

Raising the Bar – Town of Addison Evaluates North TX Storm Drain System Using Basin-Wide Inspection & Proactive Rehabilitation

Town of Addison and Halff Associates

August 22, 2024 | NCTCOG Public Works Roundup

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MEET THE SPEAKERS

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Agenda

- **PROGRAM OVERVIEW**
- **LEVEL OF SERVICE CHALLENGES**
- **HIGH-IMPACT DATA & DELIVERABLES**
- **PRIORITIZE CORRECTIVE ACTIONS**
- **TRENCHLESS REHABILITATION**
- **LESSONS LEARNED**

The background is a dark blue gradient. On the left, there is a large, semi-transparent teal rounded square. To its right, the text 'PROGRAM OVERVIEW' is centered in a bold, white, sans-serif font. The bottom right corner features several overlapping geometric shapes: a teal diamond, a light teal rounded square, and a dark teal rounded square. In the top left, there are faint, light blue outlines of various squares and rectangles, some overlapping each other.

PROGRAM OVERVIEW

PROGRAM OVERVIEW

Addison Stormwater System Maintenance Plan

- Town of Addison prepared a plan in 2023 with goals to:
 - Extend life of assets
 - Provide for long-term operation
 - High level of service to customers.
- Addison contracted with Halff in FY24 for continued implementation of the stormwater maintenance plan



