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MONTGOMERY COUNTY MUNICIPAL UTILITY DISTRICT NO. 9 TOWN HALL MEETING

MAY 10, 2018



Outline

- Opening Remarks (Linda Wilson)
- Drainage Study (Michael Sullivan, P.E.)
- Bond Authorization Process (Clark Lord)
- Finance (Corey Howell)

DEC 04 1989

JOB NO. 126.03
STRN DODSON-89/004

**DRAINAGE CRITERIA MANUAL
FOR
MONTGOMERY COUNTY, TEXAS**

November 1989

presented to
Montgomery County

by

Dodson & Associates, Inc.

5629 FM 1960 West, Suite 314
Houston, Texas 77069
(713) 440-3787
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D. A. Vogt Engineering, Inc.

1544 Sawdust Road, Suite 180
The Woodlands, Texas 77380
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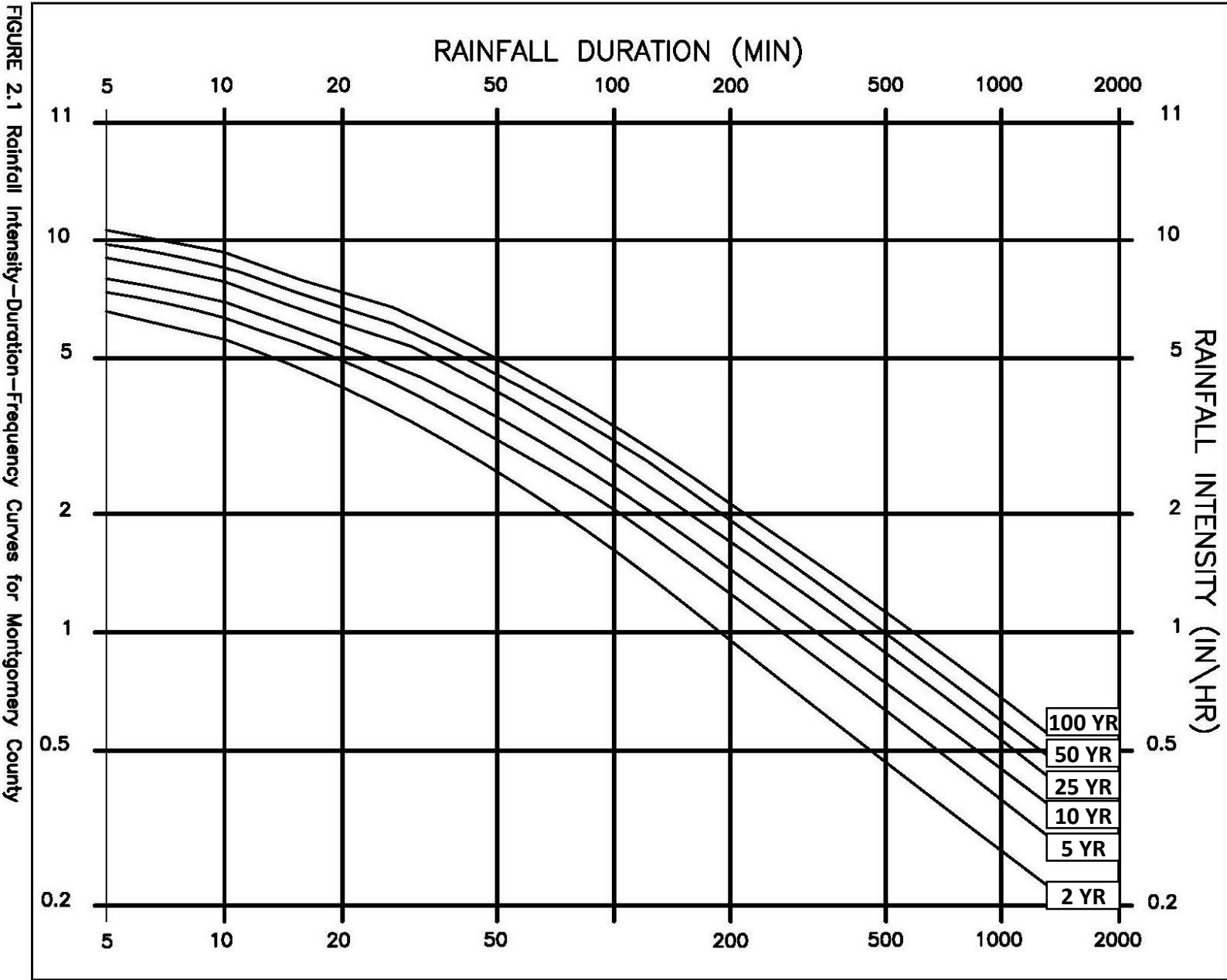
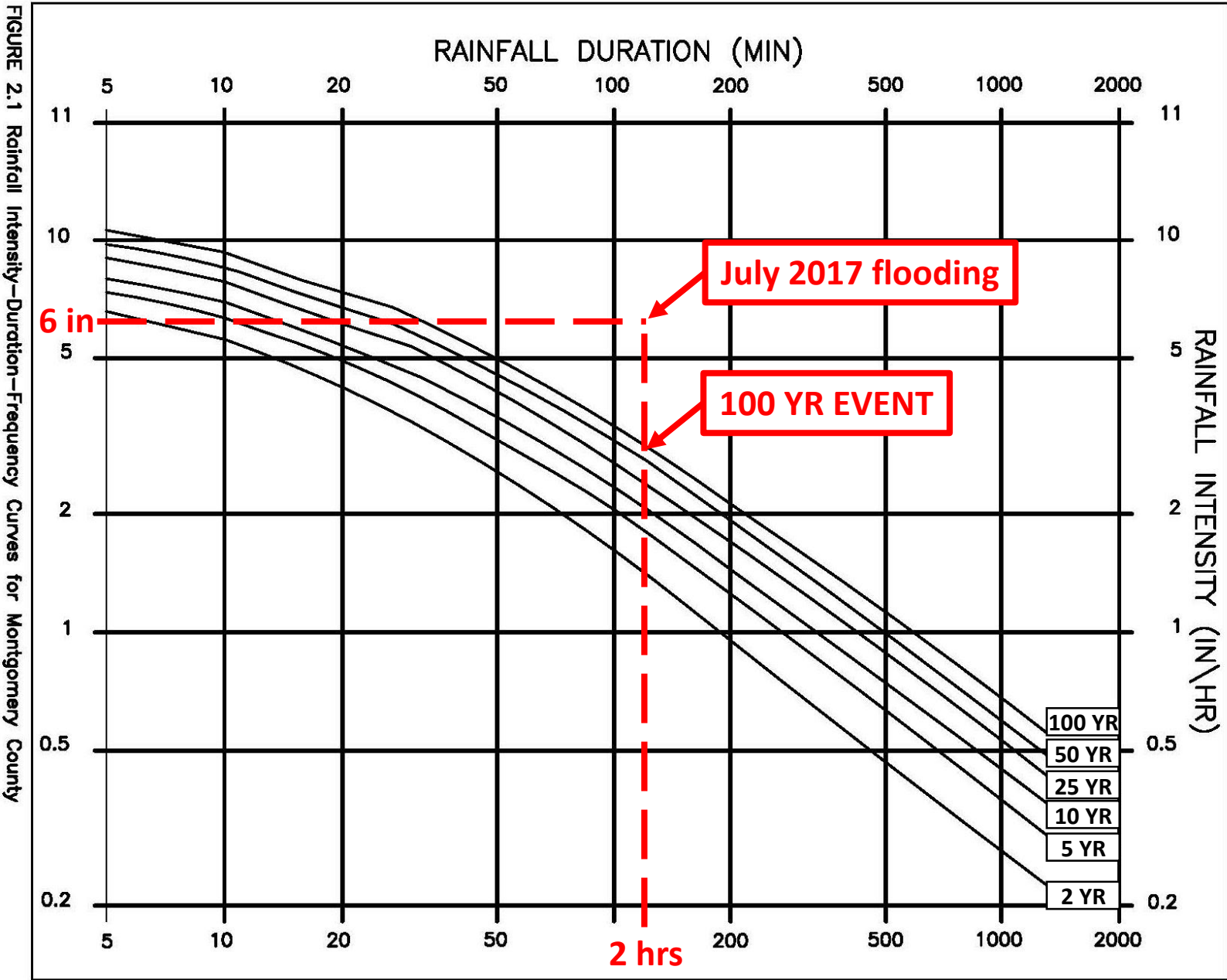
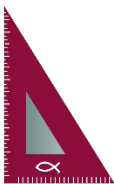
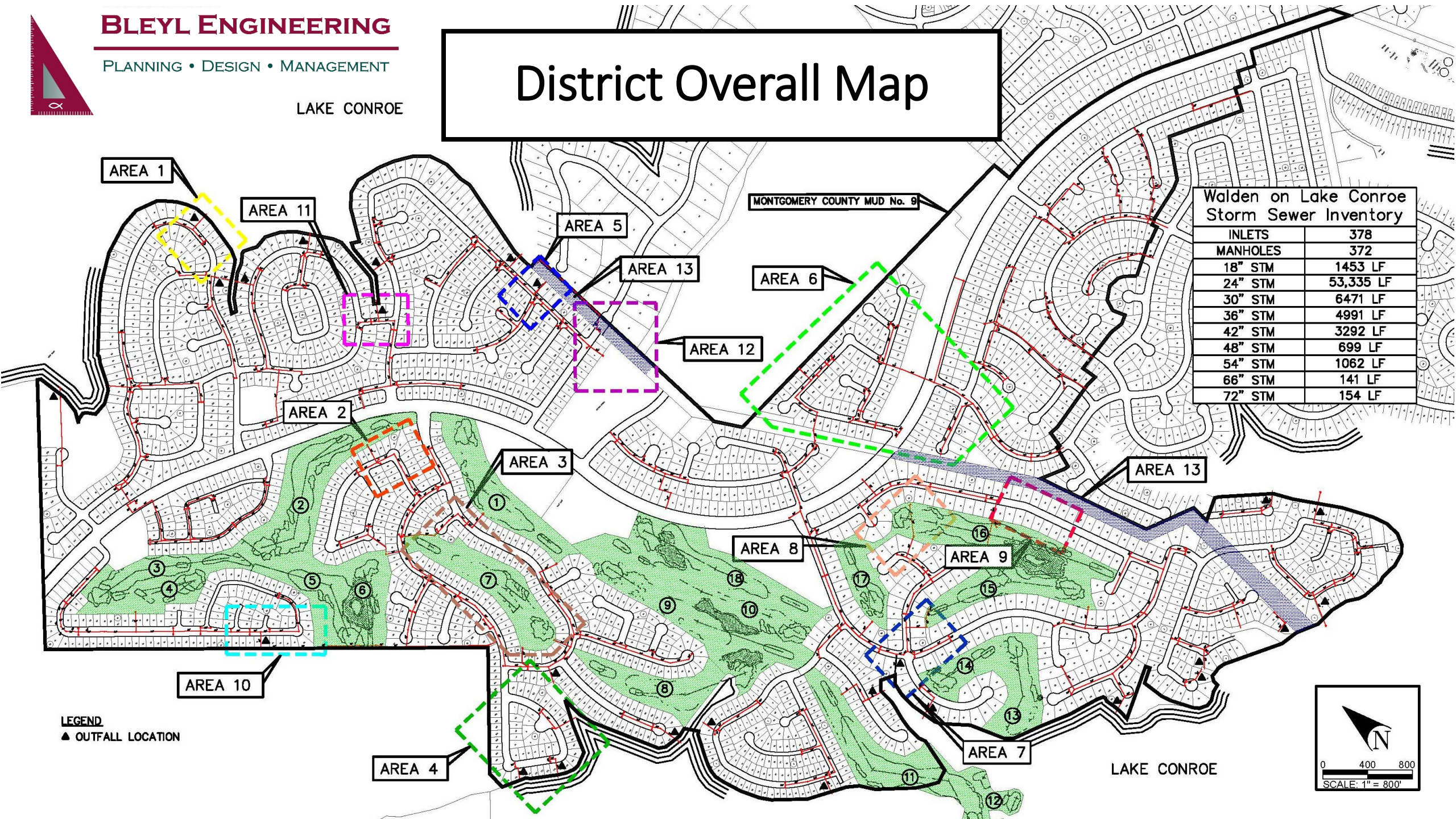


FIGURE 2.1 Rainfall Intensity-Duration-Frequency Curves for Montgomery County





District Overall Map



Walden on Lake Conroe
Storm Sewer Inventory

INLETS	378
MANHOLES	372
18" STM	1453 LF
24" STM	53,335 LF
30" STM	6471 LF
36" STM	4991 LF
42" STM	3292 LF
48" STM	699 LF
54" STM	1062 LF
66" STM	141 LF
72" STM	154 LF



Montgomery County MUD 9 Area Wide Flood Drainage Study

Area	MUD 9 Section	Approximate Location
1	Section 17	Windswept Drive at Vail Drive
2	Section 10	Hilton Head Drive at Spyglass Hill Drive
3	Section 10	Boca Raton Circle
4	Section 10	Country Club Blvd at Pebble Beach Blvd
5	Section 15	Northshore Drive at Enchanted Way
6	Section 18	Dover Drive at Nottingham Lane
7	Section 9	Chippers Crossing at Lake Island Drive
8	Section 9	Wedgewood Circle
9	Section 9	Pine Chase Drive
10	Section 11	Fountainview Drive
11	Section 15	Echo Lane
12	Section 15	Lake Estates Drive
13	N/A	Gulf State Utility (GSU) Easement



Previous Improvements



**The District has expended
nearly \$1,000,000 on drainage
related repairs**





Previous Improvements

MONTGOMERY COUNTY MUD No. 9

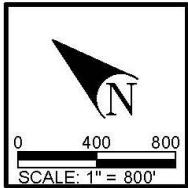
Walden on Lake Conroe Storm Sewer Inventory

INLETS	378
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★ PREVIOUS IMPROVEMENTS/REPAIRS

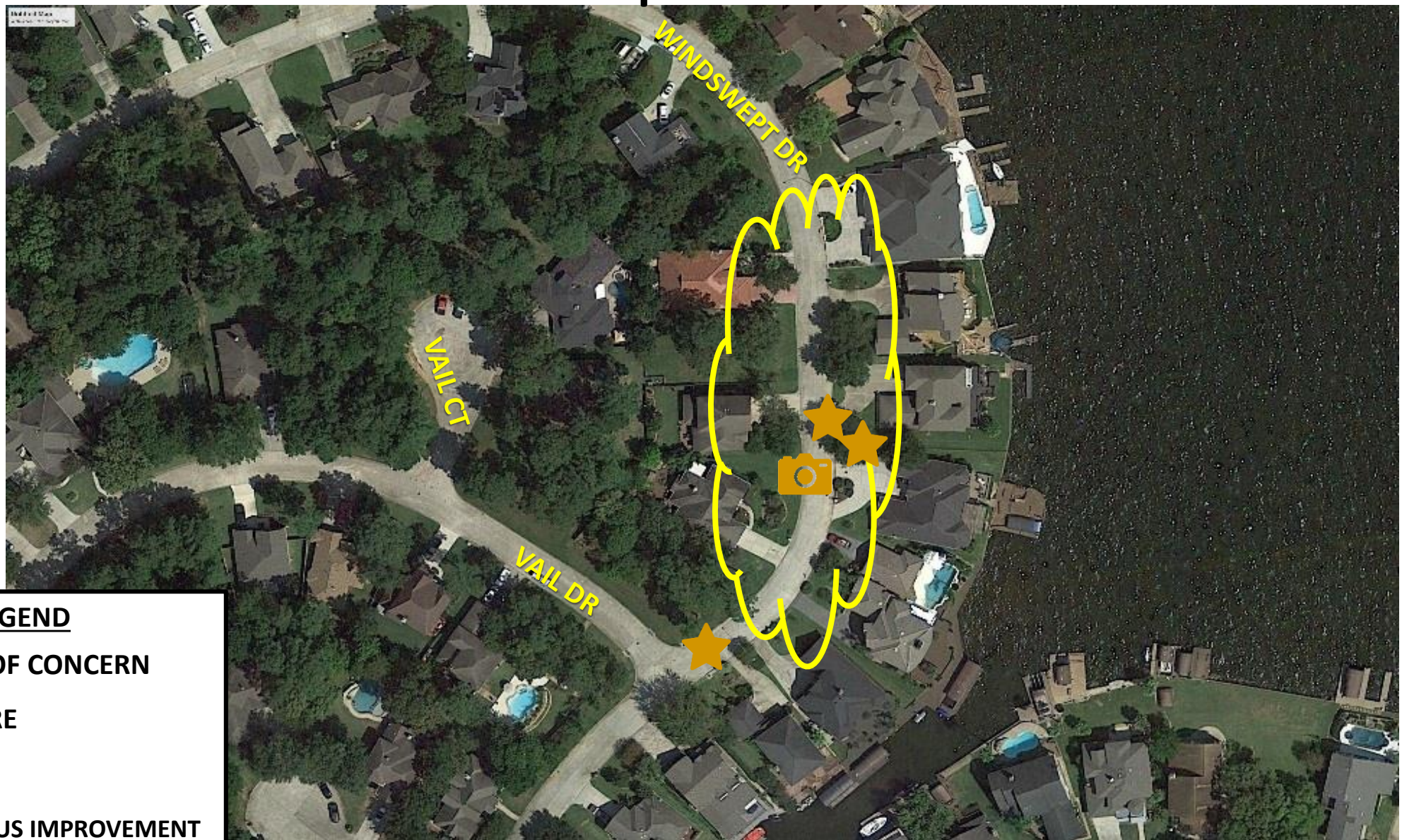
The District has expended nearly \$1,000,000 on drainage related repairs

