

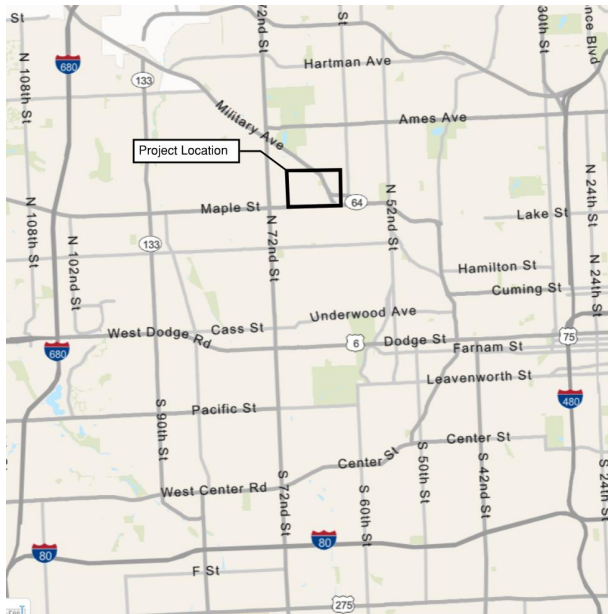
# OPW 53059 Cole Creek CSO 203 Sewer Separation Project

Constructability Review Workshop

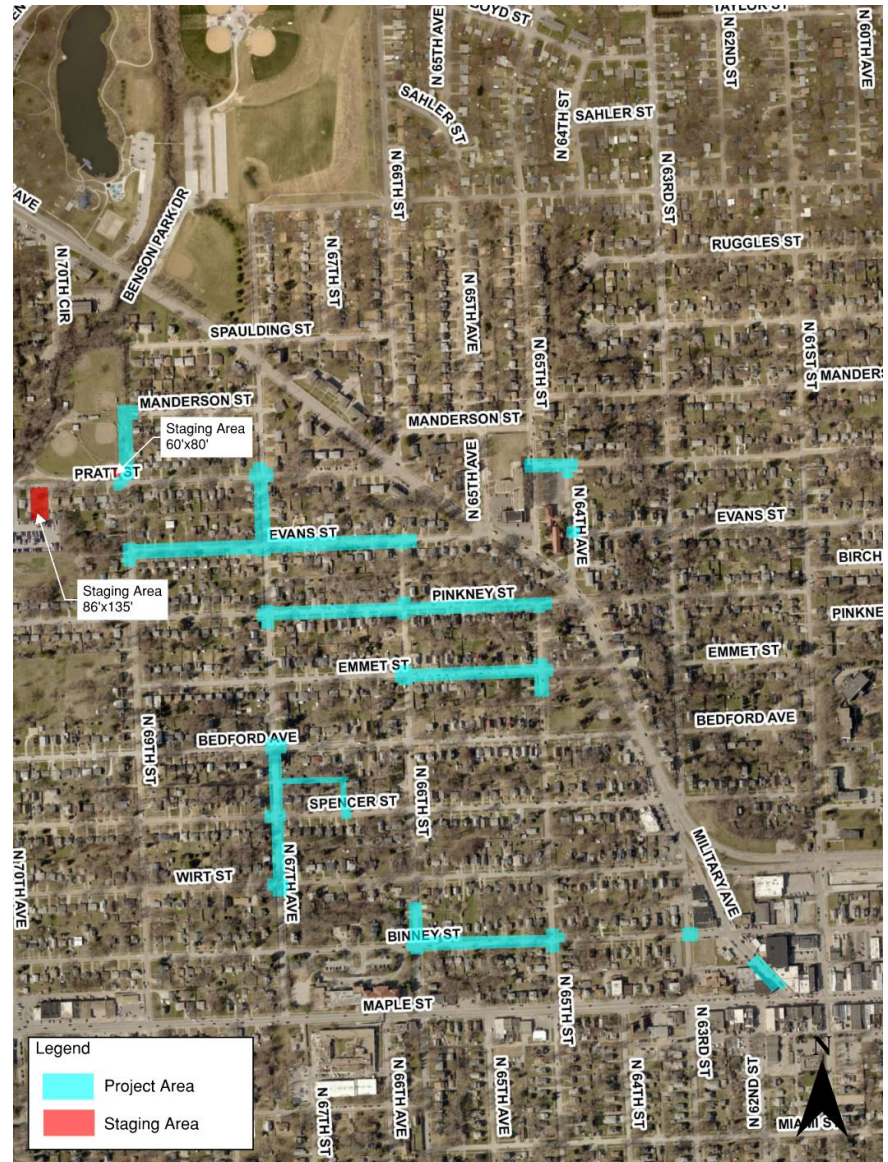


February 27<sup>th</sup> and 28<sup>th</sup>, 2020

# // Project Limits



Project Location Map





# // Project Limits – North End



# // Project Limits – South End





# // Sewer Infrastructure Improvements

- 7,800 LF of storm sewer pipe ranging from 8-inch to 36-inch
- 68 Storm Inlets
- 48 Storm Manholes
- 4 Sanitary Manholes
- 45 Rehabilitated Manholes
- 350 LF Cured in Place Pipe Lining
- 250 LF of Pipe Heavy Cleaning

