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## MASTER INFRASTRUCTURE PLAN NEDERLAND BOARD OF TRUSTEES WORKSHOP AGENDA

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Project:	<u>Master Infrastructure Plan</u>	DATE:	<u>December 17, 2013</u>
Client:	<u>Town of Nederland, Colorado</u>	JOB NO.	<u>2122c</u>

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### 1. Introduce JVA Team:

**Joel Price, PE, LEED AP – Project Manager**

**Josh McGibbon, PE – Environmental Division Manager – Water and Wastewater**

**Chad Cantrell, PE, Certified Floodplain Manager**

### 2. What is a Master Infrastructure Plan and what is it good for?

*It's a technical document that provides the community with an inventory of current infrastructure and state with a "road map" to prioritize necessary improvements to meet the critical needs of the community and developing environmental regulations to improve quality of life.*

### 3. What a Master Infrastructure is NOT?

*It's not a design document, but does take an objective approach in determining the needs and prioritization of a community.*

### 4. Why does quality infrastructure matter?

*Water, sewer, and roads are integral to our basic every day needs for any community to thrive. Infrastructure provides most of us security, safety, revenue, and sustainability for the community. On the contrary, poor infrastructure is a liability for a community.*

### 5. Examples that quality infrastructure provides improved quality of life:

Mitigates against flooding and erosion

Mitigates against contamination and pollutants to source waters as it relates to sewage, drinking water, and erosion

Source of revenue for community to sustain maintenance cost and keep up with current regulations

Fire protection

Improved water system

Emergency Access Options (in the case of Big Springs)

Protect Habitat and Community



**6. What has been inventoried and accounted for:**

Roads – 20,000 feet of Paved and 71,500 feet of Gravel

Stormwater and Erosion – 15 to 20 areas have critical needs

Sanitary Sewer – 37,800 feet of 4” to 12” sizes, materials and conditions

Waterline - 97,000 feet of 4” to 10” sizes, materials and conditions

**7. Neighborhood Critical Needs:**

**For All:**

Low Impact/Natural Stormwater Management

Low Impact/Natural Erosion Control

Low Impact Roadway Alternative

**Big Springs**

Frozen Water Lines (Pump Improvements)

Sanitary System

Emergency Access

**Old Town**

Frozen Waterlines

Sanitary Sewer Rehab

**Downtown**

Frozen Waterlines

Sanitary Sewer Rehab

**Lakeview**

Sanitary Sewer Rehab (Stinky Gulch)

**Hilltop**

Sanitary Sewer Extension

**Sunnyside**

Water System Loop

**Community Center**

High Priority for Stormwater Management

**Caribou Ridge**

Water System Improvements



**8. Sustainability** – Alternative for Natural, or Low Impact design and incorporation of the Envisions Rating System for Sustainable Infrastructure that meet the ideals of the Town or meet current or future regulations:

CIPP – Trenchless technologies to repair sanitary

Eliminate Individual Sewage Disposal Systems

Insulation for Freezing Water Lines

Variable Frequency Drive Pumps

Improvements to the Drainage and Utility Standards

Vegetation Bioswales and Erosion Control Blankets for roadside ditches

Natural drop structures in roadside ditches to mitigation erosion/velocity

Cobble forebays and outfalls at driveway culverts

Bioswales

Grass Buffers, Grass Swales

Bioretention (Rain Garden or Porous Landscape Detention)

Extended Detention Basins

Water Quality Basins

Constructed Wetlands and Wetland Channels

Pavement Alternatives – Recycled Asphalt, Concrete, or Permeable Paver Systems to mitigate against runoff

Stream Buffers requirements

Erosion Control measures including rock check dams, earthen drop structure, sedimentation basins, level spreaders.

Dry wells and Cobble Forebays

Signage to Educate Public on Stormwater Management