

City of Brighton Storm Water Master Plan Learning Session

Overview of the City's 2015-2016 SWMP Efforts



Content Overview

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Why we need a Stormwater Master Plan



How Development Affects a Watershed



Master Planning Process

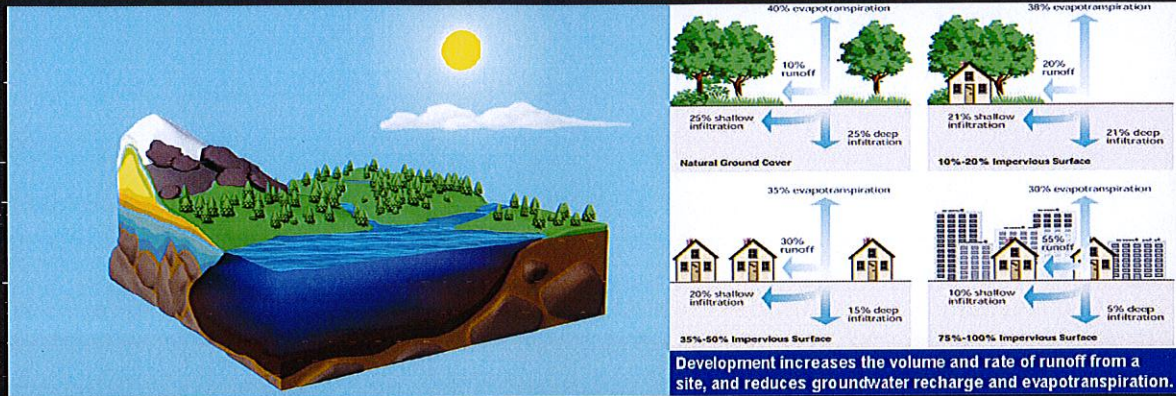
Solutions Developed



Questions and Answers

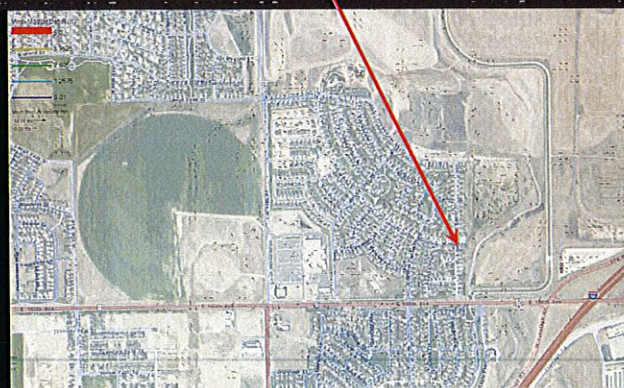


How Development Affects a Watershed



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How Development Affects a Watershed



1. Colorado Law Requires Municipalities and Developers to "Provide a Proper Outlet for Drainage Improvements Constructed"
2. Even when those are provided correctly, perception may differ. (Consider June 6th Storm)



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Why We Need a Master Plan

1. Why do we need to do anything with stormwater?

- I. Legal Requirements, Civil Law Rule and Reasonable Use Rule, see Colorado Drainage Law

2. If we leave land as farms, it will infiltrate, when we develop, all of it runs off.

- I. Reasonable Use Rule states that liability is attached to a landowner if the discharge of water from land alterations is deemed "unreasonable"

3. If Development upstream of an owner occurs, the *Developer* and or *Municipality* must provide an outlet or prove a reasonable approach was taken to manage stormwater so it does not negatively affect downstream owners.



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Estimating the Impacts of Development (Get new slide)



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Why We Need a Master Plan

1. Additionally:

- I. 1972 Clean Water Act (Federal Laws)
- II. CWCB Water Rights (State Laws)
- III. CDPHE (State Laws)
- IV. UDFCD (Regional Criteria)
- V. City of Brighton Stormwater Criteria (Local Regulations)



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Why We Need a Master Plan

1. In Summary:

- I. A stormwater master plan allows for outfall planning and development to make reasonable discharges of additional runoff resulting from development.
- II. Brighton's Stormwater Master Plan is unique,
 - i. No natural drainages through City
 - ii. No connections to Rivers
 - iii. Rail and Highway Crossings to get to any outfall
 - iv. Water Rights, can't put storm water into agricultural ditches



