

Purpose of Document

The National Environmental Policy Act (NEPA) requires that reasonable alternatives, including the No Build Alternative, be identified and evaluated as part of a project development process. Currently, there are two feasible alternatives under consideration for the Lexington East Viaduct Project. The environmental impacts of these alternatives will be presented in an Environmental Assessment.

The purpose of this document is to review the process used to identify the range of reasonable alternatives developed for the project, provide the rationale used to identify two feasible alternatives for further study, and summarize their potential impacts. This analysis is being prepared for the Nebraska Department of Roads (NDOR) and the Federal Highway Administration (FHWA) and will be presented at a joint session between the Lexington City Council and Dawson County Commissioners.

Alternatives Development

The development of alternatives for the Lexington East Viaduct Project built upon conceptual alignments from previous studies and public input during the scoping process. Two concepts were considered from a study completed in 2008 by Kirkham Michael, *Rural Viaduct Location Study - Lexington, Nebraska* (March 2008), and three alternative concepts were developed during project scoping in the fall/winter of 2013. As a result, the following five alternative concepts were considered for the Lexington East Viaduct Project:

- Concept 1: North-south viaduct east of County Road 435,
- Concept 2: Slightly skewed north-south viaduct east of County Road 435,
- Concept 3: North-south viaduct on County Road 435,
- Concept 4: North-south viaduct west of existing County Road 435, and
- Concept 5: North-south viaduct to the east of County Road 435.

The No Build Alternative does not meet the project purpose and need; however it is retained through the alternatives analysis presented in the Environmental Assessment as the baseline conditions against which the potential impacts of the build alternatives are measured.

Alternatives Considered but Dismissed from Further Study

The five alternative concepts were screened using “fatal flaw” criteria. Fatal flaws are environmental resources or conditions that would makes implementation of an alternative difficult or highly undesirable. Using the screening criteria, alternative concepts 1 and 2 were eliminated from further consideration and alternative concepts 3, 4 and 5 were retained for further study. Concept 1 was eliminated because of impacts to environmental justice (minority and low-income) populations at the Hitch’N Rail mobile home community. Concept 1 would also have greater floodplain and primary farmland impacts than the other concepts. Concept 2 was eliminated because of unavoidable impacts to Spring Creek, which would require an Individual 404 Permit.

NDOR and the FHWA concurred with the elimination of Concepts 1 and 2 during a monthly coordination meeting on September 25, 2013. The “fatal flaw” screening results and analysis are documented in the Lexington East Alternatives Carried Forward Memo (Draft January 2014) and will be incorporated into the Environmental Assessment.

The City of Lexington held a public information meeting on November 7, 2013 in order to inform public about the project, gather information on the Purpose and Need, and solicit input on Concepts 3, 4, and 5. These alternatives were renamed as Concepts A, B, and C, respectively. Following the public meeting, Concept C was eliminated from further study because compared to Concepts A and B:

- it had more circuitous travel movements and did not provide north-south travel continuity as well as the other alternatives,
- it had far greater property impacts, and
- it had a more negative public perception.

Alternatives Retained for Further Study

Based upon the screening process and public input, Concepts A and B were advanced to the next phase of the project development process. In this next phase of the project, the concepts preliminary construction limits were identified. Table 1 provides a comparison of these two alternative concepts based on the preliminary construction footprints. Related to environmental resources, there are only subtle differences between Concepts A and B. Therefore, environmental impacts are not considered to be primary differentiators between the concepts.

Concept A

Concept A includes a new north-south viaduct on County Road 435, the closing of the at-grade crossing at County Road 435 and US 30/UPRR railroad; realignment of County Road 755 to US 30; and the closing of the at-grade crossing at County Road 436 and US 30/UPRR railroad. Concept A provides a bridge over the UPRR and US 30 while closing the crossings at County Roads 435 and 436. A detour route would be along I-80 between Lexington and Overton for travelers on US 30. A local detour route could use County Road 754 to County Road 436, approximately one-mile east of County Road 435.