Stormwater Maintenance Plan



2. INSPECTION AND MAINTENANCE OF STORMWATER FACILITIES FREQUENCY

Six-year inspection and maintenance rotation by basin

Year 1: Hutton Branch & Hall Branch Basin

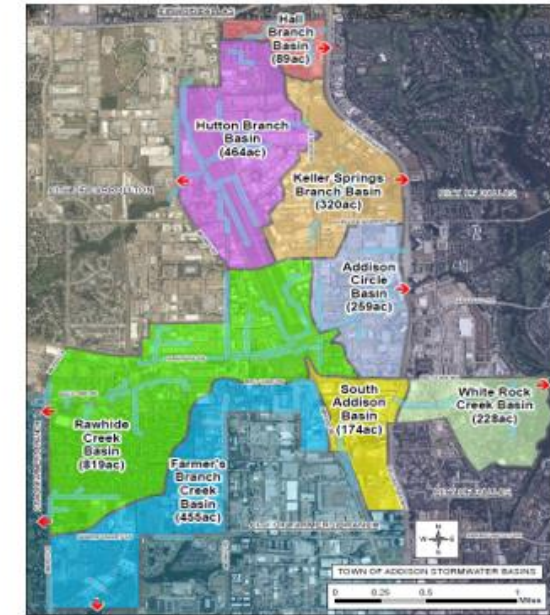
Year 2: Keller Springs Branch Basin

Year 3: Addison Circle Basin

Year 4: White Rock Creek & South Addison Basin

Year 5: Farmers Branch Creek Basin

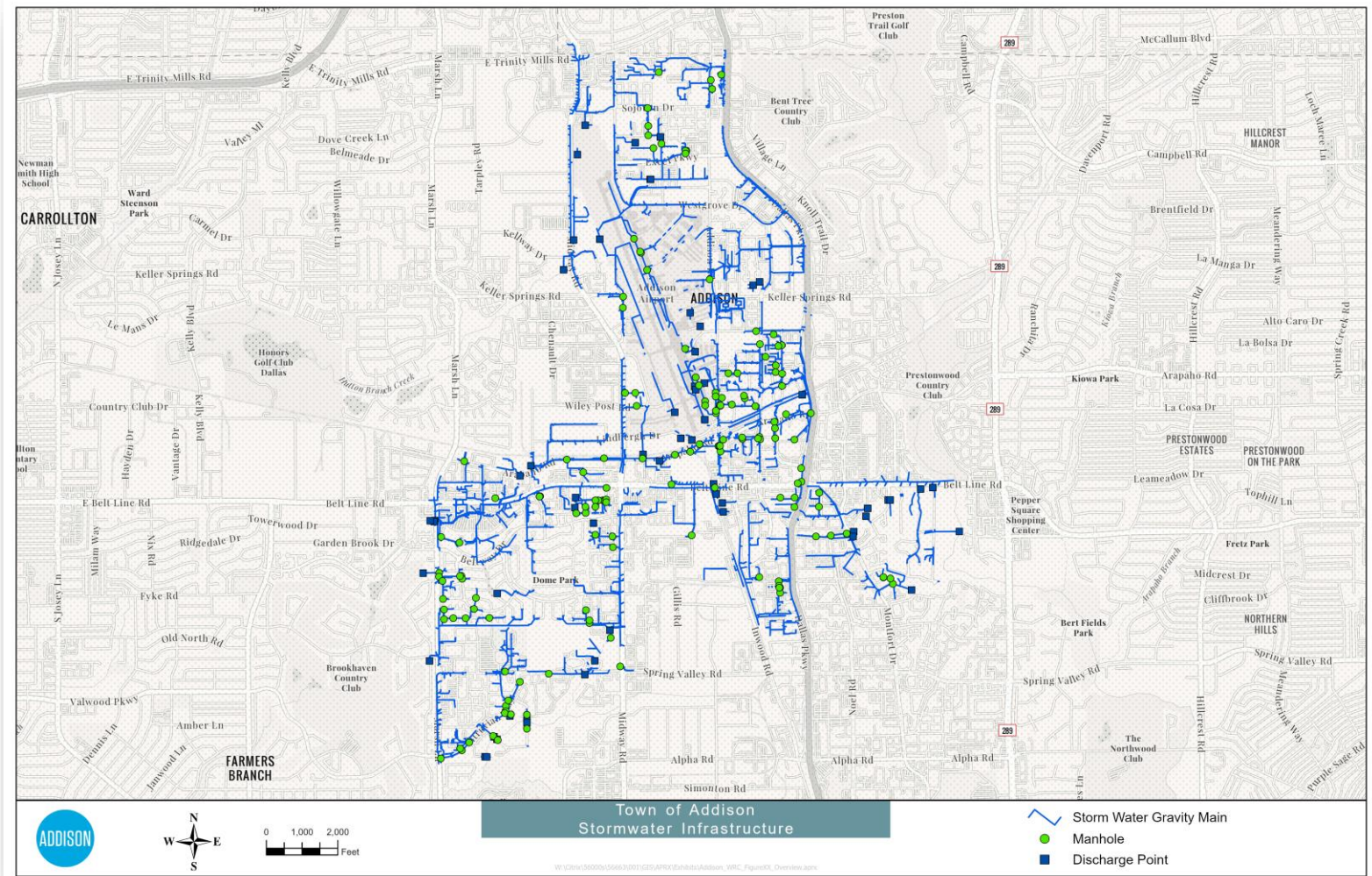
Year 6: Rawhide Creek Basin



PROGRAM OVERVIEW

Addison Storm Drain System

- Access points = 2,300 manholes, inlets, outfalls
- Storm drains = 433,000 LF



PROGRAM OVERVIEW



- **Goal** – Support Town of Addison program implementation through CCTV and manhole inspection, GIS integration, and engineering evaluation. Produce high-impact digital asset inventory, & evaluation in 3-month period of performance.
- **Study Areas**
 - (FY24) White Rock Creek Basin
 - (FY25) South Addison Basin, Addison Circle Basin



LEVEL OF SERVICE CHALLENGES

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HIGH-IMPACT DATA & DELIVERABLES

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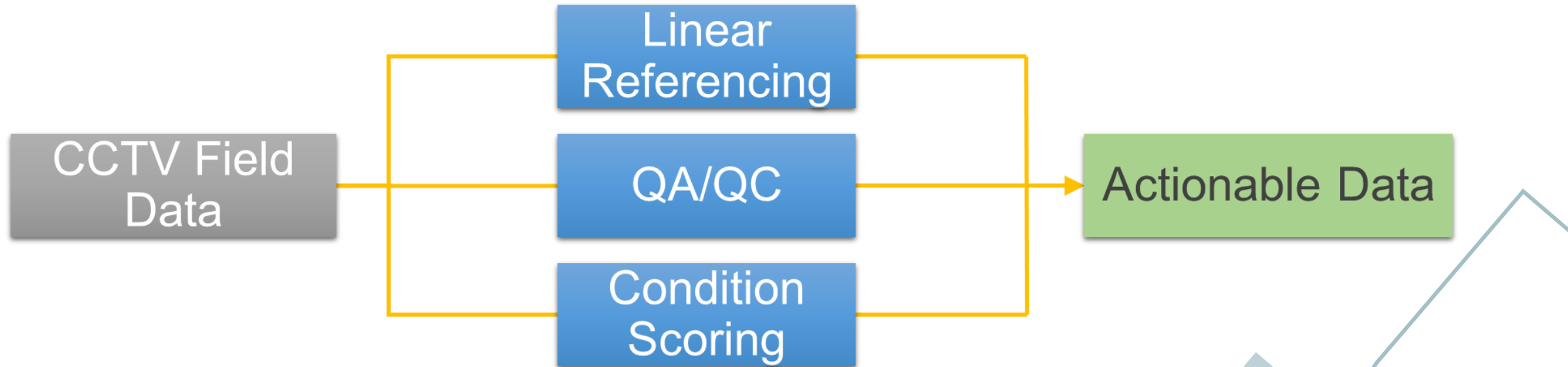
Basin Requirements

