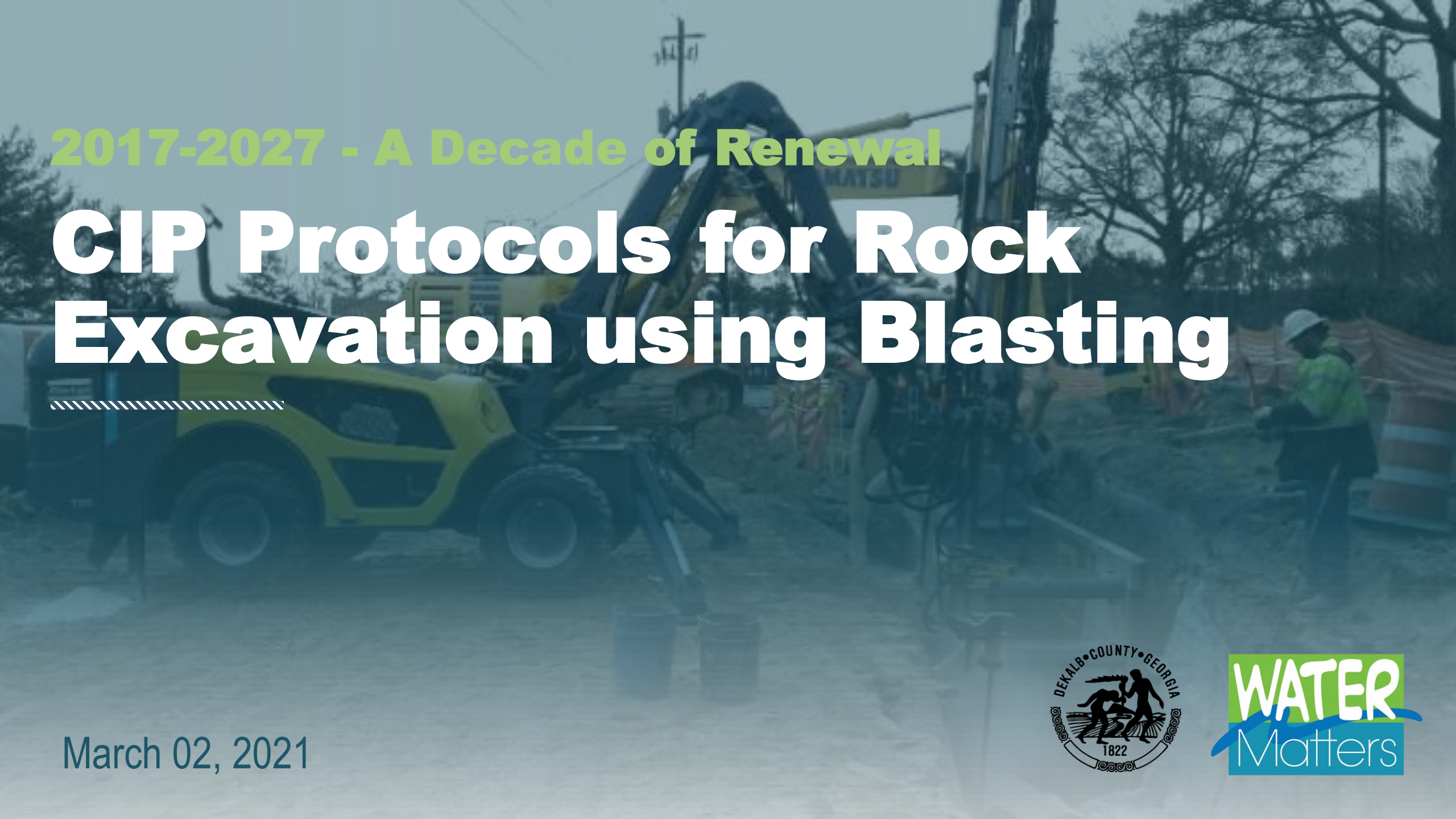


2017-2027 - A Decade of Renewal

CIP Protocols for Rock Excavation using Blasting

March 02, 2021

CONTENTS

CONTEXT

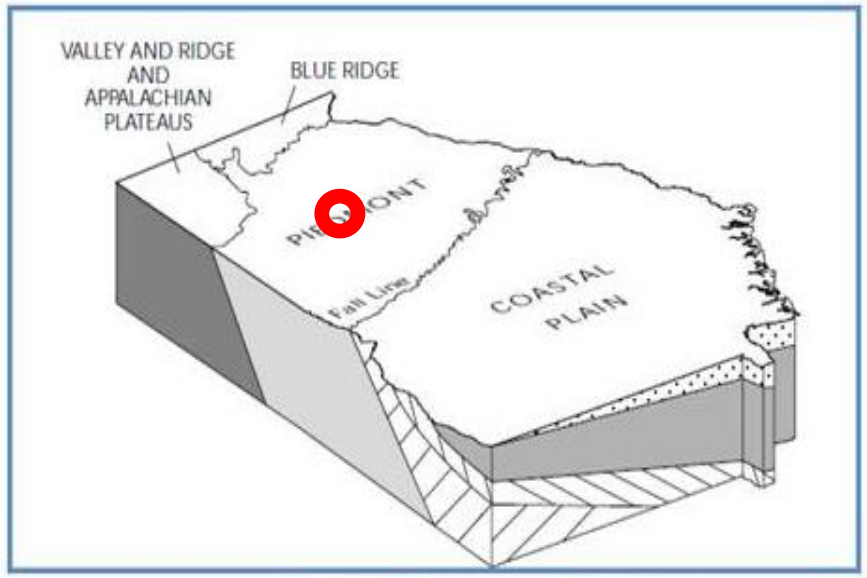
A challenging environment and historical mis-management