Benefits:

- Overall slightly lower right-of-way acquisition needs (but would require up to three property takes)
- Lower construction costs
- During the public comment period for the November 2013 public meeting, three responses were in favor of or liked Concept A.
- Design most similar to the existing roadway conditions with the viaduct located on the existing County Road 435 alignment.

Concerns:

- Short-term access issues during construction
- Access lost to existing businesses on County Road 435 would need to be restored through mitigation or property acquisition.
- Property impacts to businesses on County Road 435. Access Changes for Concept A are provided in Attachment 1.
- Required use of detour for the Hitch’N Rail mobile home community during construction

Concept A was recommended to be carried forward in the project development process because it meets the purpose and need the best and provides continuity with the existing roadway network.

Concept B

Concept B includes a new north-south viaduct west of existing County Road 435 with a new north-south road connection to County Road 755; a new turning movement on County Road 435 north of US 30; the closing of the at-grade crossing at County Road 435 and US 30/UPRR railroad; and the closing of the at-grade crossing at County Road 436 and US 30/UPRR railroad. Concept B also provides a bridge over the Union Pacific Railroad and US 30 while closing the crossings at County Roads 435 and 436. A detour route would be along I-80 between Lexington and Overton for travelers on US 30. A local detour route could use County Road 754 to County Road 436, approximately one-mile east of County Road 435. It should be noted that following the public meeting, the connection from the new viaduct to County Road 754 was removed based upon discussions with the City of Lexington and NDOR/FHWA. Instead, traffic would be routed back to County Road 435 or East Industrial Park Drive via a new connector road approximately 0.5 mile north of County Road 754.

Benefits:

- County Road 435 would remain open during construction of the new viaduct and then closed at the completion of construction.
- During the public comment period for the November 2013 public meeting, six of the comments received favored Concept B based on less direct impact and access to properties and businesses in the area.

Concerns:

- Extra paving increases the construction cost over Concept A
- Introduces more turning movements
- Bisects developed land for the new viaduct

Concept B is recommended to be carried forward because it is favored according to public comments received, allows for the existing County Road 435 and US 30 crossing to remain open during construction of the viaduct, and has less direct impact on access for businesses on County Road 435. Potential access changes as a result of Concept B are provided as Attachment 1.

Table 1. Alternatives Comparison (based on the construction footprint)

Criteria Category	Location within the construction footprint	Concept A	Concept B	No Build
Meets Purpose and Need				
<i>Reduces Conflicts at Crossing</i>	Yes / No	Yes	Yes	No
<i>Reduce Traffic Delays</i>	Yes / No	Yes	Yes	No
<i>Minimize Business Disruptions</i>	Yes / No	Yes	Yes	No
Constructability / Disruption During Construction				
<i>Local Detour Required</i>	Yes / No	Yes	Yes	No
<i>Phasing</i>	Yes / No	Yes	Yes	No

