

# City of Columbia Pre-Council Meeting

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Monday, August 17, 2020

# AGENDA

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- Stormwater Priorities
- Design considerations
- Hickman, 6<sup>th</sup> & 7<sup>th</sup> Area Overview
- Hickman and 6<sup>th</sup> Stormwater Project
- Next Steps

# Stormwater Priorities



- Prioritizes Safety
  - Street Flooding
  - Failing Infrastructure
- 2015 Ballot Issue
- Structure flooding
- Many worthwhile projects rank lower



## **Dangerous Rushing Water & Failing Infrastructure**

City Project: Sinclair Culvert at Mill Creek



## **Project Complete**

City Project: Sinclair Culvert at Mill Creek

Fall 2018



Photo from Columbia Tribune

## **Deep Water in Traffic Way – Critical Paths**

City Project: Garth at Oak Towers

Currently out for Bid



## **Danger of Collapse**

City Project: Hickman and 6<sup>th</sup>

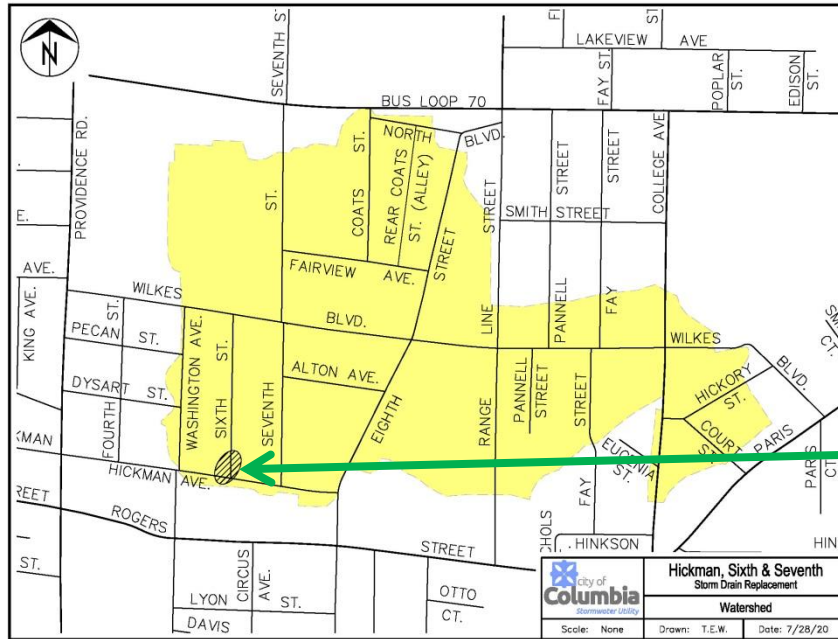
# Design Considerations

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- New stormwater residential design – “greenfield” development
  - 10-year event infrastructure
  - 100-year event manage overflow
  - FEMA Zone X shaded – City requirement to build 2’ above floodplain elevation
- Retrofit stormwater design – utility and site constraints
  - Upgrade infrastructure
  - Reduce flooding risks