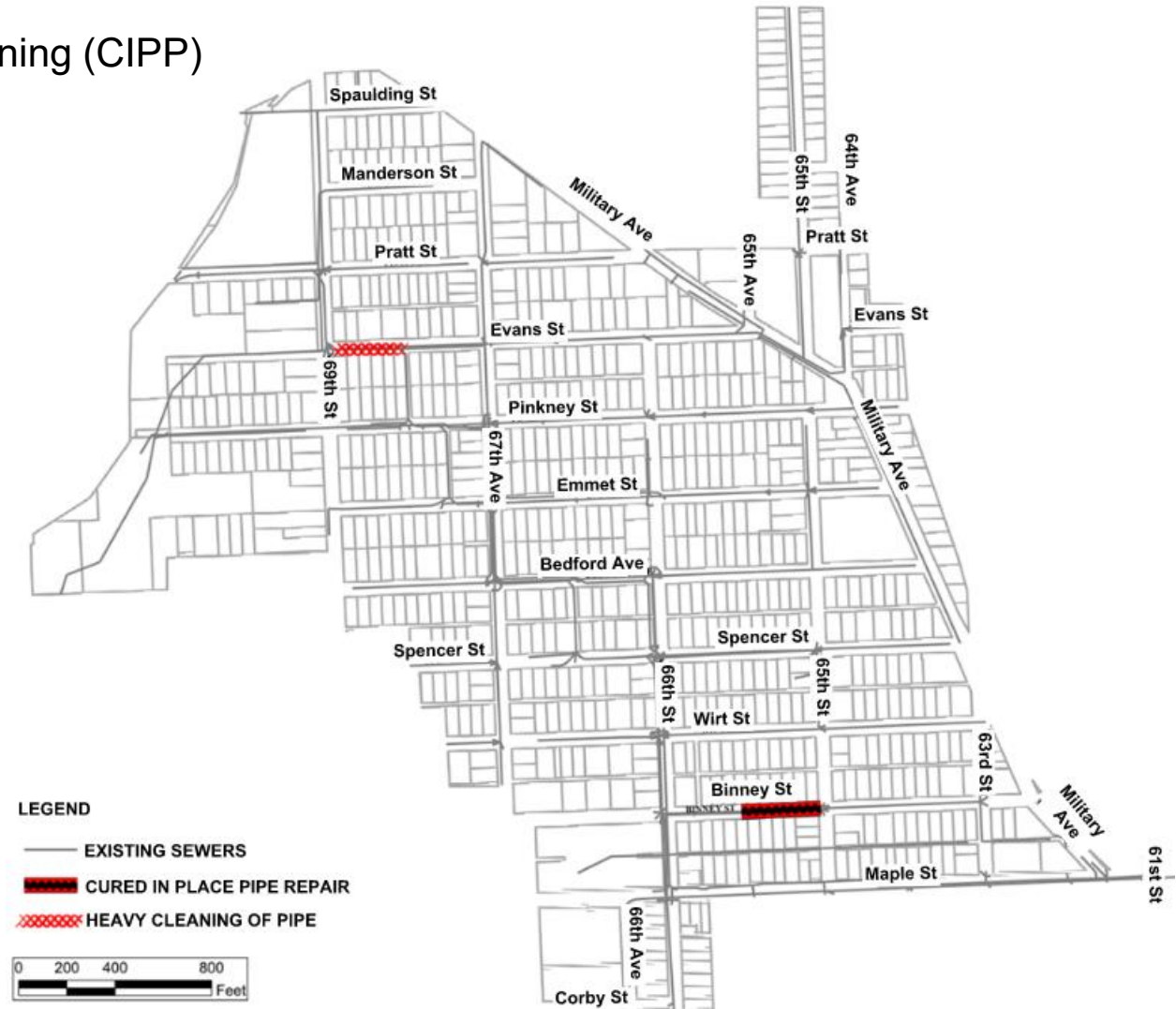
# // Manhole Rehabilitation

- Replace Ring and Cover
- Install External Frame Seal
- Pipe Connection Repair
- Reconstruct Invert
- Line Manhole
- Brick Manholes
- All in New Pavement



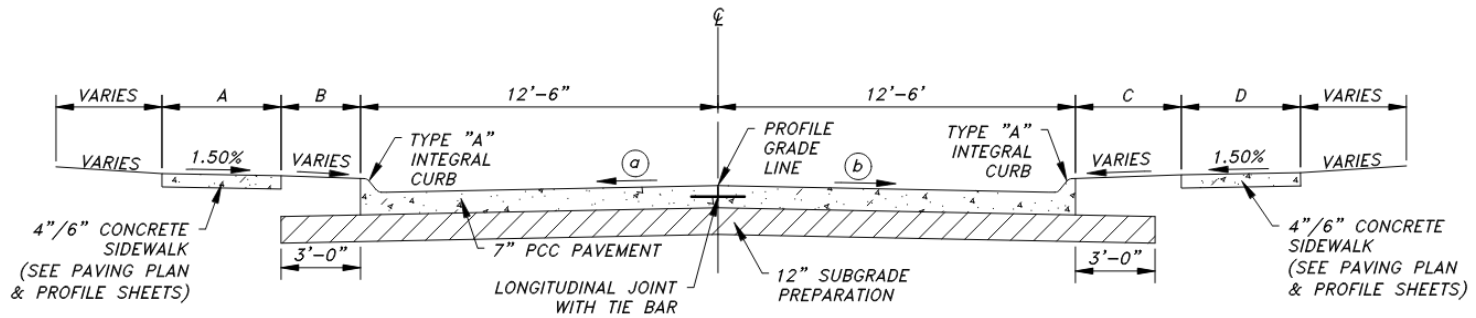
# // Sewer Rehabilitation

- Heavy Cleaning
- Cured in Place Pipe Lining (CIPP)



