MINUTES OF MEETING OF THE BOARD OF DIRECTORS

October 12, 2017

STATE OF TEXAS §

COUNTY OF FORT BEND §

FIRST COLONY LEVEE IMPROVEMENT DISTRICT NO. 2 §

The Board of Directors (the "Board") of First Colony Levee Improvement District No. 2 of Fort Bend County, Texas (the "District"), met in regular session, open to the public, at 7:00 p.m. on October 12, 2017, at 4330 Knightsbridge Boulevard, Sugar Land, Texas 77479, a designated meeting place inside the boundaries of the District; whereupon, the roll of the members of the Board of Directors was called, to wit:

Ron Frerich	-	President
Christine M. Lukin	-	Vice President
Zach Weimer	-	Secretary

All members of the Board of Directors were present, thus constituting a quorum.

Also present at the meeting were Jason Klump and Tyler Werlein of LID Solutions, LP ("LID Solutions"), the District's Operator ("Operator"); Craig Kalkomey of Jones & Carter ("J&C"), the District's Engineer ("Engineer"); Ryan Jones, a resident of the District; and John Cannon, attorney of Coats Rose, P.C. ("Coats Rose"), Attorneys for the District ("Attorneys").

Whereupon, the meeting was called to order and evidence was presented that public notice of the meeting had been given in compliance with the law. A copy of the posted agenda notice is attached hereto as Exhibit "A".

ENGINEER'S REPORT

The Board recognized Mr. Kalkomey of J&C, who presented a report on capital improvement projects recommended partially in response to Hurricane Harvey, a copy of which is attached hereto as Exhibit "A".

The Board discussed all of the proposals presented. Observations of the Board and Mr. Kalkomey included the consensus that:

i. with respect to the portable pumps, the District would not receive much "bang for its bucks" in purchasing the type of pump which could be stored onsite – the Board asked Mr. Kalkomey to investigate further;

ii. Mr. Kalkomey suggested two ways the District could save money would be to (A) open cut Avondale (rather than bore under it) to replace the 24" DIP outfall for

stormwater) and (B) design/build the new operations center rather than hire an architect to prepare plans to bid; and

iii. the Board asked Mr. Kalkomey to investigate automation options for the existing pumps.

Upon a motion made by Director Frerich, seconded by Director Lukin and unanimously approved, the Board voted to approve the bid of Harper Brothers to perform the concrete rip-rap replacement along Commonwealth Boulevard and a change order to eliminate the below water de-silting portion of the contract.

A second motion was made by Director Frerich, seconded by Director Lukin and unanimously approved authorizing the Engineer to proceed with the other items in the CIP Cost Summary in the report presented except for the operations center, the portable pumps and the residential slap surveys (which have already occurred). Approved projects consist of:

i. A permanent 3rd stormwater pump;

ii. Replace 24" DIP outfall for additional stormwater pump capacity (with an open curb cut to cross Avondale);

iii. Open up guardrail for access from street;

iv. Replace existing generator with a natural gas generator;

v. Convert storage tank into a portable tank (add skid or trailer); and

vi. Reliable industrial/commercial grade rain gauge at station.

The meeting was adjourned.

PASSED, APPROVED, and ADOPTED this 7th day of November, 2017.

(DISTRICT SEAL)

Secretary, Board of Directors

AGENDA AND NOTICE OF MEETING
FIRST COLONY LEVEE IMPROVEMENT DISTRICT NO. 2
OF FORT BEND COUNTY, TEXAS

Notice is hereby given that a quorum of the Board of Directors of First Colony Levee Improvement District No. 2 of Fort Bend County, Texas may convene a **special** meeting, open to the public, on **Tuesday, October 10, 2017,** at **8:00 a.m.** at **1111 Highway 6, Sugar Land, Texas 77478**, to do the following:

1. Attend the annual Perimeter "Ring" Levee Tour.

Pursuant to V.T.C.A., Government Code, Chapter 551, the Board of Directors may convene in closed session to receive advice from legal counsel and discuss matters relating to pending or contemplated litigation, personnel matters, real estate transactions, gifts and donations, security devices and/or economic development negotiations.

EXECUTED this 4th day of October, 2017.

