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DEVIATION REQUEST AND DECISION FORM

Updated: 6/26/2019

PROJECT INFORMATION **3**

Project Name :	The Commons at Falcon Field Deviation No. 3 Date: 6/2/2023
Schedule No.(s) :	4307000001 and 4307200015
Legal Description :	TRACT IN SEC 7-13-64 DESC AS FOLS: BEG AT NW COR OF LOT 13 ARROWHEAD ESTATES FIL NO 1; TH S 00<46'12" W 197.28 FT ALG WLY LN OF SD LOT 13 TO A PT, N 41<58'50" W 798.01 FT TO SELY R/W LN OF US HWY 24, TH ALG SD SELY R/W LN ALG ARC OF CUR TO L SD CUR BEING CONCAVE TO NW HAVING A RAD OF 5800.00 FT AN ARC DIST OF 193.53 FT A C/A OF 01<54'42" WHICH CHORD BEARS N 47<22'56" E 193.52 FT, N 46<25'11" E 760.04 FT TO INTSEC SD SELY R/W LN OF US HWY 24 & WLY R/W LN OF RIO LN, TH SLY ALG SD R/W OF RIO LN S 22<22'28" E 219.81 FT, S 89<10'21" E 1071.23 FT TO NW COR OF LOT 14 OF FALCON RANCH ESTATES SUB, S 00<10'51" E 705.04 FT ALG WLY LN OF SD LOT 14 & LOT 13 FALCON RANCH ESTATES SUB TO THE MOST NLY NW COR OF LOT 10 ARROWHEAD ESTATES FIL NO 1, TH CONT S 00<10'51" E 151.74 FT, TH N 88<55'44" W 1314.29 FT TO POB TRACT IN SEC 7-13-64 DESC AS FOLS: COM AT NW COR OF LOT 13 ARROWHEAD ESTATES FIL NO 1; TH S 00<46'12" W 197.28 FT FOR POB; TH CONT S 00<46'12" W 988.14 FT, S 86<00'46" W 327.52 FT, S 00<25'05" W 68.17 FT, N 89<59'43" W 430.45 FT, N 00<14'15" E 1475.39 FT TO SELY R/W LN OF US HWY 24, TH ALG SD SWLY R/W LN N 50<05'41" E 125.34 FT, TH ALG ARC OF CUR TO L SD CUR BEING CONCAVE TO NW HAVING A RAD OF 5800.00 FT AN ARC DIST OF 178.20 FT A C/A OF 01<45'37" WHICH CHORD BEARS N 49<13'05" E 178.19 FT, TH S 41<58'50" E 798.01 FT TO POB

APPLICANT INFORMATION

Company :	FALCON FIELD LLC
Name :	Jim Berger
	☒ Owner ☐ Consultant ☐ Contractor
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ENGINEER INFORMATION

Company :	LSC Transportation Consultants, Inc.
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OWNER, APPLICANT, AND ENGINEER DECLARATION

To the best of my knowledge, the information on this application and all additional or supplemental documentation is true, factual and complete. I am fully aware that any misrepresentation of any information on this application may be grounds for denial. I have familiarized myself with the rules, regulations and procedures with respect to preparing and filing this application. I also understand that an incorrect submittal will be cause to have the project removed from the agenda of the Planning Commission, Board of County Commissioners and/or Board of Adjustment or delay review until corrections are made, and that any approval of this application is based on the representations made in the application and may be revoked on any breach of representation or condition(s) of approval.

_____ _____

Signature of owner (or authorized representative) Date

Engineer's Seal, Signature
And Date of Signature

DEVIATION REQUEST (Attach diagrams, figures, and other documentation to clarify request)

DEVIATION No. 3 – Turn Bay Lengths (Rev. 6/2/2023; Original1/4/2020): A deviation from the standards of or in Section 2.3.7.D.1 of the Engineering Criteria Manual (ECM) is requested. The request is for abbreviated left-turn lane lengths, which allow for adequate vehicle storage, but do not include full deceleration distance plus storage.

This deviation is one of four submitted with this application. Deviation Exhibit A (attached) graphically summarizes all four deviation requests, including this one. Please refer to the attached Deviation Exhibits C and E which graphically show this Deviation request No. 3.