# // Pavement Replacement

- 20,000 SY of 7-inch Concrete Pavement Full Width
- 1,000 SY of 10-inch Concrete Pavement Full Width (Military Ave)
- 37,000 SF of 4 & 6-inch Concrete Sidewalk
- 7-inch Concrete Driveway
- Transportation Funds



**PAVEMENT RECONSTRUCTION TYPICAL SECTION**



# // Project Schedule

- Anticipated Advertisement
- Anticipated Notice to Proceed
- Substantial Completion
- Final Completion
- Liquidated Damages

# // Bidding Details

- Unit Price Bid
- Allowances
- City of Omaha Small and Emerging Business Program
- 2018 City of Omaha Specifications and Plates

# // Constructability Risk Issues: Poor Soils Throughout the Low-Lying Areas

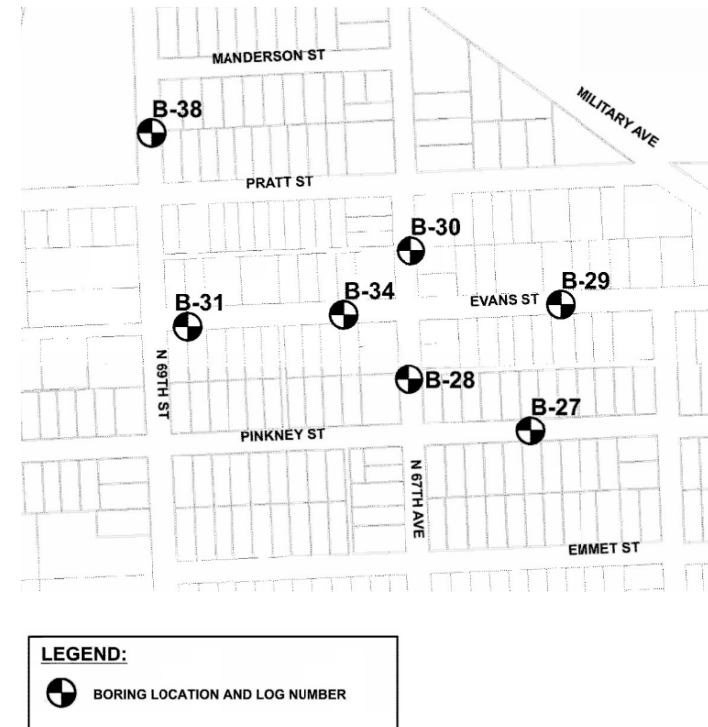
- High Moisture Content
- Alluvial and Colluvium Deposits
- Unsuitable Materials
- Pipe Trench Stabilization
- Foundation Rock Under Large Structures
- Rip-Rap Under Large Pipe





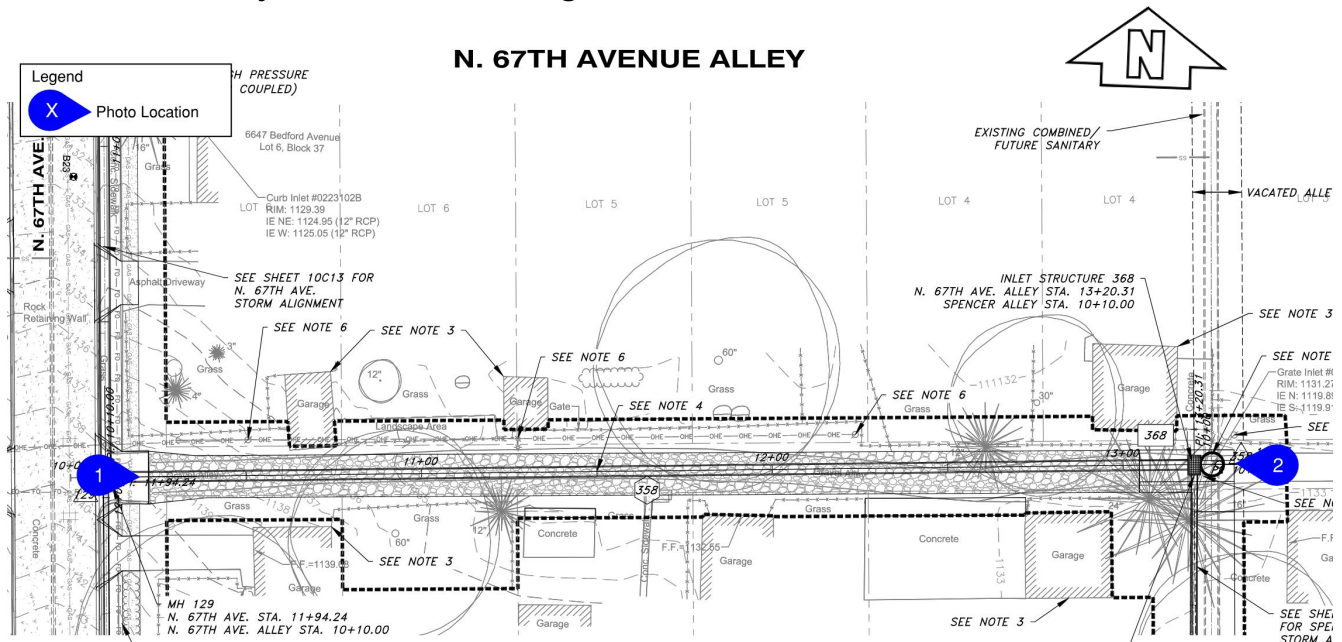
# // Constructability Risk Issues: High Groundwater in Low-Lying Areas