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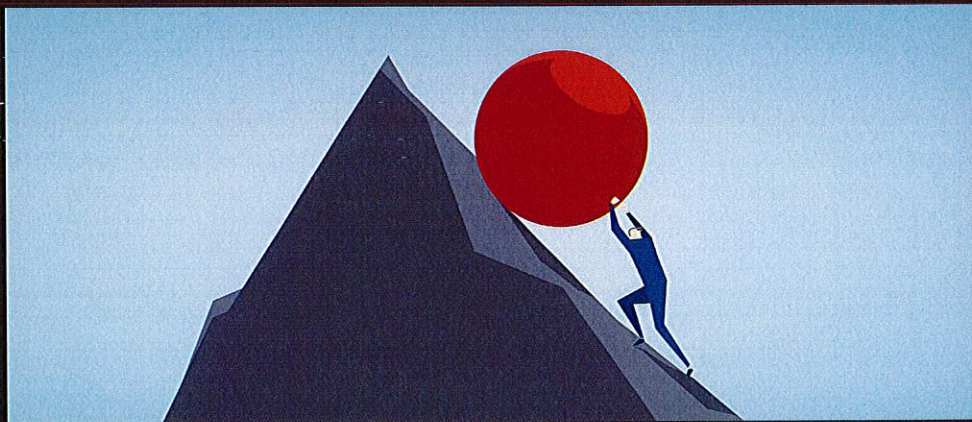
Understanding the Stormwater Master Plan

- The Stormwater Master Plan is not the plan for City to construct, it is the plan that developers need to work towards managing and proposing how they release stormwater from their site.
- It is the responsibility of the person developing or altering the land surface to control and manage the stormwater.
 - Just as it is the responsibility of a housing development to provide drinking water and wastewater lines to and from the service locations.



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Thank you for your Time
Do you want continue?



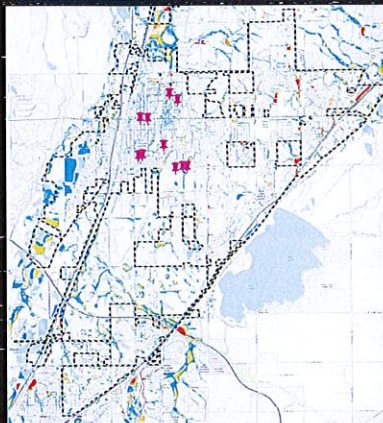
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Master Planning Process

Hydrology and Hydraulics



Problem Area Identification



Alternative Evaluation And Conceptual Design



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Solutions Developed

1. This Stormwater Master Plan Developed Concept Outfall Designs for Major Development Across the City
 - I. 120th Outfall
 - II. Mountain View and Preserves
 - III. Vestas
 - IV. Brighton Lakes

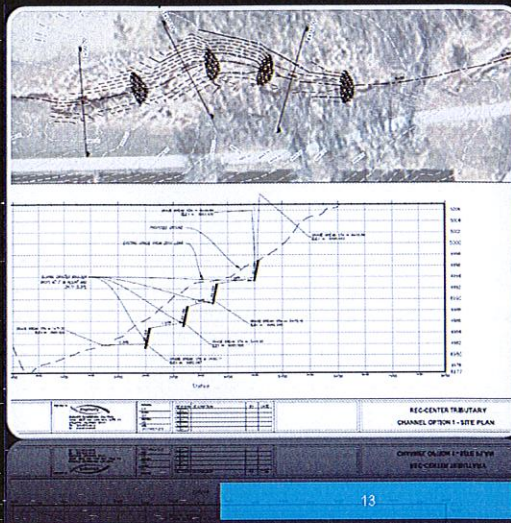


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Solutions Developed

1. As plans change, so does this;
 - I. It is planned that this document will be updated as needed to reflect the dynamic nature of development in Brighton.
2. City is already being Proactive
 - I. Rec Center Tributary
 - II. 2nd and Egbert
 - III. 4th Ave Outfall