# Hickman, 6<sup>th</sup> and 7<sup>th</sup> Watershed

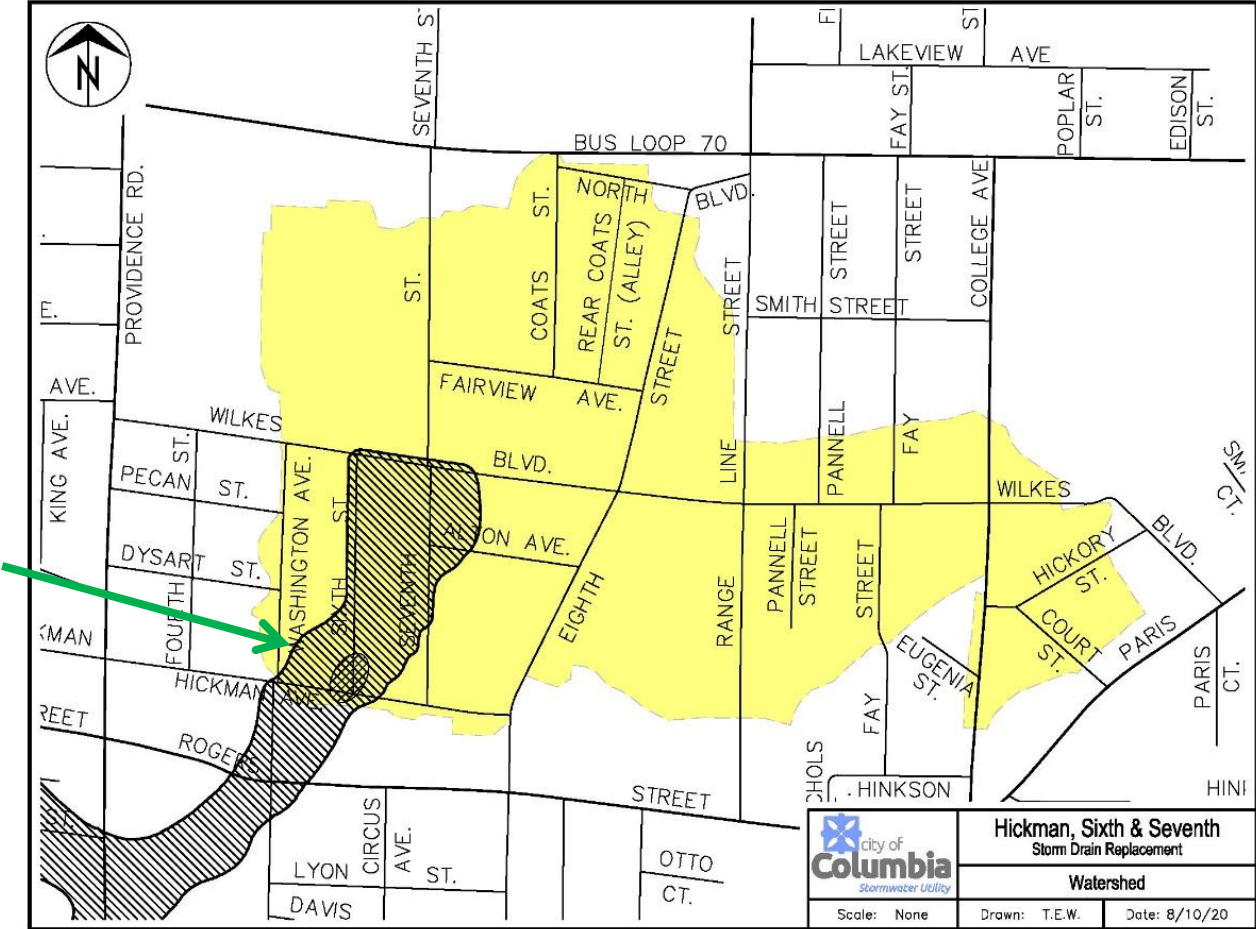


Watershed ~ 125 Acres

- Residential
- Education Campus
- Industrial/Commercial

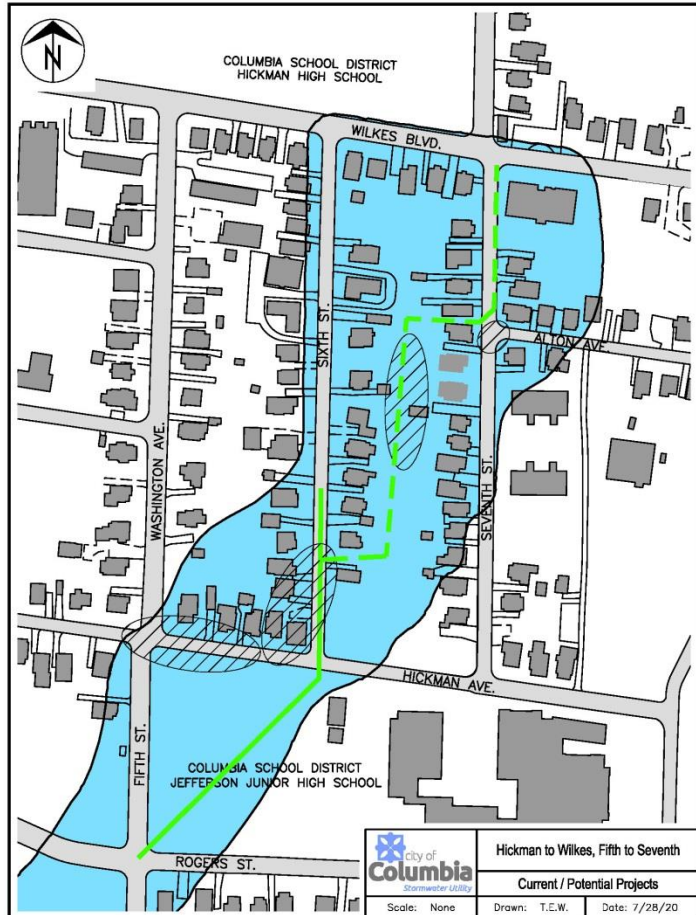
Project Location

Floodplain



# NORTH CENTRAL NEIGHBORHOOD

## Projects Summary



## PROJECTS COMPLETED

- 6<sup>th</sup> Street Improvement
- 7<sup>th</sup> Street Improvement
- I&I Sewer Work
- Alton Ave Storm Drainage