- Boring 27 Groundwater Depth = N/A
- Boring 28 Groundwater Depth = 16.8'
- Boring 29 Groundwater Depth = N/A
- Boring 30 Groundwater Depth = N/A
- Boring 31 Groundwater Depth = 17.0'
- Boring 34 Groundwater Depth = 8.5'
- Boring 38 Groundwater Depth = 9.27'



# // Constructability Risk Issues: N. 67<sup>th</sup> Avenue Alley Construction

- OPPD poles to be protected in place
- OPPD lines may be de-energized and laid on the ground
- Cox Communications lines may be laid on the ground



# // Constructability Risk Issues: N. 67<sup>th</sup> Avenue Alley Construction



Picture 1 - Looking east from N. 67<sup>th</sup> Avenue

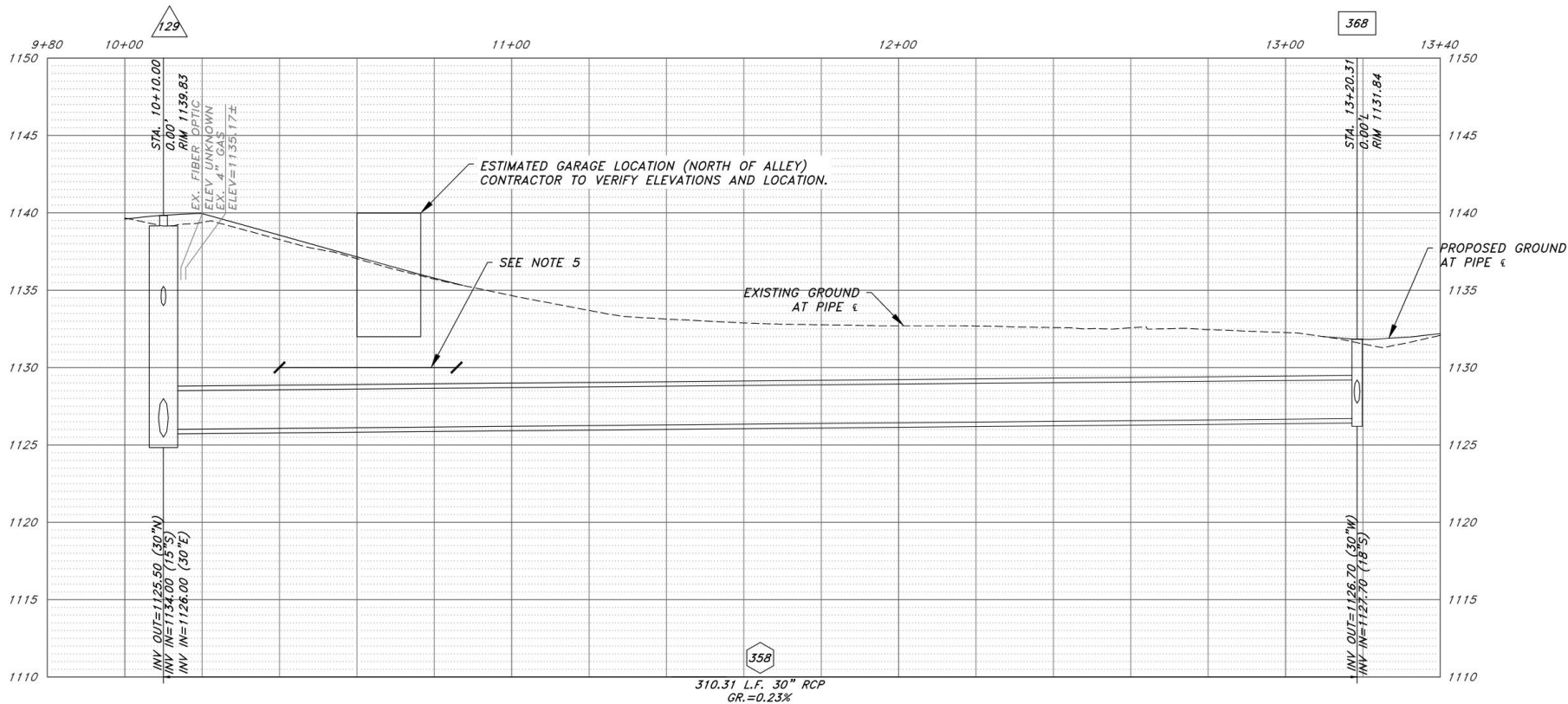


Picture 2 - Looking west to N. 67<sup>th</sup> Avenue



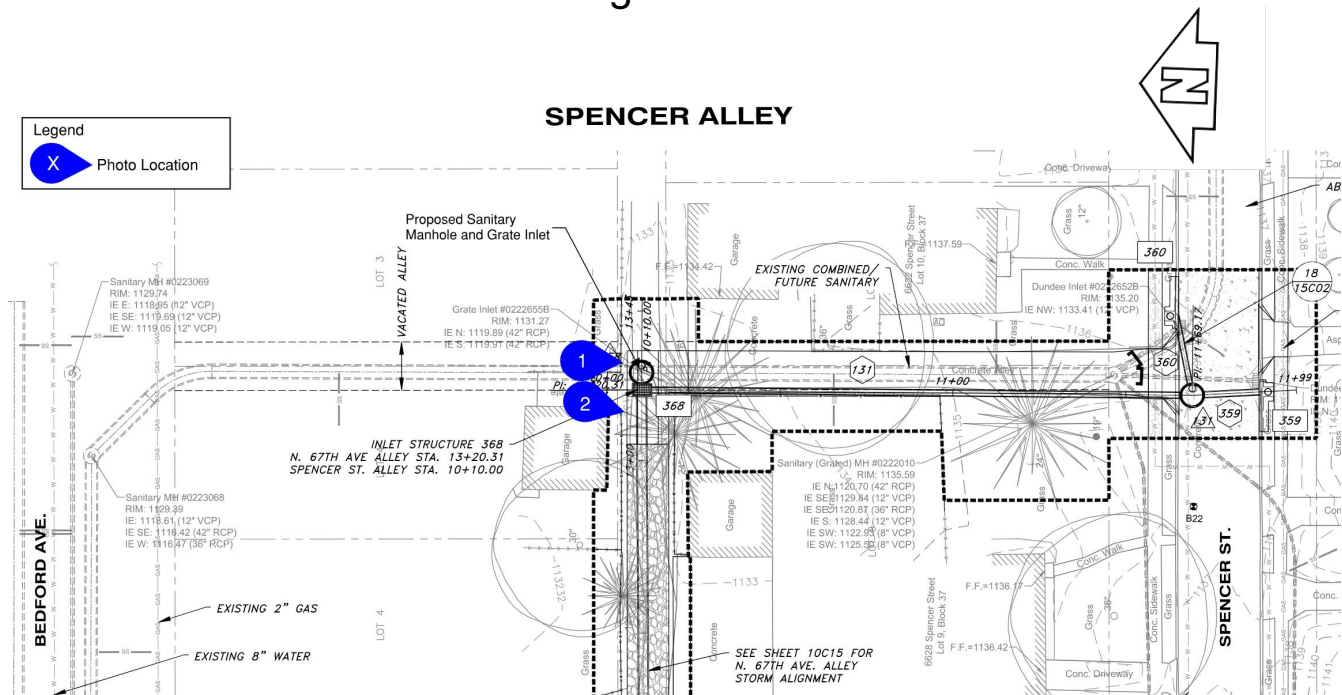
# // Constructability Risk Issues: N. 67<sup>th</sup> Avenue Alley Construction

## N. 67<sup>TH</sup> AVENUE ALLEY PROFILE

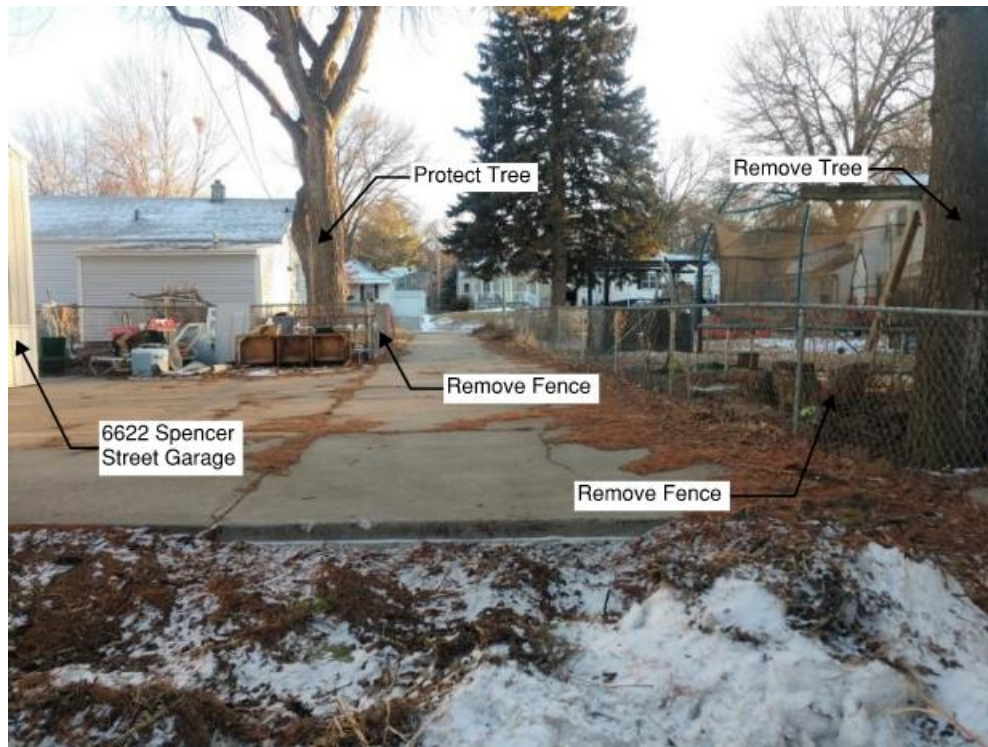


# // Constructability Risk Issues: Spencer Alley Construction

- Protect 36" tree to the east
- Sanitary sewer to be constructed over the existing line



