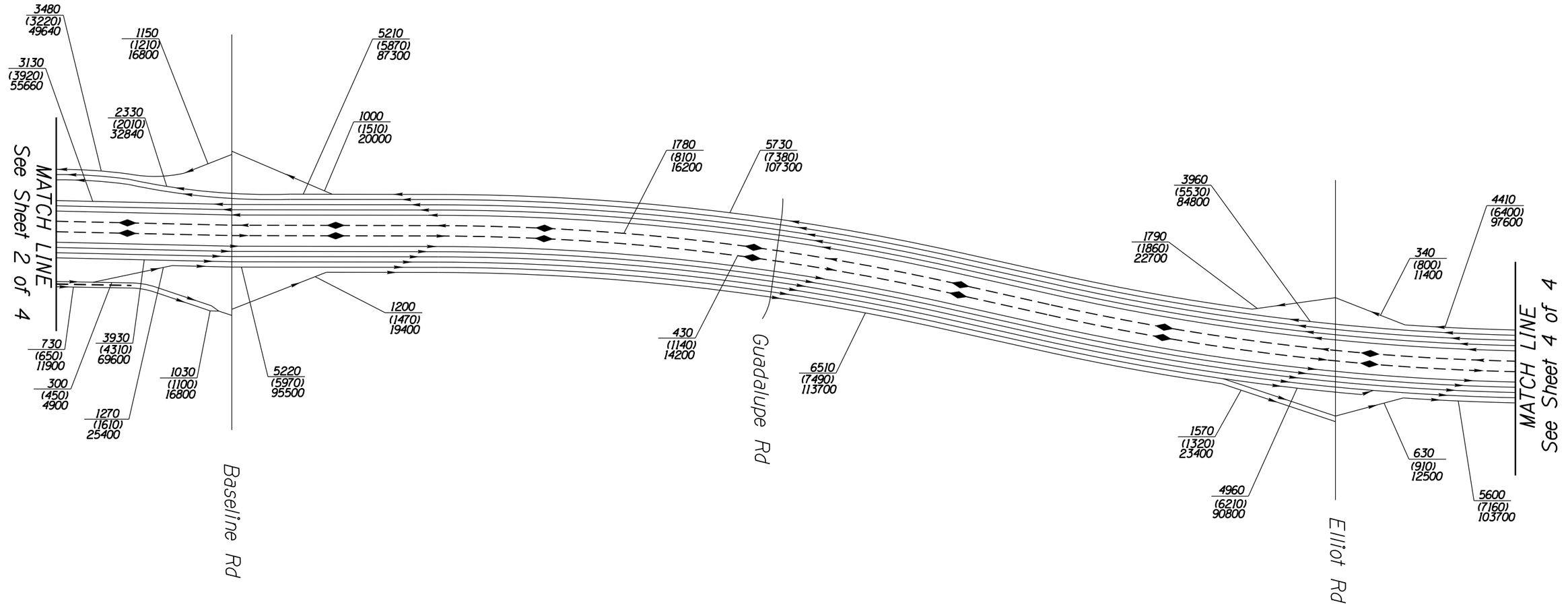
7/27/2015 U:\110-02\Spot\Design\tre\Build\Figures\2035 Figures\RecommendedAlt\Rec_Alt_build volume 2.dgn

NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2035 AM Peak Hour Volume
(xxx) - 2035 PM Peak Hour Volume
xxxx - 2035 Average Daily Traffic
◆—◆ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 RECOMMENDED BUILD ALTERNATIVE
VOLUMES & LANE CONFIGURATION
SHEET 3 OF 4