Identify the specific ECM standard which a deviation is requested:

2.3.7.D.1 Turn Lane Design

State the reason for the requested deviation:

The deviation is needed as the proposed intersection and access spacing limits the ability to provide full deceleration length plus vehicle storage distance plus transition taper for the left-turn lanes approaching US Highway 24/Woodmen and the two full-movement site access points east and west of the roundabout. The site-specific conditions would not necessitate the full deceleration length plus vehicle storage distance plus transition taper for these left-turn lanes.

The ECM requires left-turn lanes on the northbound approach to Woodmen Road and approaching the proposed commercial site access points on the Non-Residential Collector street extending east and west from the roundabout for the proposed access. The deviation request is to allow an abbreviated bay taper length at the access west of the roundabout. At the access east of the roundabout, the request is also to allow an abbreviated bay taper length. Additionally, the request is to 1) allow the ECM standard 155' deceleration distance within the combination of the proposed 120' lane and the second half of the 75' reverse curve bay taper and 2) to allow use the deceleration distance for vehicle storage, when a queue forms, rather than having storage in addition to the deceleration distance. The request is based on the results of the TIS queuing analysis, the proposed site-specific conditions with the roundabout (eliminating the need for back-to-back left-turn lanes between the access points and the roundabout). Please refer to the attached Deviation Exhibits C and E, which are figures from the TIS. The request requires a deviation as the ECM prescribes deceleration length plus vehicle storage distance plus transition taper for left-turn lanes on Collector roadways where turn lanes are required per section 2.3.7.D.1.

Please also indicate the proposed lane/taper/storage lengths for the westerly access turn lane, the left turn lane at Jackdaw Drive, and the northbound turn lanes along Woodmen at Hwy 24.

Explain the proposed alternative and compare to the ECM standards (may provide applicable regional or national standards used as basis):

The deviation request is to allow an abbreviated bay taper length at the access west of the roundabout. At the access east of the roundabout, the request is also to allow an abbreviated bay taper length. Additionally, the request is to 1) allow the ECM standard 155' deceleration distance within the combination of the proposed 120' lane and the second half of the 75' reverse curve bay taper and 2) to allow use the deceleration distance for vehicle storage, when a queue forms, rather than having storage in addition to the deceleration distance.

The ECM standard for a 40-mph design speed limit is 155 feet of full-width lane plus a 160-foot taper plus storage distance. The turn-lane geometry for the left-turn lanes is shown in the attached exhibit. The projected queue lengths from the TIS are shown in Deviation Exhibit F (attached). Please refer to the TIS report for complete details. In this situation, the requested elements of this deviation would be reasonable. The standard ECM taper is 160 feet. However, the ECM allows for a taper ratio of 8:1 for tangent bay tapers in constrained locations. Based on a lane width of 12 feet, the 8:1 ratio would result in a prescribed 96-foot tangent bay taper. The proposed 75-foot-long taper would be 21 feet short of the ECM standard. The tapers would be designed with the roundabout, its splitter islands, and exit lanes. Given the constrained location of the access east of the roundabout, the requested overlapping use of the turn bay for deceleration and storage would also be reasonable and not unexpected by motorists using this roadway. The proposed right-in access would provide an additional entry point for those lots, thus providing an alternative to motorists in the unlikely chance the subject eastbound left turn bay is filled with queued vehicles.

The CDOT comment memo dated May 5, 2023 indicated the following with respect to the auxiliary turn lanes on the northbound approach to the US Highway 24/Woodmen Road:

"The site will require an access permit for the construction of the 4th leg of Woodman and the closure of Rio Lane. The applicant will be responsible for constructing improvements as described in the TIS, namely:
- *EB to SB right turn deceleration lane.*
- *NB to EB right turn acceleration lane.*
- *Signalization of 4th leg of the intersection.*
- *Laneage as described in the TIS for the NB Woodmen movement."*

LIMITS OF CONSIDERATION
(At least one of the conditions listed below must be met for this deviation request to be considered.)

☐ The ECM standard is inapplicable to the particular situation.
☒ Topography, right-of-way, or other geographical conditions or impediments impose an undue hardship and an equivalent alternative that can accomplish the same design objective is available and does not compromise public safety or accessibility.
☐ A change to a standard is required to address a specific design or construction problem, and if not modified, the standard will impose an undue hardship on the applicant with little or no material benefit to the public.