- Survey = 107 access points (manholes, inlets, discharge points)
- Condition assessment (access points) = 93 MH, inlets, outfalls
- Condition assessment (CCTV) = 16,000 LF



|| HIGH-IMPACT DATA & DELIVERABLES

Raw Data vs Actionable Data



|| HIGH-IMPACT DATA & DELIVERABLES

**MH 360
Inspection
Output**



|| HIGH-IMPACT DATA & DELIVERABLES

MH 360
Inspection
Output



HIGH-IMPACT DATA & DELIVERABLES

AI QA/QC
Defect
Detection
Example

Outputs:

- Video overlay
- Tabular
- GIS

Start date/time: 2/15/2024 10:29 AM
Pipe segment ref.: Storm Main 'STM.MAN.A0002176'
Project name: 20240215_BJ_HAL003_29_TV129
Surveyed by: BRYAN JEFFERY
City: ADDISON
Street: MONTFORT DR
Upstream MH No: AMH 'STM.MAN.A0002176'
Downstream MH No: AMH 'STM.MAN.A0001597'
Direction: U
Location code: F
Height: 24 in.
Width:
Shape: C
Material: RCP
Weather: 1

STM.ND.00093_U_STM.INL.A0001597_2_15_2024_10_29_AM_blur



**PRIORITIZE
CORRECTIVE ACTIONS**

PRIORITIZE CORRECTIVE ACTIONS

Evaluation

Process/Considerations

- PACP grades 3 to 5 evaluated
- Storm drains and manholes independently evaluated for corrective action
- Standardized scoring applied
- Rehab methods matrix – trenchless vs open-cut; O&M vs Structural
- Response time (relative), score, rank, rehab type