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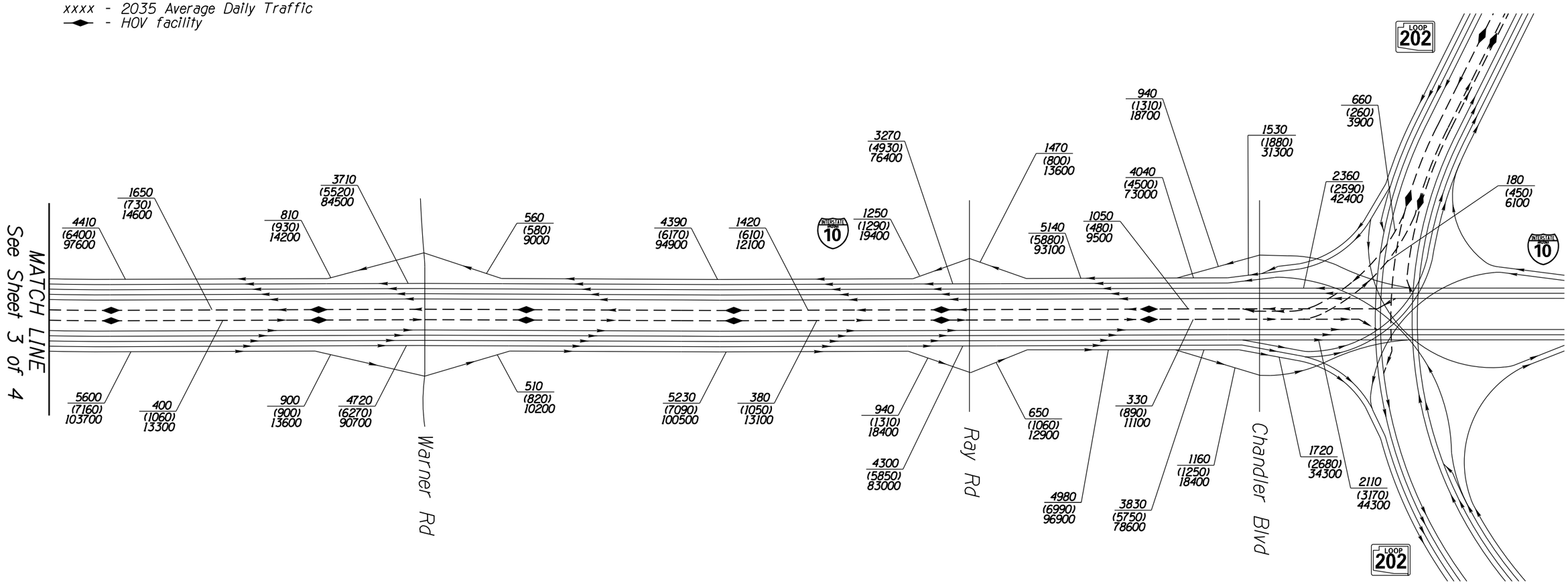
NOTES:

- RAMP VOLUMES INCLUDE HOV TRAFFIC.

LEGEND

xxx - 2035 AM Peak Hour Volume
(xxx) - 2035 PM Peak Hour Volume
xxxx - 2035 Average Daily Traffic
◆—◆ - HOV facility



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

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PARTNERS IN PROGRESS

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APPENDIX G
2035 RECOMMENDED BUILD ALTERNATIVE
VOLUMES & LANE CONFIGURATION
SHEET 4 OF 4

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NOTES:

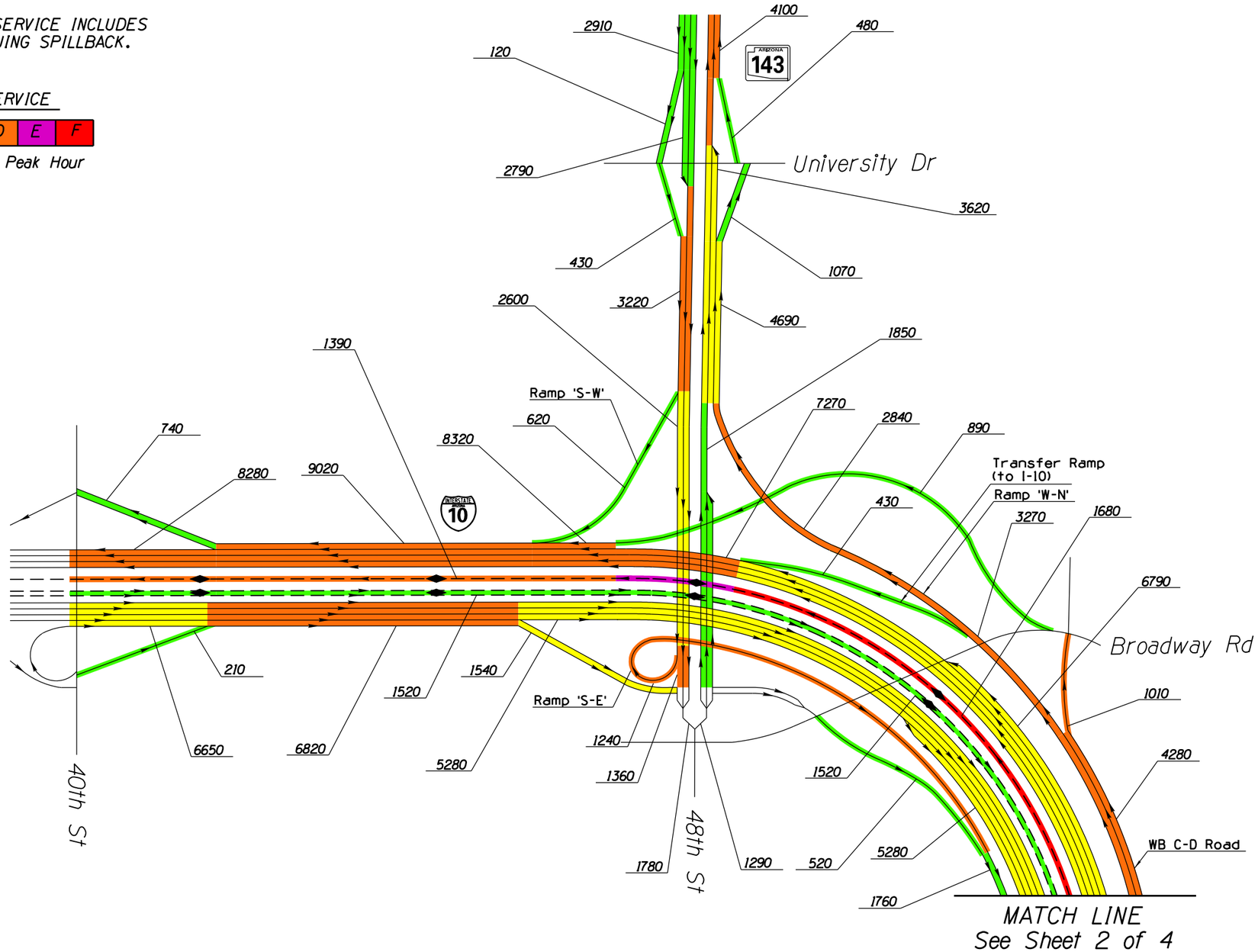
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