Provide justification:

The deviation is needed as the proposed intersection and access spacing limits the ability to provide full deceleration length plus vehicle storage distance plus transition taper for the left-turn lanes approaching US Highway 24/Woodmen and the two full-movement site access points east and west of the roundabout. The site-specific conditions would not necessitate the full deceleration length plus vehicle storage distance plus transition taper for these left-turn lanes.

As the upstream intersection adjacent to the two full-movement access points and Woodmen/US Highway 24 for which the subject turn lanes are requested and the approach to US Highway 24/Woodmen Road is planned as a modern one-lane roundabout; back-to-back left-turn lanes along these Non-Residential Collector streets will not be required. Please refer to Deviation Exhibit E.

The turn bay lengths on the approach to Woodmen/US Highway 24 are a function of the spacing between Woodmen and the proposed roundabout, and the spacing between the intersections is constrained. Please refer to Deviation Exhibit C for the proposed turn-bay lengths and Deviation Exhibit F for the estimated queue lengths. The distance is constrained by the roundabout location which is limited due to the shape of the properties and the locations of the property lines. Please refer to the separate Deviation No. 1 for intersection spacing.

The spacing between the roundabout and the two proposed access points is limited by the dimensions of the site and the need to provide a shared full-movement access for the planned commercial lots on each side of the main entry drive. Also, with no access permitted to US Highway 24 and no full-movement access to the main entry drive, the full-movement access points are forced onto the internal cross street. Given these constraints, it is necessary to allow the access as close as feasible to the entry roundabout as possible and not pushed to the far rear corners of the development.

CRITERIA FOR APPROVAL

Per ECM section 5.8.7 the request for a deviation may be considered if the request is **not based exclusively on financial considerations**. The deviation must not be detrimental to public safety or surrounding property. The applicant must include supporting information demonstrating compliance with **all of the following criteria**:

The deviation will achieve the intended result with a comparable or superior design and quality of improvement.

The deviation is needed as the proposed intersection and access spacing limits the ability to provide full deceleration length plus vehicle storage distance plus transition taper for the on-site left-turn lanes. The site-specific conditions would not necessitate the full deceleration length plus vehicle storage distance plus transition taper for these left-turn lanes. As the upstream intersection adjacent to the two full-movement access points and Woodmen Road/US Highway 24 for which the subject turn lanes are requested and the approach to US Highway 24/Woodmen Road is planned as a modern one-lane roundabout, back-to-back left-turn lanes along these Non-Residential Collector streets will not be required. The projected queues could be accommodated by the proposed turn lanes. The proposed bay taper length is close to the length allowable by the ECM and vehicle speeds exiting the roundabout will be reduced from the standard Non-Residential Collector design speed.

Please also discuss the northbound turn lanes at Hwy24/Woodmen as these would also not meet criteria

The deviation will not adversely affect safety or operations.

The 2040 queueing analysis contained in the TIS indicates that the proposed left-turn lane lengths for the access points will be able to accommodate the projected queues. The turn-lane geometry for the left-turn lanes would be about 120 feet with about a 75-foot reverse curve taper for the access east of the roundabout and about 190 feet with about a 75-foot reverse curve taper for the access west of the roundabout. These are as shown in the attached Deviation Exhibit E. The projected 95th percentile queue length from the TIS is 25 feet for both. The proposed turn lane dimensions as explained above as elements of this deviation would work acceptably and would not adversely affect safety or operations. The tapers would be designed with the roundabout, its splitter islands, and exit lanes. However, the preliminary concept indicates bay-taper lengths of about 75 feet. These lengths would be appropriate for the situation and will not adversely affect safety or operations.

The 2040 queueing analysis contained in the TIS indicates that the proposed left-turn lane lengths for the northbound approach to the Woodmen Road/US Highway 24 intersection will be able to accommodate the projected queues.

The deviation will not adversely affect maintenance and its associated cost.

The deviation will not affect maintenance or maintenance costs as the placement and alignment will be typical. These turn bays are accommodated within the standard Non-Residential Collector cross section.

The deviation will not adversely affect aesthetic appearance.

The abbreviated turn bays will not affect the aesthetics as they will have typical geometrics and alignment.

The deviation meets the design intent and purpose of the ECM standards.

The proposed lane design will accommodate the projected queues between Woodmen and the roundabout intersection, which meets the intent and purpose of the ECM intersection spacing standard back from an arterial (in roadway).