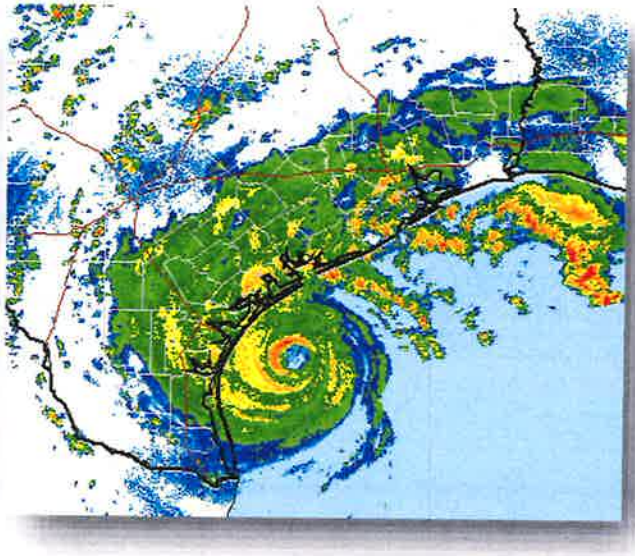
(SEAL)

FIRST COLONY LEVEE IMPROVEMENT DISTRICT NO. 2 OF FORT BEND COUNTY, TEXAS

John G. Cannon
Attorney for the District

JONES | CARTER

EXHIBIT "A"
tabbies



Hurricane Harvey – Capital Improvements
October 12, 2017

One Company. Unlimited Potential.

Summary of Event

- **Record Rainfall Across Gulf Coast Region**

Table 1 - Summary of Rainfall Amounts				
Average Annual Rainfall	Average August Rainfall	2017 August Rainfall	Hurricane Harvey 4 Day Rainfall	2017 Rainfall through August
47.0	4.1	43.3	39.0	54.3