LAKE CONROE









Area 1: Windswept Drive at Vail Drive



LEGEND

-  AREA OF CONCERN
-  PICTURE
-  VIDEO
-  PREVIOUS IMPROVEMENT

Area 1: Previous Improvements



Installed 2 inlets at Vail Drive



Installed 2 inlets at Sun Valley Drive

Area 1: Previous Improvement



**Earthen Swale constructed by property owner.
Some driveways are below street level.**



Area 1: Proposed Solution

Issue:

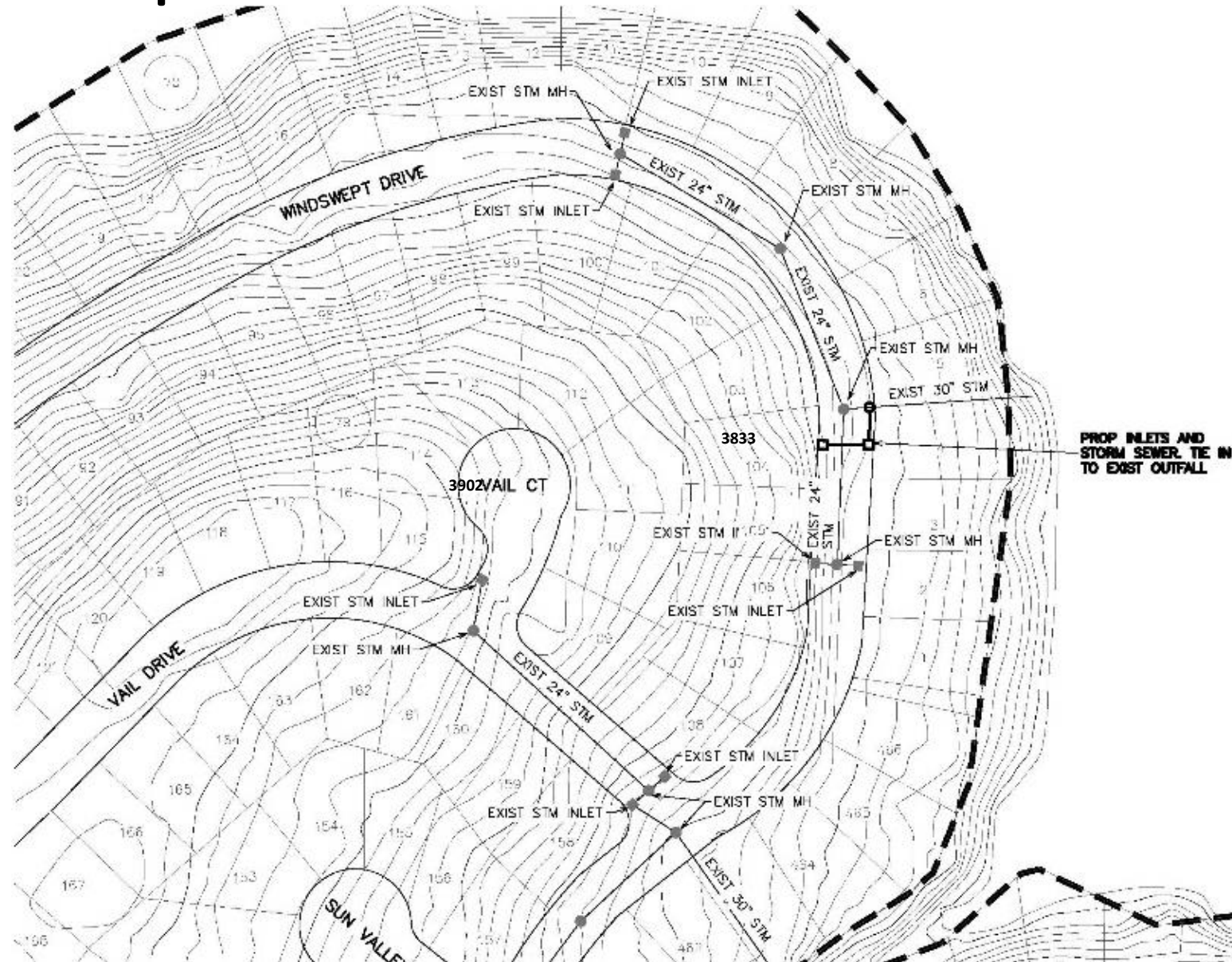
Several homes are lower than the street level and are subject to sheet conditions during heavy rainfall events.

Previous Improvements:

- Added 2 inlets at Vail Drive
- Added 2 inlets at Sun Valley
- Earthen swale constructed by property owner

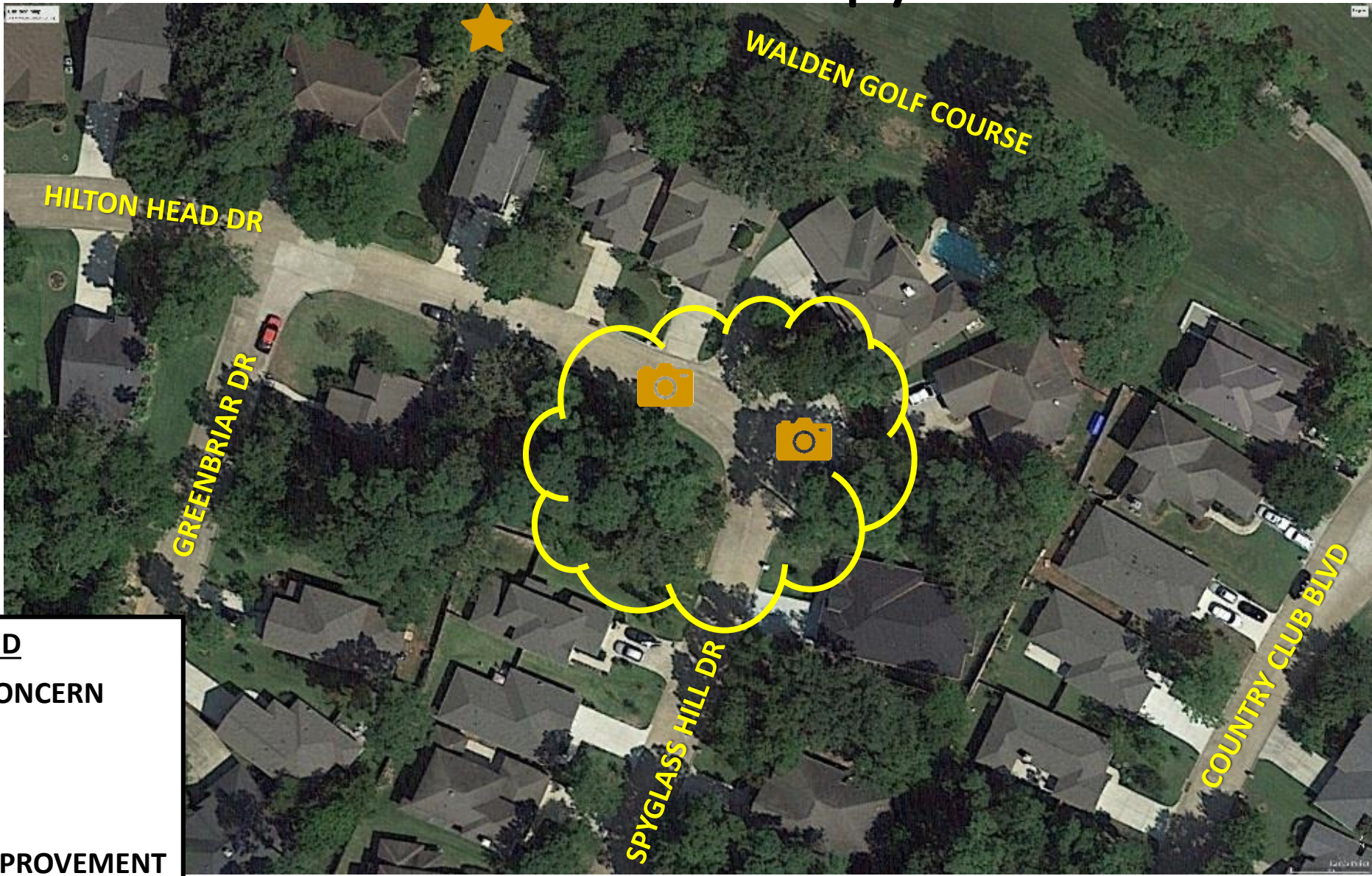
Recommendation:

- Add inlets and storm sewer, tie in to existing outfall





Area 2: Hilton Head Drive at Spy Glass Hill Drive



LEGEND

-  AREA OF CONCERN
-  PICTURE
-  VIDEO
-  RECENT IMPROVEMENT

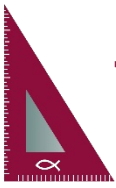
Area 2: Hilton Head Drive at Spy Glass Hill Drive



**Inlet On Hilton Head Drive West Of
Spy Glass Hill Drive**



**Looking West At Hilton Head Drive
From Spy Glass Hill Drive**



Area 2: Proposed Solution

Issues:

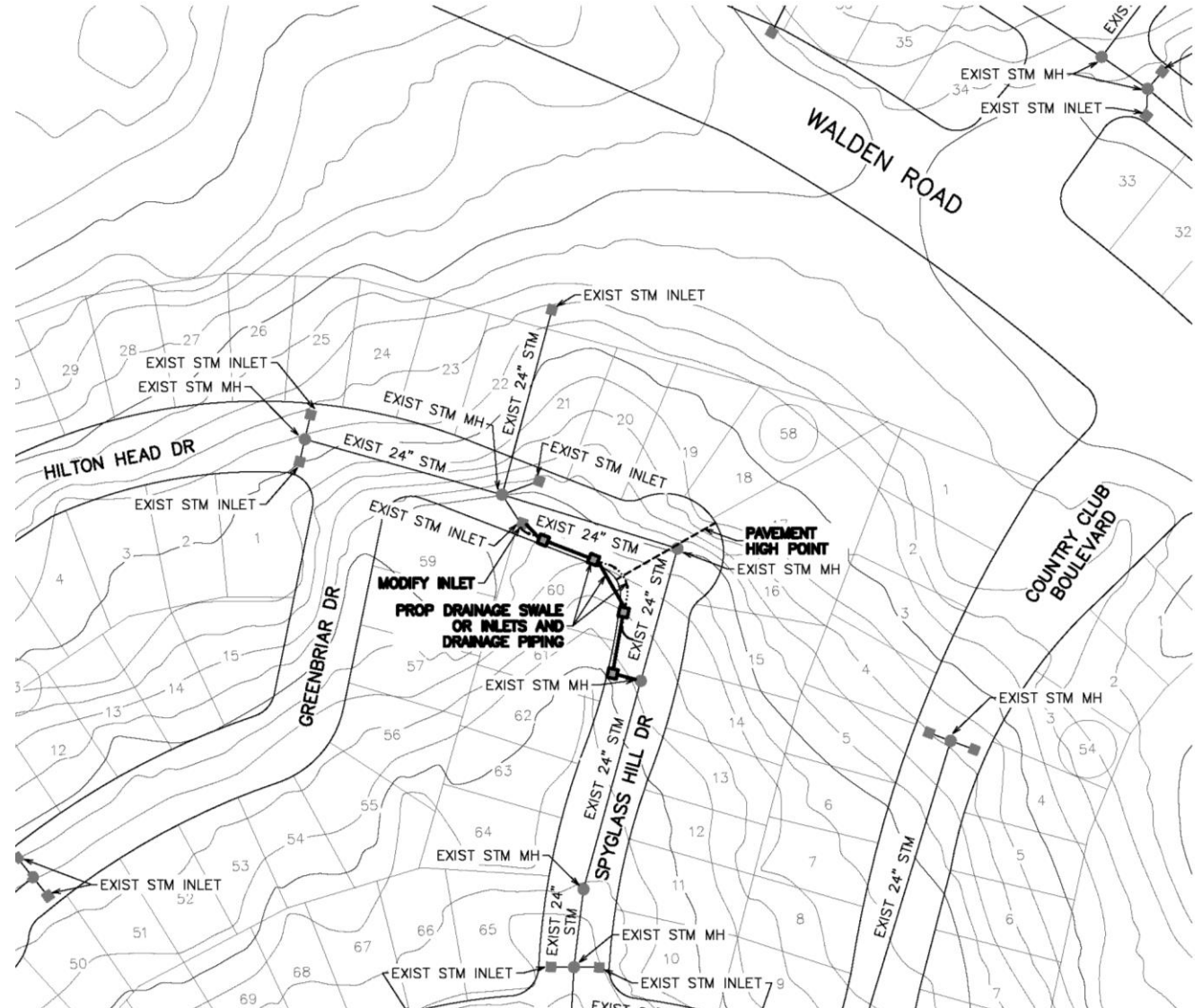
- Storm water overflow at inlets
- Ponding overflow to street blocked by highpoint at Spy Glass Hill Drive

Previous Improvement:

Improved golf course inlet

Recommendation:

Proposed permanent concrete swale or piping along the back of the curb





Area 3: Boca Raton Circle



LEGEND



AREA OF CONCERN



PICTURE



VIDEO



PREVIOUS IMPROVEMENT

Area 3: Boca Raton Circle



**Looking At Boca Raton Circle From
Country Club Blvd**



**Storm Sewer Inlet At End Of
Boca Raton Circle**



Area 3: Video from July 2017



Video provided by property owner (July 2017). Property was damaged twice in the past 4 years due to flooding.