The deviation meets the control measure requirements of Part I.E.3 and Part I.E.4 of the County's MS4 permit, as applicable.

The requested deviation meets control measure requirements of Part I.E.3 and Part I.E.4 of the MS4 Permit.

REVIEW AND RECOMMENDATION:

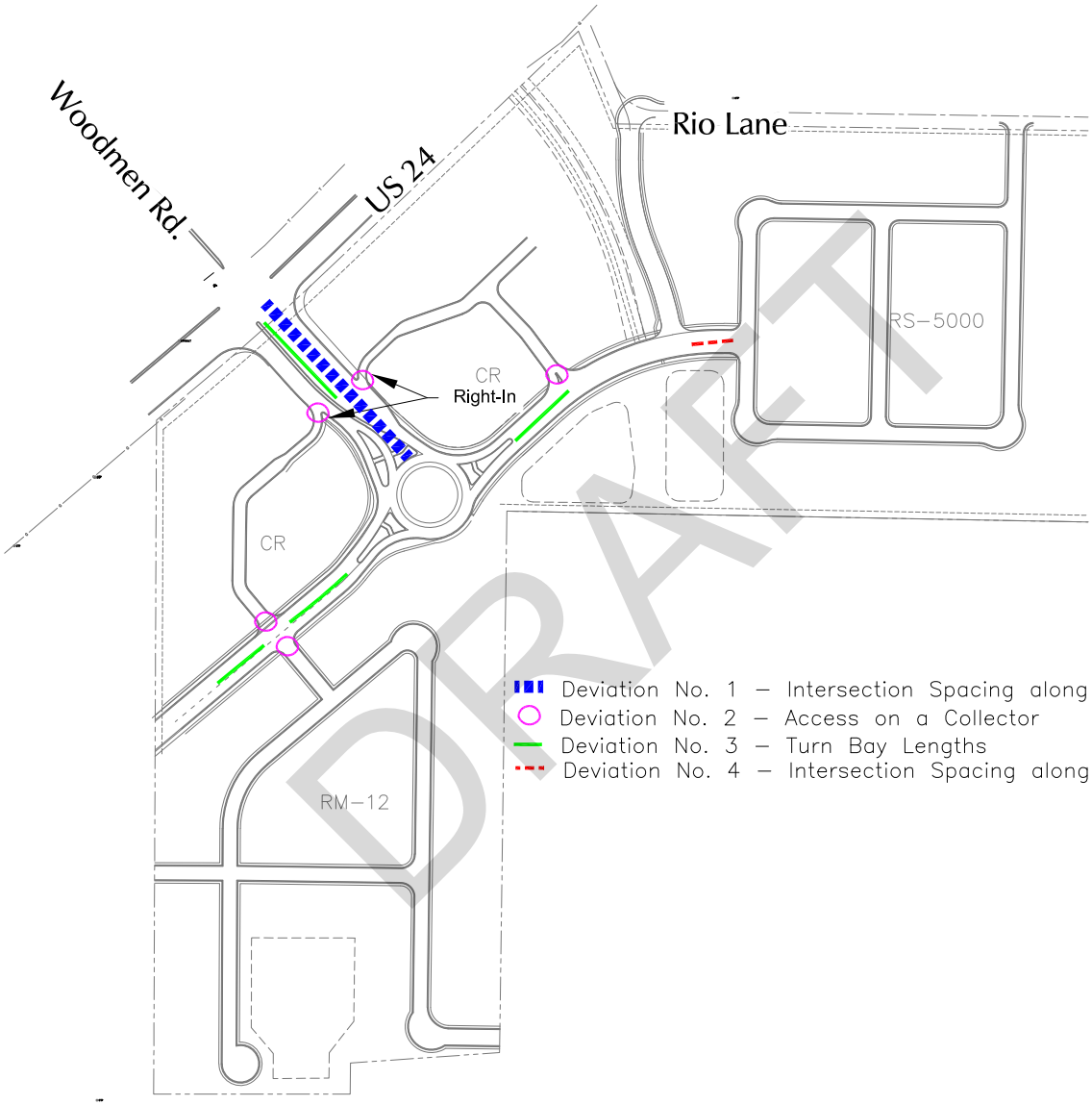
Approved by the ECM Administrator
This request has been determined to have met the criteria for approval. A deviation from Section _____ of the ECM is hereby granted based on the justification provided.