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APPENDIX G
2035 RECOMMENDED BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

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NOTES:

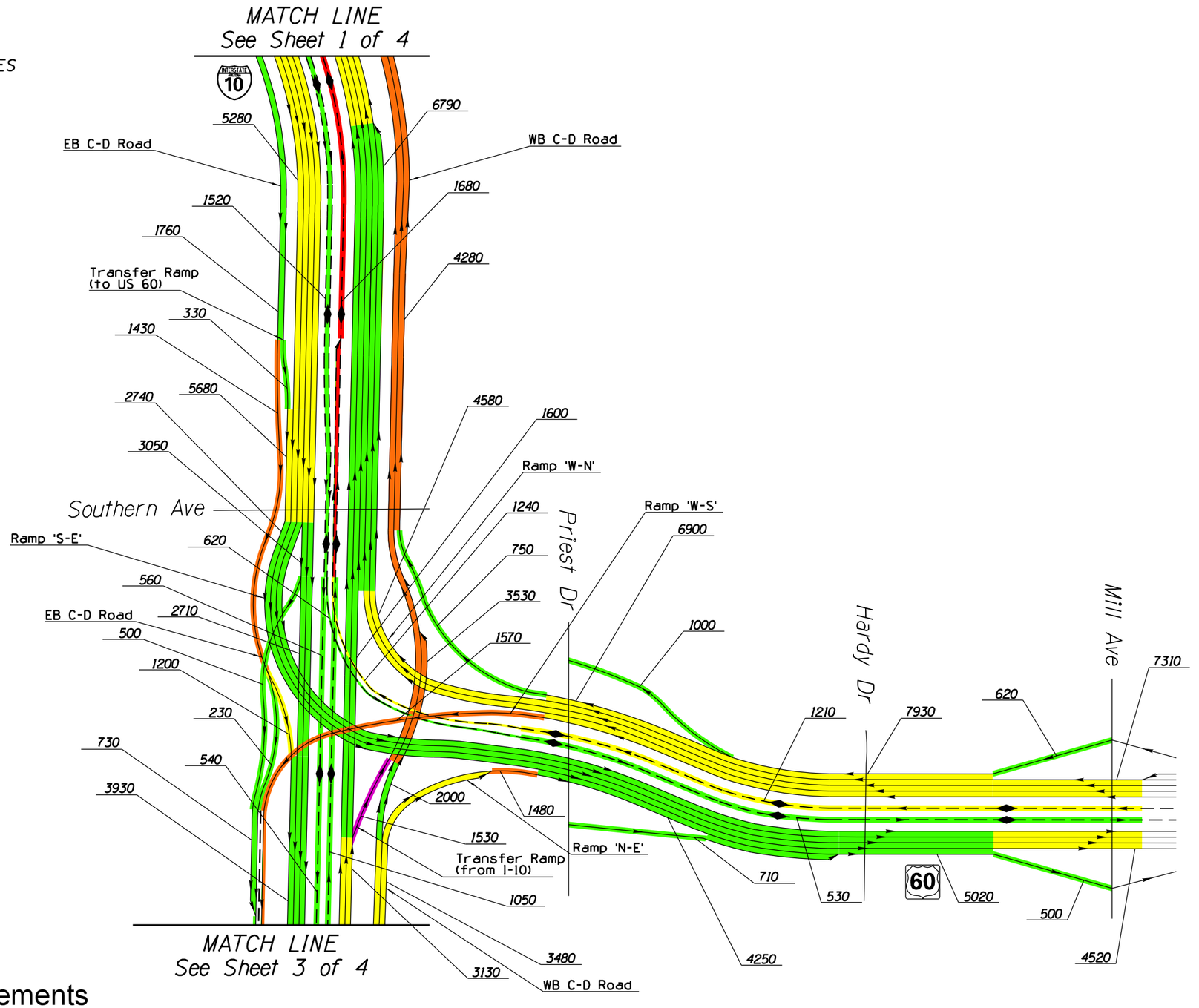
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 AM Peak Hour



