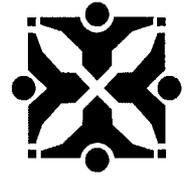


# City of Columbia

701 East Broadway, Columbia, Missouri 65201



**Agenda Item Number:** R 106-15

**Department Source:** Public Works

**To:** City Council

**From:** City Manager & Staff

**Council Meeting Date:** 7/06/2015

**Re:** Public Hearing for the Flat Branch Watershed Relief Sewer Project No. 3 (Elm Street-Providence to Hitt Street, and Sixth Street-Elm Street to one half block south of Broadway), the Ninth and Elm Storm Drain Replacement Project, and the Ninth and Elm Pedestrian Scramble Project

## Documents Included With This Agenda Item

Council memo, Resolution/Ordinance

**Supporting documentation includes:** Maps

## Executive Summary

Setting a public hearing for August 3, 2015 for construction of the Flat Branch Watershed Relief Sewer Project No. 3 (Elm Street-Providence to Hitt Street, and Sixth Street-Elm Street to one half block south of Broadway), the Ninth and Elm Storm Drain Replacement Project, and the Ninth and Elm Pedestrian Scramble Project. An IP meeting for all three projects was held on February 5, 2015 with ten people attending. The project “walk through” for City Council members was held on March 26, 2015.

## Discussion

The design of the Flat Branch Watershed Relief Sewer Project No. 3, the Ninth and Elm Storm Drain Replacement Project, and the Ninth and Elm Pedestrian Scramble Project are all being coordinated in order to allow the projects to be bid and constructed together under a single contract. This will reduce the overall cost of the three projects by completing the pavement repair work only once as well as minimize the duration in which construction activities are taking place within Elm and Ninth Street Right of Way.

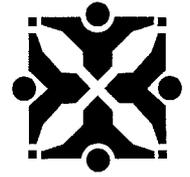
The Flat Branch Watershed Relief Sewer and the Ninth and Elm Storm Drain Replacement projects are being designed by Engineering Surveys and Services. The Ninth and Elm Pedestrian Scramble Project is being designed by City staff.

### **Flat Branch Watershed Relief Sewer Project No. 3**

This project is anticipated to consist of approximately 3,120 linear feet of gravity sewer ranging in size from 18-inch to 8-inch in diameter. The work will be located along Elm Street from Providence Road to Hitt Street, and along Sixth Street from Elm Street to one half block south of Broadway, as shown on the attached diagram. The proposed project will provide increased sewer capacity for the downtown area and the upper portion of the Flat Branch Watershed.

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The project is being designed, and will be bid, to allow both open cut and trenchless (tunnelling or boring) construction methods. It is anticipated that the base bid for the project will be to utilize open cut construction methods and associated pavement repairs for the entire length of the project. Trenchless construction methods will be bid as an alternate for the installation of new pipe between manhole locations. After the City receives construction bids, staff will determine which construction methods are most cost effective and least disruptive for this project.

## **Ninth and Elm Storm Drain Replacement**

This project includes the replacement of a failing storm box and inlets at the intersection of Ninth and Elm. Staff believes the existing storm structure was constructed in the early 1900's and consists of stacked rock walls and a concrete top. The structure is under the building corner, at the southeast corner of Ninth and Elm, and extends west under Ninth Street. A new 54' storm drain will be constructed on Elm Street with new inlets and junction boxes, and will connect to an existing 60" storm drain on the University property west of Ninth Street. See the Flat Branch Watershed Relief Sewer Diagram for the location of this work.

## **Ninth and Elm Pedestrian Scramble**

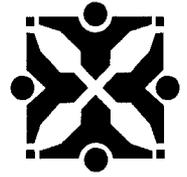
In 2014, Public Works was asked to evaluate options to modify the Ninth and Elm Street intersection to provide a pedestrian scramble crossing. A pedestrian scramble can be defined as a 3-phase intersection, with the 1st phase being movement of north/south vehicle traffic, 2nd phase being movement of east/west vehicle traffic, and 3rd phase being movement of pedestrians only. The pedestrian scramble allows pedestrians to cross in any direction as no vehicles are moving at the same time. Generally, this style of pedestrian crossing adds some delay to both pedestrian and vehicle travel, but can decrease conflicts between pedestrian and vehicle movements at certain locations.