## CURRENT PROJECTS

- 5<sup>th</sup> to Wilkes Relief Sewer
- Hickman and 6<sup>th</sup> Storm water
- Future phases

# Hickman and 6<sup>th</sup> Stormwater

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## TIMELINE

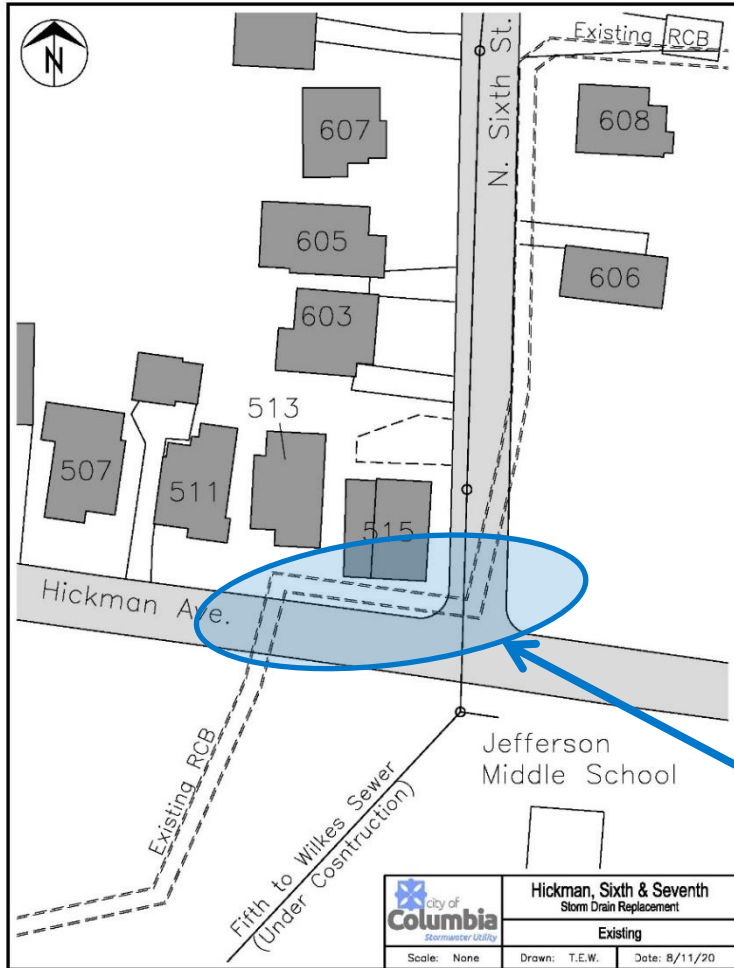
- Project identified in the 2015 Stormwater Ballot Initiative
- Interested Parties Meeting – January 28<sup>th</sup>, 2020
- Zoom Neighborhood Meeting – August 10, 2020
- Public Hearing – Proposed Fall 2020

## QUICK FACTS

- Replacement of 320 feet of Reinforced Concrete Box (RCB), 200 feet of pipe and 10 inlets.
- Estimated Cost ~ \$1,100,000

# HICKMAN AND 6<sup>TH</sup> STORMWATER

Project Location



Project Location

# PROJECT GOALS



1. Replace failing section of conveyance box.
  - Reinforced Concrete Box (RCB)
  - Built in Mid-Late 1930s
  - Steel in Top Slab Rusting Through

# PROJECT GOALS, CONT'D



## 2. Reduce Flooding

- Improve Hydraulics of RCB
  - Steeper Slope
  - Less Abrupt Turns
- Improve Overflow, if possible
- Add Inlets to System