Brighton



Enginuity

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Thank you for your Time



Brighton

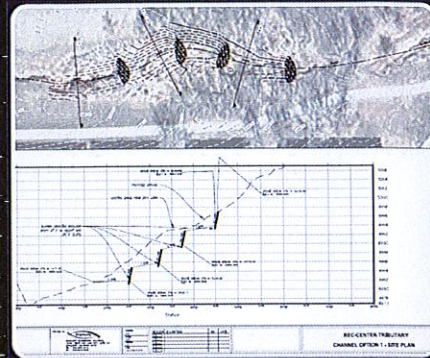


Enginuity

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Mountain View

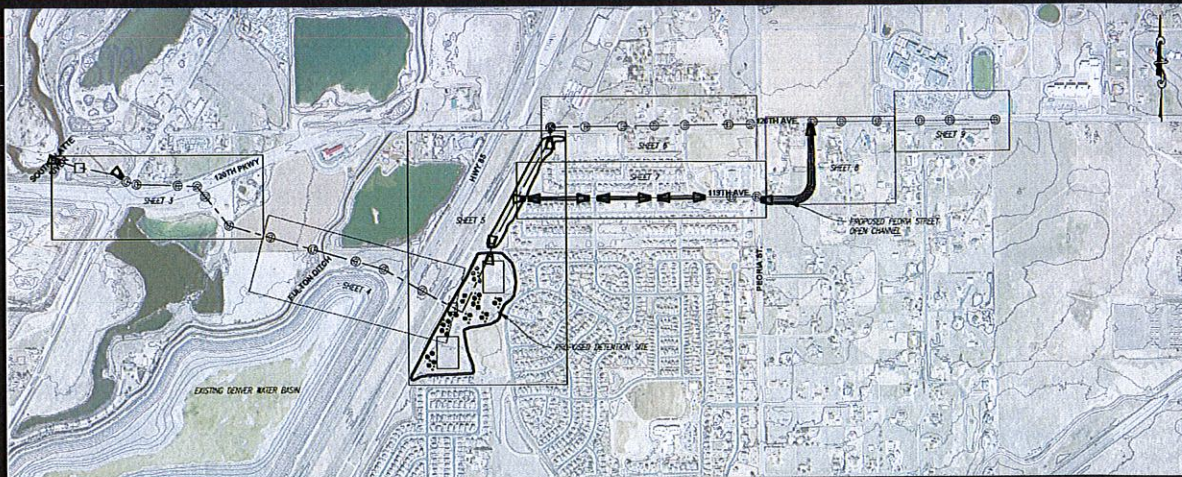
1. Input outfall examples for Q and A as needed
2. Here's an example of common problems developed when development occurs at top of the watershed.



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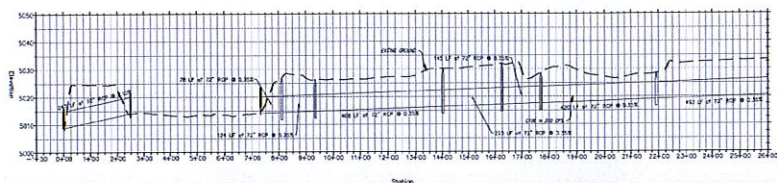
120th Outfall Plan



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120th Outfall Plan



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120th Outfall Plan



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120th Outfall Plan



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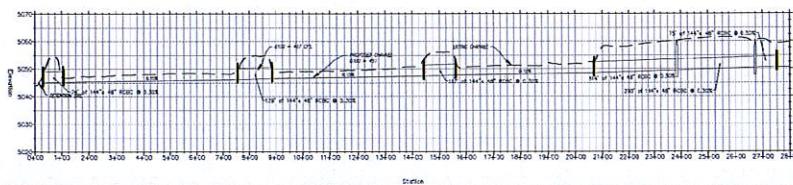
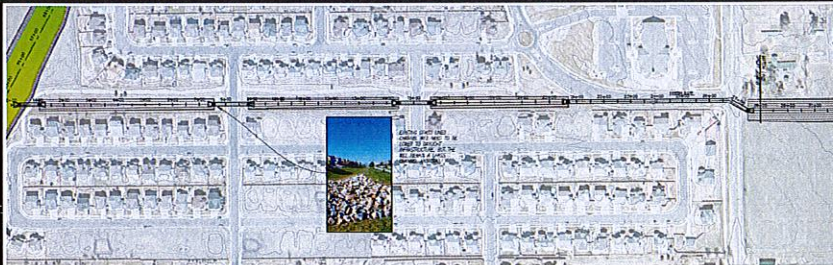
120th Outfall Plan



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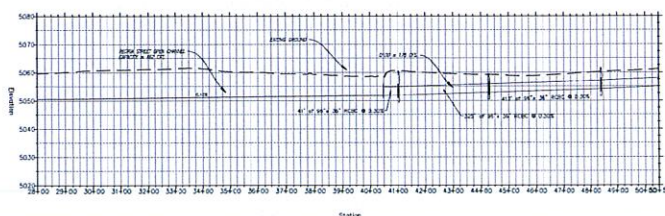
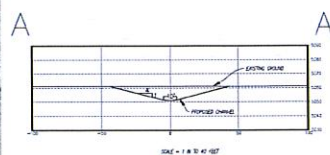
120th Outfall Plan