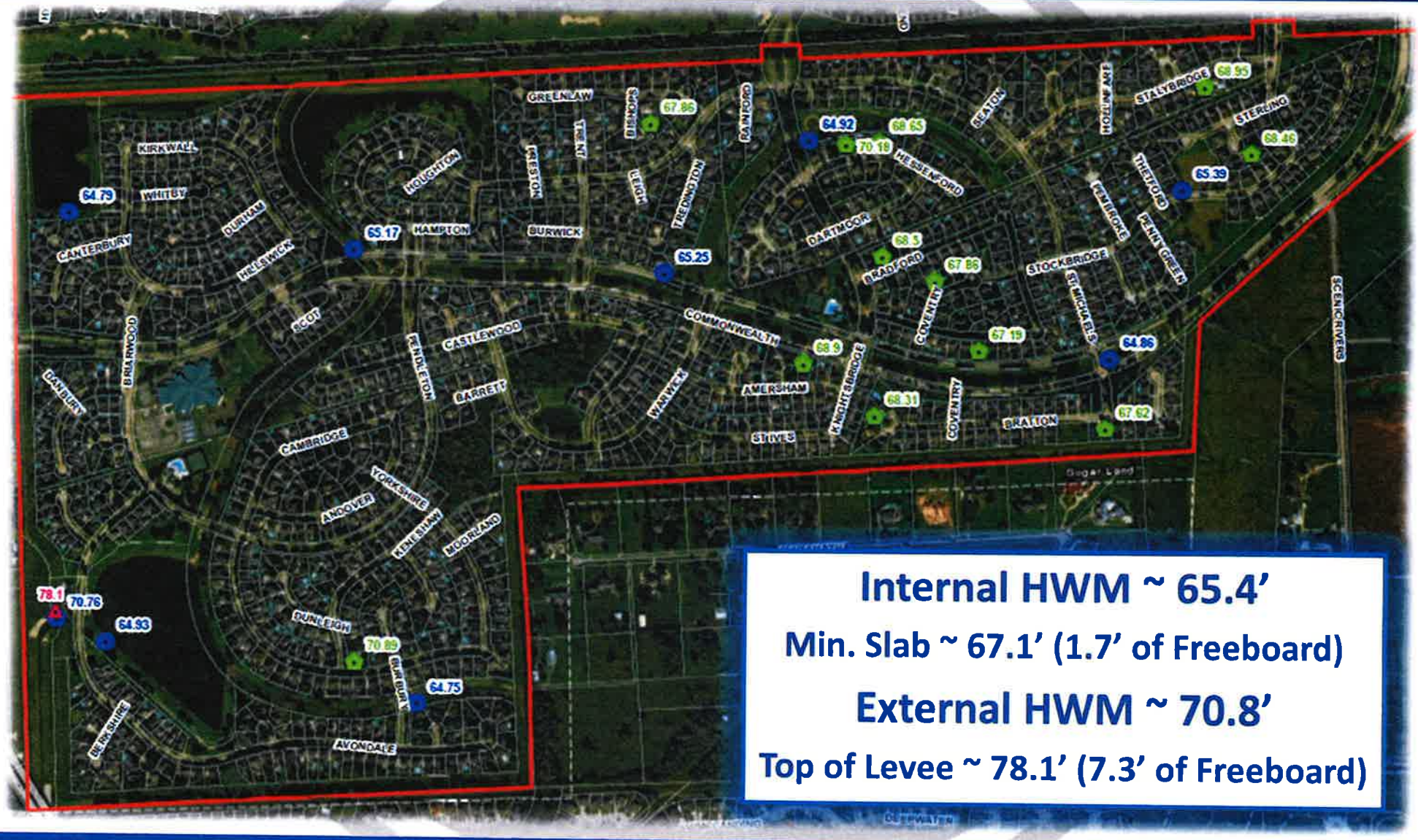
- **Record Brazos River Levels**

Table 2 - Summary of Brazos River Peaks			
Location	Base Flood Elevation	May 2016	August 2017
San Felipe Gauge	127.10	128.50	129.00
Richmond Gauge [(1)]	82.90	81.76	82.21
FCLID 2	72.60	70.20	70.76

Notes:

[(1)] Elevation shown at Richmond was adjusted 27.02' as defined by the Fort Bend County Drainage District.

Water Levels in First Colony LID 2



Internal HWM ~ 65.4'

Min. Slab ~ 67.1' (1.7' of Freeboard)

External HWM ~ 70.8'

Top of Levee ~ 78.1' (7.3' of Freeboard)

JONES | CARTER

Impacts to First Colony LID 2

- **Access Restricted**
  - **Impacts Residents**
  - **Impacts Supplies and Equipment Delivery**