Area 3: Previous Improvement



Upsized local curb inlets (300%)



Area 3: Proposed Solution

Issues:

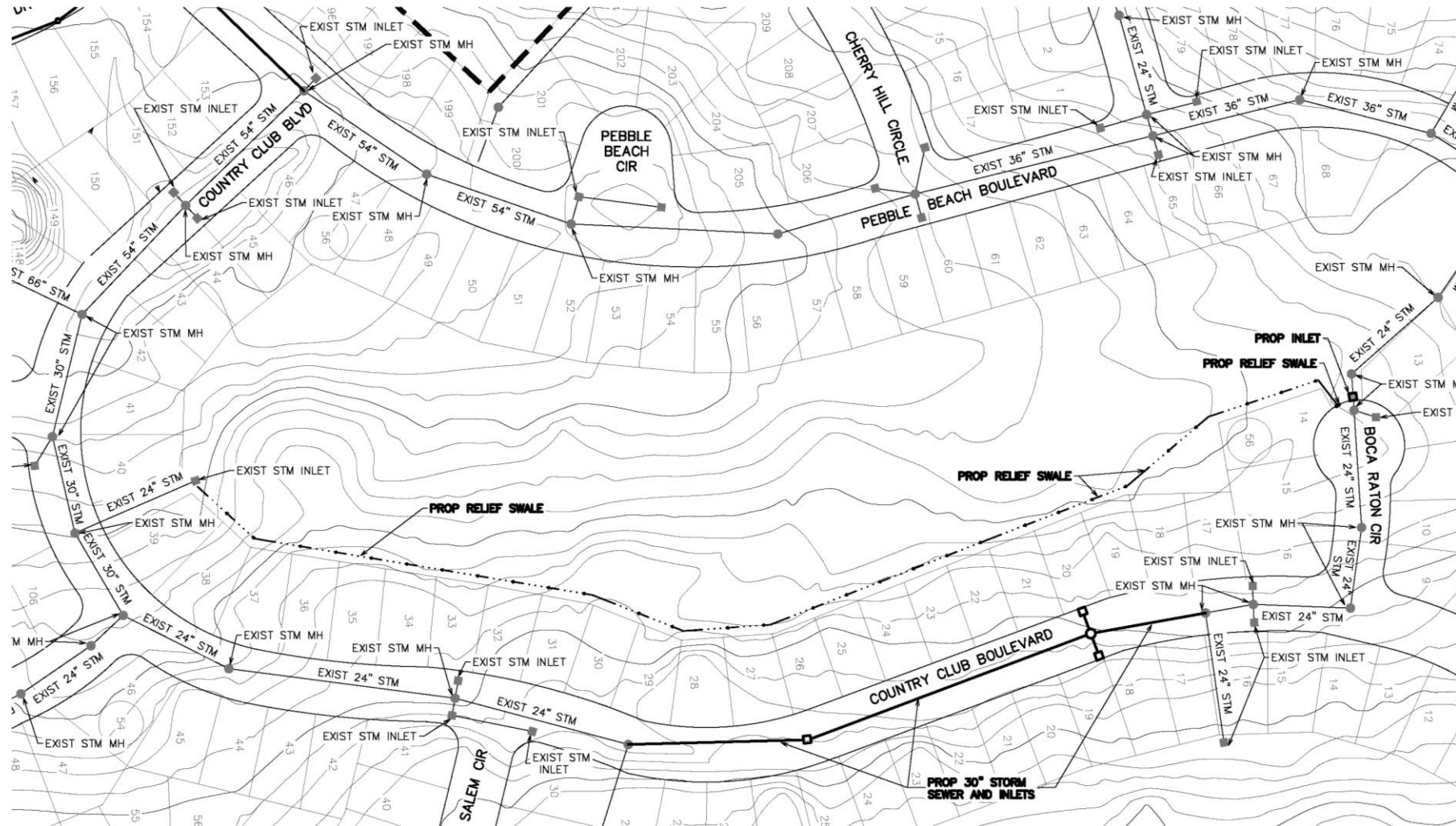
- Pavement elevations beginning at Country Club Boulevard drop approximately 5 feet to the inlet at the end of Boca Raton Circle
- Storm sewer system becomes inundated during extreme rainfall events

Previous Improvement

Upsized local curb inlets (300%)

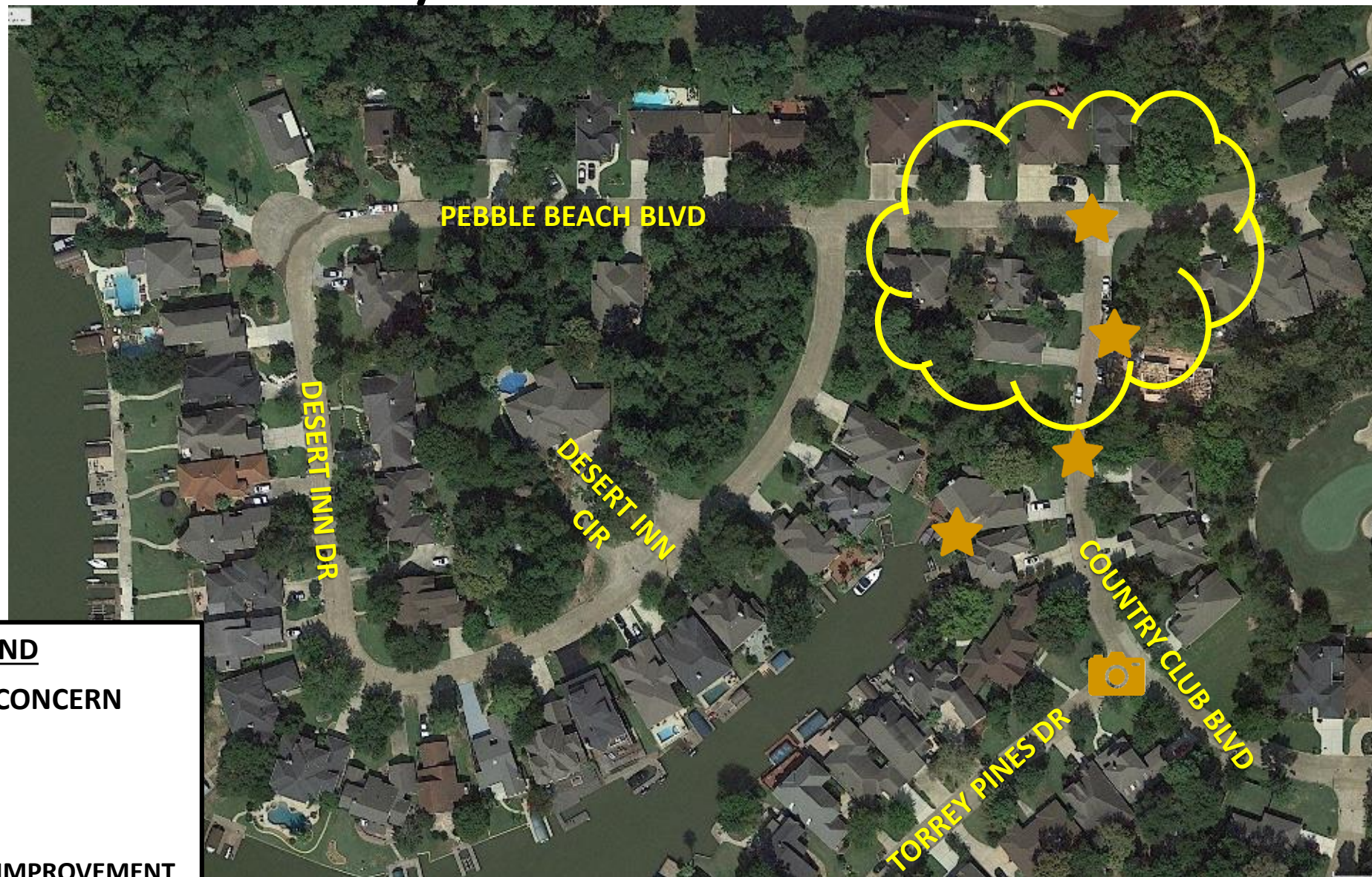
Recommendations:

- Proposed relief swales within the Walden Golf Course area
- Install 30" bypass line to head of the system





Area 4: Country Club Blvd at Pebble Beach Blvd



LEGEND



AREA OF CONCERN



PICTURE



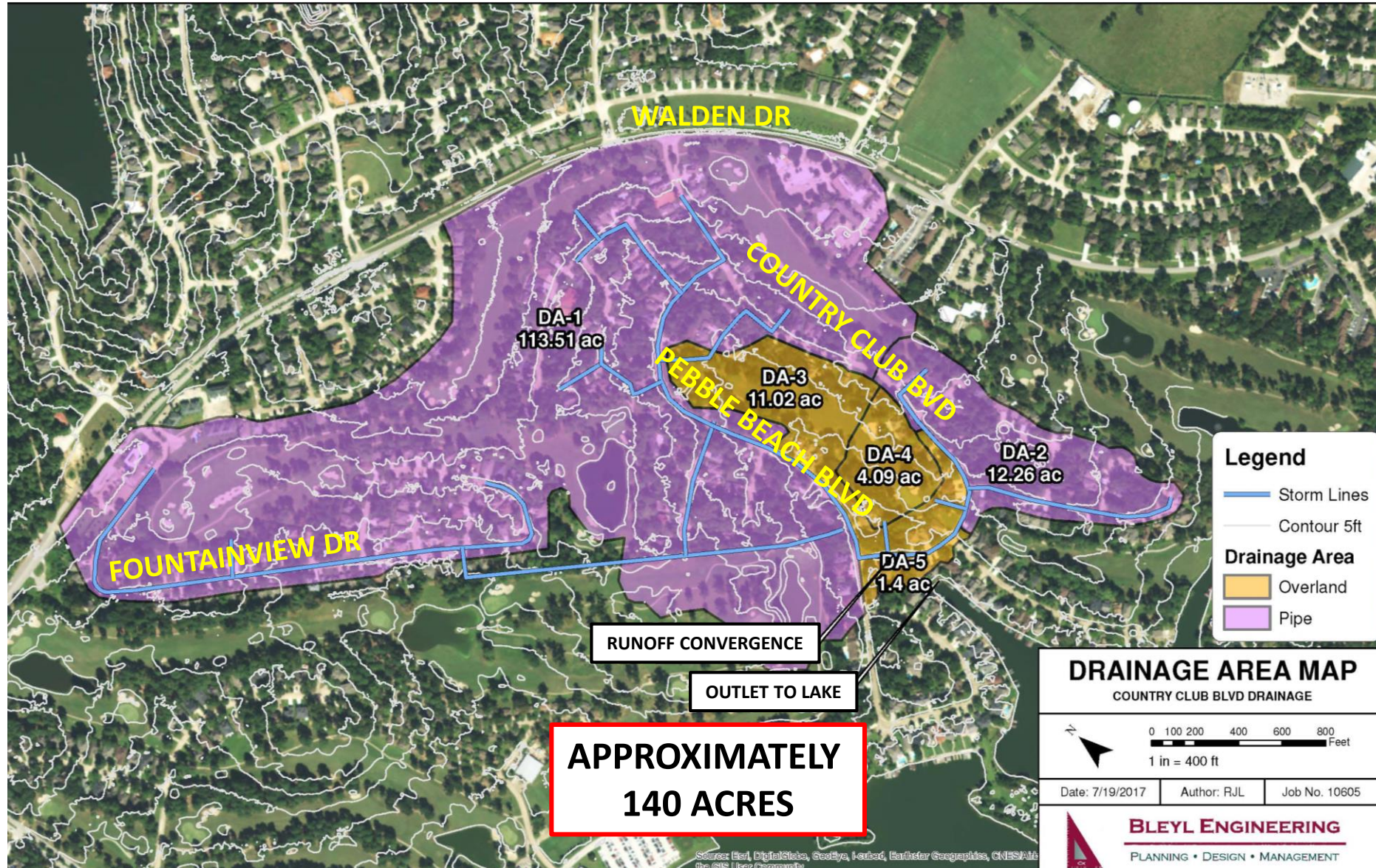
VIDEO



PREVIOUS IMPROVEMENT



Area 4: Drainage Area Map of Country Club Blvd



Area 4: Country Club Blvd at Pebble Beach Blvd



Intersection at County Club Blvd and Torrey Pines



**Flooding at the intersection at County Club Blvd
and Torrey Pines (July 2017)**



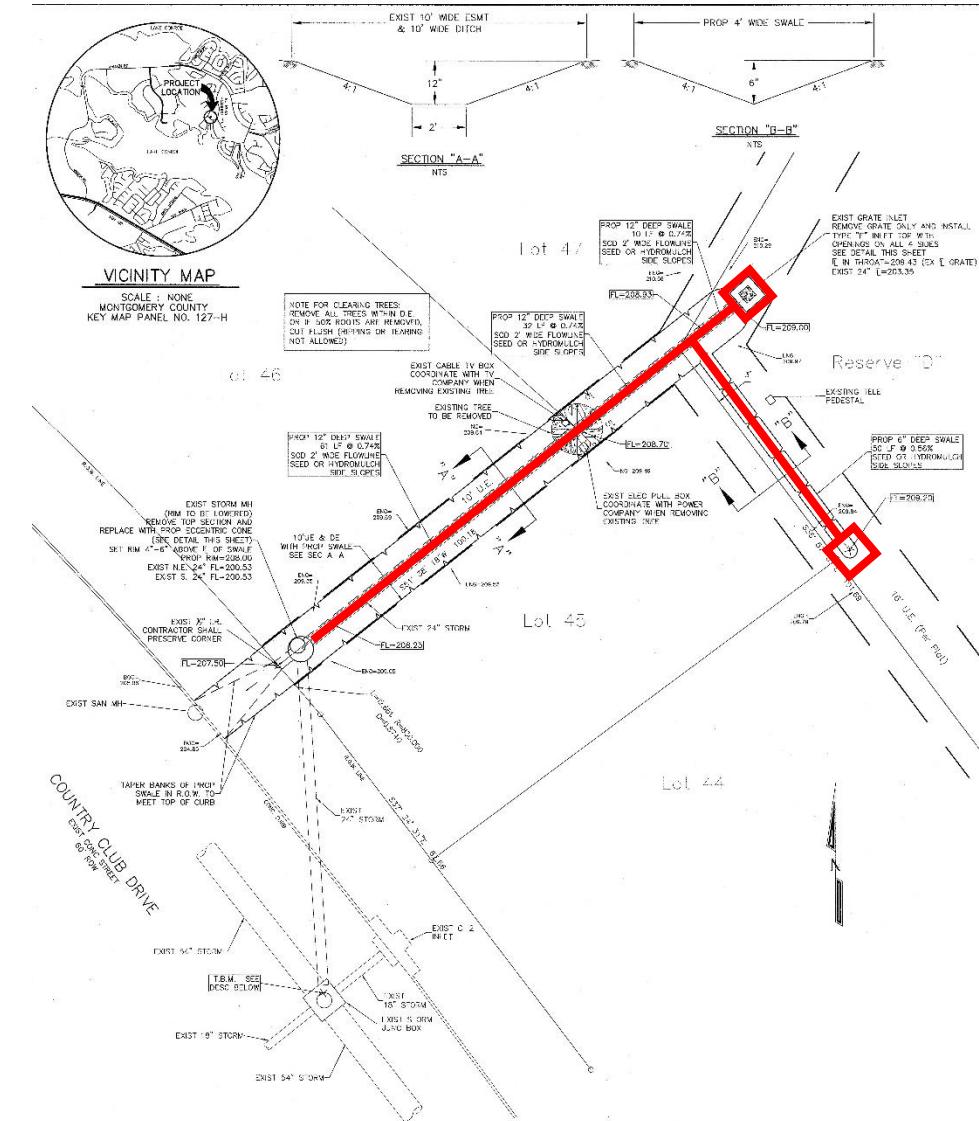
Area 4: Previous Improvements



Upsized curb inlets and swale

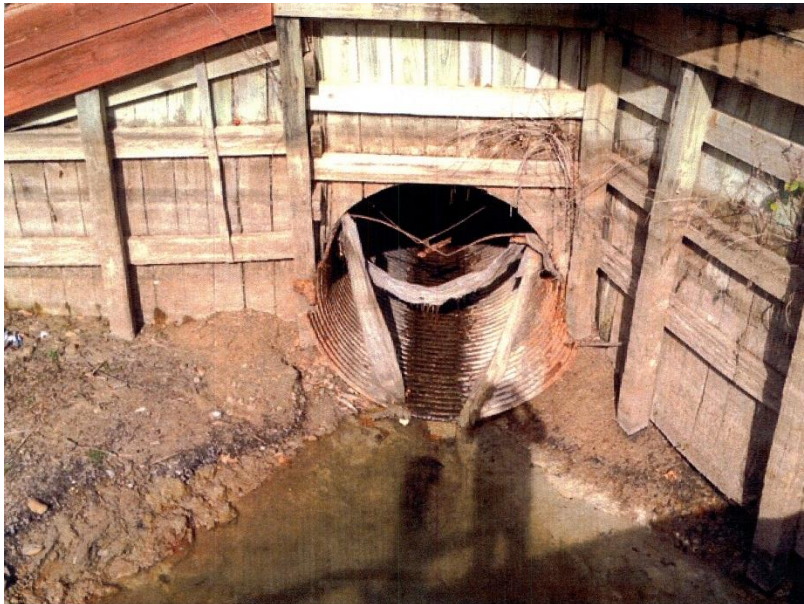


Installed Type E inlet behind a home to capture the golf course towards Country Club Blvd





