

The additional third lane will terminate/begin at the westbound exit and eastbound entrance ramps of the IA 44 interchange. New ramp C entrance and ramp B exit curves and tapers will be reconstructed to meet current geometric standards.

Existing longitudinal subdrains are present along IA 141. The subdrain outlets should be extended through the new embankment material. In addition to this, new longitudinal subdrains and outlets will also be installed.

Pavement reconstruction will be required on some side roads in order to tie in the new third lane and right turn lane. The length of reconstruction should be minimized while still providing a smooth profile for the side road, accommodating turning movements and vehicle off-tracking with new radius returns, as well as maintaining the appropriate positive drainage.

**IA 141 PROPOSED TURN LANES AT INTERSECTIONS**

Side street	Existing Cross-section	Use RTL for new 3rd thru lane	Proposed Cross-section	RTL length
WB (NB) SE 37th St.	2 thru, 1 LTL, 1 RTL	UAC existing RTL as part of 3rd lane	3 thru, 1 LTL, 1 RTL.	400'
EB (SB) SE 37th St.	3 thru, 1 LTL, 1 RTL	UAC existing RTL	3 thru, 1 LTL, 1 RTL.	UAC
EB (SB) SE Grimes Blvd.	2 thru, 1 RTL	UAC existing RTL as part of 3rd lane	3 thru	No RT lane
WB (NB) SE Park View Ave.	2 thru, 1 LTL, 1 RTL	UAC existing RTL as part of 3rd lane	3 thru, 1 LTL	No RT lane
EB (SB) SE 28th St.	2 thru, 1 LTL		3 thru, 1 LTL	No RT lane
WB (NB) SE 19th St.	2 thru, 1 LTL, 1 RTL	UAC existing RTL as part of 3rd lane	3 thru, 1 LTL, 1 RTL.	350'
EB (SB) SE 19th St.	2 thru, 1 LTL, 1 RTL	UAC existing RTL as part of 3rd lane	3 thru, 1 LTL, 1 RTL.	350'
WB (NB) SE 11th St.	2 thru, 1 LTL, 1 RTL	UAC existing RTL as part of 3rd lane	3 thru, 1 LTL	No RT lane
EB (SB) SE 11th St.	2 thru, 1 LTL, 1 RTL	UAC existing RTL as part of 3rd lane	3 thru, 1 LTL, 1 RTL.	300'

The existing traffic signals serving IA 141 traffic at SE 37<sup>th</sup> Street (westbound only), SE 19<sup>th</sup> Street and SE 11<sup>th</sup> Street will be removed and replaced with new longer mastarms to accommodate the additional third lane. The existing traffic signal poles and mastarms on the side roads at SE 37<sup>th</sup> Street (eastbound leg only), SE 19<sup>th</sup> Street, and SE 11<sup>th</sup> Street can be salvaged and replaced; however, new footings will need to be poured in order to relocate the signals.

Luminaires are currently provided on all the traffic signals poles. Two additional light poles are also provided at the SE 11<sup>th</sup> Street intersection. These luminaires conflict with the additional lane and therefore will need to be removed and replaced if deemed necessary.

The design should strive to minimize acquisition of right of way; therefore, 4:1 foreslopes are proposed. Paved shoulders with curb along with storm sewer are proposed at the northwest corner of the intersection of IA 141 and SE 11<sup>th</sup> St. to avoid right of way impacts to the existing business.

There are two century farms located on the west side of IA 141 north of SE 28<sup>th</sup> Street. The frontage roads that serves these properties that will need to be relocated. There are several trees will require removal.

There are utility lines on the both sides of IA 141. These lines are installed on both public and private property. The design should strive to avoid impacts to the utility lines.