Criteria Category	Location within the construction footprint	Concept A	Concept B	No Build
Maintain North-South Traffic Flow on County Road 435	Yes / No	Yes	No	Yes
Compatible with Economic Development/ Land Use Plans	Yes / No	Yes	Yes	No
Potential Right-of-Way Needs				
<i>Total Acres in construction area</i>	Number	16.5	16.1	0
<i>Number of Parcels in construction area (includes public ownership)</i>	Number	49 (17 owners)	44 (18 owners)	0
Potential Displacement / Relocation				
<i>Residential</i>	Number	0	0	0
<i>Business</i>	Number	3	0	0
Potential Drive Relocations / Changes in Property Access				
<i>Residential</i>	Number	1	1	0
<i>Business (including farm fields)</i>	Number	5	3	0
Wetlands	Number (Acres)	1 (<0.001)	1 (<0.001)	0 (0)
Stream Crossings	Number (Linear Feet)	2 (100-350 TBD)	2 (38)	0
Require an Individual Section 404 Permit	Yes / No	No	No	No
Hazardous Material Sites	Number			0
Floodplains	Acres	3.70	3.78	0
Noise (move roads closer to receptors)	Yes / No	No	No	No
Environmental Justice Populations Present	Yes / No	No	No	No
Cultural Resources Impacts ¹	Number	None	None	None
4f-6f Impacts ¹	Yes / No	No	No	No
Primary Farmlands	Acres	4.17	6.27	0
Potential Utility Conflicts (Electric, Pipes: Sanitary, Storm, Water)	Number	4	7	0
Preliminary Costs ²				
<i>Construction</i>	Unit Costs	\$5.24 M	\$5.60M	N/A
<i>Engineering</i>	Unit Costs	TBD	TBD	N/A
Public / Stakeholder Comments (November 7, 2013 Public Meeting)				
<i>For</i>	Number	3	6	0
<i>Against</i>	Number	3	1	0

1. Assumes no Section 106 resources. NDOR/SHPO coordination is pending.

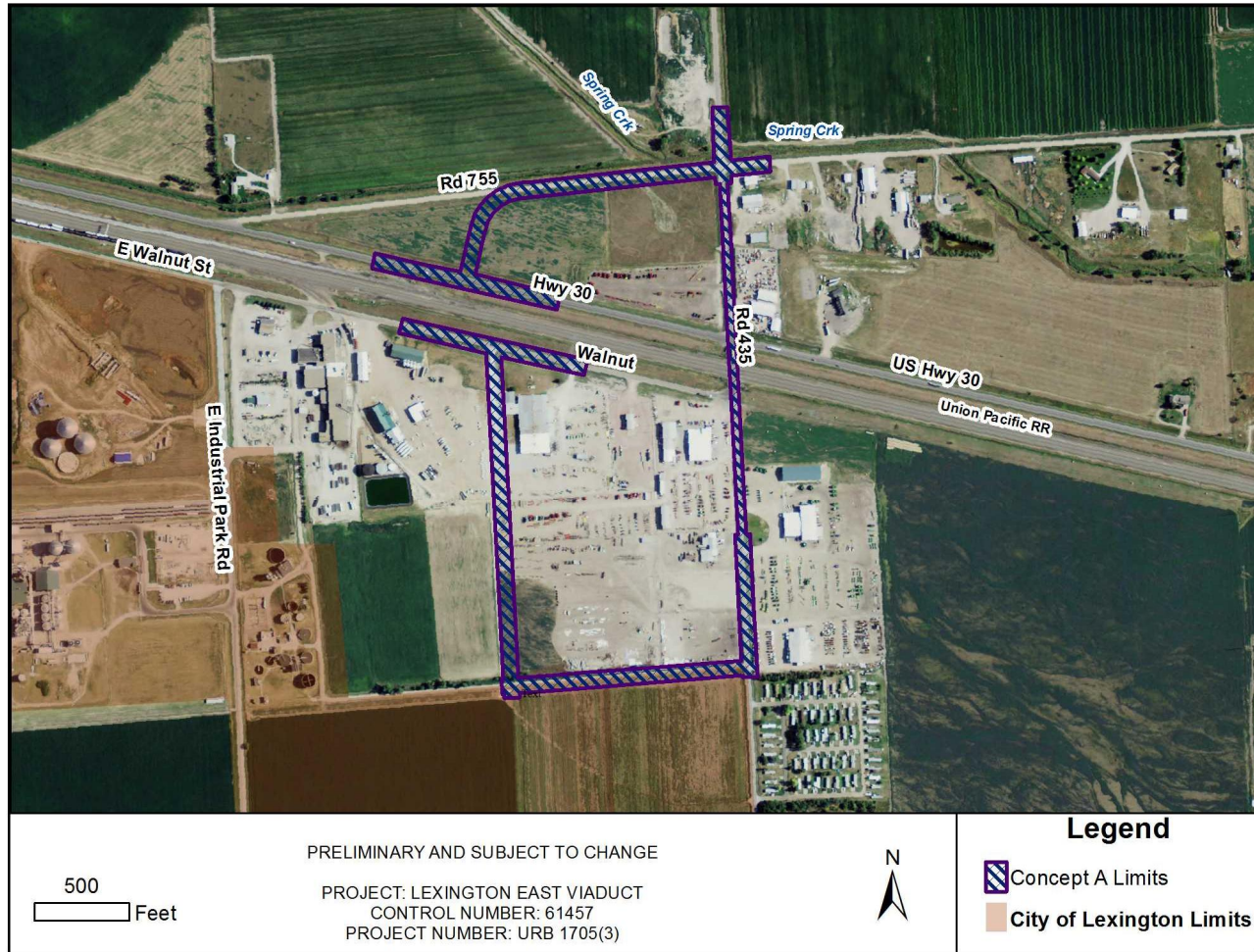
2. Preliminary Costs do not include right of way acquisition, construction engineering, utility relocation, and railroad crossing removal. Engineering costs to be determined (TBD) as part of the project development process.