Area 4: Previous Improvements



Outfall pipe before improvement



During construction



**Improved outfall pipe inlet
(2012)**



Area 4: Proposed Solution

Issue:

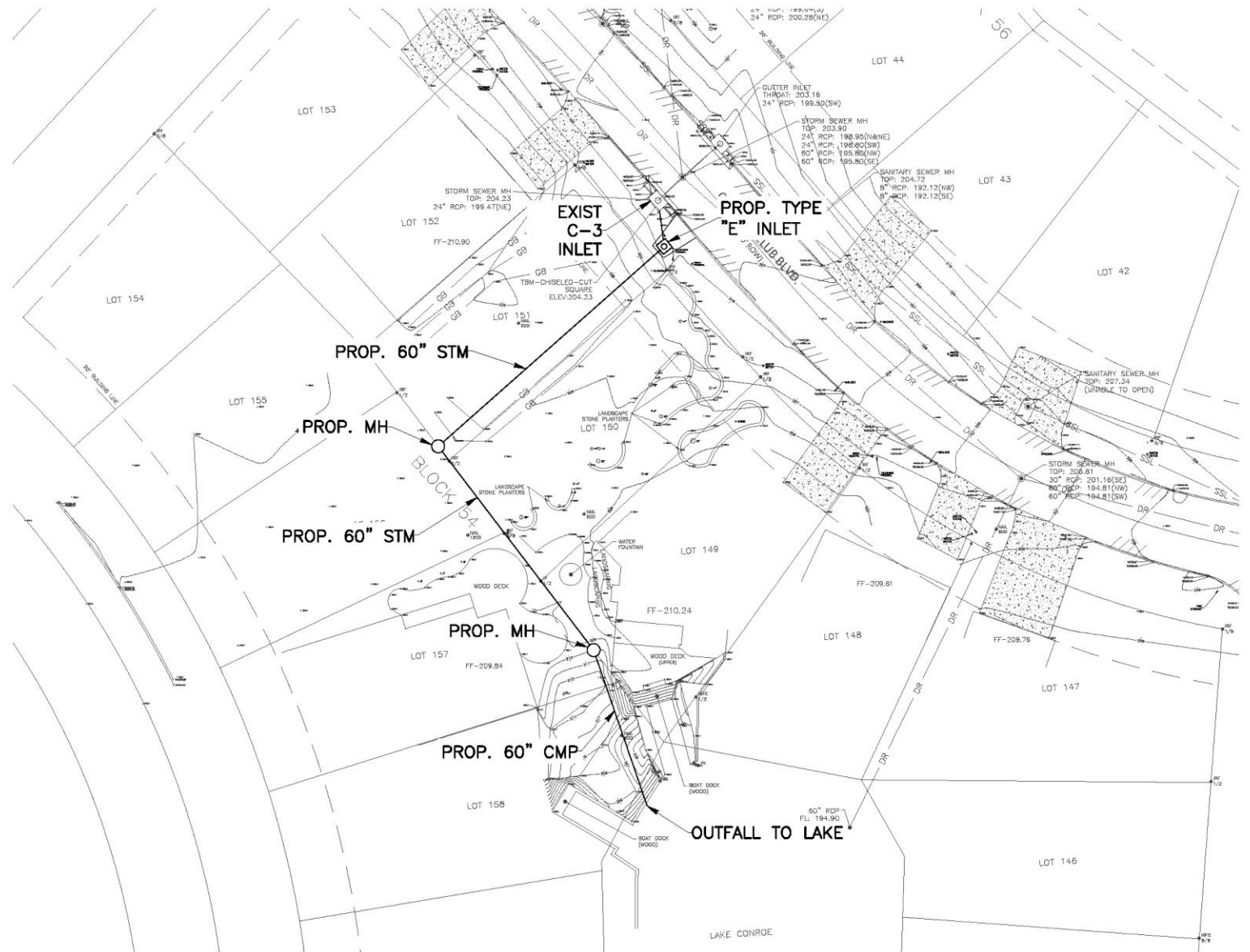
Heavy flow coming off of the golf course, around the homes, and across vacant properties directly into the curb inlets. System is inundated from upstream flow.

Previous Improvements:

- Upsized curb inlet (600%)
- Improved golf course inlet and outfall pipe

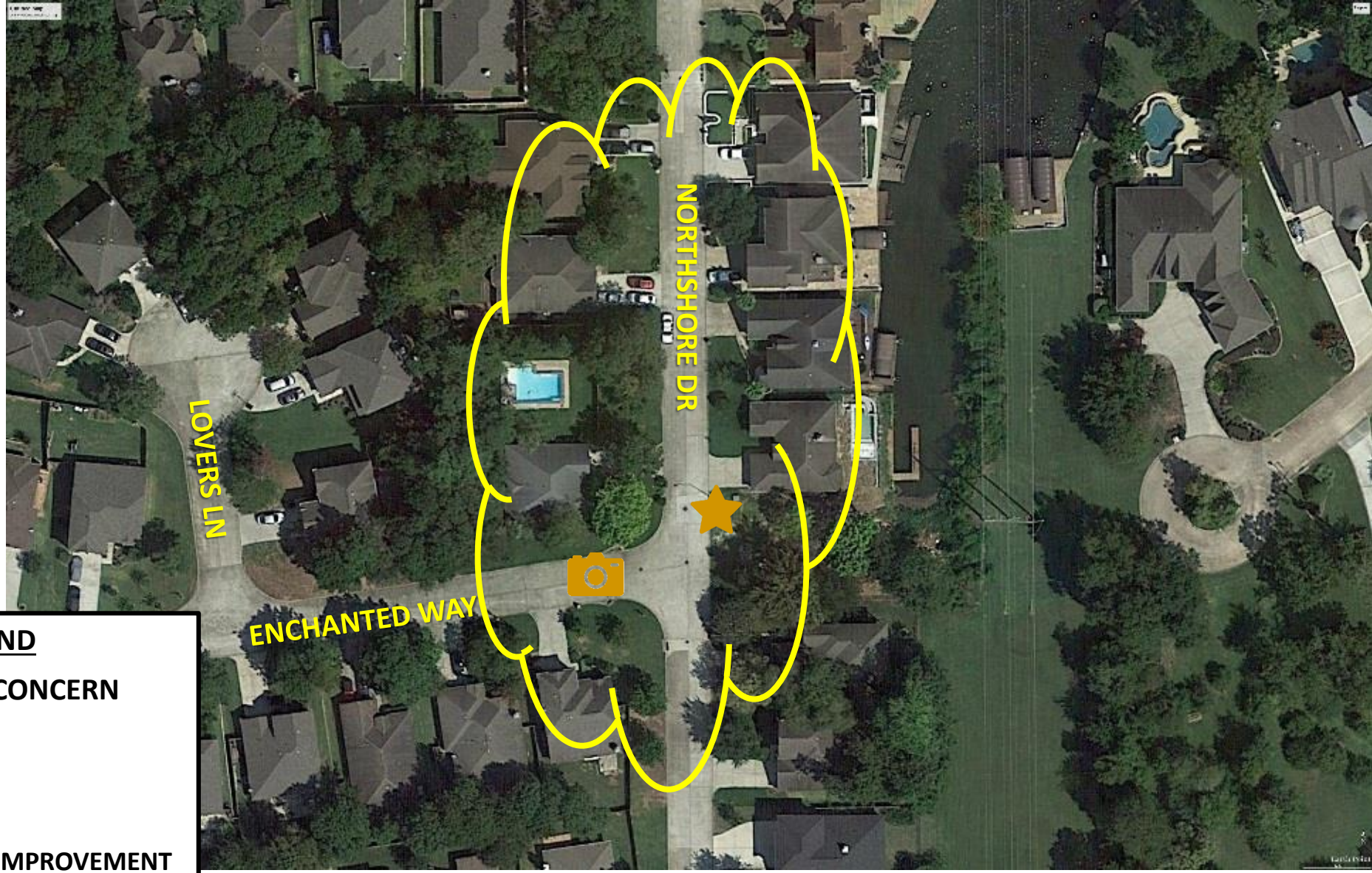
Recommendation:

Proposed storm sewer system as secondary overflow to Lake Conroe









Area 5: Northshore Drive at Enchanted Way



LEGEND

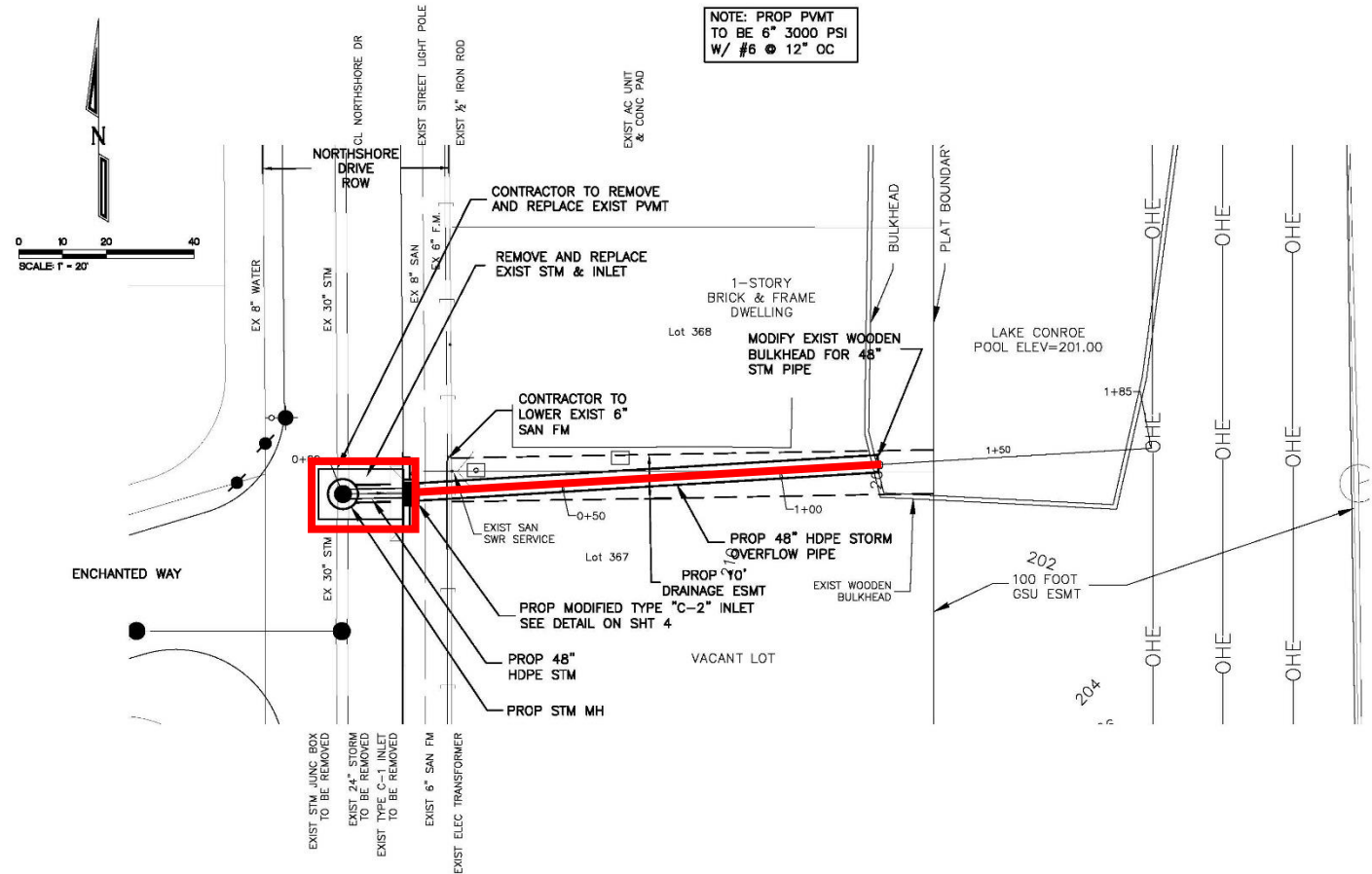
-  AREA OF CONCERN
-  PICTURE
-  VIDEO
-  PREVIOUS IMPROVEMENT

Area 5: Northshore Drive at Enchanted Way



**Angled inlets bypassing flow during
short, hard rain event**

Area 5: Previous Improvement



Installed 48" storm sewer line on Northshore Drive at Enchanted Way Drive (2012)



Area 5: Proposed Solution

Issue:

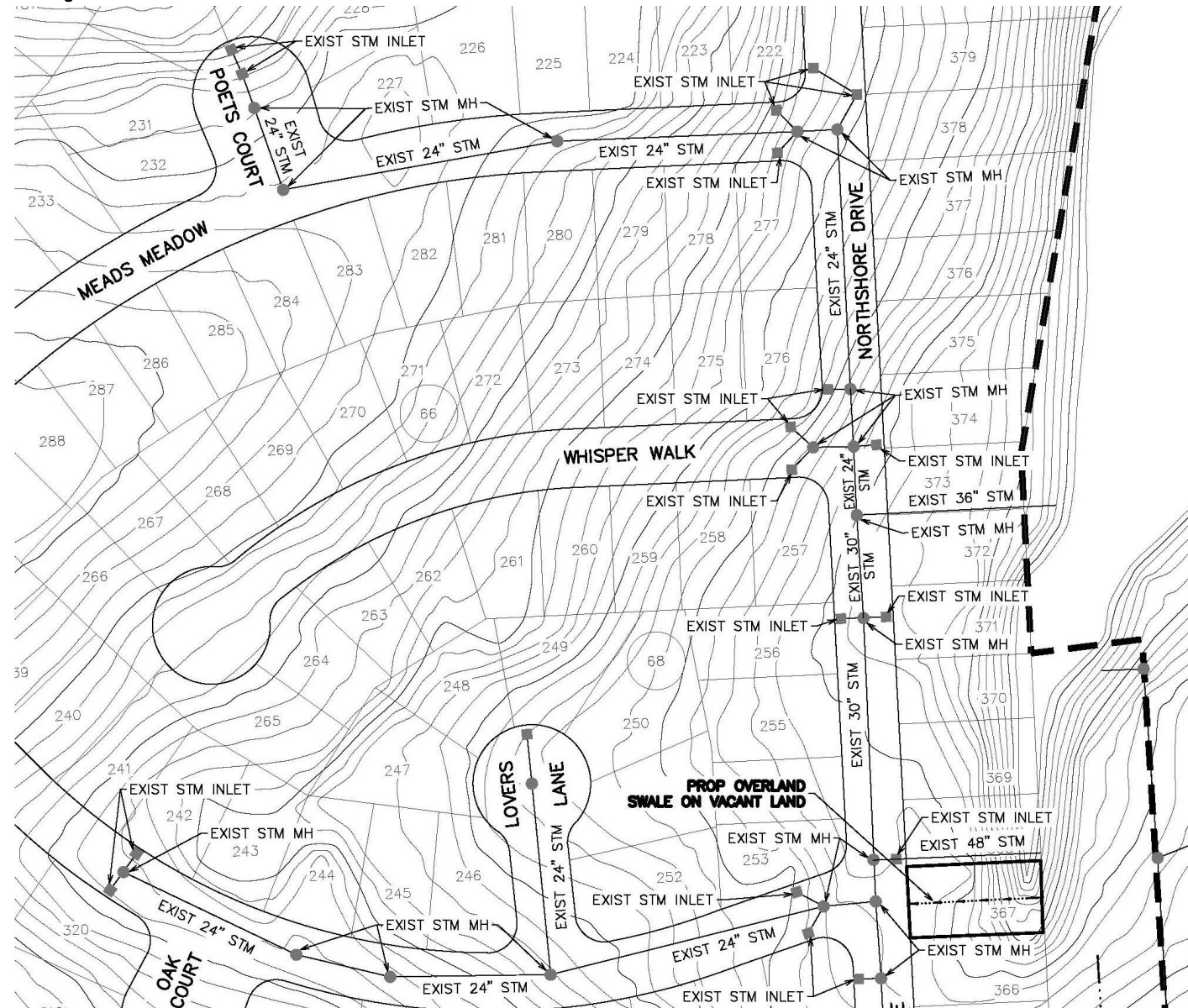
Approximately six to eight homes were reported to have flooded