# // Constructability Risk Issues: Spencer Alley Construction



Picture 1 - Looking south to Spencer Street

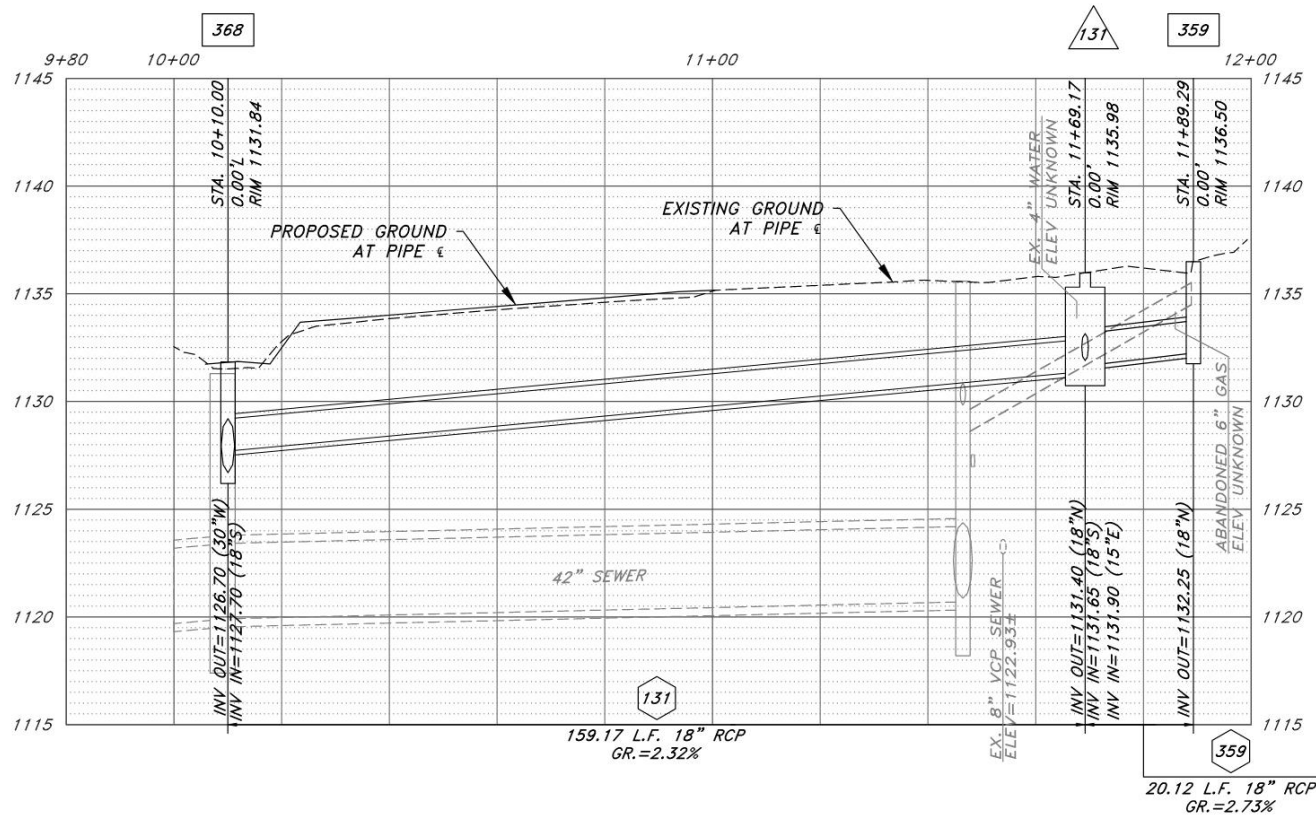


Picture 2 - Looking south to Spencer Street

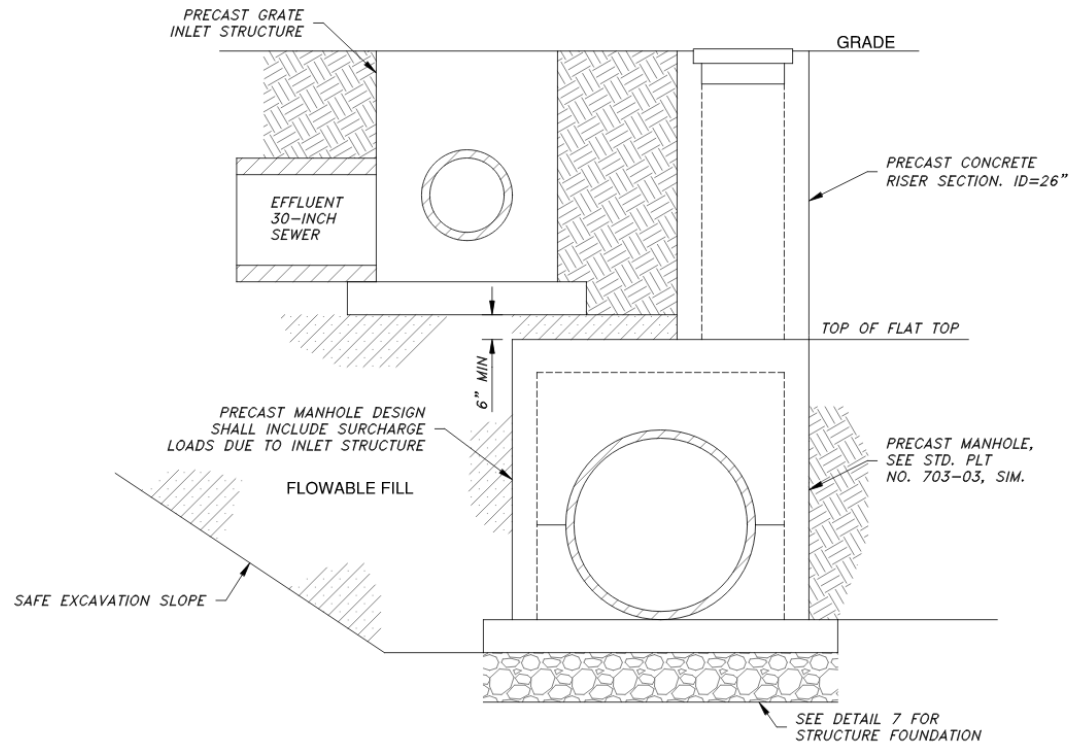


# // Constructability Risk Issues: Spencer Alley Construction

## SPENCER ALLEY PROFILE



# // Constructability