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

ON THE MOVE
PARTNERS IN PROGRESS

NOT TO SCALE - SCHEMATIC ONLY

APPENDIX G
2035 RECOMMENDED BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

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NOTES:

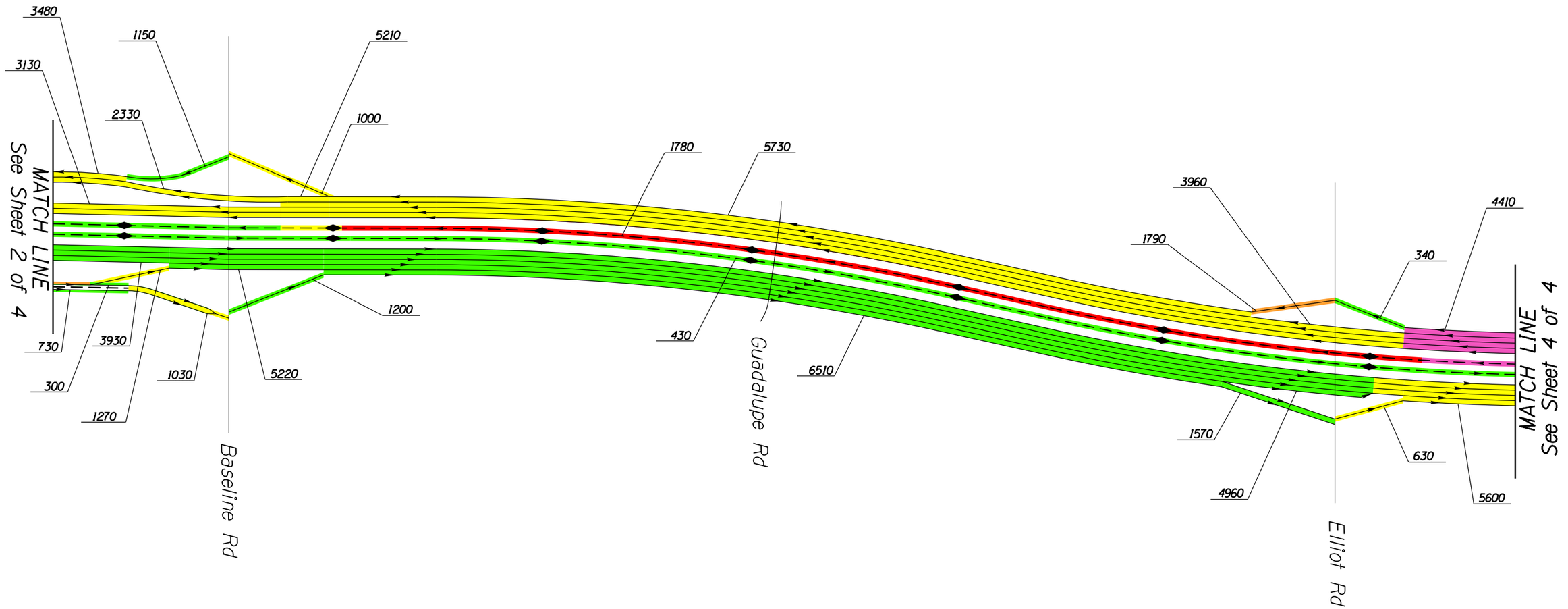
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