As a stand-alone project, the cost to modify the intersection was estimated at \$239,000 due primarily to reconstruction of the intersection, and is not recommended. Most of the signal equipment at the location is 30+ years old and has met life expectancy. The sewer and storm projects will require extensive reconstruction at the intersection. This timing could provide an opportunity to replace outdated signal equipment, that is already in need of replacement, and implement the pedestrian scramble crossing option as a pilot to test its effectiveness at a reduced cost. The possibility of the pedestrian scramble was included in the Interested Parties (IP) meeting for the sewer project, and the council walk-through for the sewer project. The general feedback from these efforts has been positive. The signal equipment parts and scramble pedestrian features would be paid for from the Annual Streets fund at an estimated cost of \$132,000. The diagram for this project is attached.

For all three projects, the bricks removed from the existing pavement will be cleaned, stockpiled and salvaged for future brick street repair and restoration project use. All pavement repairs associated with the three projects will consist of matching the existing concrete or asphalt surfaces with new concrete or asphalt.

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## Fiscal Impact

Short-Term Impact: The total estimated cost for construction of all three projects is \$2,625,000 (\$2,300,000 for Flat Branch Watershed Sewer Project No. 3, \$193,000 for the Ninth and Elm Storm Drain Replacement Project, and \$132,000 for the Ninth and Elm Pedestrian Scramble Project)  
Long-Term Impact: All three projects are estimated to cost \$2,625,000.

## Vision, Strategic & Comprehensive Plan Impact

Vision Impact: Environment, Downtown, Economic Development, Health

Strategic Plan Impact: Infrastructure

Comprehensive Plan Impact: Environmental Management, Infrastructure

## Suggested Council Action

Adopt the resolution setting a public hearing for the Flat Branch Watershed Relief Sewer Project No. 3 Project, the Ninth and Elm Storm Drain Replacement Project, and the Ninth and Elm Pedestrian Scramble Project.

## Legislative History

**09/15/14** (R177-14) Authorizing agreement with Engineering Surveys and Services for surveying and design of the Flat Branch Watershed Relief Sewer Project No. 3 (Elm Street and Sixth Street)

**07/21/14** (Ord 22135) Appropriating funds for Flat Branch watershed relief sewer projects.

**06/16/14** (REP58-14) Report on Downtown Sewer Funding Strategies

  
\_\_\_\_\_  
Department Approved

  
\_\_\_\_\_  
City Manager Approved

## A RESOLUTION

declaring the necessity for replacement of a failing storm box and inlets at the intersection of Ninth Street and Elm Street, more specifically described as the Ninth and Elm Storm Drainage Replacement Project; stating the nature of and the estimate of the cost of the improvement; providing for payment for the improvement; providing for compliance with the prevailing wage law; and setting a public hearing.

BE IT RESOLVED BY THE COUNCIL OF THE CITY OF COLUMBIA, MISSOURI, AS FOLLOWS:

SECTION 1. The City Council deems the replacement of a failing storm box at the intersection of Ninth Street and Elm Street with a 54-inch storm drain with inlets and junction boxes, to connect to an existing 60-inch storm drain on University of Missouri property located west of Ninth Street, more specifically described as the Ninth and Elm Storm Drainage Replacement Project, necessary to the welfare and improvement of the City.

SECTION 2. The nature and scope of the improvement shall consist of furnishing all labor, materials, transportation, insurance and all other items, accessories and incidentals thereto necessary for the complete construction of the improvements.

SECTION 3. The estimated cost of this improvement is \$193,000.00.

SECTION 4. Payment for this improvement shall be made from Storm Water Utility funds and such other funds as may be lawfully appropriated.

SECTION 5. Any work done in connection with the construction of the improvement specified above shall be in compliance with the provisions of the prevailing wage laws of the State of Missouri.

SECTION 6. A public hearing in respect to this improvement will be held in the Council Chamber of the City Hall Building, 701 E. Broadway, Columbia, Missouri, at 7:00 p.m. on August 3, 2015. The City Clerk shall cause notice of this hearing to be published in a newspaper published in the City.

ADOPTED this \_\_\_\_\_ day of \_\_\_\_\_, 2015.