- **Portable Pump and Emergency Equipment Availability**
- **Success Stories.**
  - **Zero Homes Flooded**
  - **Pump Station 72+ Hour Operations**
  - **AND…**

District Communications

- **Web Hits During Harvey**
  - 12,163 Page Views
  - 66% from Sugar Land

- **Email Subscribers**
  - March 2017 ~ 228
  - August 27 ~ 337
  - August 28 ~ 572
  - September 14 ~ 769

Planning for the Future

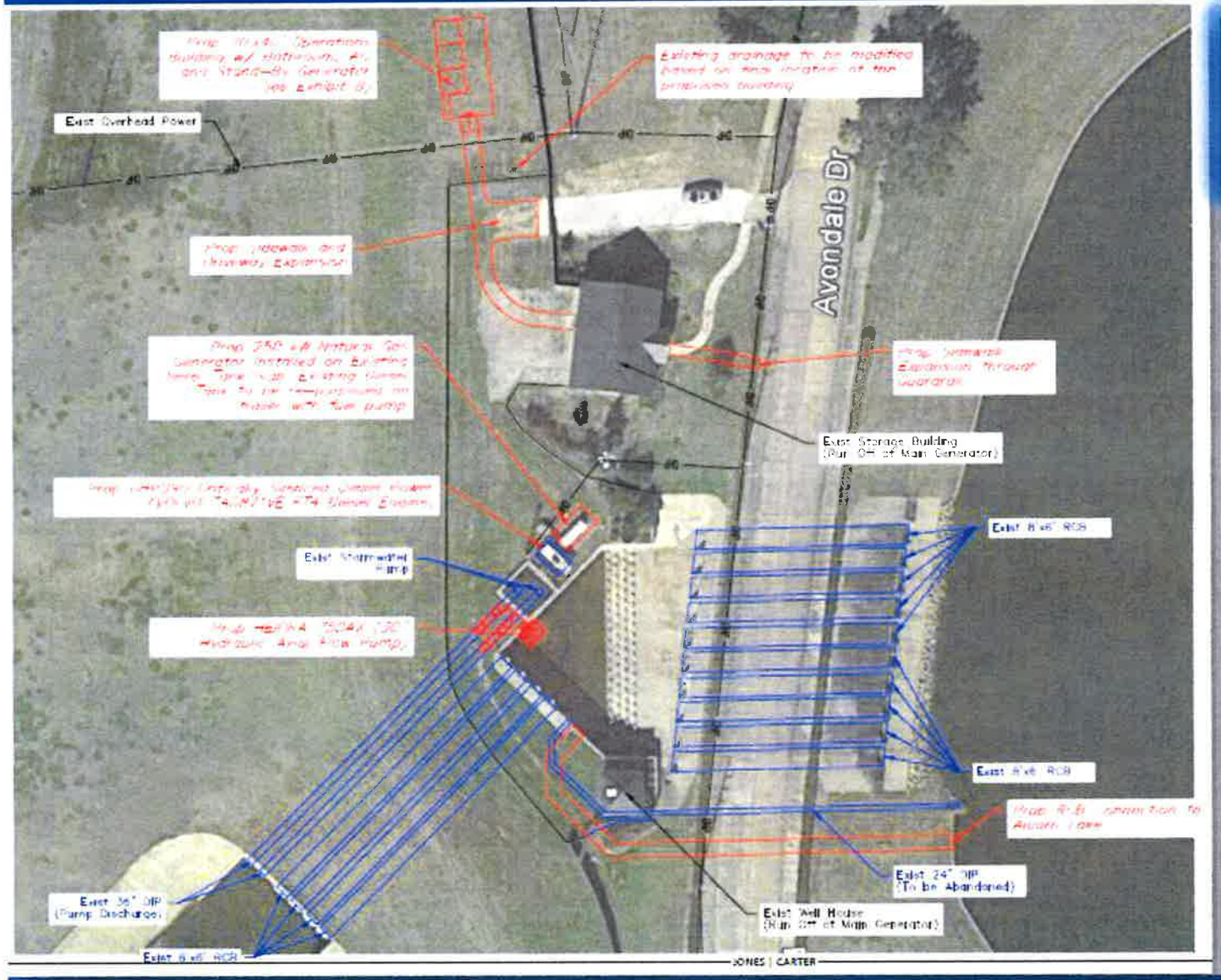
- **What could of happened**
  - **Lose Power w/ Limited Diesel Availability**
  - **Lose Power and Generator**
  - **Facilities Damaged by Hurricane/Tornado Winds and Debris**
  - **Lose One or Both Pumps**
  - **Lose All Access to District**
  - **Complete Gate Failure**

