



# Tower Road Lighting & Landscaping Review

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August 17, 2015

# Purpose

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- Provide follow up on proposed lighting and landscaping design based on questions from Council on 4/13/15
- Provide project schedule update



# Project Goals

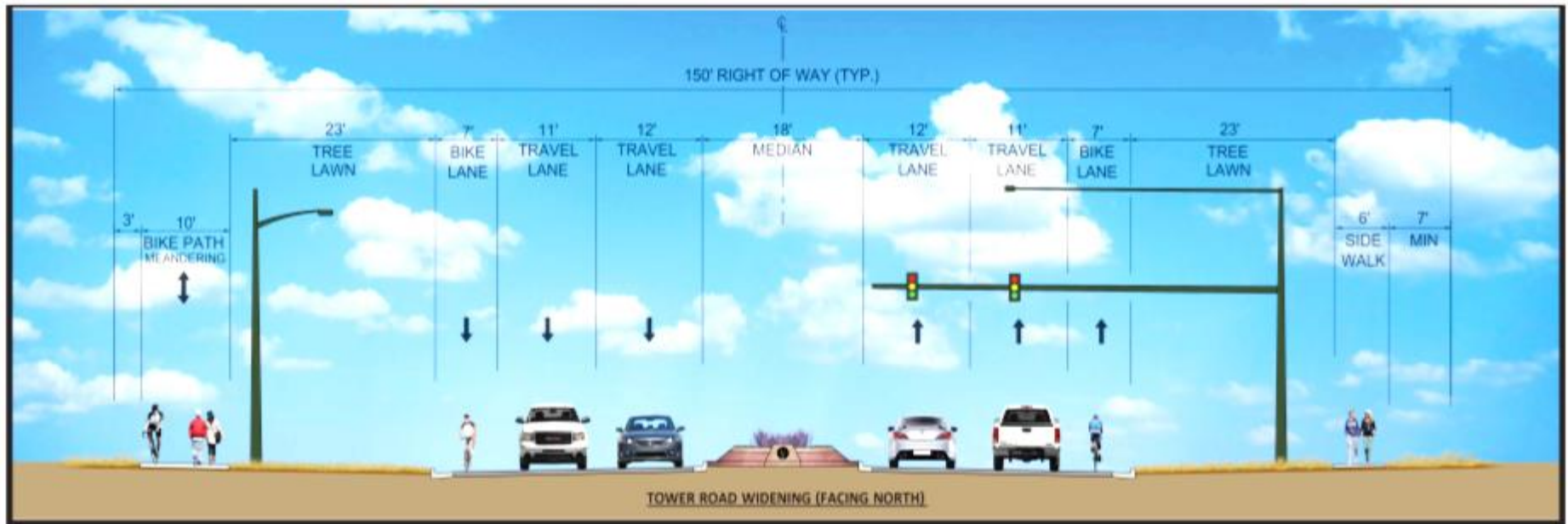
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The project is intended to accomplish the following:

- Increase vehicle capacity
- Improve safety
- Provide a higher level of service (traffic movement)
- Eliminate flooding & improve water quality
- Environmentally & contextually sensitive
- Multi-modal – accommodate pedestrians, bicyclists and vehicles



# Proposed Project



# Street Lighting Analysis

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Consultant performed a cost analysis over a 10-year period including:

- Initial Luminaire cost
- Energy cost
- Maintenance cost

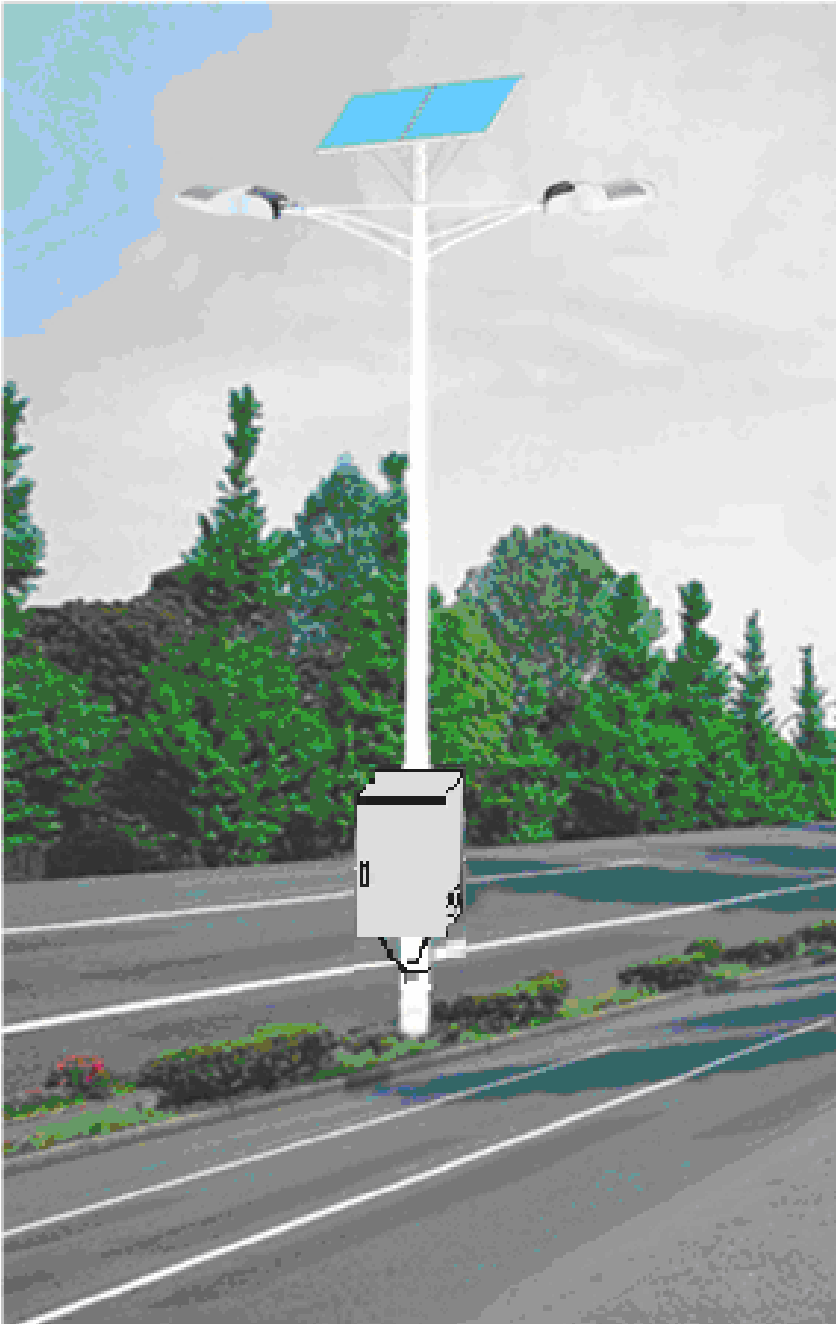
Comparison:

- High Pressure Sodium (HPS) - United Power owned & maintained
- Light-Emitting Diode (LED) - United Power owned & maintained
- Light-Emitting Diode (LED) - City owned & maintained
- **At Council direction, also analyzed solar powered lighting options**