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PARTNERS IN PROGRESS

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APPENDIX G
2035 RECOMMENDED BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

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NOTES:

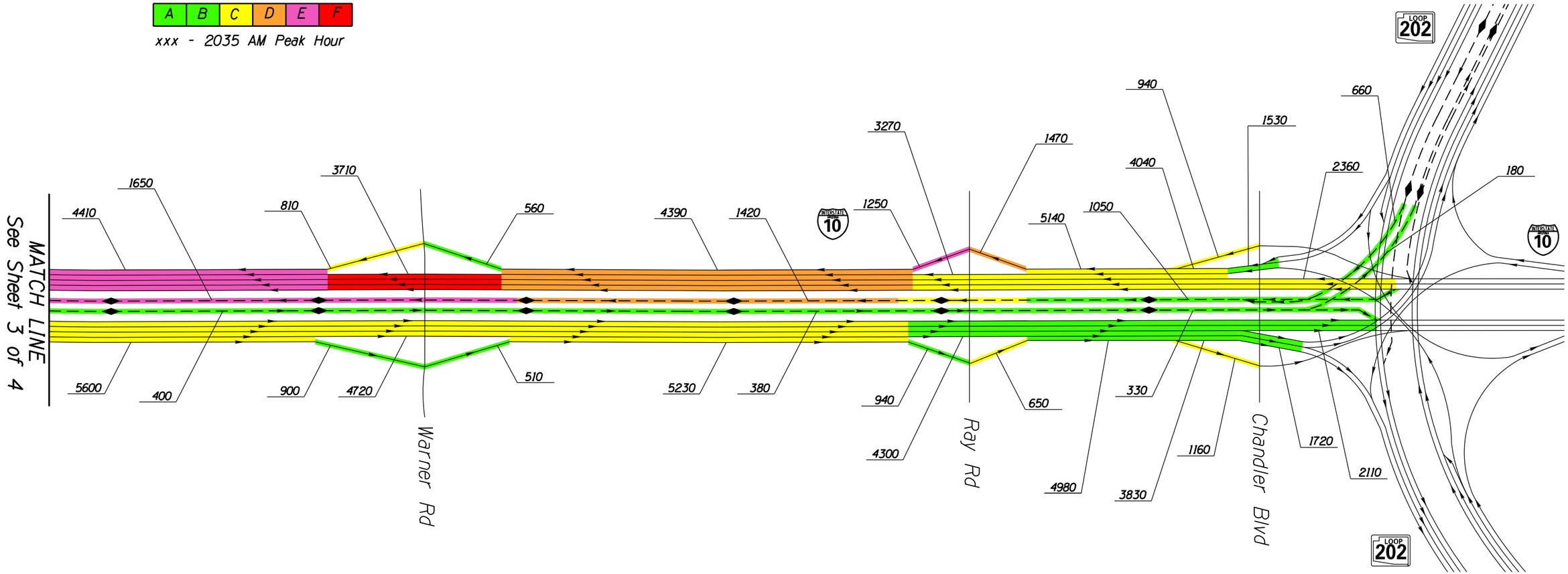
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 AM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

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APPENDIX G
2035 RECOMMENDED BUILD ALTERNATIVE
AM VOLUMES & LEVEL OF SERVICE
SHEET 4 OF 4

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NOTES:

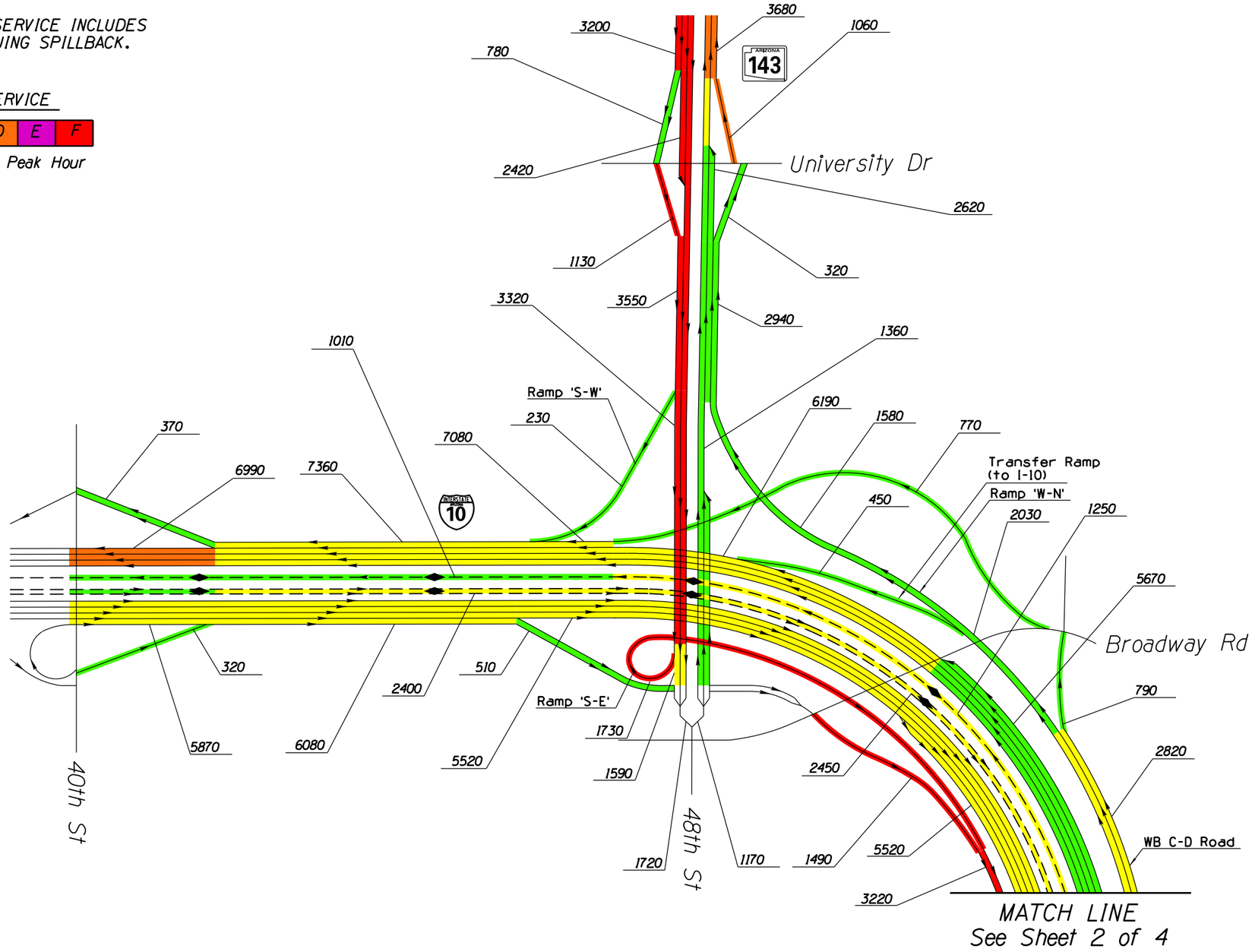
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

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APPENDIX G
2035 RECOMMENDED BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 1 OF 4

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NOTES:

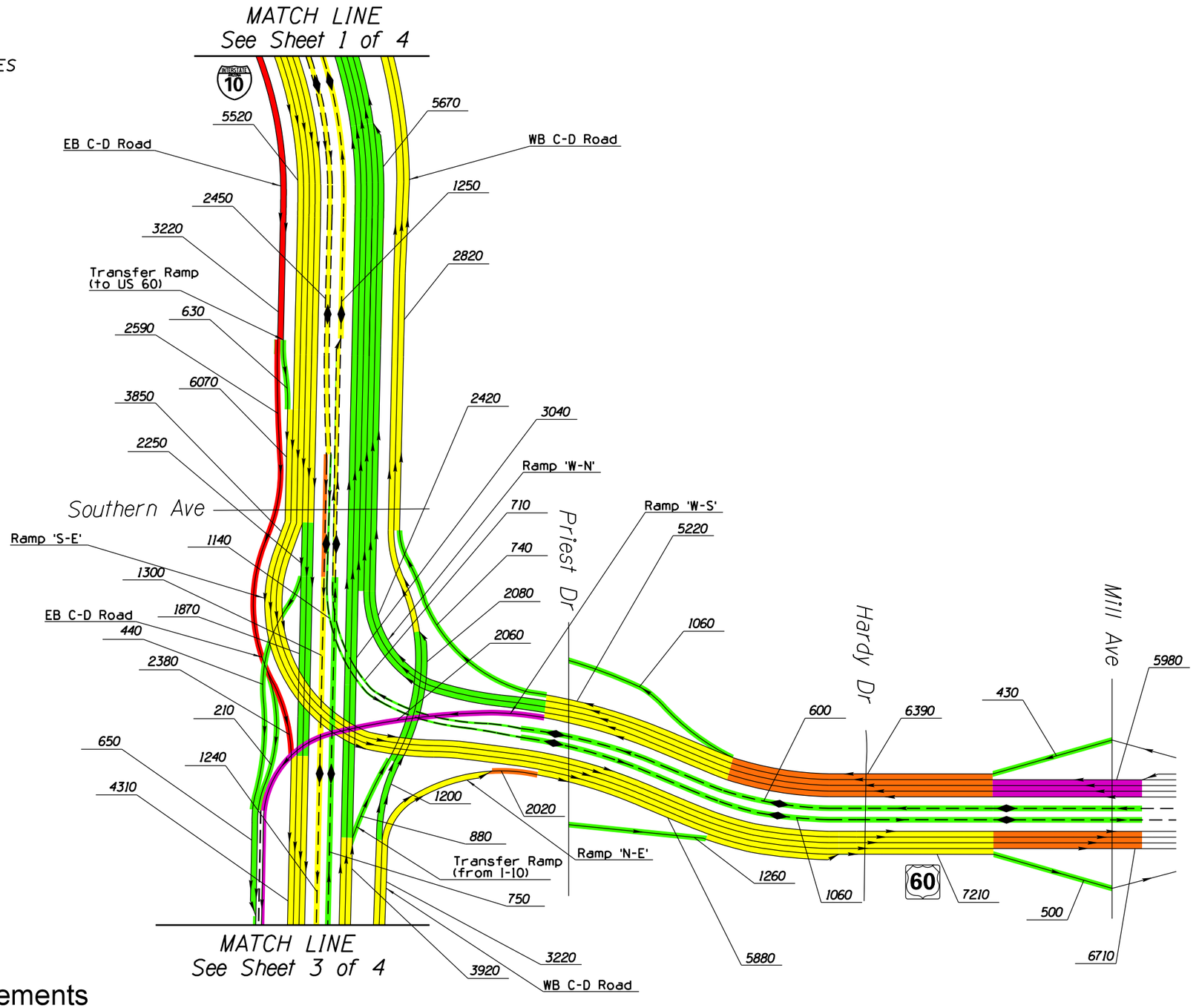
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 PM Peak Hour



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I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

AECOM

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APPENDIX G
2035 RECOMMENDED BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 2 OF 4

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7/27/2015

NOTES:

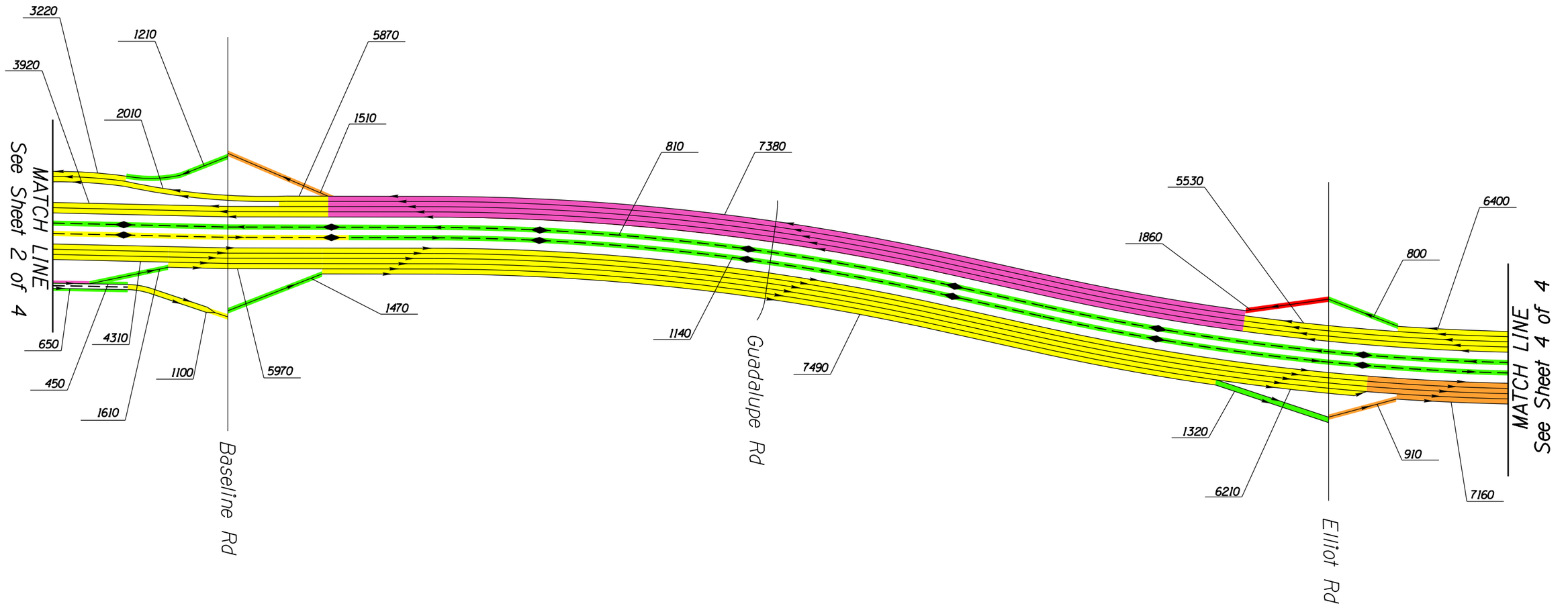
- LINK LEVEL OF SERVICE INCLUDES EFFECT OF QUEUING SPILLBACK.

LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 PM Peak Hour



I-10 Near-Term Improvements
SR 143 to SR 202L, Santan/South Mountain

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2035 RECOMMENDED BUILD ALTERNATIVE
PM VOLUMES & LEVEL OF SERVICE
SHEET 3 OF 4

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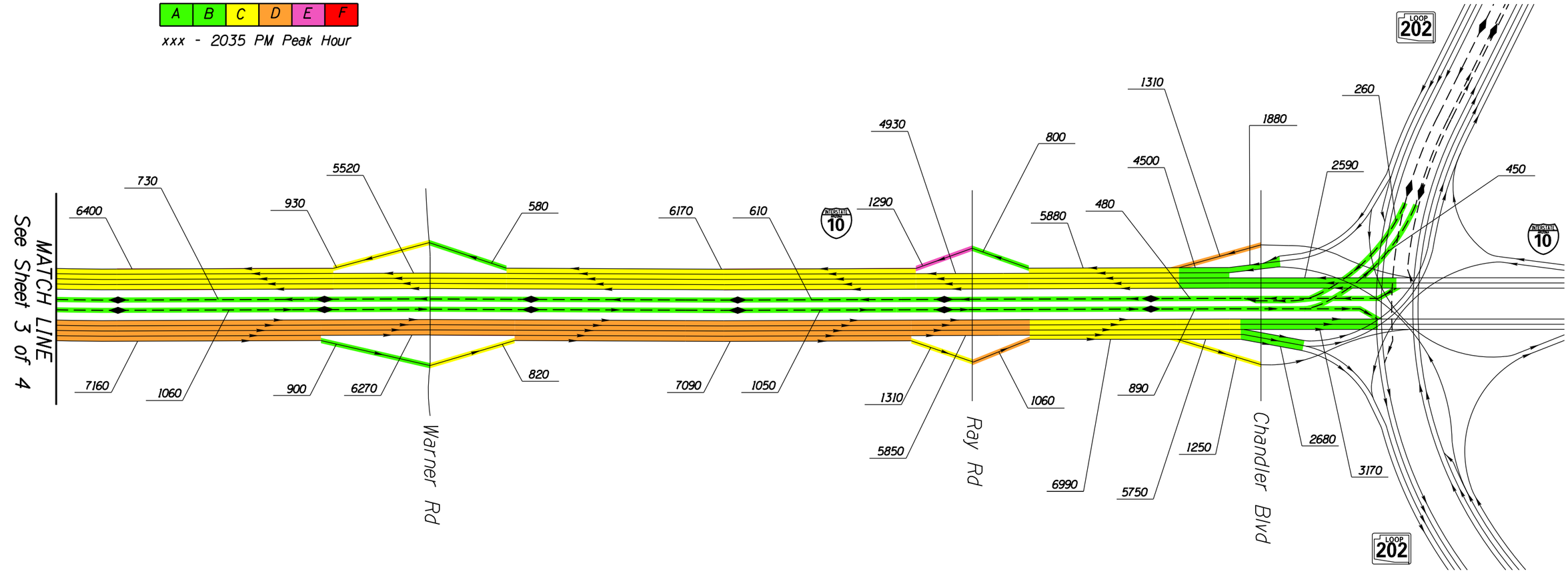
LEGEND

LEVEL OF SERVICE

A	B	C	D	E	F

xxx - 2035 PM Peak Hour



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SHEET 4 OF 4

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