Kenilworth Bridge Design

JUNE 2015

EXISTING CONDITIONS

Freight Bridge: Precast concrete girders with faceted exposed sides supported by cast-in-place concrete beam and columns. Columns overlap outside face of girders and are cantilevered away from abutments.

LRT Bridge: Post-tensioned concrete slab bridge with support beam integrated into columns to form angled piers. Sides of bridge superstructure are faceted to reduce scale.

Trail Bridge: Weathered steel bridge with offset center and projecting overlook near south end.

CONCEPT 1 - Angular Steel

Freight Bridge: Precast concrete girders with faceted exposed sides supported by cast-in-place concrete beam and columns. Columns overlap outside face of girders and are cantilevered away from abutments.

LRT Bridge: Post-tensioned concrete slab bridge with support beam integrated into columns to form angled piers. Sides of bridge superstructure are faceted to reduce scale.

Trail Bridge: Weathered steel bridge with offset center and projecting overlook near south end.

CONCEPT 2 - Angular Steel with Skew

Freight Bridge: Precast concrete girders with faceted exposed sides supported by cast-in-place concrete beam and columns. Columns overlap outside face of girders and are cantilevered away from abutments.

LRT Bridge: Post-tensioned concrete slab bridge with support beam integrated into columns to form angled piers. Sides of bridge superstructure are faceted to reduce scale.

Trail Bridge: Weathered steel bridge with offset center and projecting overlook near south end. Skewed trail alignment at north end to increase gap between bridges.

CONCEPT 3 - Arched Deck

Freight Bridge: Precast concrete girders with arched profile supported by cast-in-place beam on elliptical paired piers.

LRT Bridge: Post-tensioned concrete slab bridge with arched profile and elliptical paired piers. Beams integrated into bridge structure.

Trail Bridge: Cast-in-place concrete bridge with arched bottom and flat top.

CONCEPT 4 - Thin Taper

Freight Bridge: Precast concrete bridge with tapered edges supported by cast-in-place concrete beam on cantilevered square column frame.

LRT Bridge: Post-tensioned concrete slab bridge deck with tapered edges supported by cast-in-place concrete beam on cantilevered square column frame.

Trail Bridge: Cast-in-place concrete bridge with arched top and bottom, rising two feet to center of span.

WORK IN PROCESS