Previous Improvement:

Installed 48" storm sewer line

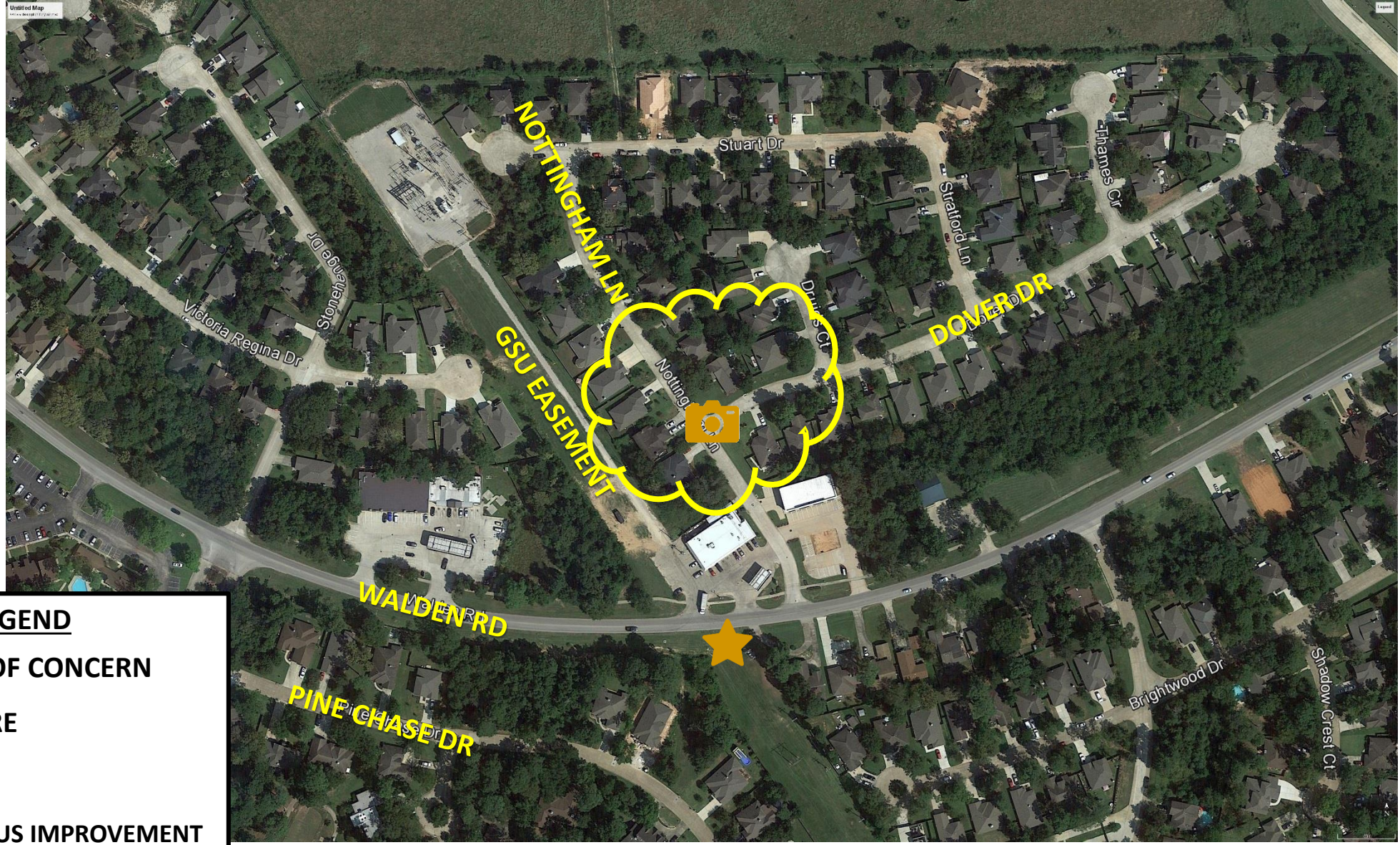
Recommendation:

Proposed overland swale over Lot 367 (vacant)





Area 6: Dover Drive at Nottingham Lane



LEGEND



AREA OF CONCERN



PICTURE



VIDEO



PREVIOUS IMPROVEMENT

Area 6: Dover Drive at Nottingham Lane



**Inspections determined inlets may need upsizing on
Dover Drive at Nottingham Lane**



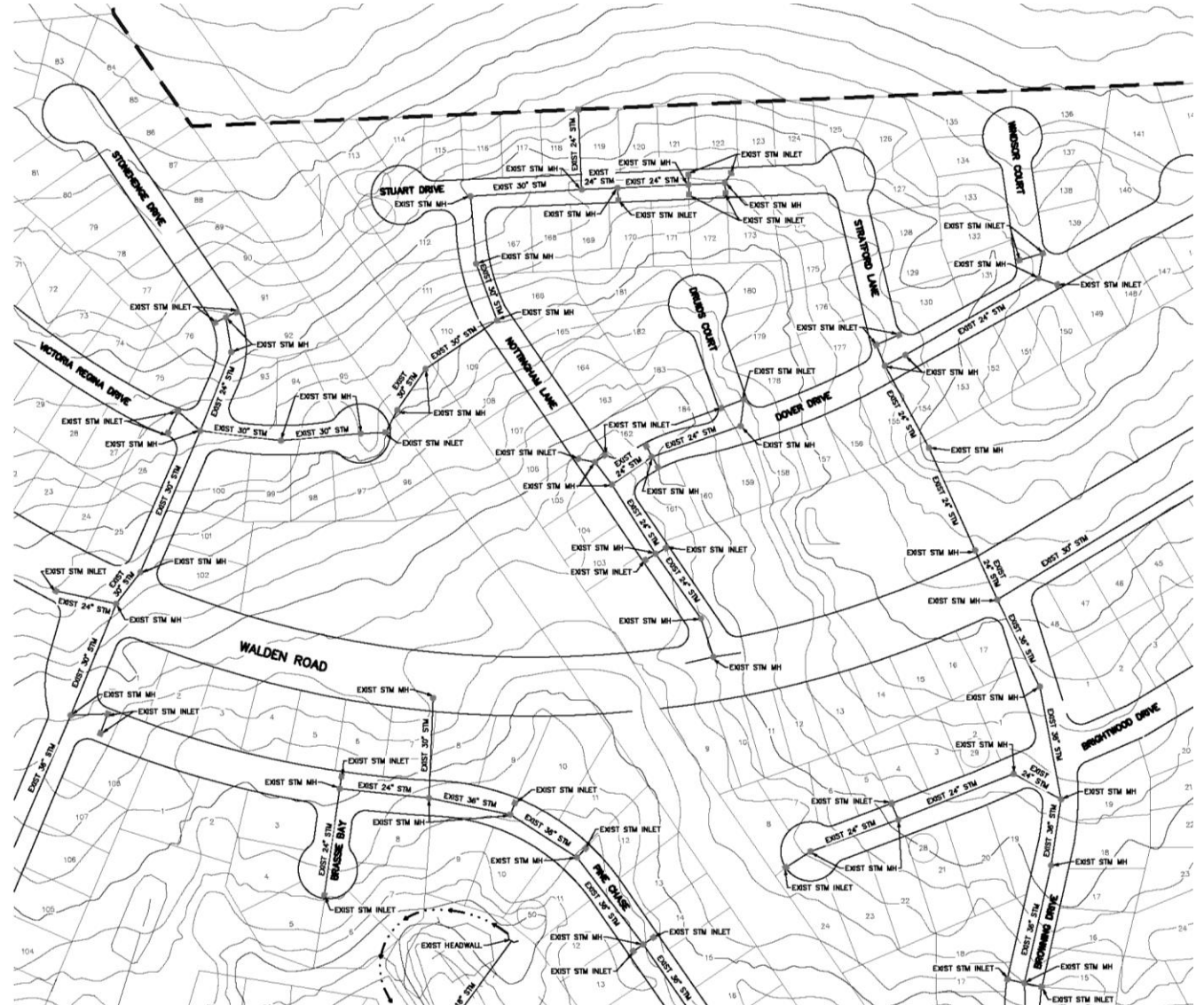
Area 6: Proposed Solution

Issue:

Several locations in this area are subject to street flooding.

Recommendations:

Improve GSU easement with storm sewer and swales. Increase inlet capacities.









Area 7: Chippers Crossing at Lake Island Drive



LEGEND

-  AREA OF CONCERN
-  PICTURE
-  VIDEO
-  PREVIOUS IMPROVEMENT

Area 7: Previous Improvement



Repaired storm sewer on Chippers Crossing

Area 7: Previous Improvement



**Existing Rock Drainage Swale constructed by
property owner**



Area 7: Proposed Solution

Issue:

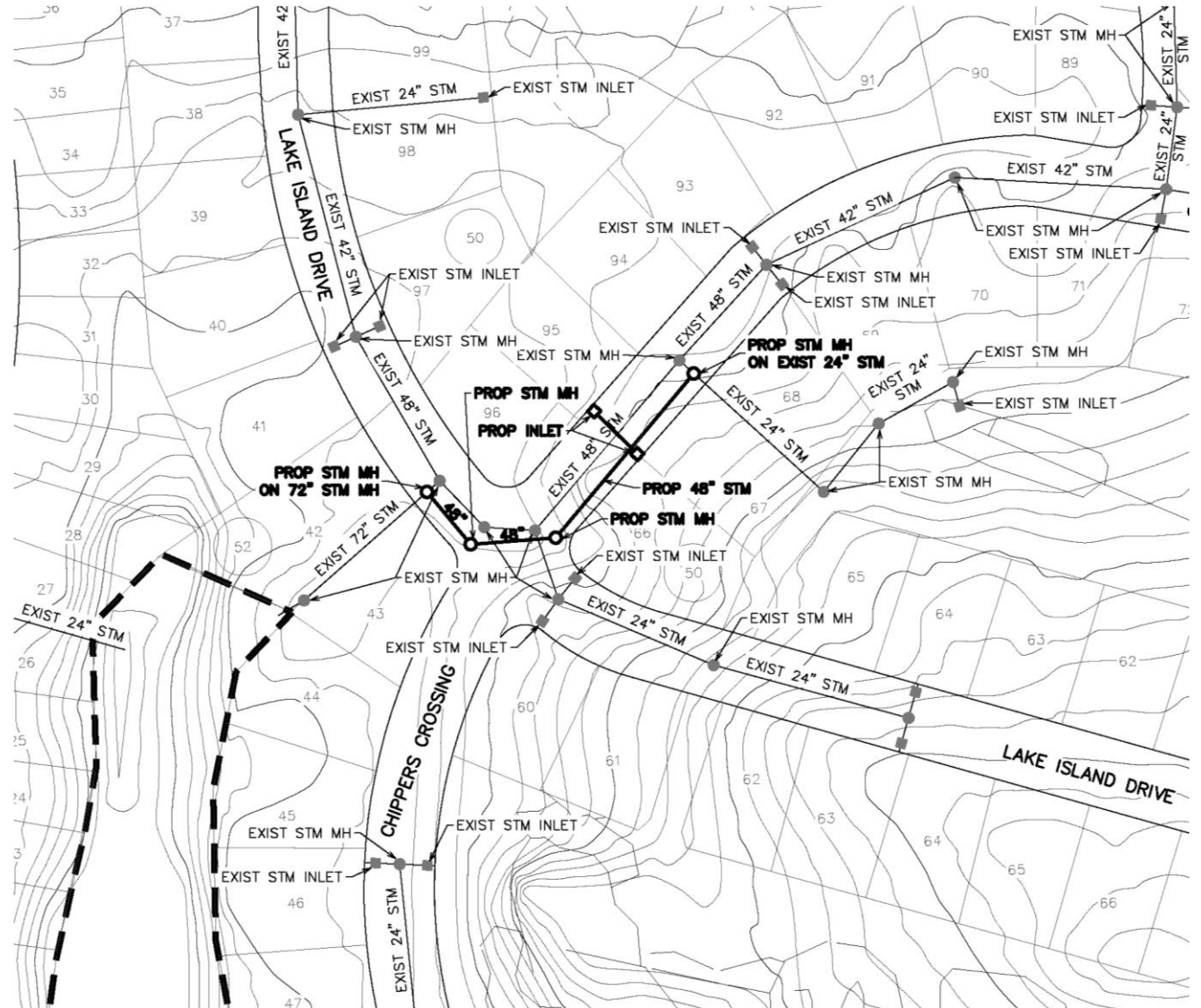
The areas experience sheet flow conditions from the adjacent Walden Golf Course

Previous Improvements:

- Repaired storm sewer on Chippers Crossing
- Swale constructed by property owner

Recommendation:

Proposed storm water system to reduce but not eliminate street flooding





Area 8: Wedgewood Circle



LEGEND



AREA OF CONCERN



PICTURE



VIDEO



PREVIOUS IMPROVEMENT

Area 8: Wedgewood Circle



Backyard Pre-Flooding



Backyard Post-Flooding



Front yard Post-Flooding

Area 8: Previous Improvement



Earthen Swale constructed by property owner



Area 8: Proposed Solution

Issues:

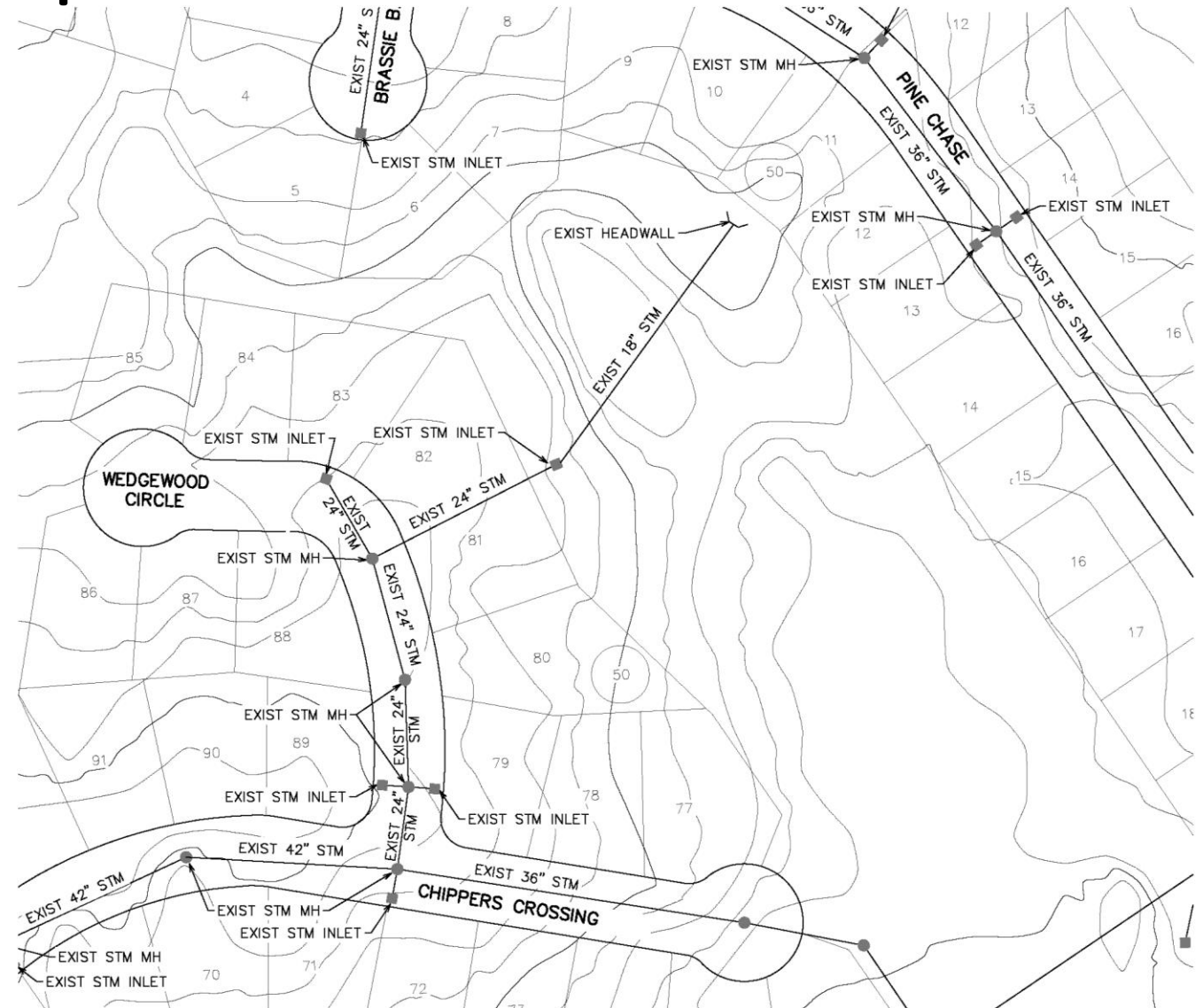
- Ponding observed at Type E inlet in the rear of the property during extreme rainfall events
- The storm water system in this area was not built as designed
- Overflow moves towards Wedgewood Circle along the northwestern property line.