District's Redundancy and Independence

Planning for the Future

- **Redundancy and Independence**
  - **Construct Operations Center**
  - **Install 3rd Permanent Pump**
  - **Replace Existing Diesel with Natural Gas Generator**
  - **Purchase Backup / Portable Pump(s)**
  - **Install Weather and Stream Monitoring Station**
  - **Other Misc. Projects**

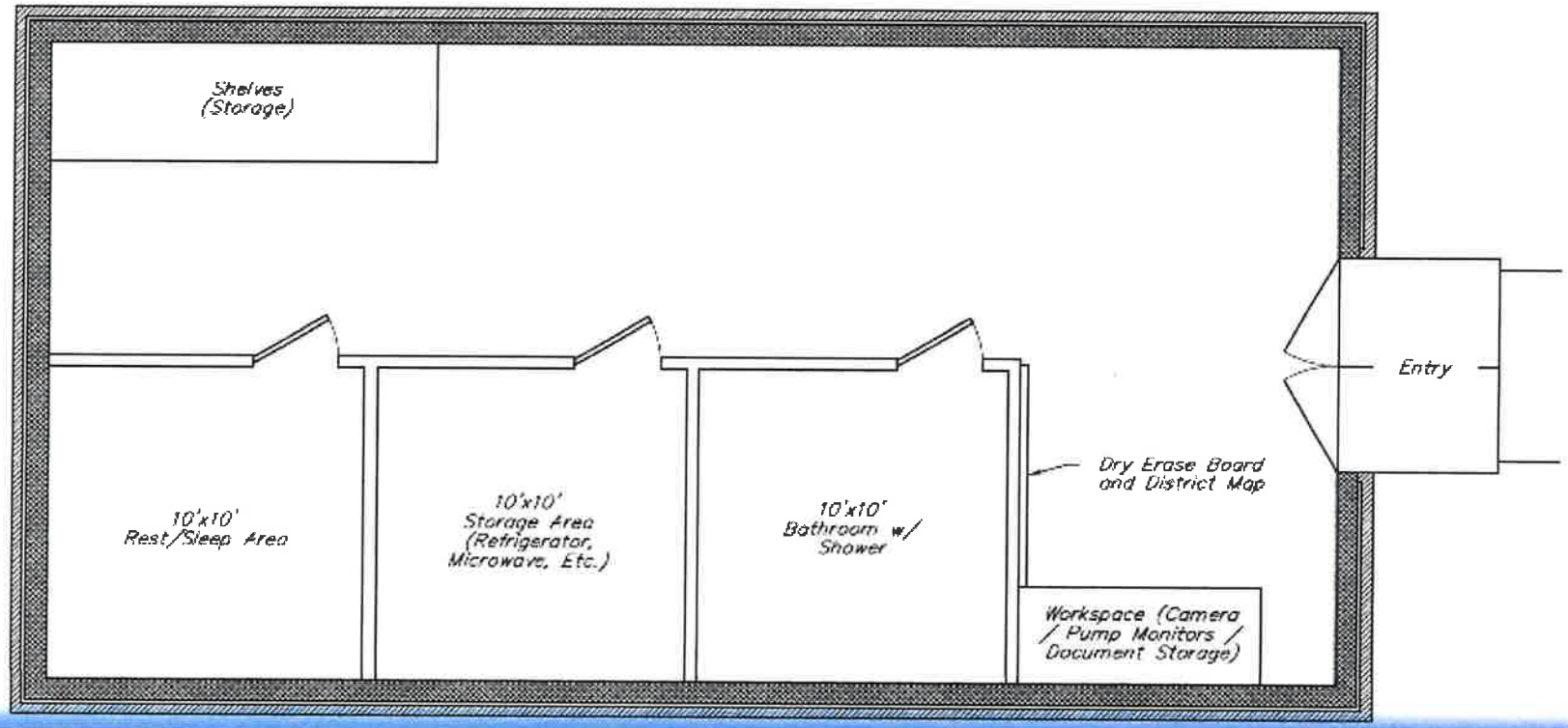
Conceptual Site Plan



***Site Layout Based on External Hydraulic Pump w/ Separate Power Pack**

JONES | CARTER

Conceptual Operations Center



- **20' x 40' Building**
  - Relocate Existing Camera and Link Stream/Weather Monitoring
  - Air Conditioning and Bathroom
  - Rest Area (Semi-Isolated) for Personnel Staged during Events
  - Storage / Organization (Food, Minor Supplies, Dry Easer Board, Mapping)
  - Separate Stand-By Natural Gas Generator

Conceptual Operations Center

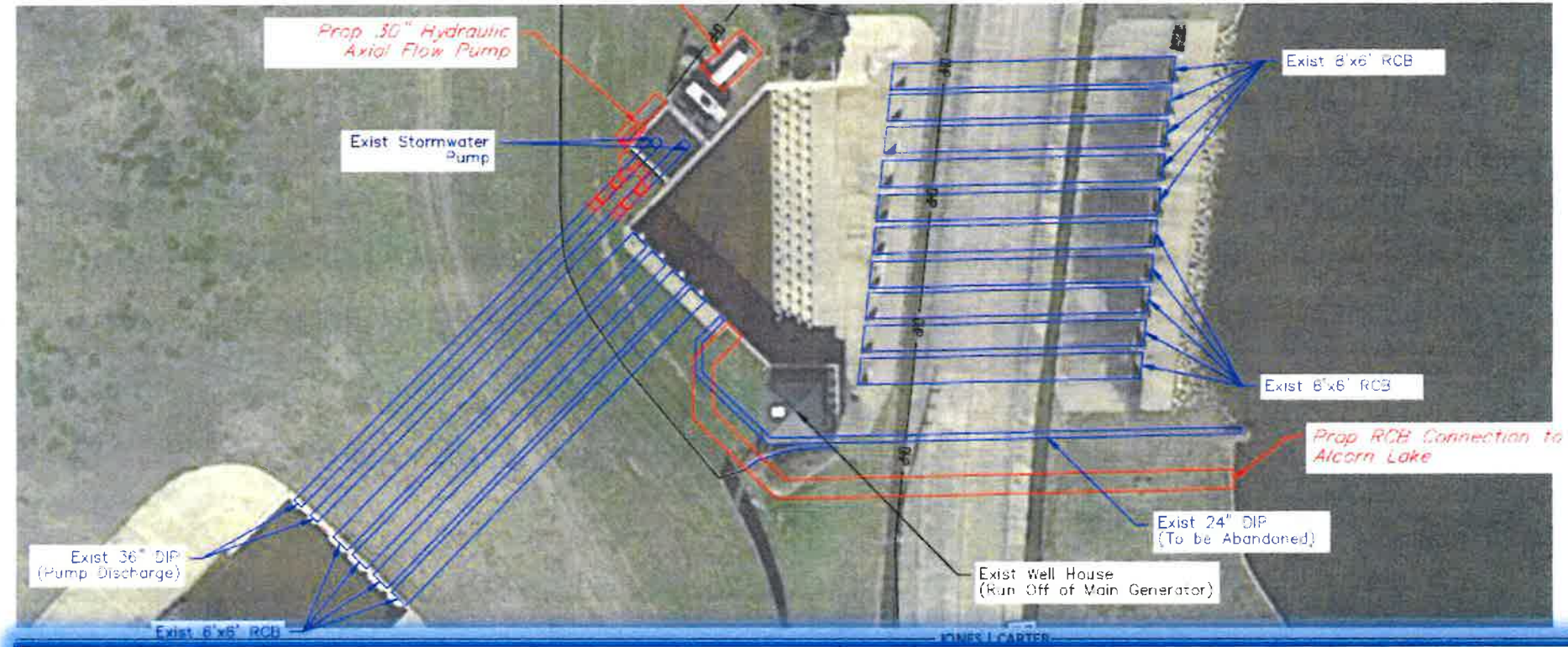
- **CIP Budget Numbers**
  - **Building and Contents**
    - **$200,000**