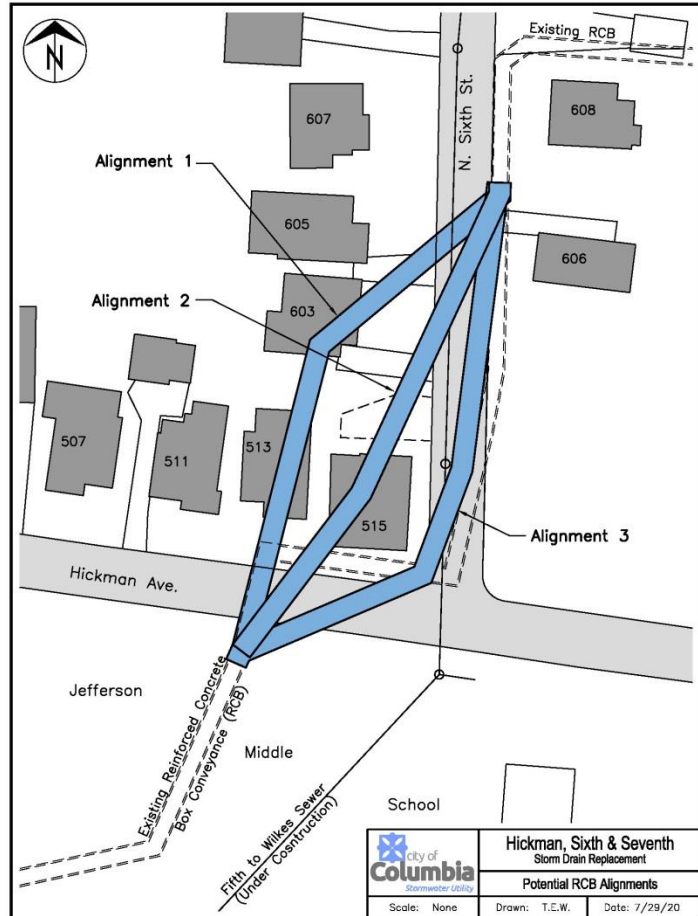
## **Overflow Path from 6<sup>th</sup> to Hickman**

Looking Downstream (southwest)



# HICKMAN AND 6<sup>TH</sup> STORMWATER

## Possible Alignments



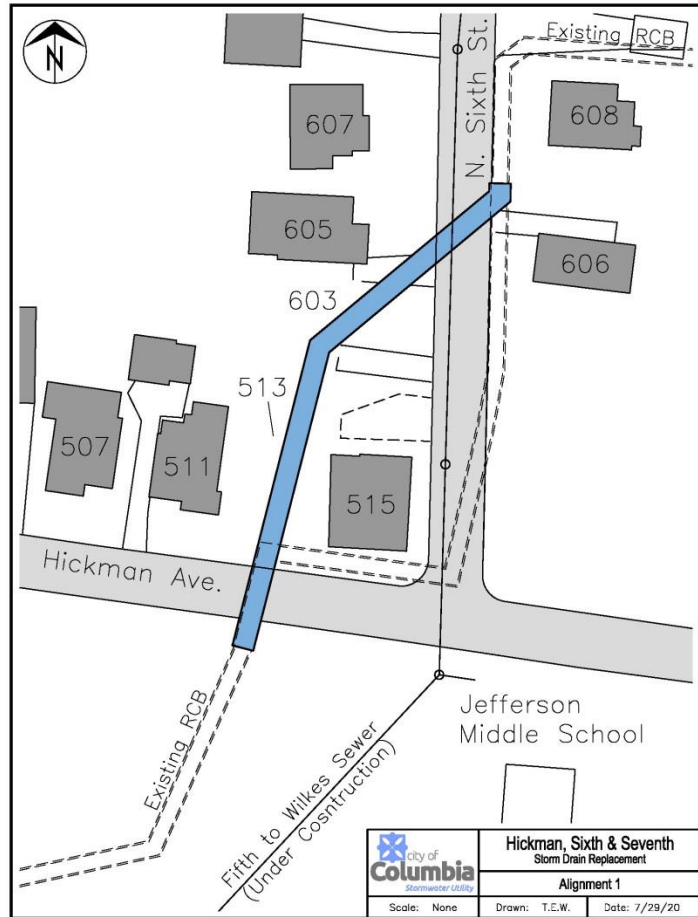
## THREE BASIC ALIGNMENTS

- #1 – Through 2 Residential Properties NW of Intersection
- #2 – Through 1 Property at Corner of Intersection
- #3 – In existing Right-of-Way

A discussion of each alignment follows.