AJC October 7, 2016

CIP 2021's major focus is on DeKalb's underground infrastructure

The Department of Watershed Management's (DWM) Capital Improvement Plan for 2021-2030 (CIP 2021) will focus strongly on water and wastewater pipe replacement – the under-ground portions of the water/wastewater system

ENVIRONMENT



Georgia's Physiographic Provinces
(Source: Georgia Department of Natural Resources, Georgia Geologic Survey, Information Circular 106)

Located within the Piedmont Region, DeKalb sits on hard, metamorphic rocks (rocks formed by heat and pressure) like gneisses and schists, with intrusions of similarly hard igneous rocks (rocks that solidify from molten rock or magma), such as the very hard and durable granite that forms Stone, Panola and Arabia Mountains

Georgia granite is quarried and is widely sought as an architectural and construction material

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CHALLENGE

The rock that underlies most of the County presents an on-going challenge to the construction of underground infrastructure

DEFINING TERMS

HIGH ORDER BLASTING vs. LOW ORDER BLASTING

e.g. Snapfinger

Typical for DWM

Historical Issues – Snapfinger AWTF 2013-2016

News

Blasting concerns again halt work at Snapfinger sewage plant

February 9, 2016

Snapfinger AWTF
Headline and Image
from Champion article
February 9, 2016

PERSPECTIVE

The Snapfinger project involved *SIGNIFICANTLY* more rock excavation than typical CIP projects

Record	Project	Infrastructure Type	Construction Years	Volume of Rock Removed by Blasting
Issues	Snapfinger AWTP – Phase 1	Treatment Plant	2013 - 2015	201,400 CY
New processes developed	Snapfinger AWTP – Phase 2	Treatment Plant	2015 - Current	165,700 CY
New processes implemented	Lithonia	Pump Station	2016 - 17	~7,000 CY
	Johnson Creek	Pump Station	2017 - 18	~5,000 CY
	Honey Creek	Gravity Sewer	2018 - 19	618 CY
	Upcoming blast at Memorial Drive	Gravity Sewer	Current	222 CY (0.06% of Snapfinger)

ROOT CAUSES

- **Controls not in place:**
  - Blasting sub-contractor not properly approved
  - Blasting plan not executed as planned
  - Specification were not up to par or enforced
  - Construction management oversight lacking
- **Processes not followed:**
  - Seismic monitors not in place, not calibrated or not operational
  - Records associated with the blasts, including timing of the blasts, not properly maintained
- **Recourses not available:**
  - Contractor not able to remedy issues
  - Proper insurance and bonding were not acquired by Contractor

PERSPECTIVE

Typical CIP projects require only small, targeted blasts that can be largely contained with the use of special blast mats

https://www.youtube.com/watch?v=eDRS7M2_sCA

A NEW DAY – Applying lessons learned

Best Practice Controls

- Updated and detailed public outreach requirements
- Independent Construction Managers on all projects
- 2016 – Construction specifications re-written, including more stringent blasting controls

Detailed Blasting Plans

- All blasting requires the contractor to prepared detail blasting plans at least 60 days prior to the planned blast
- Plans are reviewed and approved by both DWM and DeKalb's Fire Marshall

Public Outreach

- DWM develops and tailors a site-specific and extensive public outreach process
- Contractor has clear responsibilities under their contract for comprehensive outreach
- Homeowners within 500 ft approached in person, and facilities documented by video pre/post blast

Root causes systematically addressed.

Enforcing best-practice contract requirements

Key requirements:

- Ensure contractor and all sub-contractors appropriately insured and bonded
- Enforce oversight provisions
- Third-party Construction Management oversight
- Site-specific public outreach

All blasting plans are reviewed and approve by the Fire Marshall

- Verify blasting contractor and manager both licensed by the State
- Review blasting site plan and provide feedback or approval
- Plan for pre- and post-blast surveys of nearby structures
- Third party seismic monitoring
- Assign Fire Inspector to standby and monitor each blast to verify compliance with permit and regulations

OUR ASK

What is next?

PLEASE UNDERSTAND

Every reasonable effort has been made to avoid blasting, however, if require:

1

Best Practices Are Implemented

Every reasonable effort has been made to avoid blasting:

- All alternative technologies evaluated
- All blasting work is carried out using best-practice approaches, contractual terms and work practices

2

Thorough Public Outreach

Communications with the BOC are just a part of extensive and best-practice outreach plans:

- Direct outreach to impacted residents
- Consistent message across multiple communication channels

3

We Appreciate BOC Support

- Consistent message that, while we do all we can to minimize blasting, sometimes blasting is required
- When required, we have best practice controls and safeguards in place
- When required, thorough and complete public outreach will be implemented


QUESTIONS?
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Matters