Conceptual 3rd Permanent Pump

- **Current Station Specifications**
  - 30" Axial Flow Pumps (2 Pumps)
  - Single Pump Capacity: 14,000 to 22,000 GPM
  - Manual Controls w/ Float Operators

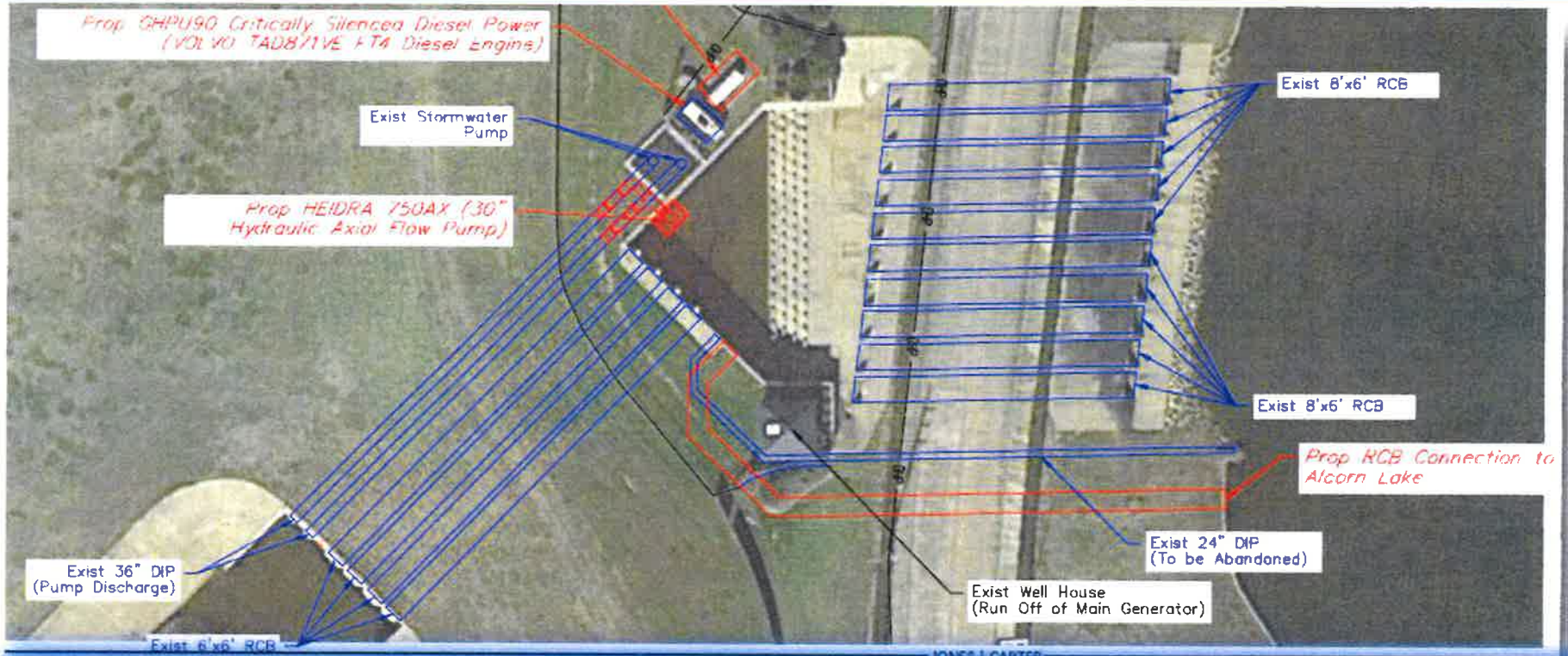
- **Current Station Limitations**
  - Single Pump Operation on Generator
  - Min. Pump Elevation ~ 59.1'
  - Storage Not Pumped ~ 34 Million Gallons
    - 2 to 4 Inches of Rainfall

Option 1 – Traditional Expansion



- **Advantages**
  - **Combined Control Panel and Operations**
  - **Similar Specific Pump Type**
  - **Uses Existing Discharges (Limits to only 2 Pumps Running at One Time)**
  - **Pump On Elevation Set Lower**