PRIORITIZE CORRECTIVE ACTIONS

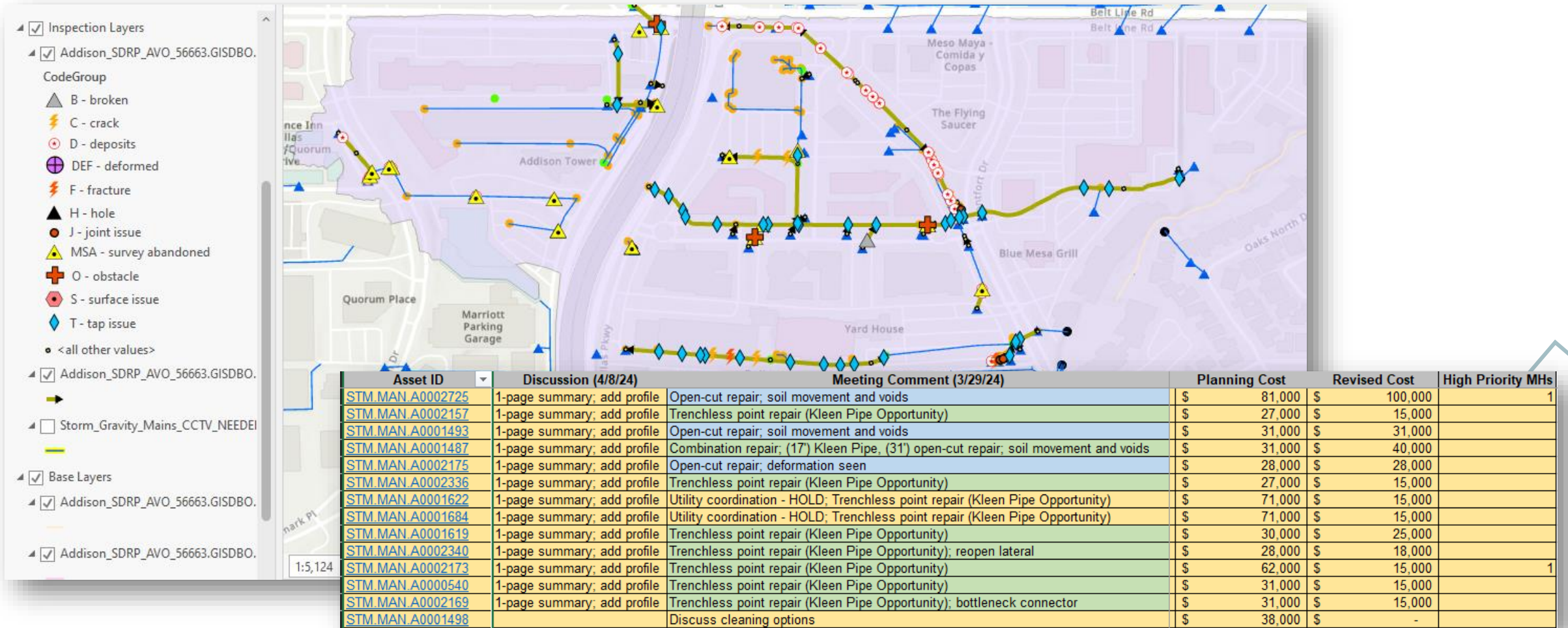
Summary of Recommendations

- Gravity mains – 13 recommended repairs including 8 trenchless rehab
- Access points – no repairs needed in this basin
- Opinion of probable cost = \$362K



PRIORITIZE CORRECTIVE ACTIONS

ArcGIS Pro + Excel Deliverables





TRENCHLESS REHABILITATION

TRENCHLESS REHABILITATION

- KleenPipe - CIPP as a point repair



- Advantages
 - Trenchless point repair method
 - Adheres to pipe wall w/o full-pipe rehab
 - Cost-effective, particularly with multiple repairs & coordinated mobilization

PipePatch[®]
NO DIG Pipe Repair System

ICC ESR-1100
NSF

Before Repair

Elbow Packers

Flow-Thru packers

Convenient repair kits

Premier Point Repair Technology
Say goodbye to costly and time consuming excavations and get right to the point of trenchless pipe repair with the **PipePatch**[®] NO DIG Pipe Repair System. Call us today to learn more!

KLEEN PIPE
UNDERGROUND PIPE MAINTENANCE

KleenPipe.com 817-779-4262

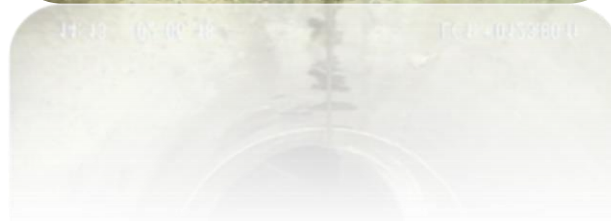
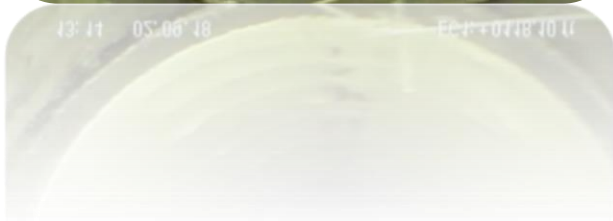
After Repair

5/16

The advertisement features a central image of a city street with a trenchless pipe repair in progress. It includes various components like elbow packers, flow-thru packers, and repair kits. It also shows 'Before Repair' and 'After Repair' images of a pipe. The Kleen Pipe logo and contact information are at the bottom.