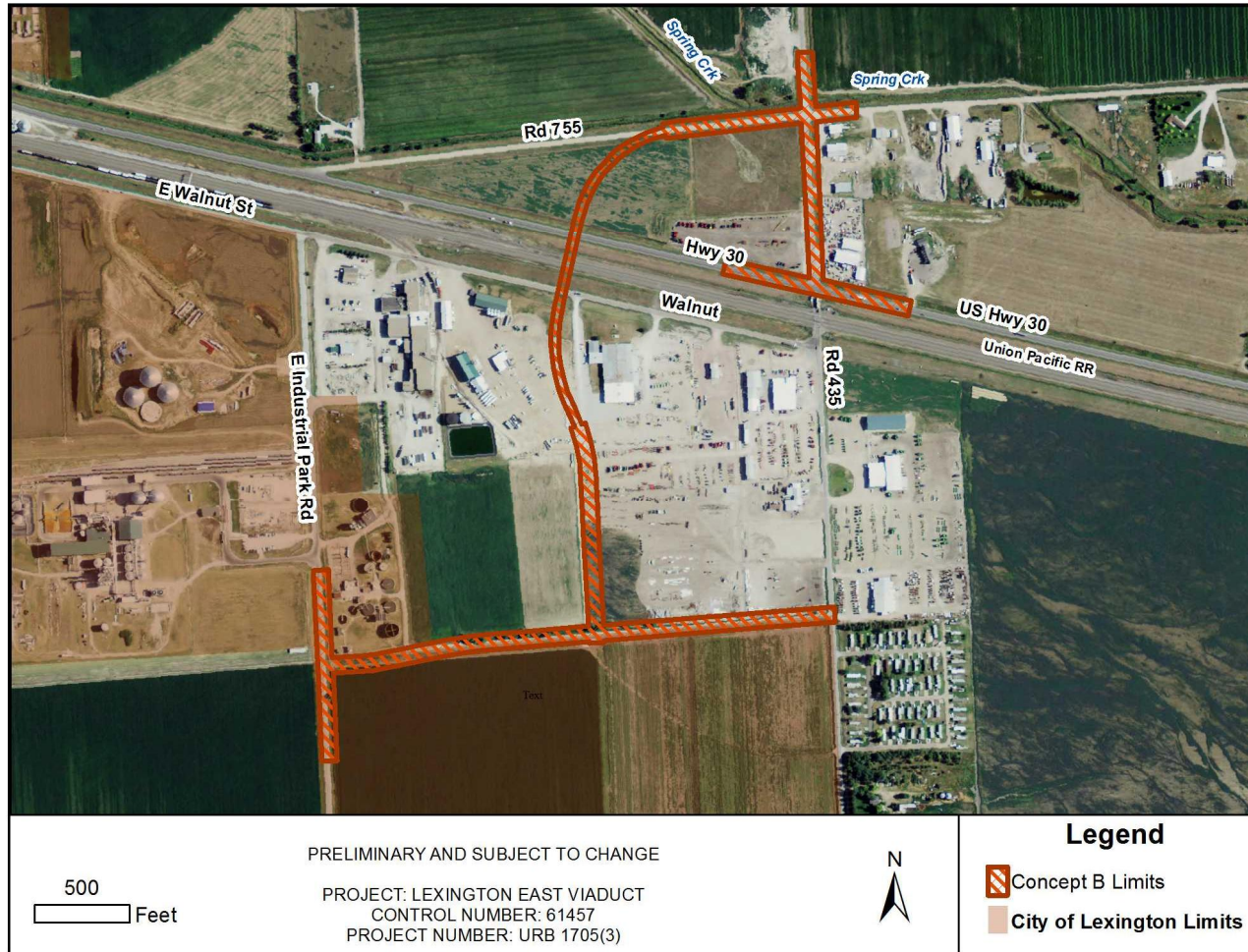
Next Steps

Following discussion with the Lexington City Council and Dawson County Commissioners, one build alternative will be identified and evaluated in the Environmental Assessment. The identification of this alternative will be based upon overall impacts including access to local businesses/residences, cost, and constructability.