# HICKMAN AND 6<sup>TH</sup> STORMWATER

## Alignment 1



## PROS

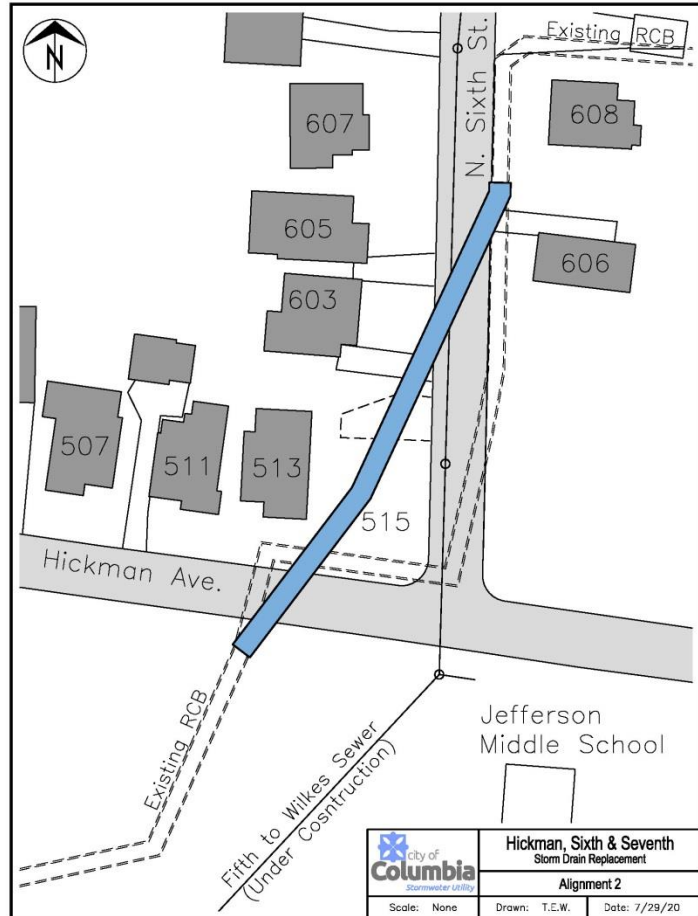
- Removes structures difficult to protect from flooding
- Improved Culvert Hydraulics
- Good Overflow Path

## CONS

- Removes two houses
- Flooding risk for 515

# HICKMAN AND 6<sup>TH</sup> STORMWATER

## Alignment 2



## PROS

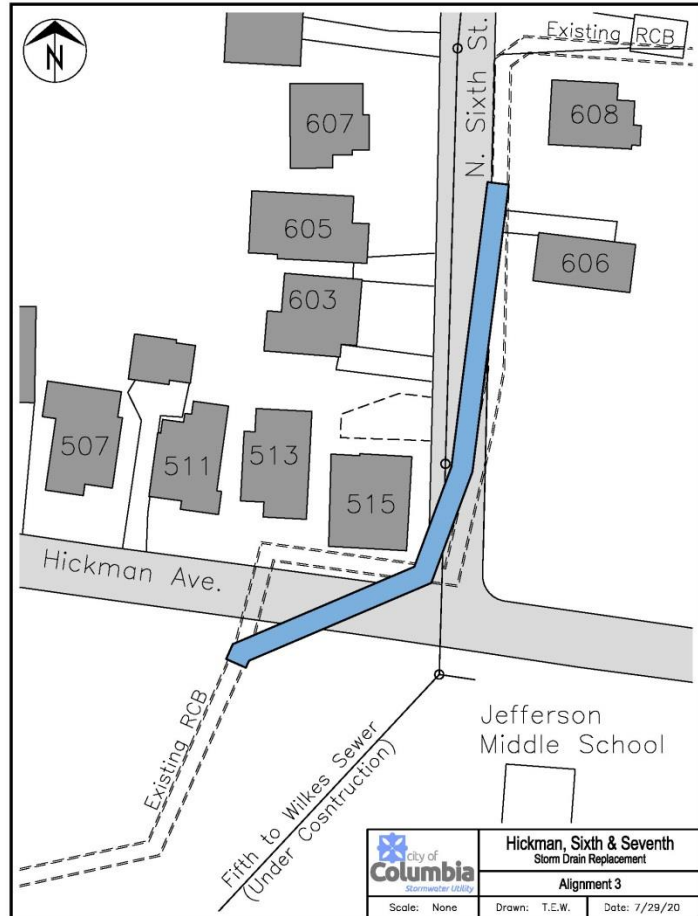
- Removes structure difficult to protect from flooding
- Improved Culvert Hydraulics
- Good Overflow Path

