# White Rock Creek and Prairie Creek Sewer Mains

**Cured-In-Place Pipe Rehabilitation in Plano, TX** 



**SPEAKER: TIM PETERIE** 

SPECIAL THANKS: SHAHRZAD TAVANA, PE & PHILIP WHEAT, PE







- OVERVIEW OF THE PROJECT
- CHALLENGES
- **RE-EVALUATING THE APPROACH**

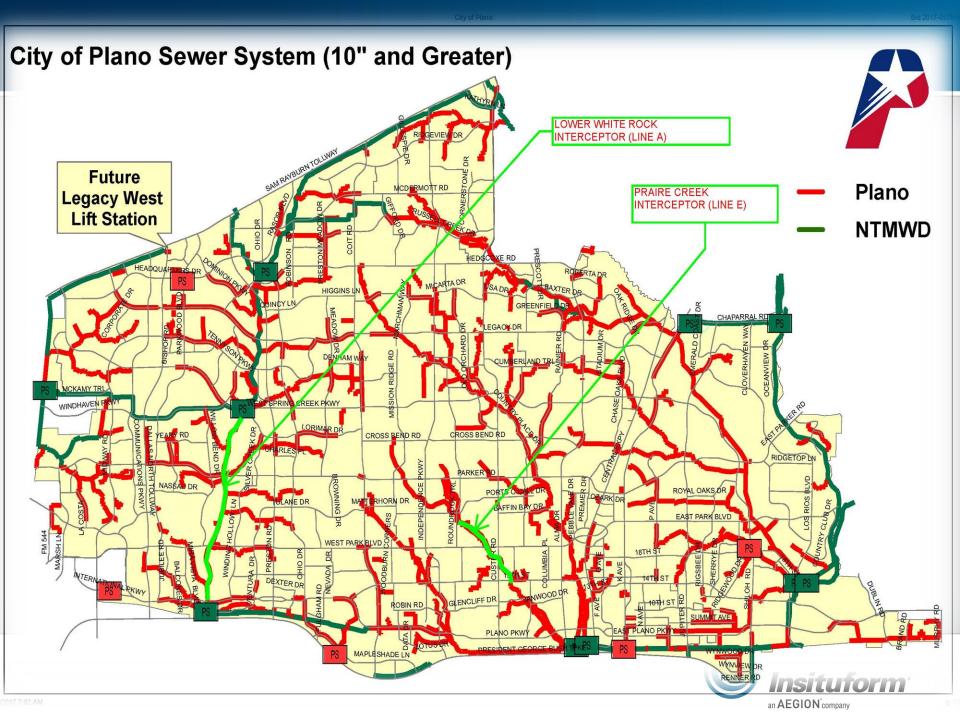


#### **CIPP REHABILITATION**

LINE A: 16,800 LF OF 24 TO 36-INCH WHITE ROCK CREEK SANITARY SEWER INTERCEPTOR LINE B: 1,000 LF OF 18-INCH ACROSS PLANO PARKWAY LINES C & D: 600 LF OF 15-INCH ALONG SEASCAPE DRIVE LINE E: 2,200 LF of 21-INCH PRAIRIE CREEK SEWER INTERCEPTOR

**50 MANHOLES (ABOUT 600 VERTICAL FEET)** 





## THE WHITE ROCK SEWER MAIN LINE A

- 24" TO 36" DIAMETER
- REINFORCED CONCRETE
- AGE 1976
- 10 TO 15 MGD FLOW
- 3 MILES OF CIPP REHAB
- 1 ½ MILES OF PIPELINE THROUGH GLENEAGLES COUNTRY CLUB
- 1 MILE OF PIPELINE THROUGH BACKYARDS AND HOA GREENSPACE OF LUXURY HOMES
- NTMWD SEWER LIFT STATIONS AT EACH END



- ADMINISTRATIVE ORDER?
- REDUCE I & I
- CORROSION PROTECTION
- PREVENT FUTURE FAILURE



## LINE A CHALLENGES (A – B – C)

## 1. ACCESS

## 2. BYPASS ALIGNMENT AND PHASING

3. CONSTRUCTION SCHEDULE



#### ACCESS

- GOLF COURSE IS ENCUMBERED BY HOMES ON ONE SIDE AND WHITE ROCK CREEK ON THE OTHER SIDE
- NO DRIVEABLE ACCESS TO EXISTING EASEMENT FROM PUBLIC ROW OR EASEMENT
- SEMI-TRUCK VERSUS GOLF
  COURSE FAIRWAY
- MANHOLE SPACING UP TO 1,500'





## **BYPASS ALIGNMENT AND PHASING**

- COLLECTOR MAINS FROM BOTH DIRECTIONS
- DESIGN THE BYPASS PIPELINE ALIGNMENT
  - LARGE BYPASS PUMPS PLACED NEAR MAJOR THOROUGHFARES
  - SMALL BYPASS PUMPS ON THE EDGE OF THE GOLF COURSE

GOALS:

- SAFETY OF GOLFERS/WORKERS
- NOISE ATTENUATION
- PROTECTION OF THE PIPELINE
- LIMIT IMPACT TO GOLFERS
- LIMIT THE NUMBER OF RAMPS ACROSS CART PATHS





lat 33.017036° lon -96.815979° elev 651 ft eye alt 1792 ft 🔘



lat 33.028864° lon -96.813422° elev 672 ft eye alt 1792 ft

Reasoned Heats loss

1995

liffs Of Gleneagles



W.Park Blvd

~3

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Field

166



at 33.038413° lon -96.817365° elev 680 ft eye alt 1543 ft 🔾



Google Earth

W Parker Rd

lat 33.043046° lon -96.807260° elev 673 ft eye alt 1334 ft

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#### Google Earth

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lat 33.049677° lon -96.806491° elev 691 ft eve alt 1316 ft

#### THE CONSTRUCTION PHASE

#### PROJECT WAS ADVERTISED FOR BID AUGUST 21,2015





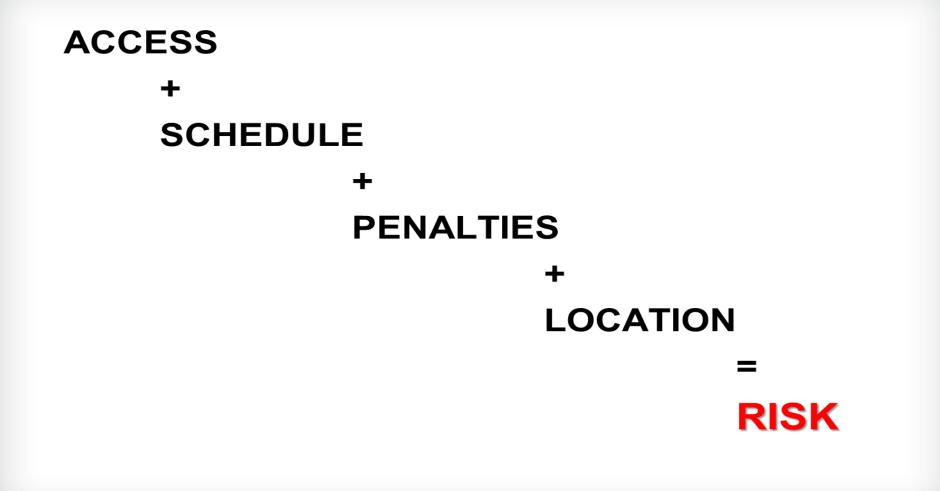
#### TITLE

- 20 Contractors at the Pre-Bid Meeting
- 15 Contractors at the Optional Site Walk

#### DIRECTOR

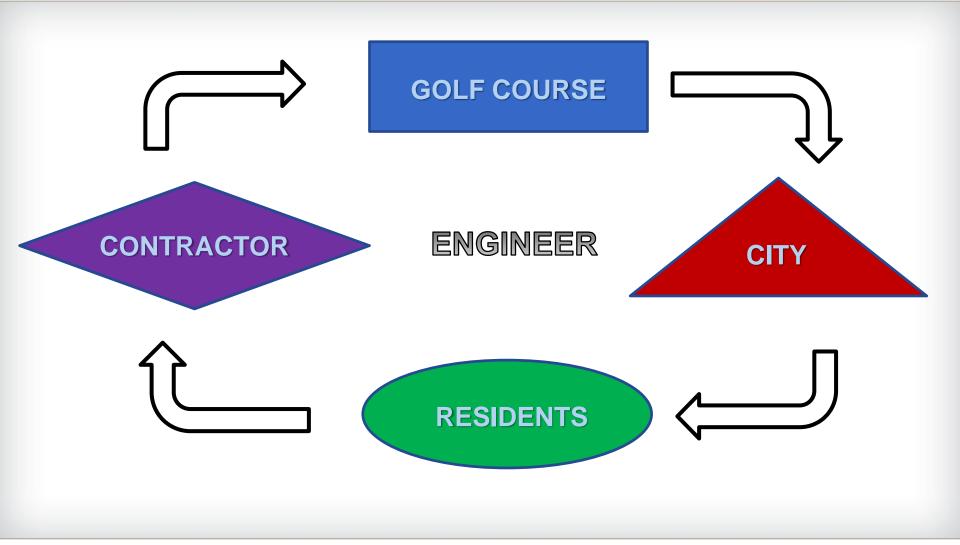
CAMERA			
DATE	SCENE	TAKE	
2015	No Bids	1	

#### WHY NO BIDDER?





#### **NOW WHAT?**





## **REEVALUATING OUR APPROACH**



#### **MANAGING ACCESS ISSUES**

## **INITIAL BID**

• ACCESS THROUGH PRIVATE PROPERTY IN 2 LOCATIONS BY RIGHT-OF-ENTRY AGREEMENT

## FINAL BID

• ACCESS EASEMENT FROM 1 PROPERTY AND ADDITIONAL ACCESS THROUGH THE GOLF COURSE

• MINIMAL VEHICULAR TRAFFIC ON GOLF COURSE • CUT AND FILL AND ADDITIONAL GROUND PROTECTION





## **MANAGING ACCESS ISSUES GOLF COURSE**

- EXTRA MEETINGS WITH GOLF COURSE
- MULTIPLE SITE WALKS
- GOLF COURSE APPROVAL OF ALIGNMENT
- SPECIFY GROUND PROTECTION
- NEW INVERSION PLAN