Option 2 – Separate Pump Station Unit

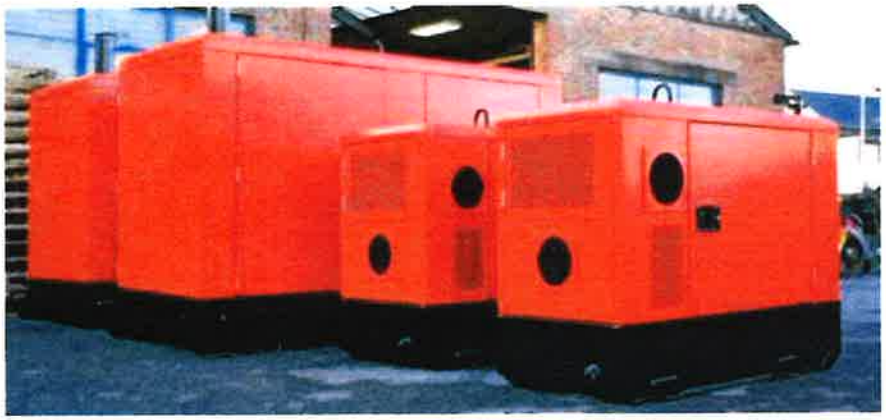


- **Advantages**
  - Minimize Structural (Vertical) Concrete Work
  - Separate Power Source (Diesel Power)
  - Uses Existing Discharges (Limits to only 2 Pumps Running at One Time)
  - Pump On Elevation Set Lower
  - Separate Transducer for Monitoring and Automatic Controls

Option 2 – Separate Pump Station Unit

Critically Silenced Diesel Power Pack

(Volvo Diesel Engine)