Denied by the ECM Administrator
This request has been determined not to have met criteria for approval. A deviation from Section _____ of the ECM is hereby denied.

ECM ADMINISTRATOR COMMENTS/CONDITIONS:

Deviation Exhibits

TRANSPORTATION
CONSULTANTS, INC.



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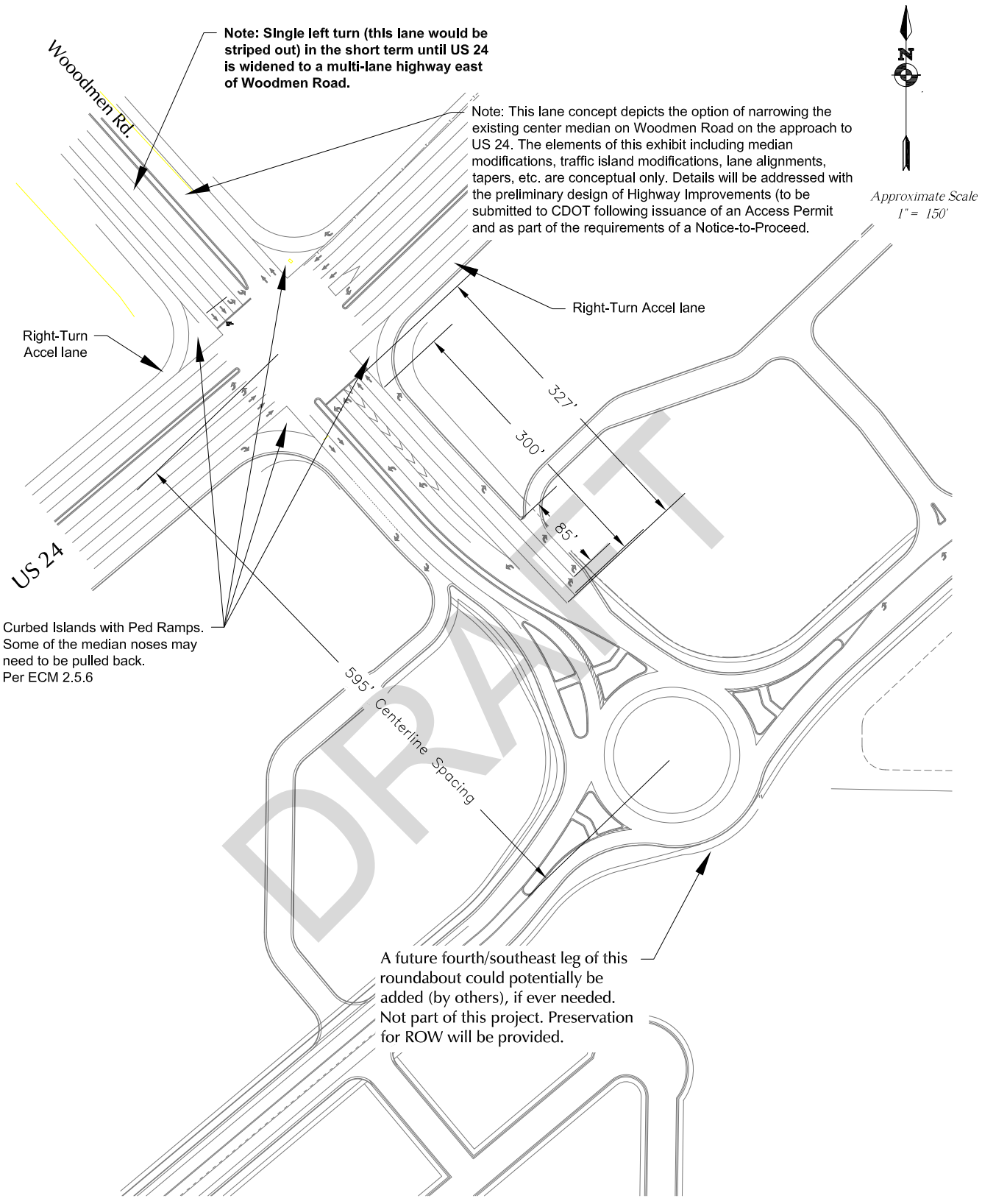
Not to scale

TRANSPORTATION CONSULTANTS, INC.