## CONS

- Removes neighborhood gathering location - The Center Project
- Flooding risk for 603

# HICKMAN AND 6<sup>TH</sup> STORMWATER

## Alignment 3



## PROS

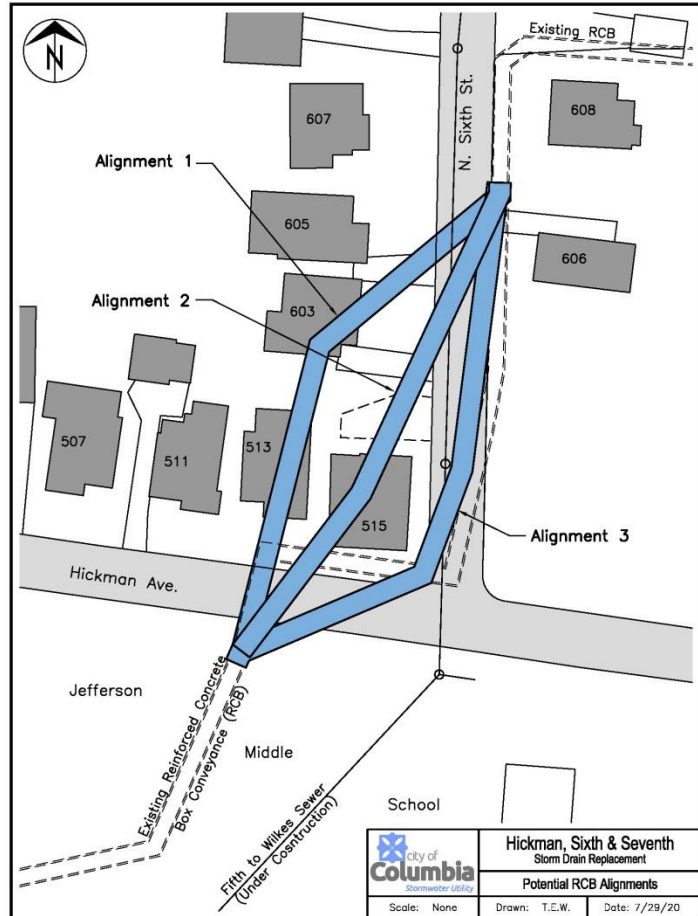
- No Structure Removal
- No property acquisition costs

## CONS

- Less Hydraulic Improvement
- No Overflow Improvement
- Flooding risk for 603 and 515

# HICKMAN AND 6<sup>TH</sup> STORMWATER

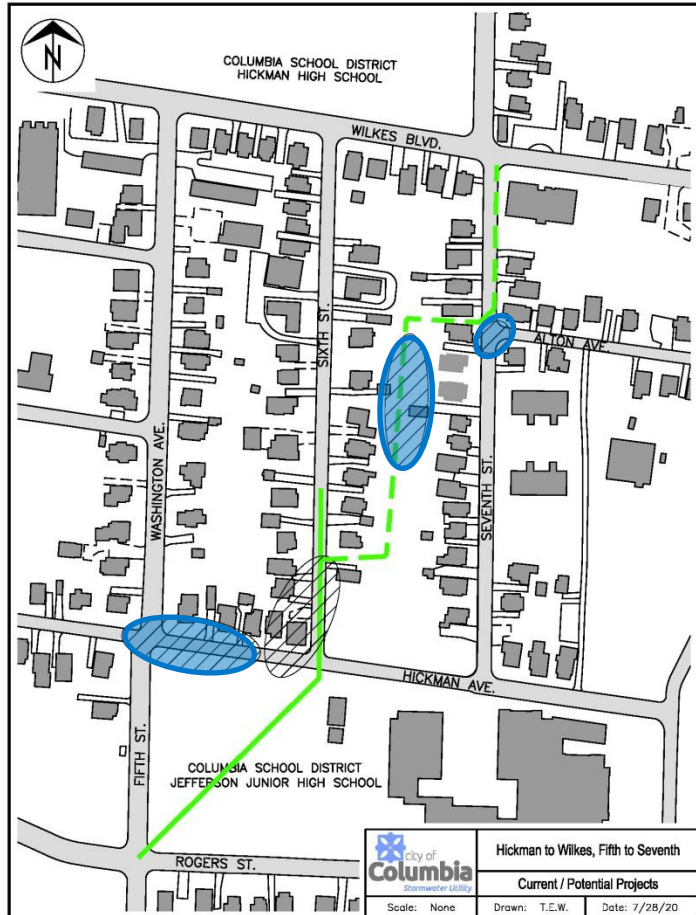
## Property Acquisition



- Staff has met with each of the 3 property owners to discuss potential acquisition
- All 3 have expressed interest in proceeding with Property Valuations
- Staff will not request Council to acquire through condemnation