Concept A



Concept B





Attachment 1 – Potential Access Changes

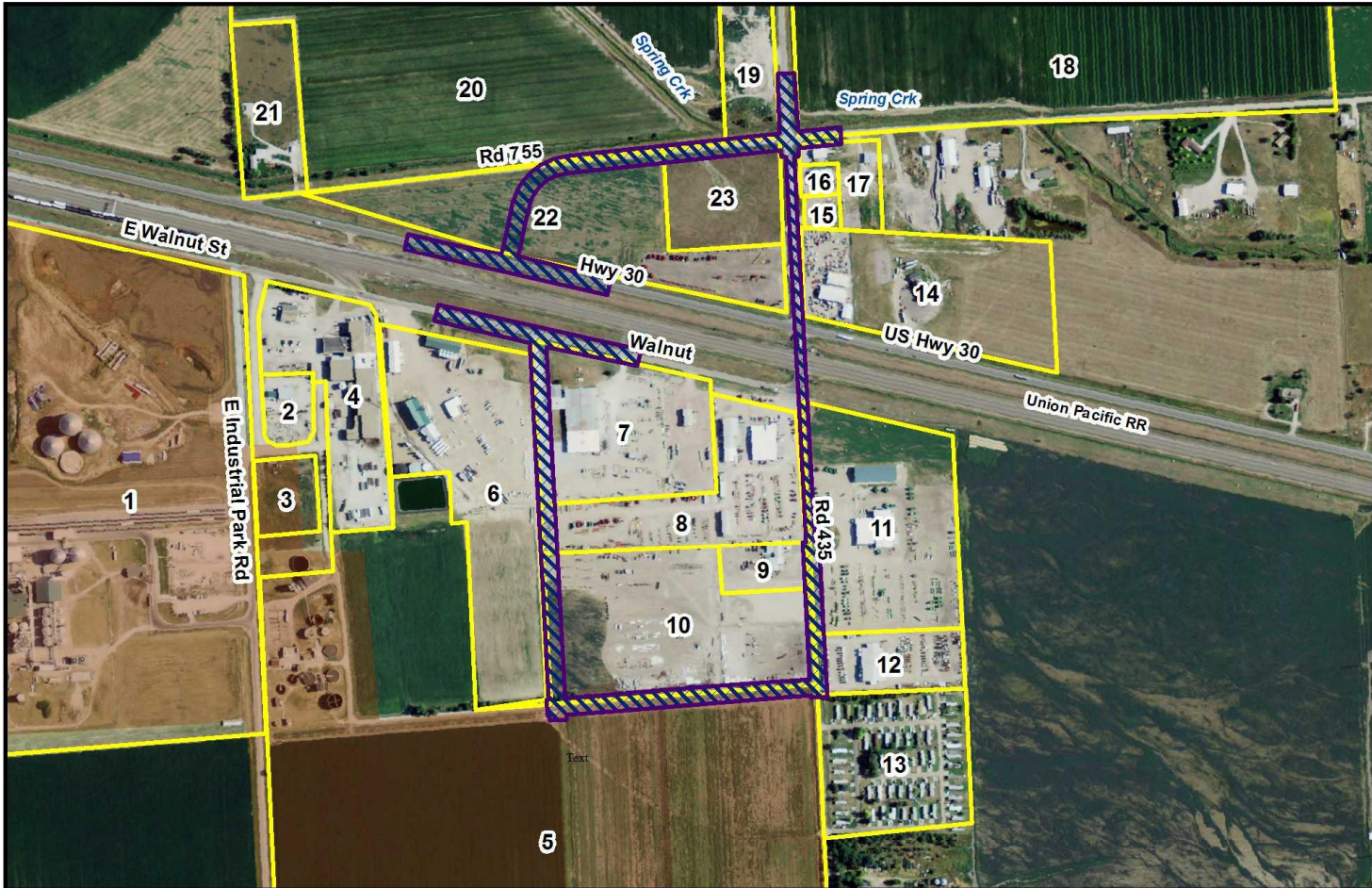


Potential Access Changes as a result of Concept A

Map Id	Owner Name	On-Site Resource or General Use	US 30 (east/west)	County Road 435 (north/south)
1	Cornhusker Energy – Lexington, LLC	Heavy Industrial	Walnut or East Industrial Park Road to new North-South Connector (south) to new East-West Connector (east) to County Road 435 (north) to County Road 755 (west) to US 30	Walnut or East Industrial Park Road to new North-South Connector (south) to New East-West Connector (east) to County Road 435
2	Donald Price	Heavy Equipment/Industrial		
3	Oxbow Properties, LLC.	Undeveloped/Storage		
4	Darling International, Inc.	Heavy Industrial		
5	City of Lexington	Wastewater Treatment Plant, Undeveloped		
6	Lexington Co-op Oil, Co	AllPoints Coop		
7	John McCoy	Orthman Plant II		
8	CMV, LLC	Fairbanks International Used Equipment	New drive access required to Walnut. Walnut to new North-South Connector (south) to new East-West Connector (east) to County Road 435 (north) to County Road 755 (west) to US 30	No direct access to County Road 435 under Concept. New drive access required to Walnut. Walnut to new North-South Connector to new East-West Connector to County Road 435
9	Ernest Harris	Central Tire and Tread	County Road 435 (north) to County Road 755 (west) to US 30	No change
10	Downey & Associates, LLC.	Equipment/Storage		
11	Landmark Implement, Inc	John Deere Supplier	Requires driveway modifications on site. County Road 435 (north) to County Road 755 (west) to US 30	Requires driveway modification on site, but no additional change
12	Lexington Co-op Oil, Co	Bills Volume Sales, Inc.	County Road 435 (north) to County Road 755 (west) to US 30	No change
13	Jeffery Bourke	Hitch’N Rail (Mobile Home Park)		
14	Randal Thornburg	Randy and Brian’s Towing/Residential	Requires driveway modification on site to provide access, otherwise one parcel would be landlocked	Would need new connection to provide access, otherwise landlocked
15	Darling International, Inc.	Storage (undeveloped)	Landlocked without new access	
16	Charlene, Tilson	Central Nebraska Truss (construction/storage)	Landlocked without new access	