Deviation Exhibit A

Deviation Requests

Commons at Falcon Field (LSC# 234220)

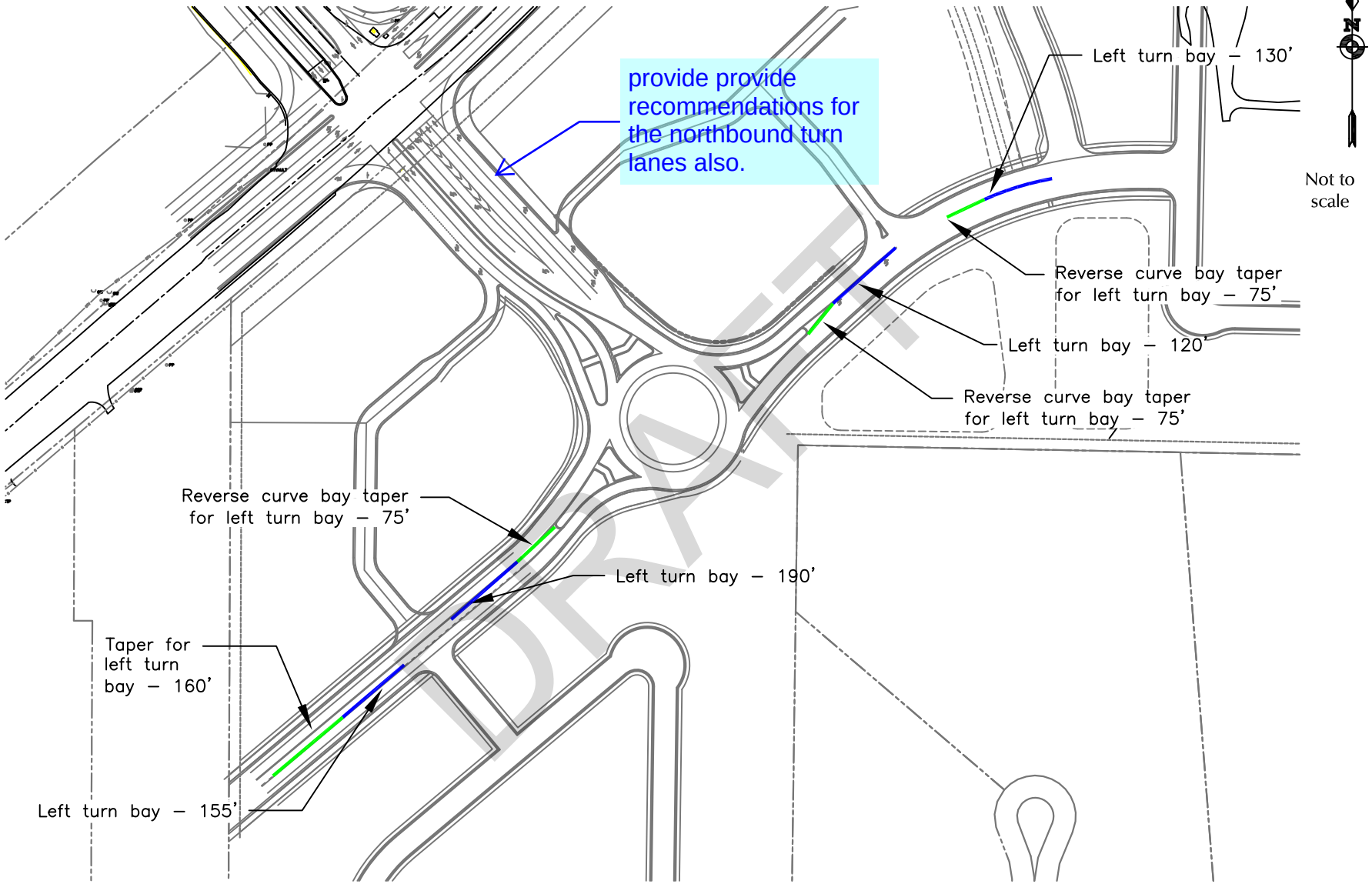


Deviation Exhibit C

Turn Bay Lengths at US 24/Woodmen (northbound/exiting approach)

Commons at Falcon Field (LSC# 234220)

LSC TRANSPORTATION CONSULTANTS, INC.