## TEMPORARY ACCESS ROAD GOLF COURSE





## ACCESS THROUGH PRIVATE PROPERTY



### **MANAGING BYPASS ISSUES**

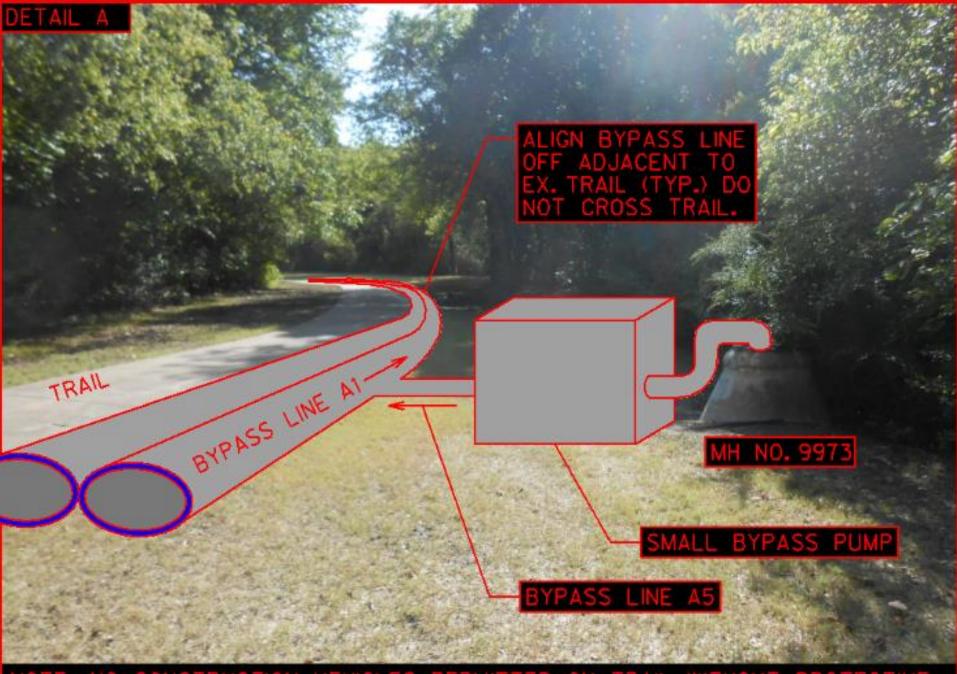
## **INITIAL BID**

- DUAL, 16-INCH HDPE BYPASS LINES
- REDUNDANT SYSTEM
- LONG BYPASS PIPELINES BETWEEN MAJOR THOROUGHFARES

## FINAL BID

- ALLOW CONTRACTOR TO MEASURE FLOW AND SUBMIT BYPASS PLAN WITH EVACUATION CONTINGENCY
- ALLOW DISCHARGE INTO ONE MANHOLE ON GOLF COURSE





NOTE: NO CONSTRUCTION VEHICLES PERMITTED ON TRAIL WITHOUT PROTECTIVE



## **CONSTRUCTION SCHEDULE**

#### • GOLF COURSE

- OFF-PEAK MONTHS (DECEMBER THROUGH FEBURARY)
- DORMANT GROUND
- RESIDENTS
  - NO CONSTRUCTION DURING HOLIDAYS
- CONTRACTOR
  - MINIMUM OF 6 MONTHS ON THE GOLF COURSE
  - CURE PIPELINE THROUGH THE NIGHT
- OWNER
  - NOISE ORDINANCE



## **MANAGING SCHEDULE ISSUES**

## **INITIAL BID**

- GOLF COURSE: DECEMBER 1 TO MARCH 1
- NO WEEKEND WORK
- NO NIGHTTIME WORK

## FINAL BID

- GOLF COURSE: NOVEMBER 17 TO APRIL 1
- CLARIFIED EXTENT OF WORK ALLOWED DURING THE NIGHT AND WEEKENDS



## **ADDRESSING SCHEDULE ISSUES**

- EXTENDED GOLF COURSE SCHEDULE FOR CONTRACTOR
  - LIMITED THE TYPE OF CONSTRUCTION ALLOWED AT CERTAIN TIMES
  - MULTIPLE MEETINGS WITH THE GOLF COURSE REVISING ORIGINAL PLANS
- OWNER
  - COORDINATION WITH RESIDENTS EXPLAINING CONSTRUCTION ACTIVITIES
  - LIMITED NIGHTTIME MONITORING DURING CONSTRUCTION



## 2<sup>ND</sup> BID – August 2016

- Last Inversion on the Golf Course Occurred on 3/2/2017
- Final Cost \$3.5M
  Under Budget
- Stakeholders Happy







## Questions?