# NEXT STEPS

## Future Projects

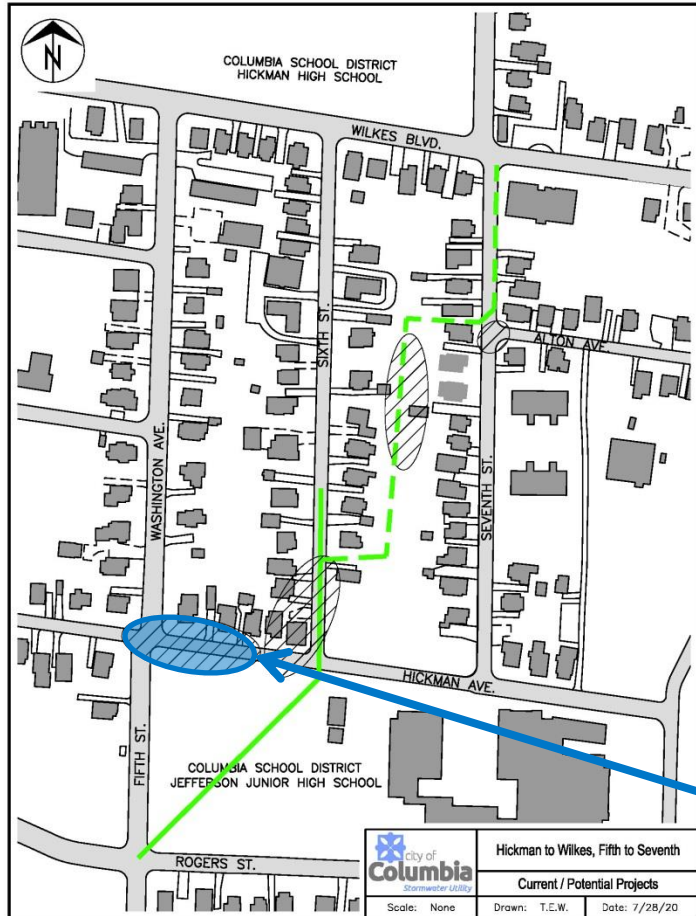


- 5<sup>th</sup> and Hickman Stormwater Overflow
- 5<sup>th</sup> to Wilkes Relief Sewer Phase 2
  - Alton Culvert Improvement
  - Backyard Drainage Improvement

# 5<sup>TH</sup> AND HICKMAN OVERFLOW

## Project Location

- Lower intersection at Hickman & 5<sup>th</sup> (watershed overflow point)
- Benefits many owners for less frequent events



Project Location



## **5<sup>th</sup> and Hickman Overflow**

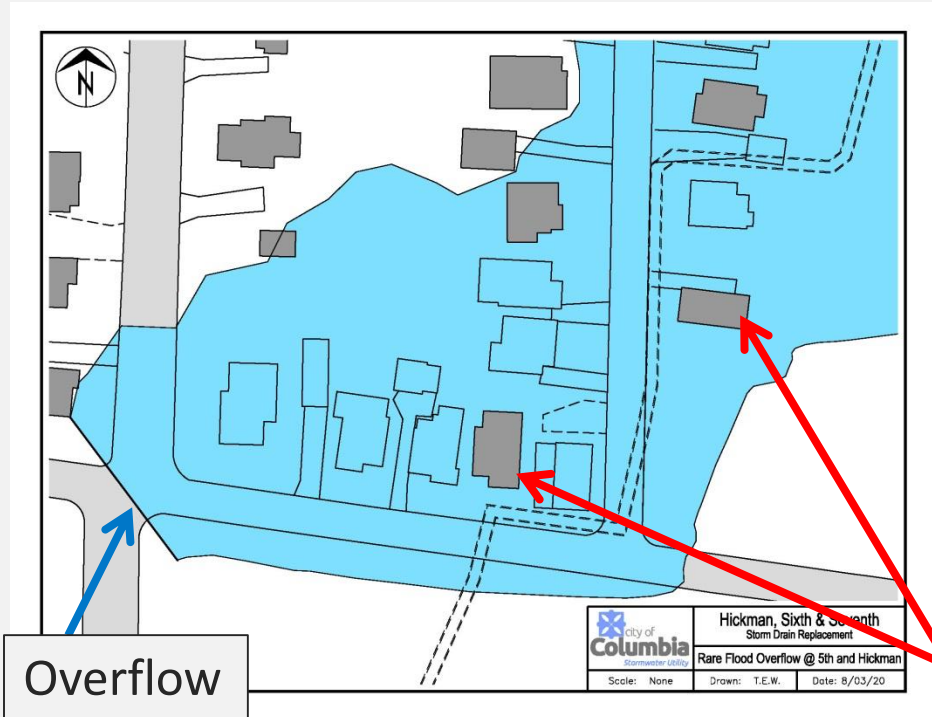
Looking from low point on Hickman Toward Overflow