Risk Issues: Spencer Alley Construction



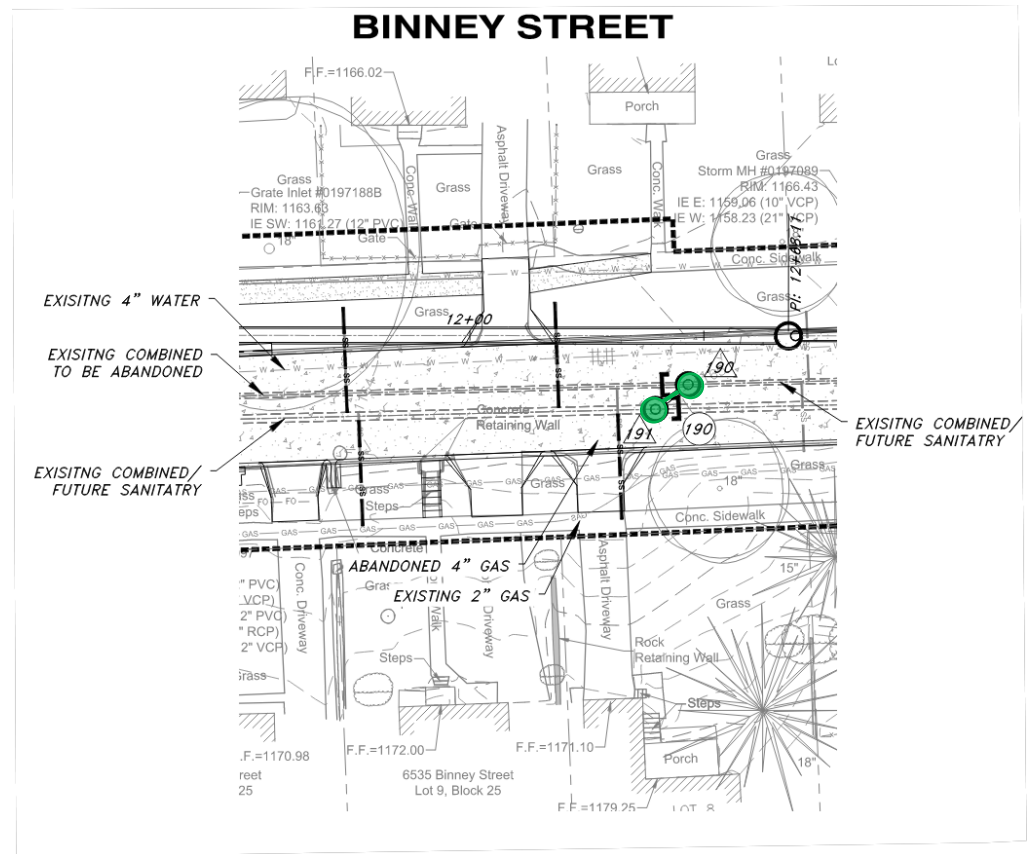
STRUCTURE FOUNDATION NOTES:

1. REFER TO SHEET 10C15 FOR GRATE INLET STRUCTURE ELEVATIONS, SANITARY MANHOLE ELEVATIONS, AND SANITARY MANHOLE SIZE.
2. 100-125 PSI FLOWABLE FILL. REFER TO MISCELLANEOUS QUANTITIES TABLE ON SHEET 10C15 FOR ADDITIONAL DETAILS.