Previous Improvement:

Earthen swale constructed by property owner

Recommendation:

- Improvements in other areas to improve drainage in Area 8





Area 9: Pine Chase Drive



LEGEND



AREA OF CONCERN



PICTURE

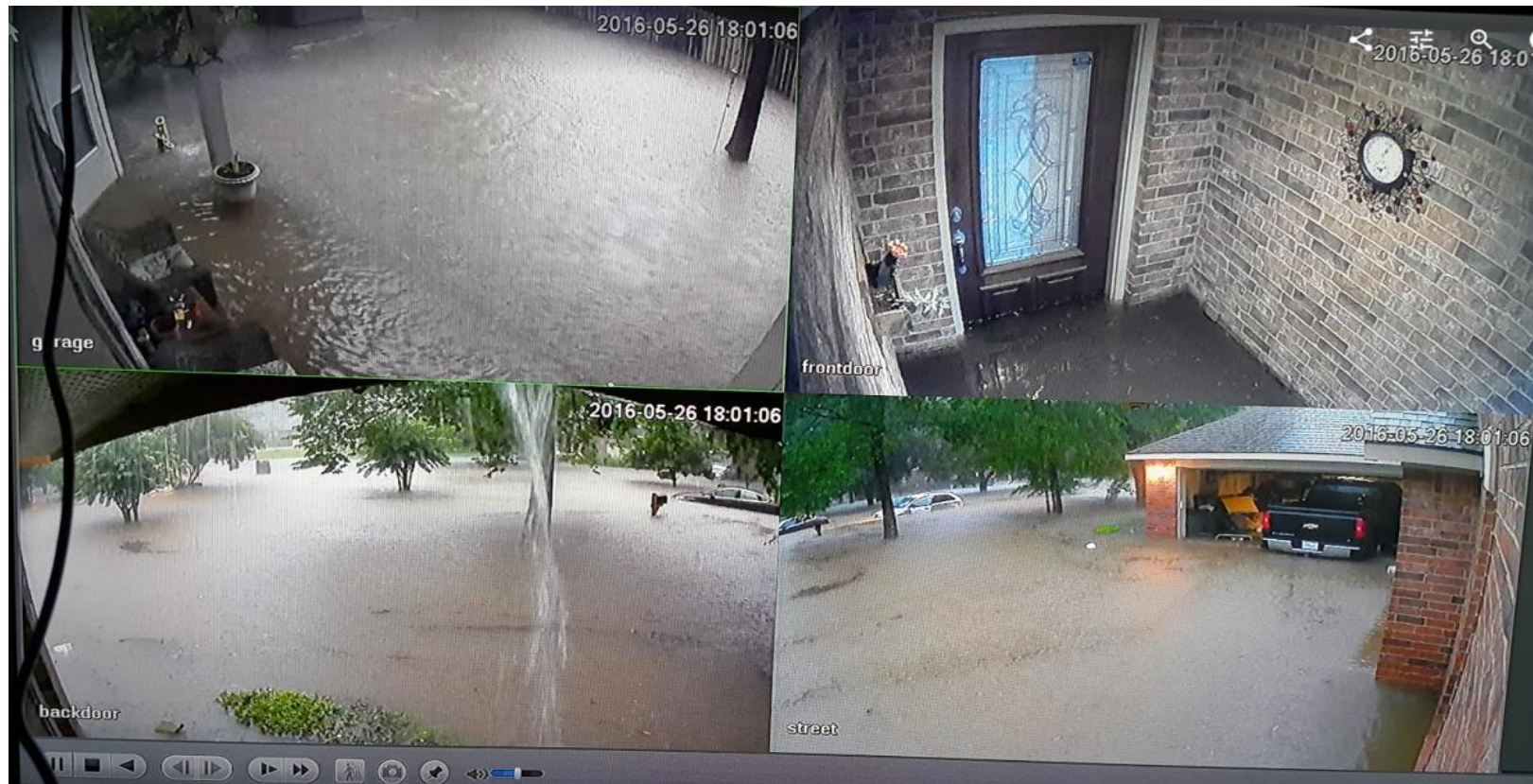


VIDEO



PREVIOUS IMPROVEMENT

Area 9: Pine Chase Drive



CCTV images provided by property owner (May 2016)

Area 9: Pine Chase Drive



Flooding on Pine Chase Drive (July 2017)



Area 9: Video from 2010



Video provided by resident (2010)

Area 9: Previous Improvements



Improved inlets on Pine Chase



**Several repairs to inlets and pipe
were made along Pine Chase Drive**



Area 9: Proposed Solution

Issues:

- Street ponding between Lots 19 through 21 (Block 49) during extreme storm events
- Sheet flow occurs running from the Gulf States Utility (GSU) easement toward Pine Chase Drive

Previous Improvement:

- Several repairs were made to inlets and piping along Pine Chase Drive

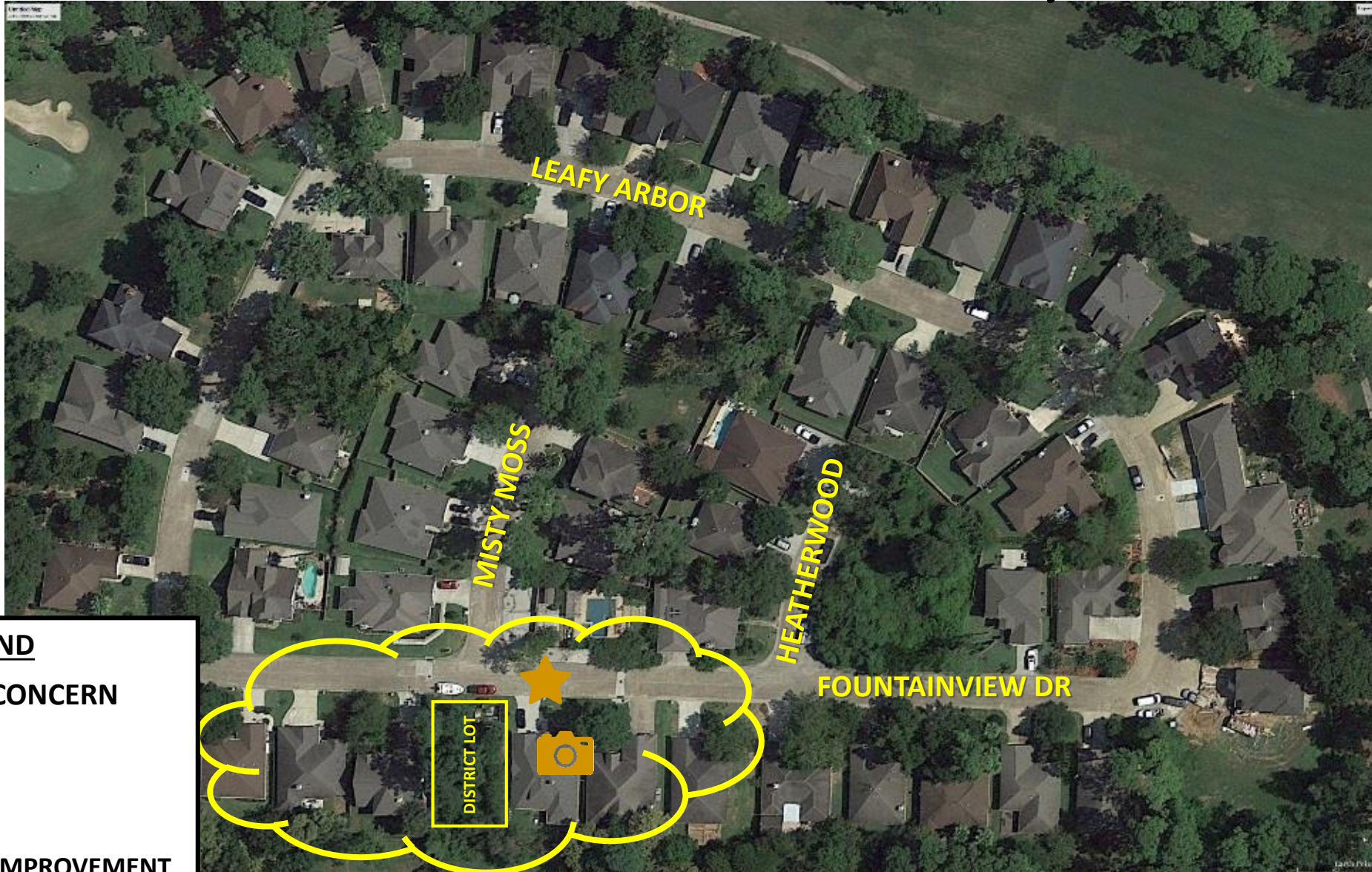
Recommendation:

Proposed relief swales and storm sewer to divert overflow from Walden Road and adjoining areas through the Gulf States Utility (GSU) easement





Area 10: Fountainview Drive at Misty Moss Lane



LEGEND



AREA OF CONCERN



PICTURE



VIDEO



PREVIOUS IMPROVEMENT

Area 10: Fountainview Drive at Misty Moss Lane



Post flooding at
Fountainview Drive (May
2017)

Flooding at Fountainview Drive (May 2017).
The area also experienced flooding in May 2016.

Area 10: Previous Improvements



Improved inlets on Fountainview Drive



Area 10: Proposed Solution

Issues:

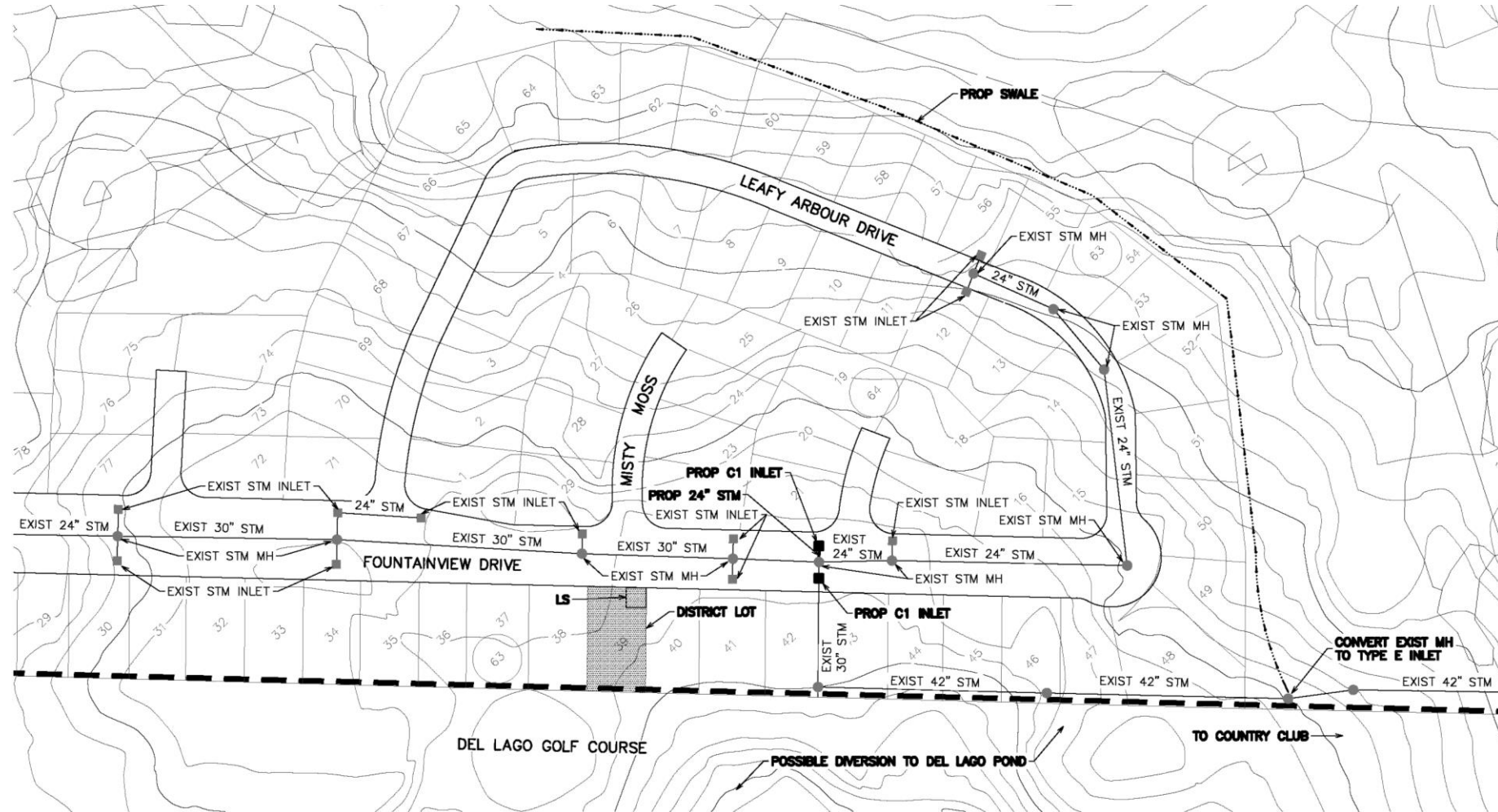
- Street ponding between Lot 40 through 42 during rainfall events.
- Sheet flow occurs running from Fountainview Drive toward the rear of the properties and golf course.