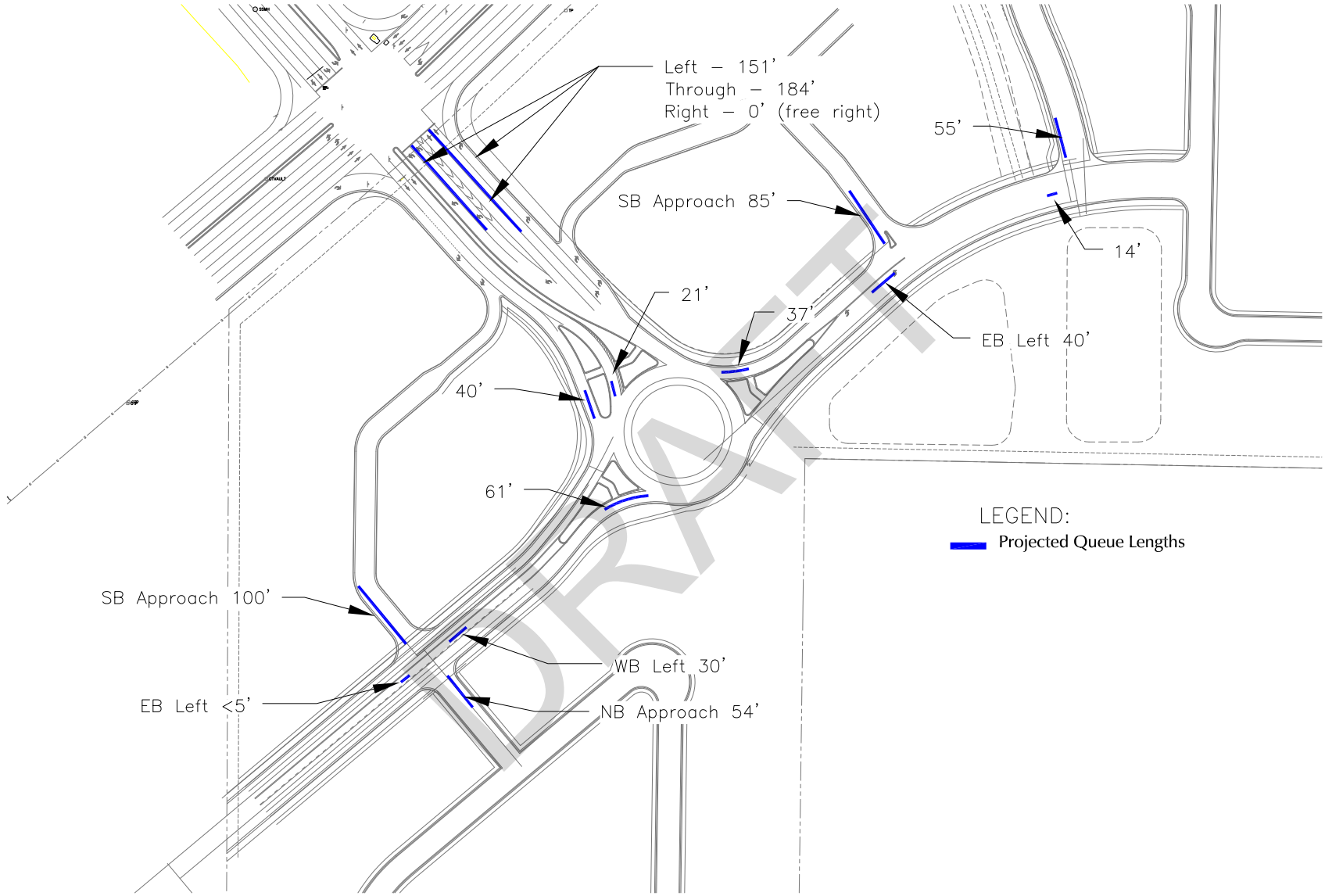


Deviation Exhibit E

Recommended Retail Row Street Striping

Commons at Falcon Field (LSC# 234220)

LSC TRANSPORTATION CONSULTANTS, INC.



TRANSPORTATION CONSULTANTS, INC.

Deviation Exhibit F

95th Percentile Queue Lengths 2043 Total Traffic

Commons at Falcon Field (LSC# 234220)