Ground rises 2 feet



# 5<sup>TH</sup> AND HICKMAN OVERFLOW

Existing conditions

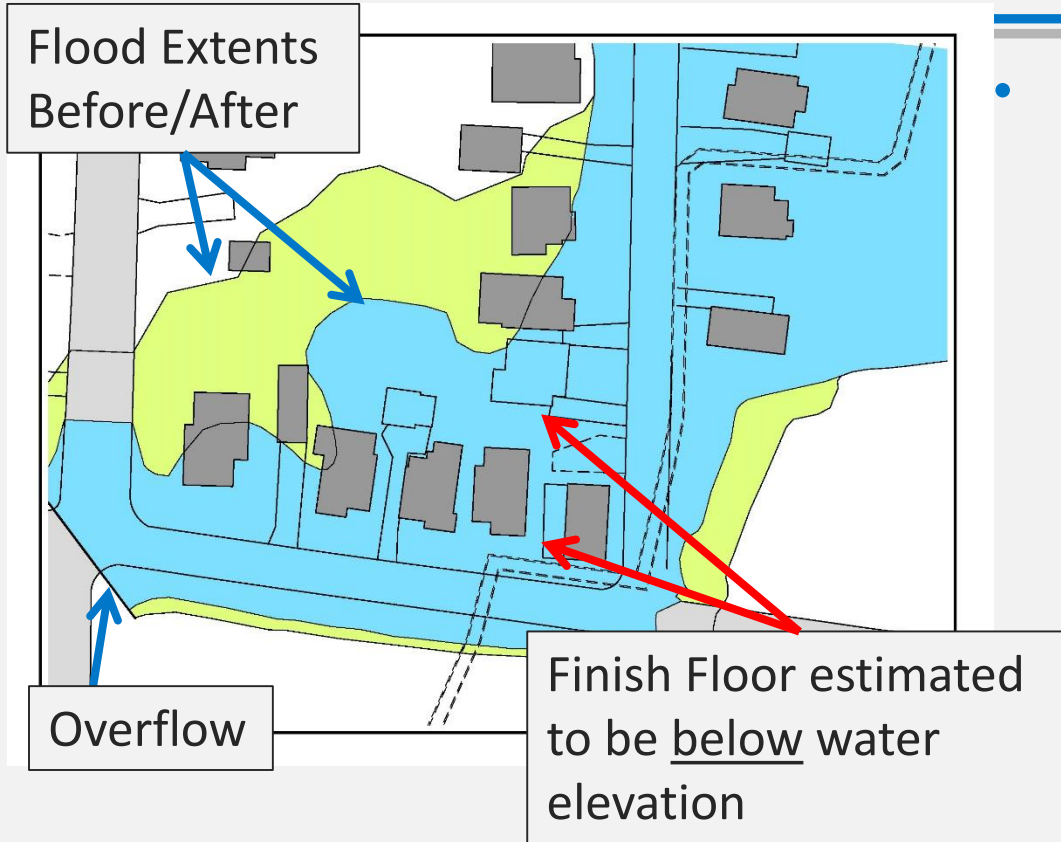


- Flood resulting from Lack of Overflow
  - Graphic approximates 500-year event
  - Assumes no clogging of underground system

Finish floor estimated to be above water elevation

# 5<sup>TH</sup> AND HICKMAN OVERFLOW

Potential Conditions



- Lower 5<sup>th</sup> and Hickman intersection
  - Remains subject to flooding after improvement
  - Flooding may cause damage even though below finish floor
  - Lowers water surface elevation from ~730' to ~728.5'

# Considerations

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- Cost
- Benefits
- Frequent risks
- Infrequent risks
- Individual homeowner concerns
- Community concerns



city of

**Columbia**