Previous Improvement:

Improved inlets on Fountainview Drive

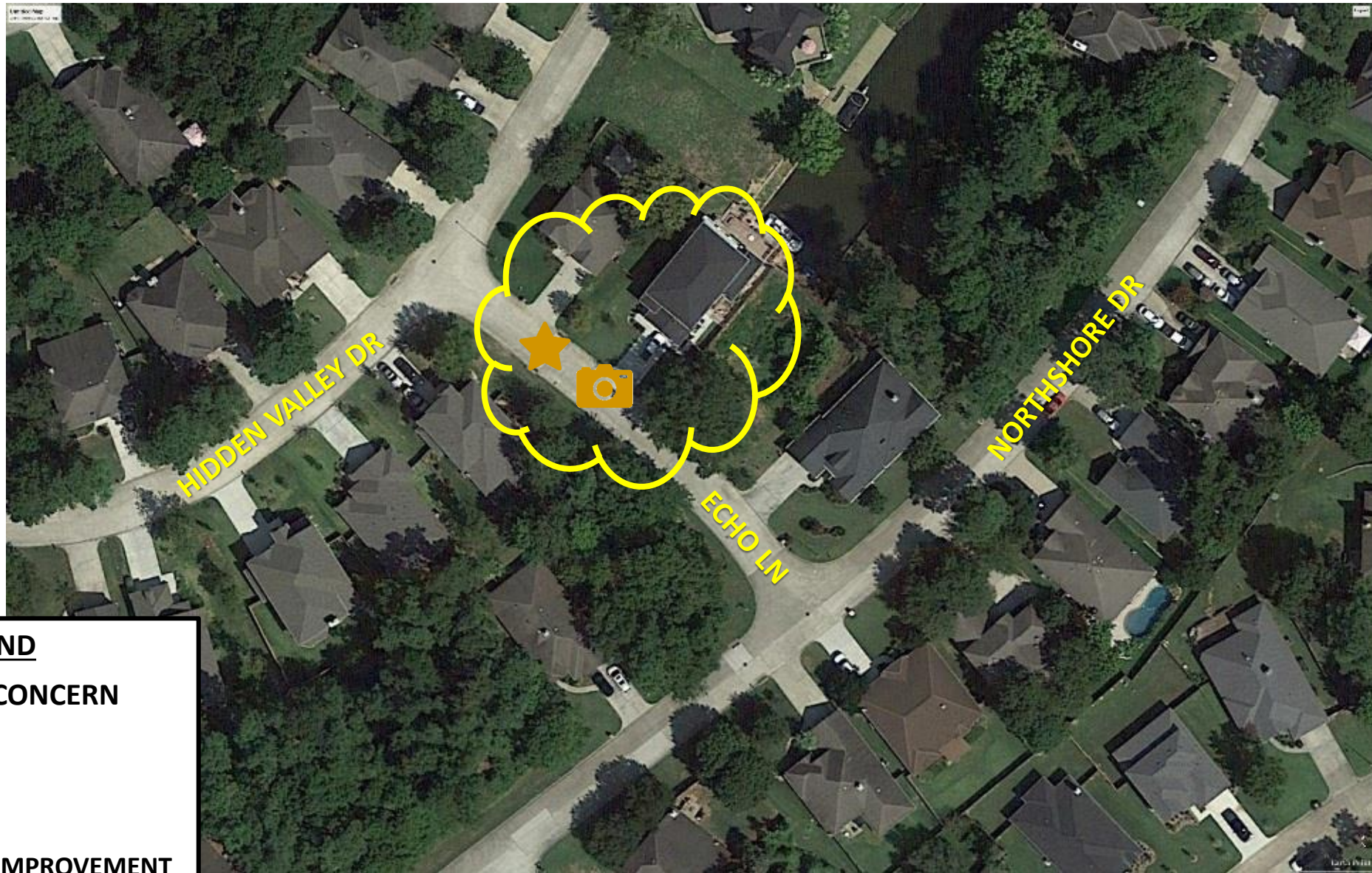
Recommendations:

- Proposed storm water system improvements
- Proposed relief swale between Lot 39, 41 or 42
- Proposed relief swale along golf course









Area 11: Echo Lane



LEGEND

-  AREA OF CONCERN
-  PICTURE
-  VIDEO
-  PREVIOUS IMPROVEMENT

Area 11: Echo Lane



**Street ponding on Echo Lane
(2017)**

Area 11: Previous Improvements



Improved inlets on Echo Lane. Inlets are not located at low point of the street.



Area 11: Proposed Solution

Issues:

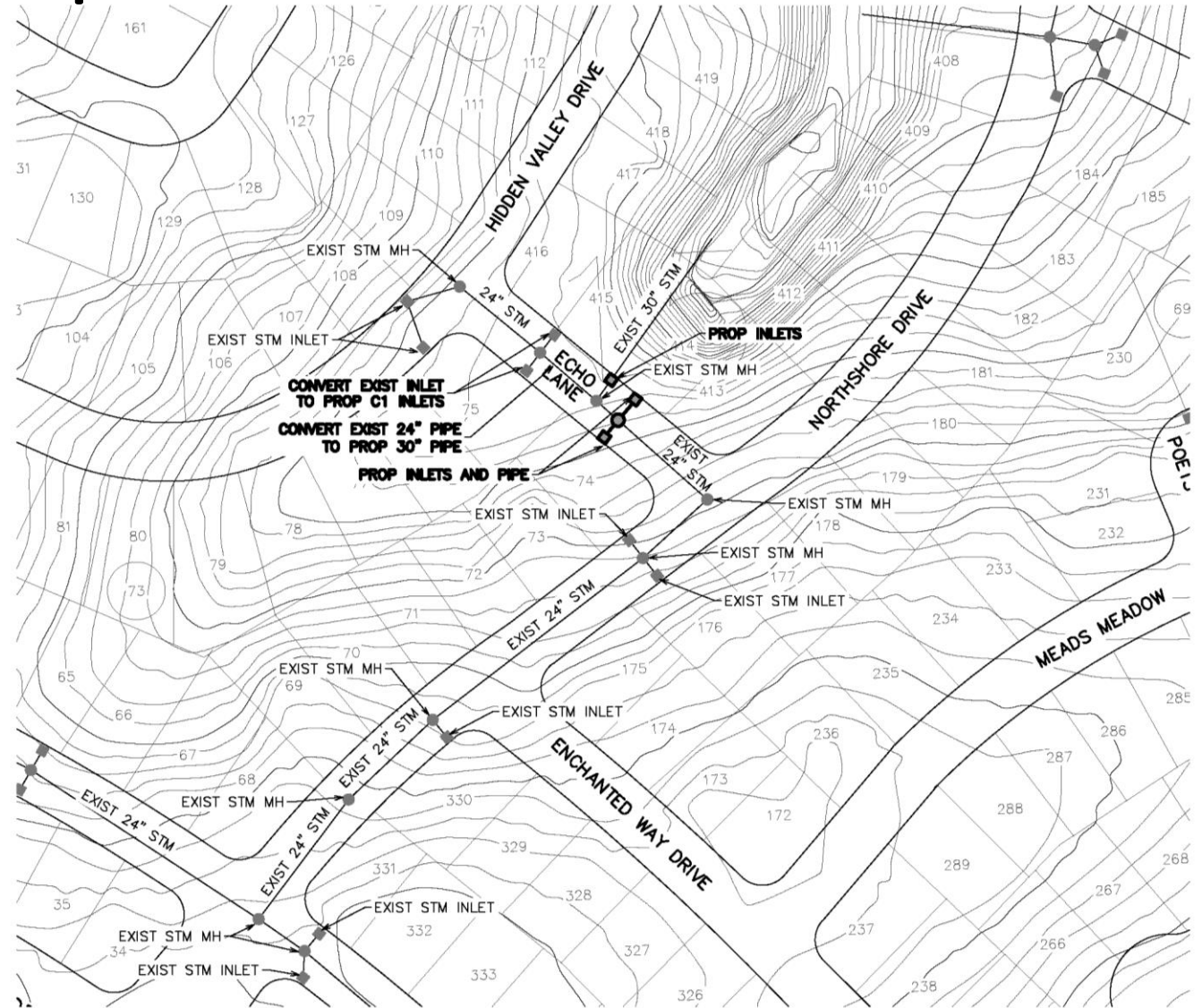
- Erosion along western side of the foundation and along deck at the rear of the property
- Ponding occurs at Echo Lane and flow over Lot 415 Lake Conroe

Previous Improvement:

Improved inlet size

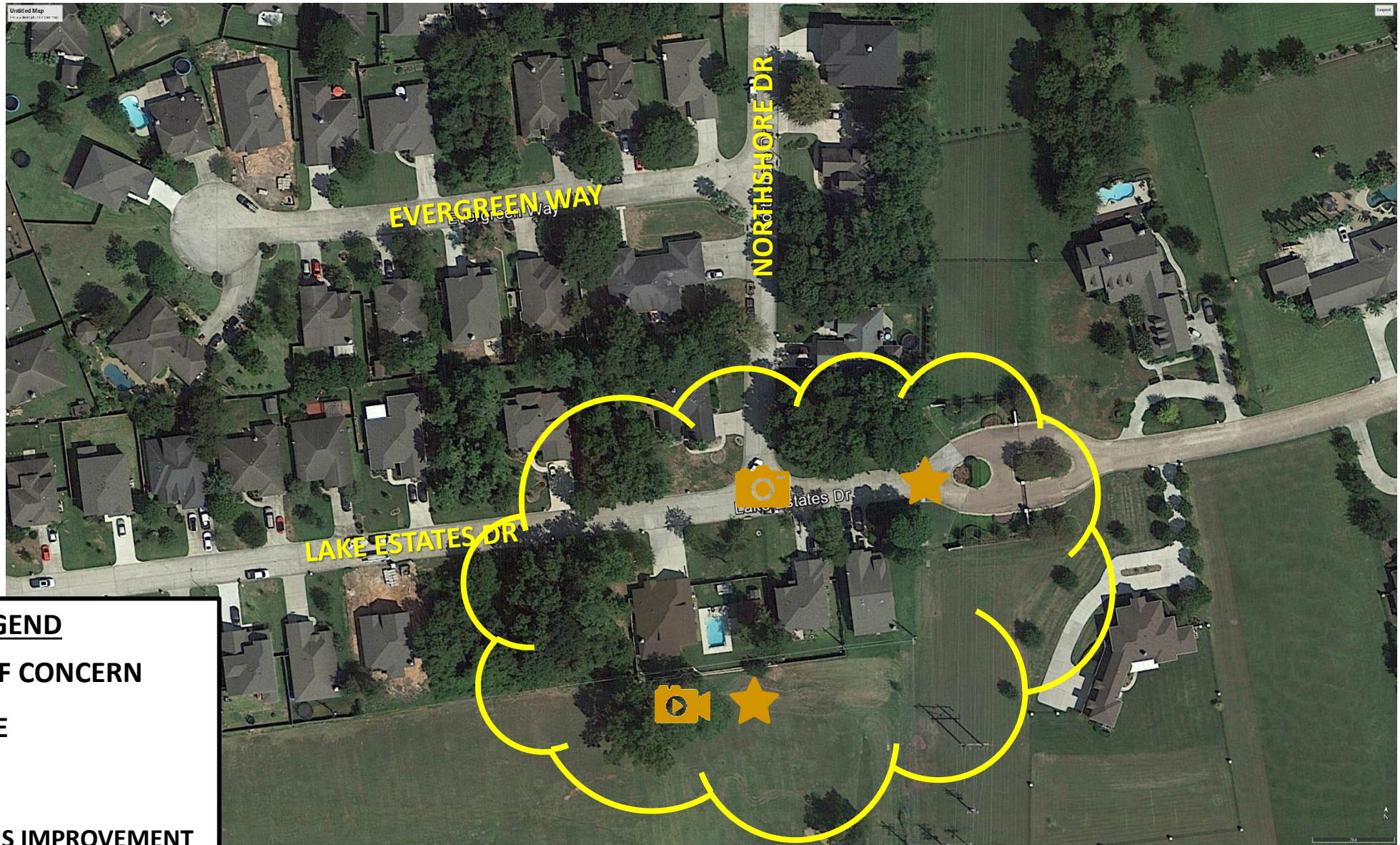
Recommendation:

Propose additional inlets









Area 12: Lake Estate Drive



LEGEND

-  AREA OF CONCERN
-  PICTURE
-  VIDEO
-  PREVIOUS IMPROVEMENT

Area 12: Lake Estate Drive



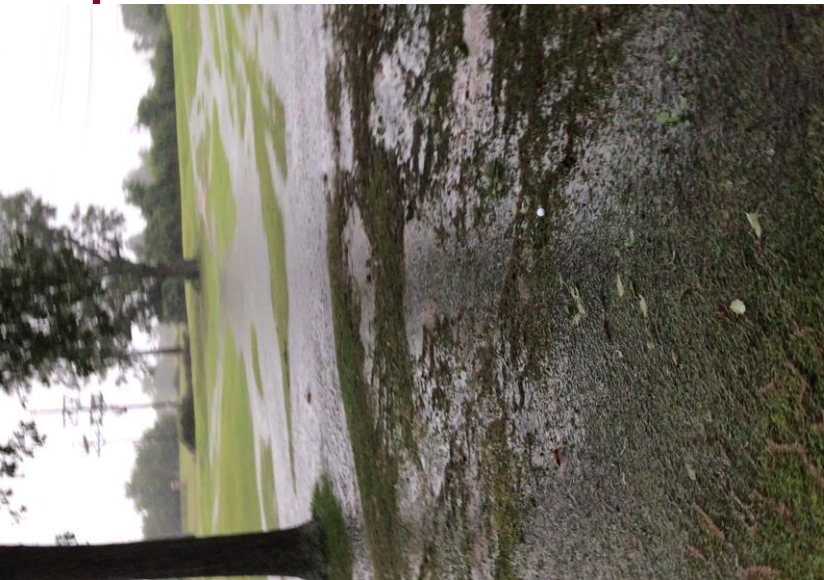
**Intersection of Lake Estates Drive
and Northshore Drive**



**Street ponding at Lake Estates
Drive (July 2017)**



Area 12: Video during Harvey (2017)



Area 12: Previous Improvement in Area 5



Improved inlets on Lake Estates Drive



Area 12: Proposed Solution

Issue:

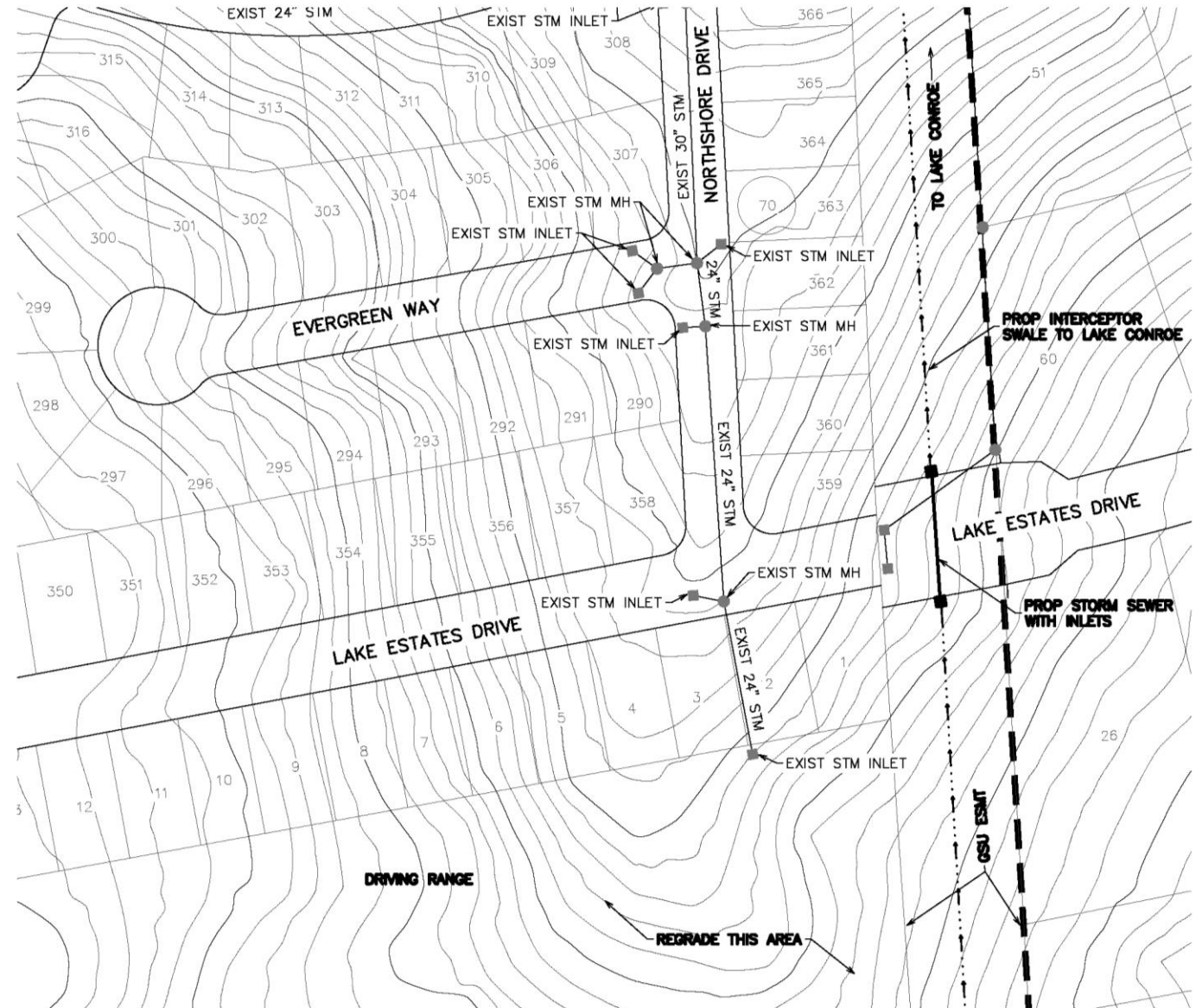
Inlet Type E at the property becomes overwhelmed during extreme storm events