TRENCHLESS REHABILITATION

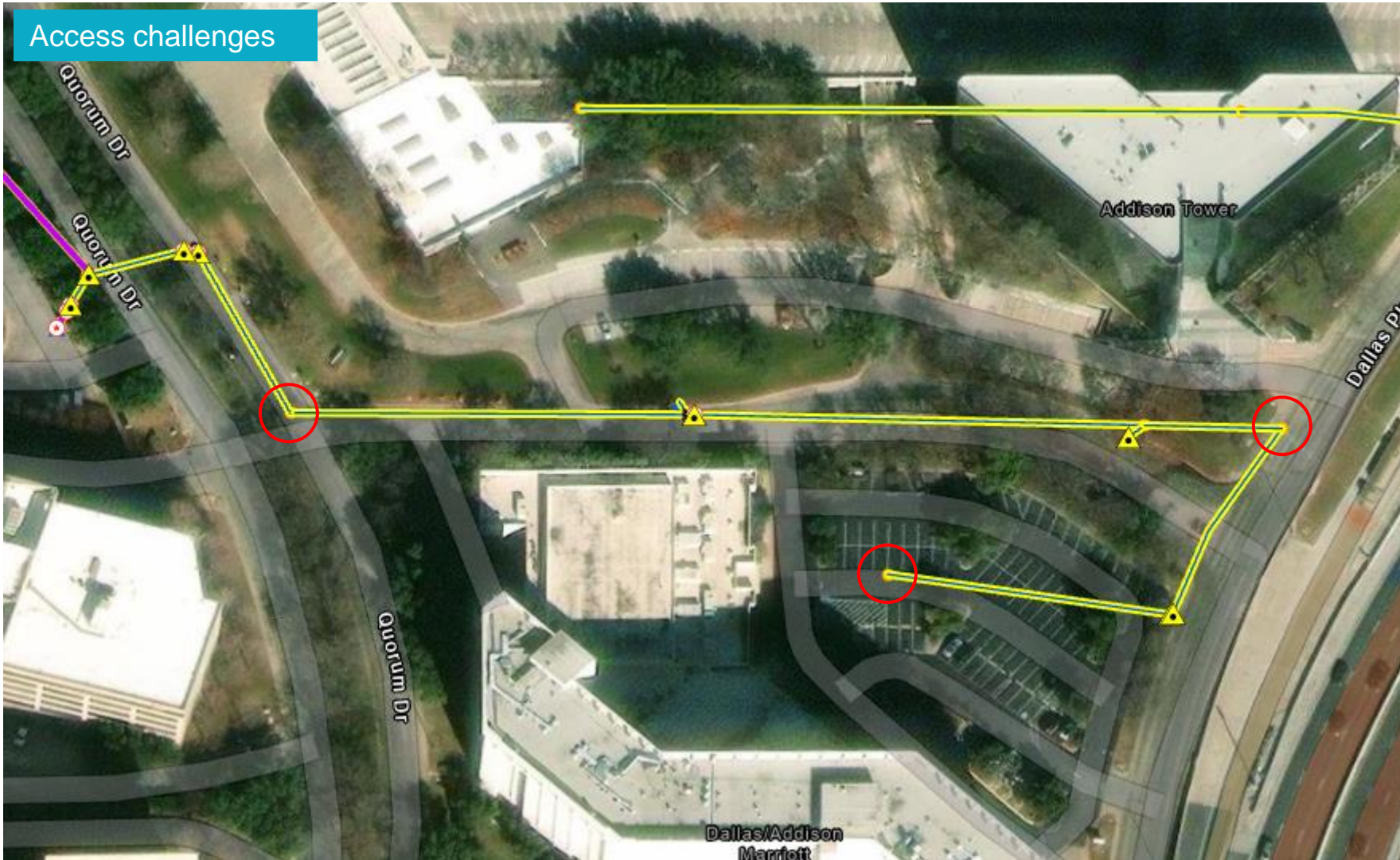
- CIPP point repair examples – before & after





LESSONS LEARNED

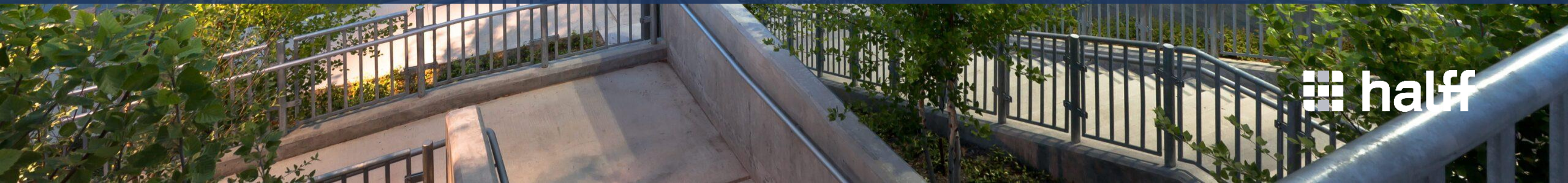
LESSONS LEARNED



- Communicate with residents in advance.
- Survey first to confirm access, then condition assessment.
- Access to storm drain system can limit inspection efficiency – identify and schedule added access.
- High-impact deliverables are possible – engage today's data and technology!



Q&A



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