ATTEST:

\_\_\_\_\_  
City Clerk

\_\_\_\_\_  
Mayor and Presiding Officer

APPROVED AS TO FORM:

\_\_\_\_\_  
City Counselor

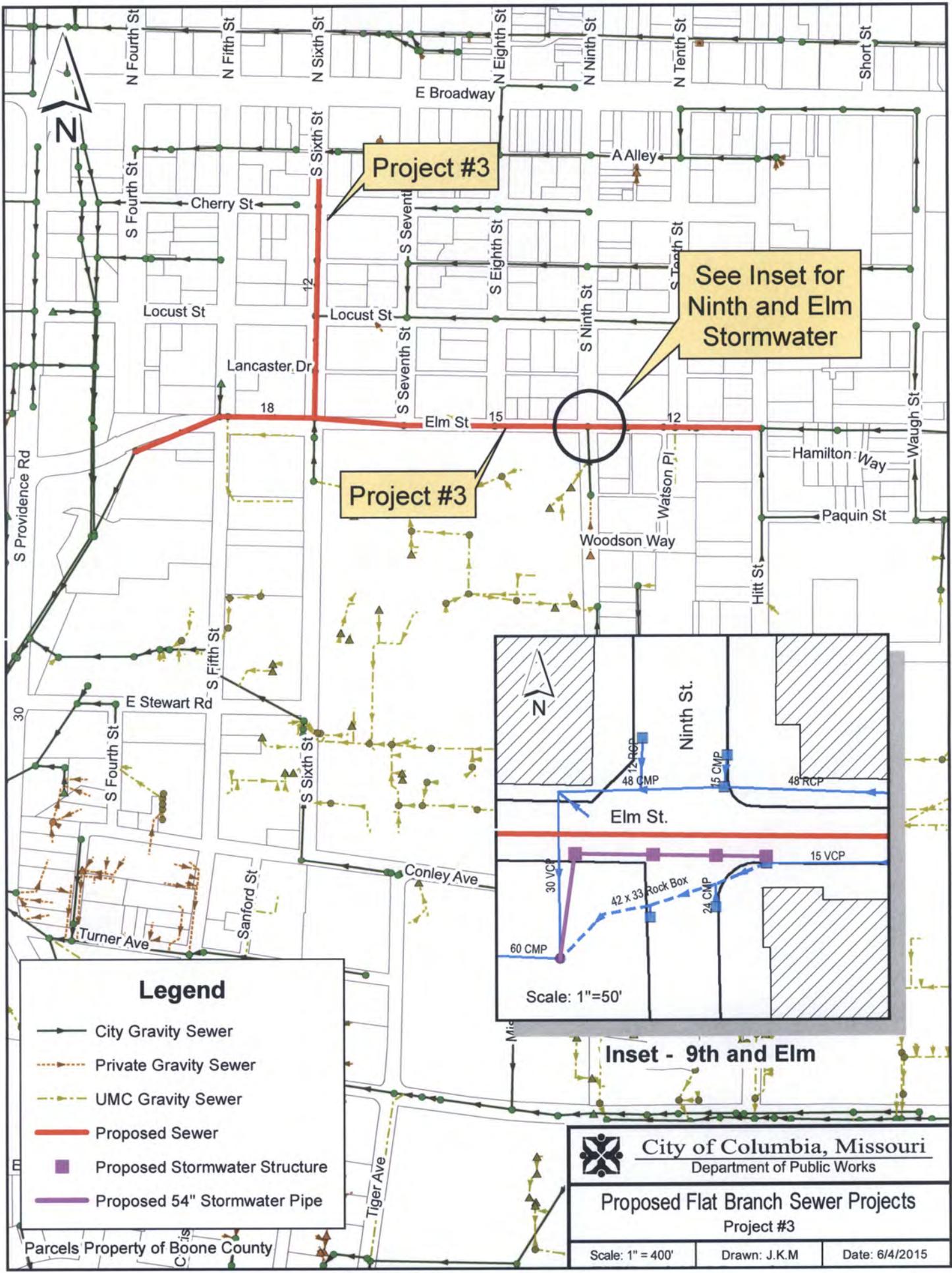
# City of Columbia

701 East Broadway, Columbia, Missouri 65201



SUPPORTING DOCUMENTS INCLUDED WITH  
THIS AGENDA ITEM ARE AS FOLLOWS:

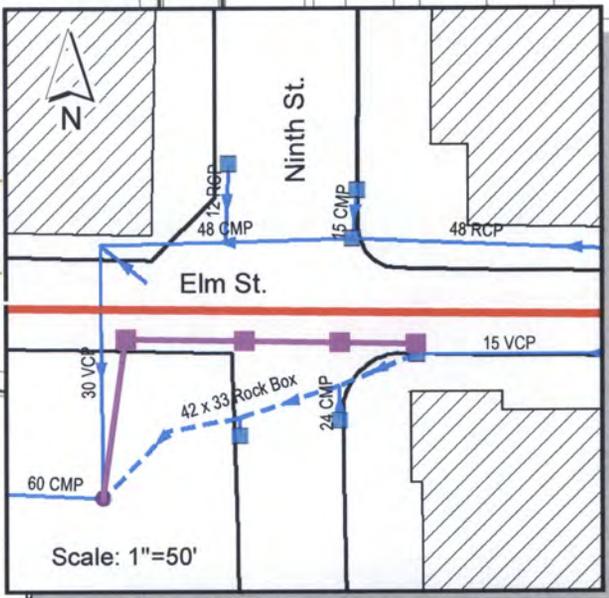
Map



**Project #3**

**See Inset for Ninth and Elm Stormwater**

**Project #3**



**Inset - 9th and Elm**

**Legend**

- City Gravity Sewer
- - - Private Gravity Sewer
- - - UMC Gravity Sewer
- Proposed Sewer
- Proposed Stormwater Structure
- Proposed 54" Stormwater Pipe

Parcels Property of Boone County


**City of Columbia, Missouri**  
 Department of Public Works

**Proposed Flat Branch Sewer Projects**  
Project #3

Scale: 1" = 400'      Drawn: J.K.M      Date: 6/4/2015

# Pedestrian Scramble

## Location and How it Works

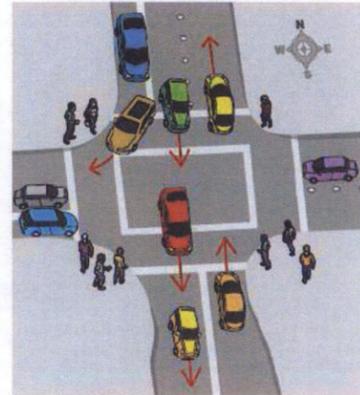
### How diagonal crosswalks work

Making it easier—and safer—for people, bicyclists and drivers to get around is critical pie of planning for an active downtown. That's the goal behind Columbia's first "Scramble Intersection" being proposed at Ninth Street and Elm Street.

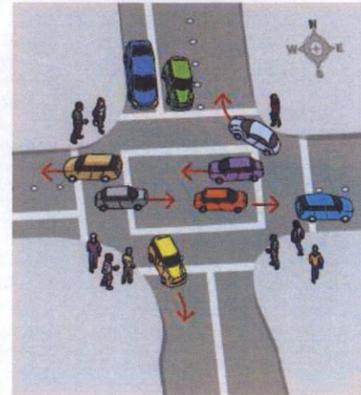
**1 Green lights for north/south traffic, pedestrians wait.** Right turns are safer with no pedestrians using crosswalk.

**2 East/west traffic gets green lights.** Pedestrians continue waiting, traffic flows smoothly through the intersection.