Previous Improvements:

- Improved inlets on Lake Estates Drive
- Improved golf course inlet

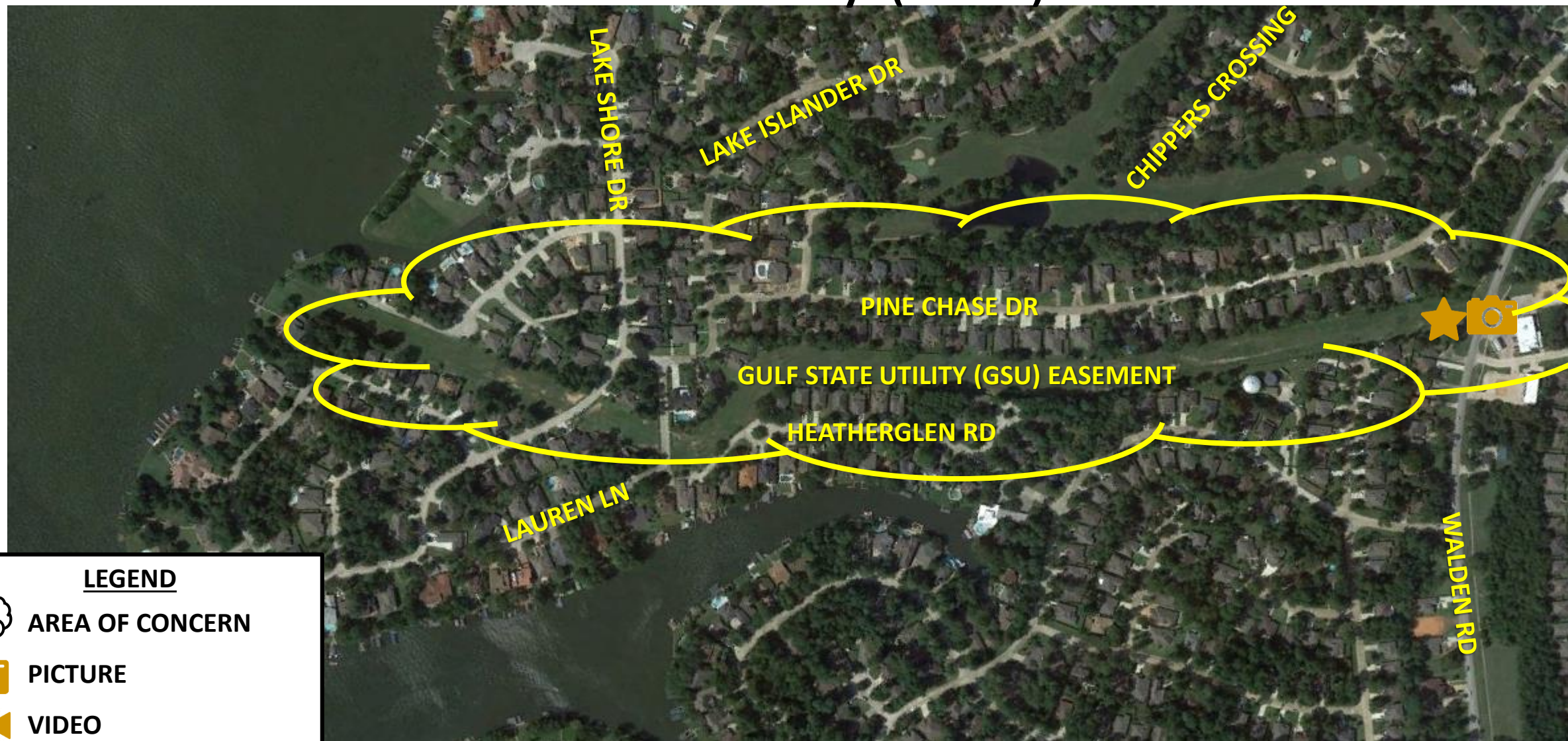
Recommendations:

- Construct additional outfall to Lake Conroe east of lots
- Regrade driving range and adjoining areas and sheet flow from Lake Estates





Area 13: Gulf State Utility (GSU) Easement



LEGEND



AREA OF CONCERN



PICTURE



VIDEO

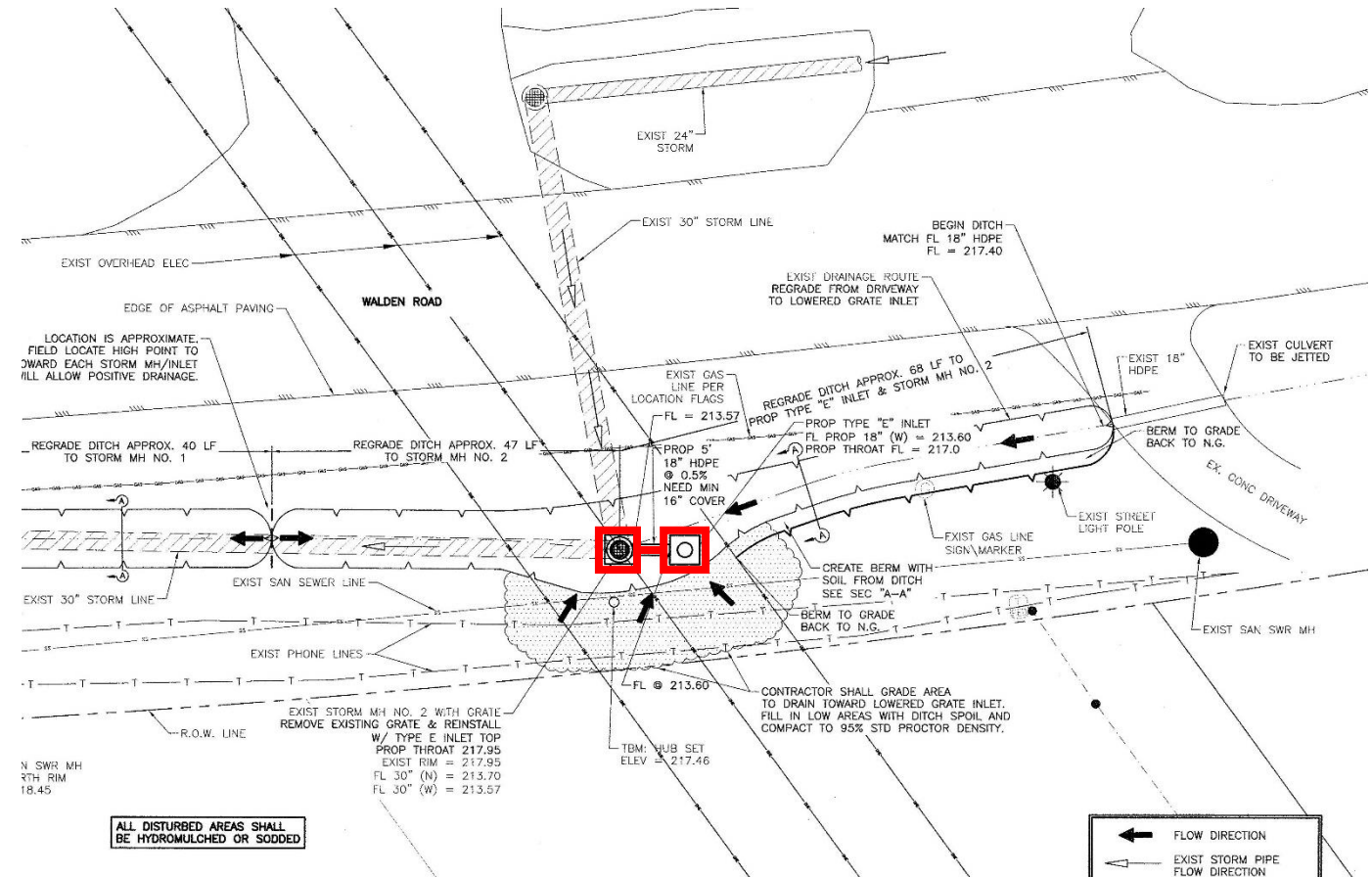


PREVIOUS IMPROVEMENT

Area 13: Previous Improvement



**Improved inlets on Walden Road at
GSU Easement**





Area 13: Proposed Solution

Issue:

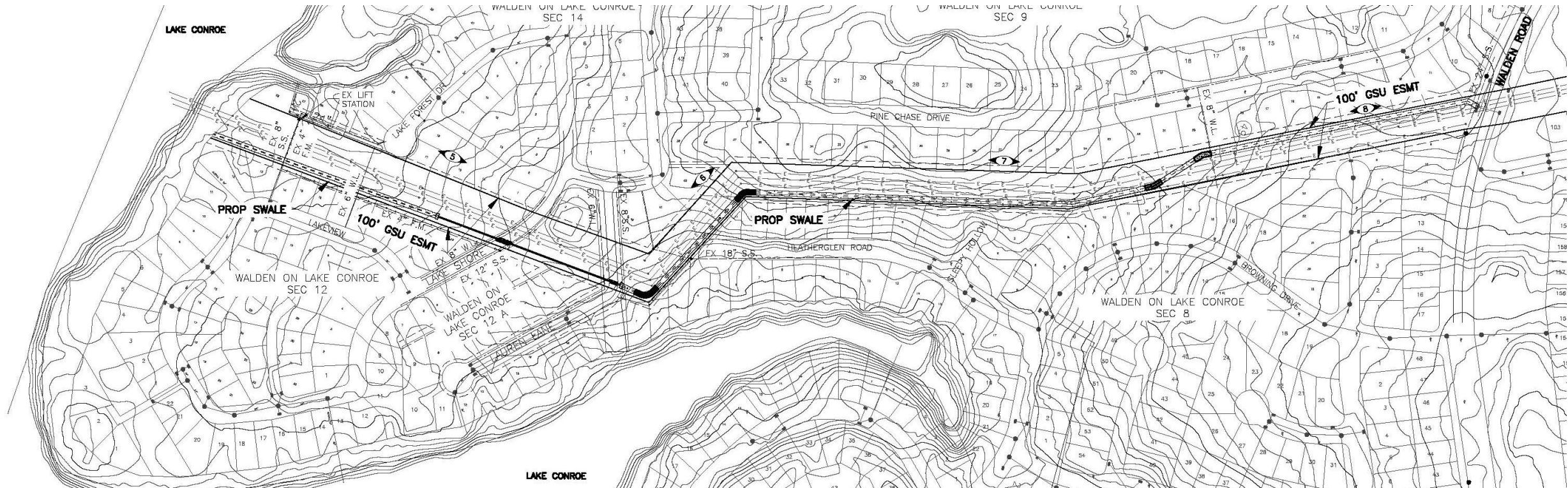
Sheet flow from GSU Easement affect adjoining properties.

Previous Improvement:

Improved inlets on Walden Road at GSU Easement

Recommendation:

Construct drainage swale and storm sewer in GSU Easement to Lake Conroe





What is the Estimated Costs for Drainage Improvements?

\$3,000,000

This value does not include any continuing maintenance on existing drainage system



Bond Authorization Amount

- Storm Sewer System Capital Improvements
- Long Term Storm Sewer System Rehabilitation
- Long Term Water Facilities Improvements
- Long Term Water Distribution System Rehabilitation

Estimated \$30,000,000



TIME TABLE FOR A BOND ELECTION

Bond Election Process

Clark S. Lord, Partner
Bracewell LLP

BRACEWELL

TIME TABLE FOR A NOVEMBER 6, 2018 ELECTION

The following are some of the major deadlines for a potential Montgomery County Municipal Utility District No. 9 (the “District”) bond election to be held on the November 6, 2018 Uniform Election Date. The District plans to contract with Montgomery County for administration of the Election.

August 20, 2018: The last date on which an election can be called (78 days before Election Day).

September 7, 2018: The date by which notice of the election must be submitted to the Montgomery County Clerk and Voter Registrar (60 days before Election Day).

ELECTION TIME TABLE (CONTINUED)

October 7, 2018 – October 27, 2018: The dates within which the notice of the bond election must be published in English and Spanish in a newspaper published in the jurisdiction of the District (not earlier than the 30th day or later than the 10th day before Election Day).

October 16, 2018: The latest date on which the notice of the bond election, which must include the location of each polling place, must be posted in English and Spanish on the bulletin board used for posting notices of Board meetings (not later than the 21st day before Election Day). (It is recommended that the District make the posting not later than Friday, October 12, 2018.)

ELECTION TIME TABLE (CONTINUED)

October 16, 2018: The latest date on which a copy of the election order must be posted in three (3) public places in the boundaries of the District (not later than the 21st day before Election Day) in English and Spanish. (It is recommended that the District make the posting not later than Friday, October 12, 2018.)

October 22, 2018 – November 2, 2018: Early voting dates (15 days to 4 days before Election Day). The election order must be posted in a prominent location in each polling place in English and Spanish.

ELECTION TIME TABLE (CONTINUED)

November 6, 2018: Election Day. The uniform election date for a November election is the first Tuesday following the first Monday in November. The election order must be posted in a prominent location in each polling place in English and Spanish.

November 9, 2018 – November 17, 2018: The dates within which the local canvass must occur (not earlier than 3 days and not later than 11 days after Election Day, subject to additional restrictions described in Section 67.003 of the Election Code.).

Bond Authorization Discussion – Assumptions

Key assumptions used in the analysis and the following slides:

- \$30 million bonds issued over the next 15 years
- District buildout over the next 15 years
- District issues bonds at 4.0%
- Bonds issued with a 30 year final maturity



Bond Authorization Discussion – Projections of Assessed Valuation

2017 Taxable Value per MCAD.....	\$458,793,194
Plus 600 additional homes @ \$200,000.....	\$120,000,000 ^(a)
Plus additional multifamily units.....	\$8,000,000 ^(b)
Plus commercial building development.....	<u>\$25,000,000^(c)</u>
Total Projected Taxable Value.....	\$611,793,194 ^(d)

(a) As of January 1, 2017 we had approximately 711 vacant developed single-family lots available to be built upon. This analysis assumes the build out of 600 lots at \$200,000 per home. We assume 111 lots will never be built upon.

(b) This analysis assumes the build out of the second phase of the Harbor Shores multifamily project located in the District.

(c) As of January 1, 2017 we have approximately 40 commercial acres in the District. This analysis assumes the build out of approximately 35 of those acres with a build out value of \$725,000 per acre.

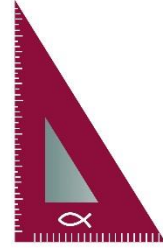
(d) The District probably achieves this taxable value sometime over the next 7 to 10 years.



Bond Authorization Discussion - Key Facts

Current bond rating.....	"A+" S&P
Projected bond rating.....	"A+" S&P
Current house count.....	1,700 homes
Projected house count.....	2,300 homes
Current Assessed Value.....	\$470 million
Projected Assessed Value.....	\$611 million
Current direct debt ratio.....	5.8%
Future direct debt ratio.....	6.5%
Current Annual Debt Service.....	\$1,888,000
Projected Annual Debt Service.....	\$3,485,000
Current Total Tax Rate.....	\$0.40
Projected Total Tax Rate.....	\$0.50





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QUESTIONS???