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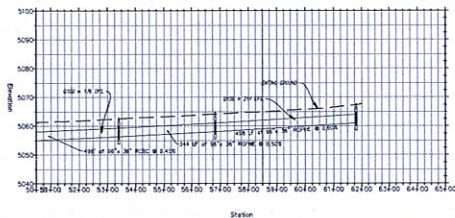
120th Outfall Plan



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120th Outfall Plan



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Mountain View Outfall Plan



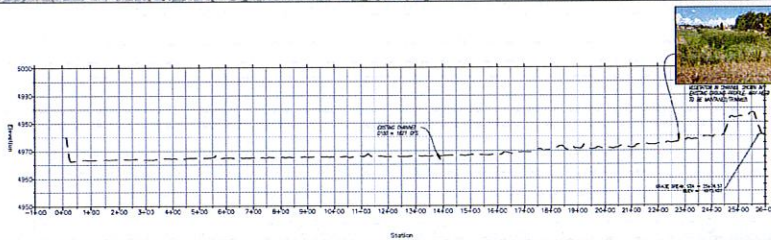
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Mountain View Outfall Plan



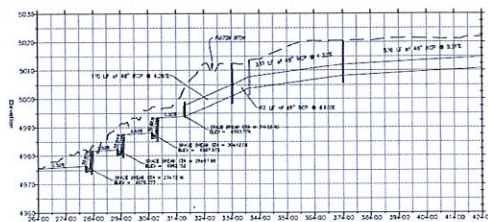
Mountain View Outfall Plan



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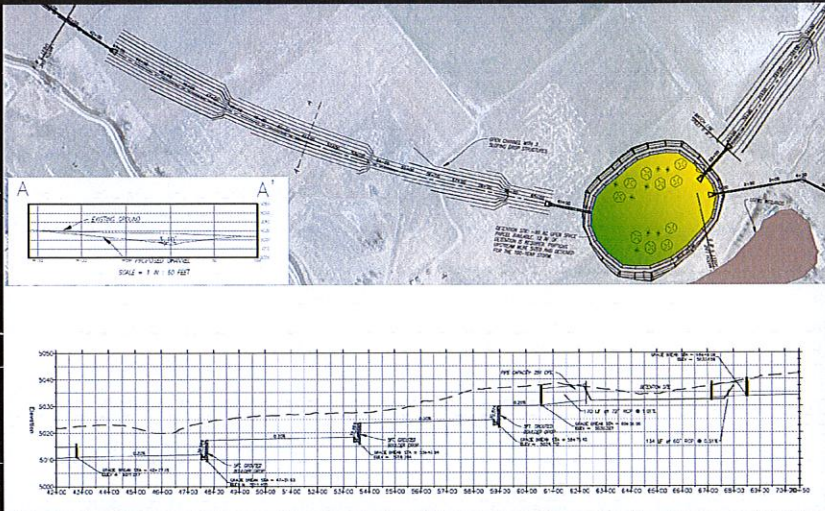
Mountain View Outfall Plan



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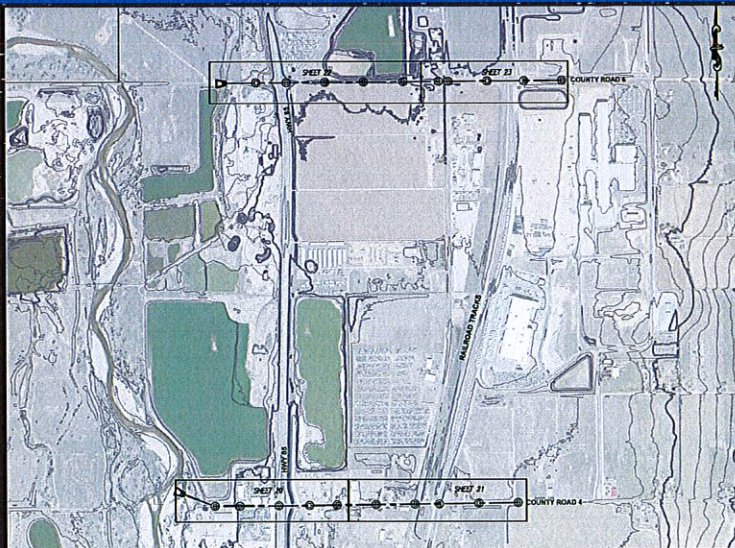
Mountain View Outfall Plan



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Vestas Industrial Park



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Brighton Lakes Outfall Plan



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