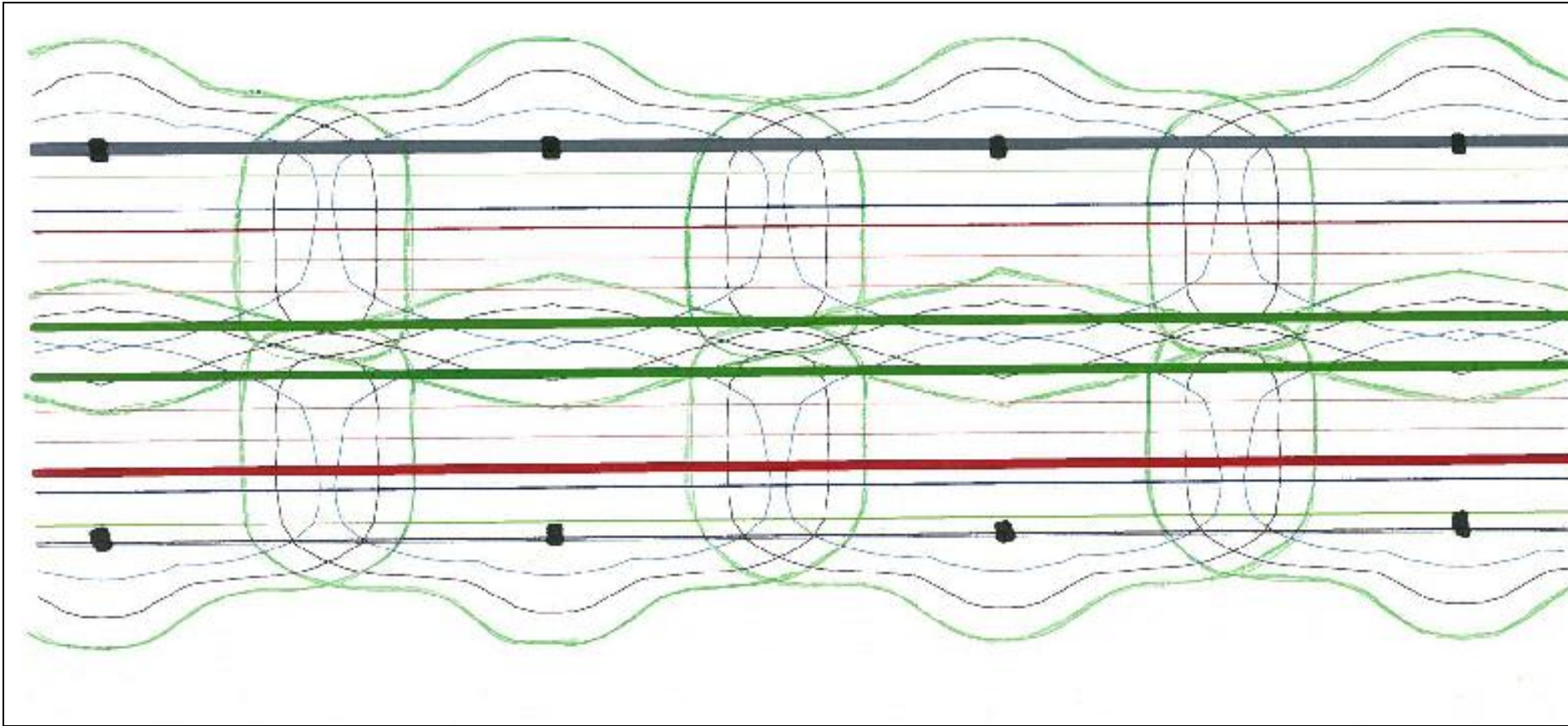


# Solar-Powered Lighting Analysis

- Typically used in applications where electricity access is difficult
- Each pole would require a solar panel affixed to the top
- Lumen output does not meet AASHTO requirements; light distribution will not cover the lanes of traffic, the bike lane and the sidewalk
- Very expensive compared to LED option but grants often used to offset initial cost
- Maintenance costs similar to LED



# Light Coverage



- Without mast arms, eliminates the need for lights on the backside of the poles to illuminate the sidewalk/ trail







# Summary

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- LED lights; City-owned & maintained
- Poles & luminaires a dark color with similar bases & poles to existing lights on 104<sup>th</sup> Ave
- No mast arms
- Banner poles designed to provide 2' x 4' double banners for entire length; initial installation will focus banners at intersections



# Landscaping Review

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In keeping with project goals:

- Sustainable design with low-water, xeric-type materials
- No spray irrigation; surface irrigation
- “Pockets” of landscaping vs. entire median planted and irrigated
- Vary height and plant material
- Use rock & boulders for visual interest; limited mulch
- **Per Council direction, incorporate trees**



# “As Installed” Landscape Condition

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# **“Grown/Mature” Landscape Condition**