Map Id	Owner Name	On-Site Resource or General Use	US 30 (east/west)	County Road 435 (north/south)
17	Nebr By-Products, Inc.	Holdrege Irrigation Inc	Requires driveway modifications on site. County Road 755 (west) to US 30	Requires drive modification. County Road 755 (west) to County Road 435
18	Fred Stuart	Farm Field	No change	No change
19	Nebr By-Products, Inc.	Undeveloped		
20	Anne Kinnison	Farm Field		
21	Rodney Rech	Farm House/Field	New drive required on site to access	New drive required on site to access
22	Fairbanks	Farm Equipment Storage/Farm Field		
23	Private Owner	Farm Field		






500
Feet

PRELIMINARY AND SUBJECT TO CHANGE

PROJECT: LEXINGTON EAST VIADUCT
CONTROL NUMBER: 61457
PROJECT NUMBER: URB 1705(3)



Legend

-  Concept A Limits
-  Consolidated Parcels by Owner
-  City of Lexington Limits





Potential Access Changes as a result of Concept B

Map Id	Owner Name	On-Site Resource or General Use	US 30 OR County Road 435 (North of US 30)	County Road 435 (Portion south of Project Area)
1	Cornhusker Energy – Lexington, LLC	Heavy Industrial	Walnut or East Industrial Park Road to new Connector to Viaduct (north) to County Road 755 (east) to County Road 435 (south) to US 30	Walnut or East Industrial Park Road to new East-West Connector to County Road 435
2	Donald Price	Heavy Equipment/Industrial		
3	Oxbow Properties, LLC.	Undeveloped/Storage		
4	Darling International, Inc.	Heavy Industrial		
5	City of Lexington	Wastewater Treatment Plant, Undeveloped		
6	Lexington Co-op Oil, Co	AllPoints Coop	New onsite drive could access Viaduct directly from property. Viaduct to County Road 755 (east) to County Road 435 (south) to US 30	New onsite drive could access new East-West Connector to County Road 435
7	John McCoy	Orthman Plant II	Walnut to County Road 435 south to new East-West Connector to Viaduct to County Road 755 (east) to County Road 435 (south) to US 30	No change
8	CMV, LLC	Fairbanks International Used Equipment	Onsite drive access to Viaduct directly from property. Viaduct (north) to County Road 755 (east) to County Road 435	No change
9	Ernest Harris	Central Tire and Tread	County Road 435 (south) to New East-West Connector to Viaduct (north) to County Road 755 (east) to County Road 435 (south) to US 30	No change
10	Downey & Associates, LLC.	Equipment/Storage		
11	Landmark Implement, Inc	John Deere Supplier		
12	Lexington Co-op Oil, Co	Bills Volume Sales, Inc.		
13	Jeffery Bourke	Hitch'N Rail (Mobile Home Park)		
14	Randal Thornburg	Randy and Brian's Towing/Residential	No change	County Road 435 (north) to County Road 755 (west) to Viaduct (south) to New East-West Connector Road (east)
15	Darling International, Inc.	Storage (undeveloped)		



Potential Access Changes as a result of Concept B

Map Id	Owner Name	On-Site Resource or General Use	US 30 OR County Road 435 (North of US 30)	County Road 435 (Portion south of Project Area)
16	Charlene, Tilson	Central Nebraska Truss (construction/ storage)		to County Road 435
17	Nebr By-Products, Inc.	Holdrege Irrigation Inc		
18	Fred Stuart	Farm Field		
19	Nebr By-Products, Inc.	Undeveloped		
20	Anne Kinnison	Farm Field	New drive access onsite required	New Access to County Road 755 required for access
21	Rodney Rech	Farm House/Fields		
22	Fairbanks	Farm Equipment Storage/Farm Field	No Change	County Road 435 (north) to County Road 755 (west) to Viaduct (south) to New East-West Connector Road (east) to County Road 435
23	Private Owner	Farm Field	No Change	New onsite drive could access. County Road 755 (west) to Viaduct (south) to New East-West Connector Road (east) to County Road 435





500
Feet

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