6 ELEVATION VIEW OF PROPOSED STRUCTURES IN ALLEY  
NOT TO SCALE

# // Constructability Risk Issues: Bypass Pumping

- Sanitary Manholes
- Minor Sanitary Sewer Work
- Sanitary Service Reconnections
- Cured in Place Pipe Lining



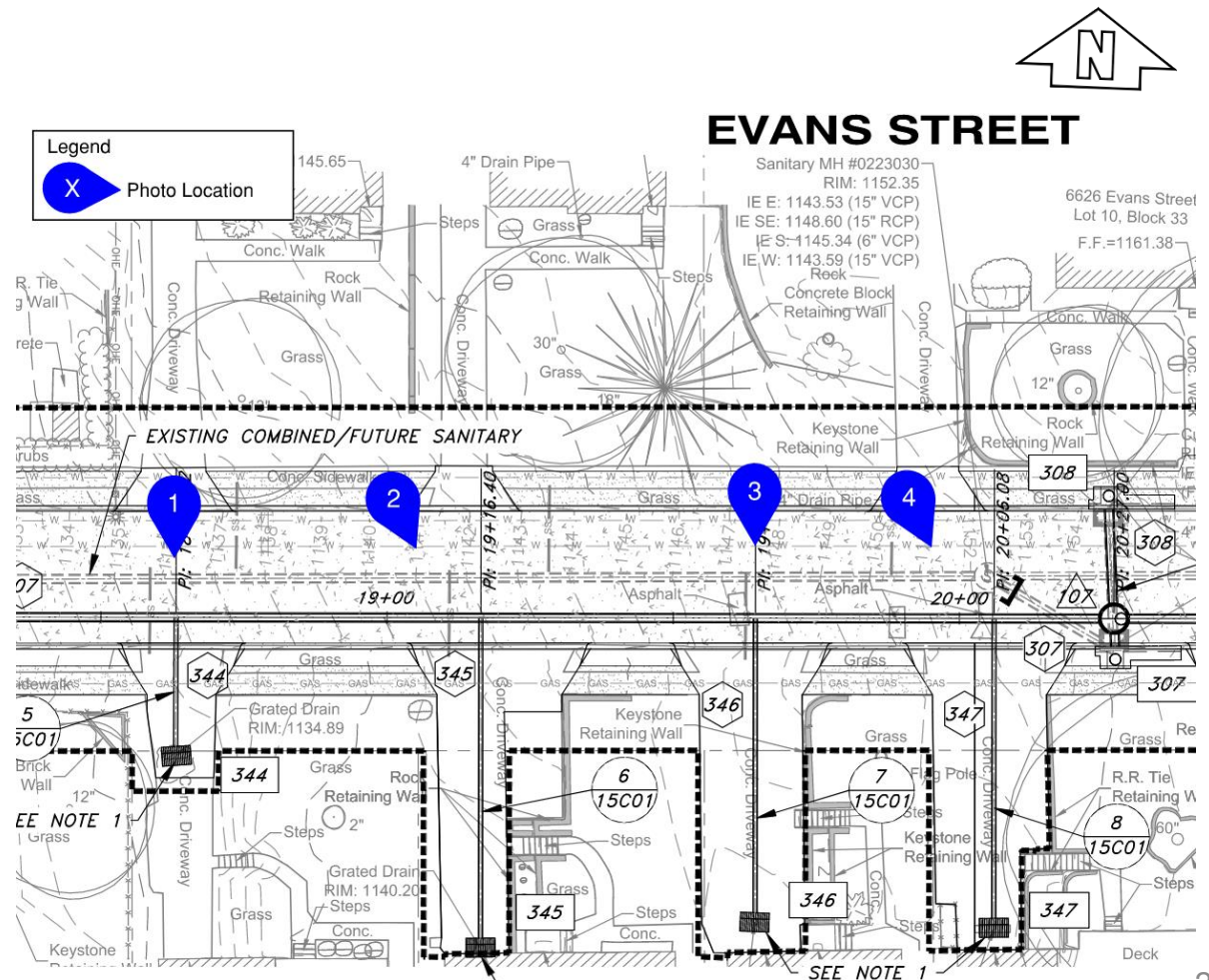


# // Constructability Risk Issues: Utility Relocation and Coordination

- MUD gas line replacement is in progress
- Minor MUD gas line offsets will be required during construction
- MUD high pressure gas main to be protected in place during construction
- MUD water main replacement projected to start spring/summer 2020
- Coordinate Cox, OPPD, and Century Link relocation/support during construction
- Current design drawings do not represent utility replacement locations

# // Constructability Risk Issues: Private Property Inlets

- Existing private inlets may tap directly into the sanitary service lines



# // Constructability Risk Issues: Private Property Inlets



Picture 2 - 6635 Evans Street



Picture 1 - 6639 Evans Street



# // Constructability Risk Issues: Private Property Inlets



Picture 4 - 6625 Evans Street



Picture 3 - 6627 Evans Street

# // Constructability Risk Issues: Traffic Control

- 14 phases of construction
- In general work shall be performed in accordance with the numerical order of phases
- Work within one phase must be completed before moving on to the next phase