**3 All traffic stopped. Pedestrians and bicyclists are free to cross the intersection in any direction safely.**

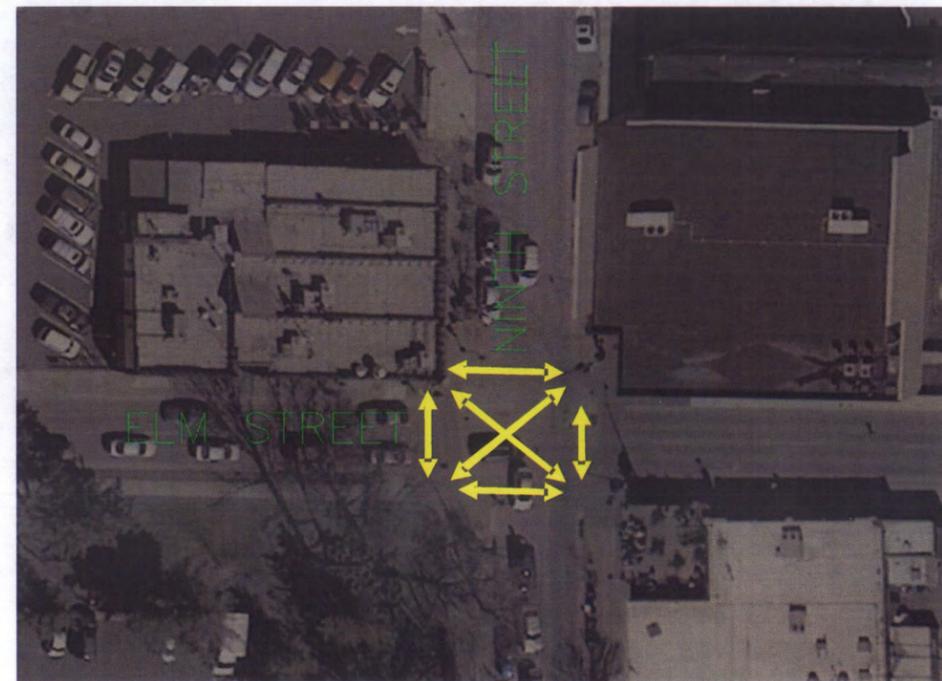


Source: City of Walnut Creek

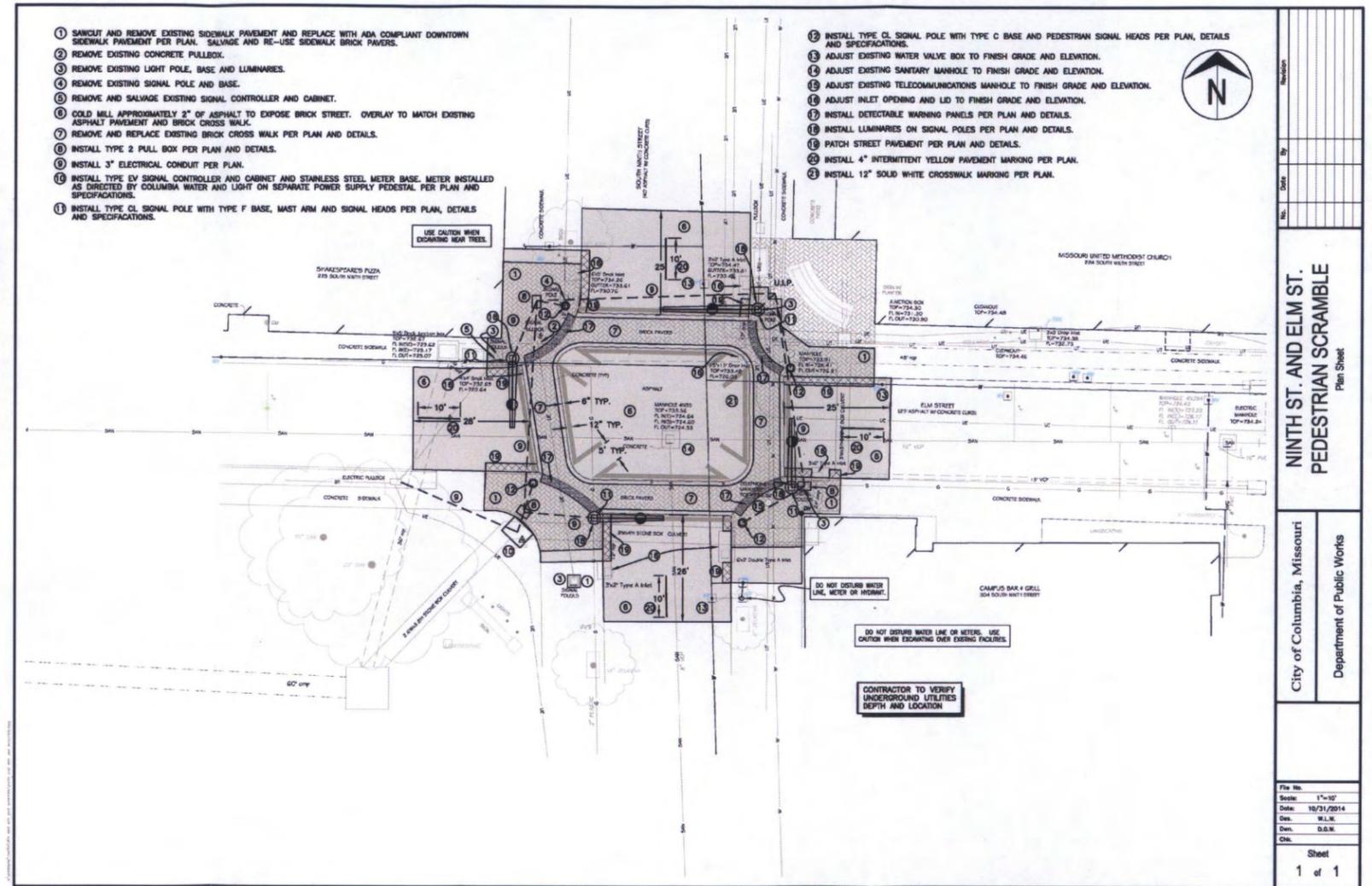


www.chucktodt.net

### Acceptable Directions to Cross During Walk Time



## Proposed Changes



**Flat Branch Watershed Relief Sewers**  
Project #3: Elm Street, Providence Road to Hitt Street  
Sixth Street, Elm Street to North of Cherry