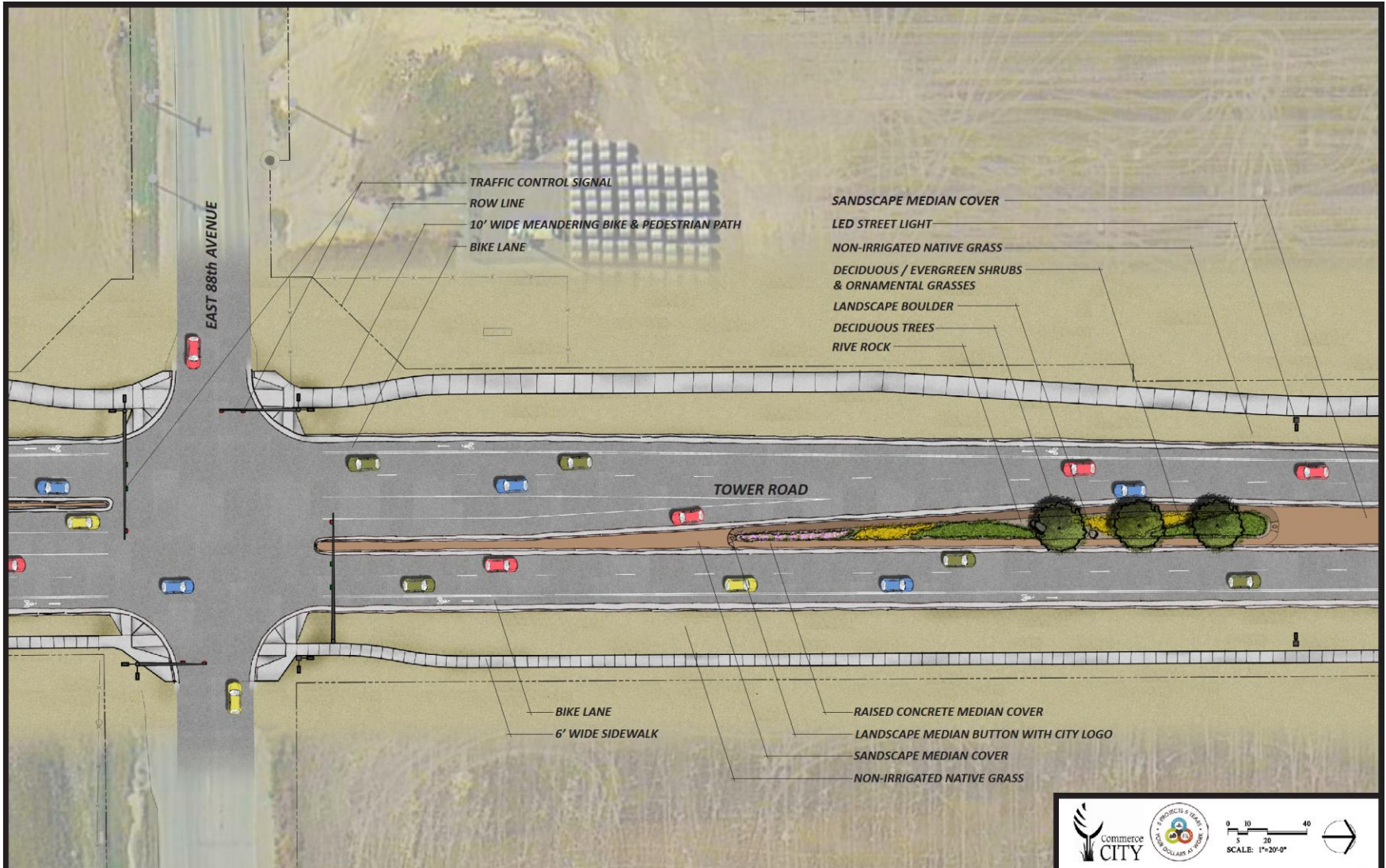


# Tower Road “At Dusk”

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# Plan View of Landscaping Improvements



DATE: 08/10/2015

TOWER ROAD - INTERSECTION OF TOWER ROAD & EAST 88th AVENUE ENLARGEMENT PLAN

# Landscaping Review

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- Trees incorporated into median outside of sight lines
- “Rest stop” created at Second Creek; HEAL initiative
- All xeric-type materials using materials already proven in other Commerce City medians
- No spray irrigation; meets Castle Rock Water Wise standards
- Diamond pattern on etched, concrete medians to add visual interest at no additional cost



# Other Design Elements

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- Delineation of bike lanes – complicates snow removal operations; lanes need to be functional year-round
- In-pavement delineators – not necessary for alignment; will be used on Highway 2 in painted median
- Tabs/markers for utilities – will incorporate in design



# Next Steps

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- Finalize design of modified regional drainage elements; draft agreements with private property owners
- 80% plans being reviewed by City staff & utilities
- Land acquisition – ROW & easements
- Anticipated construction bid released Q4 2015 subject to land acquisition





# Questions

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