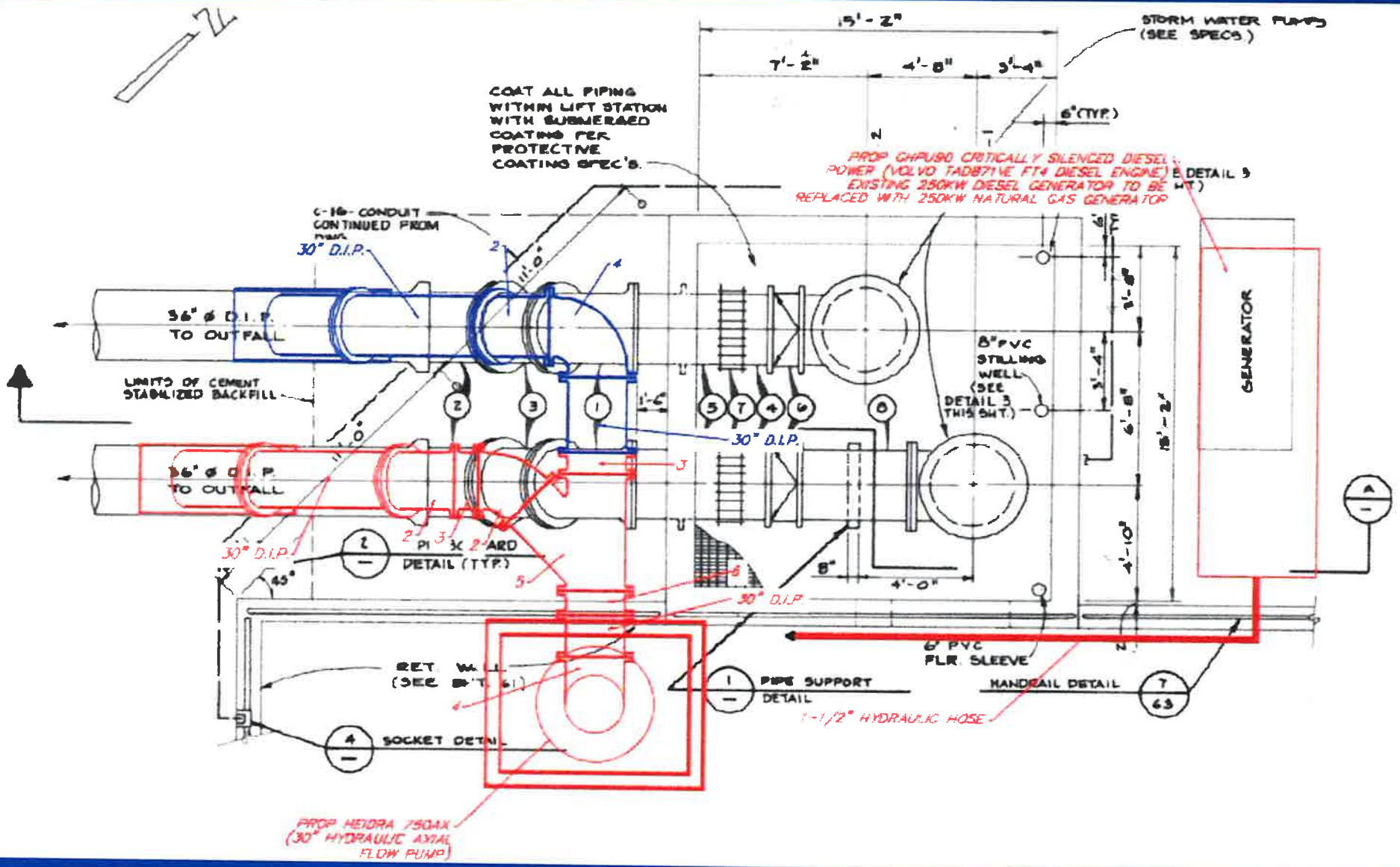


Godwin Heidra 750AX Axial Flow Pump

(14,000 to 22,000 GPM

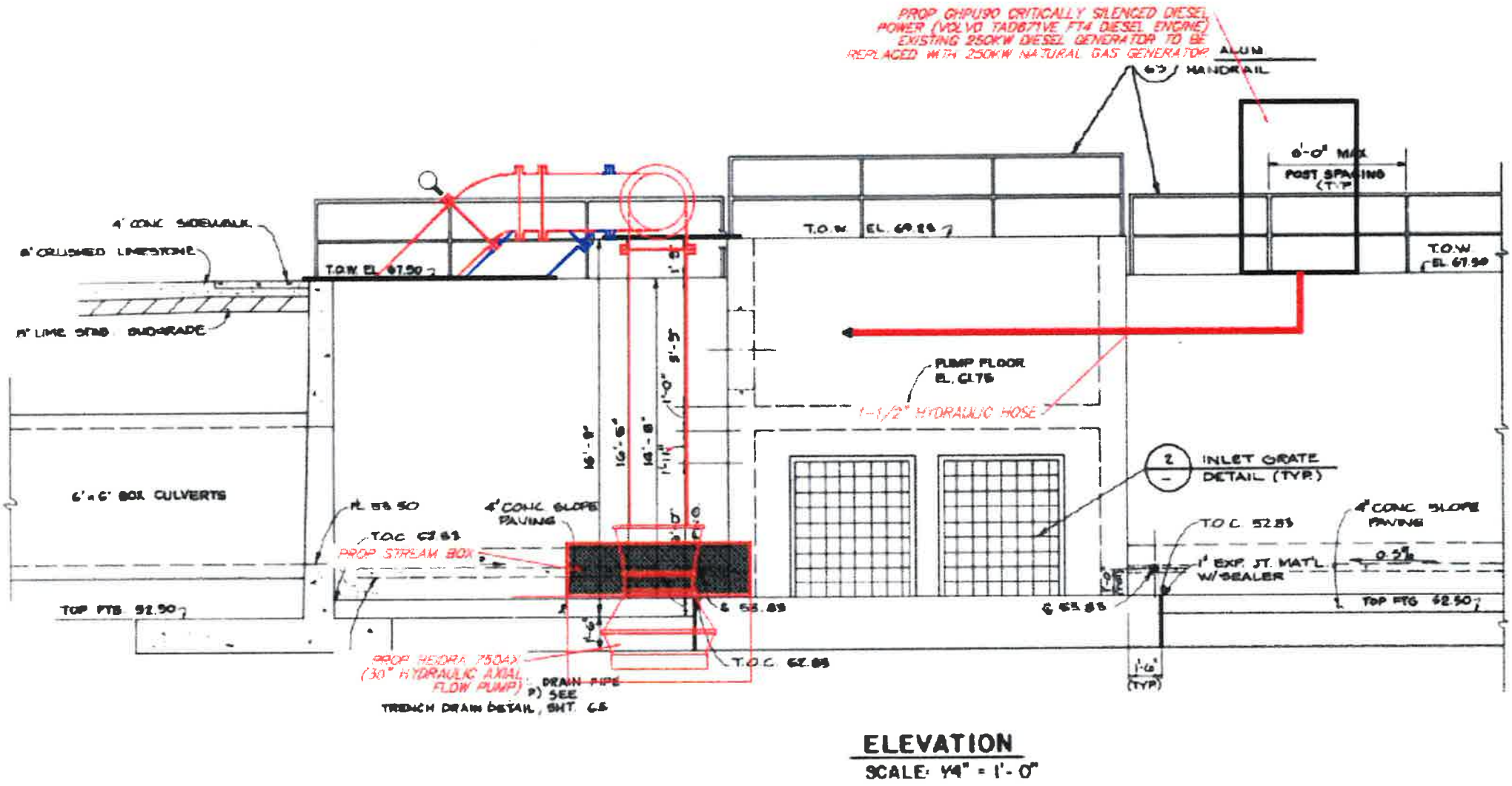
- **Pump Modifications**
  - Pump On Elevation ~ 55.33' (Currently 60.0-60.5')
  - Pump Off Elevation ~ 53.33' (Currently 59.0-59.5')
    - Bottom of Existing Concrete Floor ~ 52.8'

Option 2 – Discharge Plan



JONES | CARTER

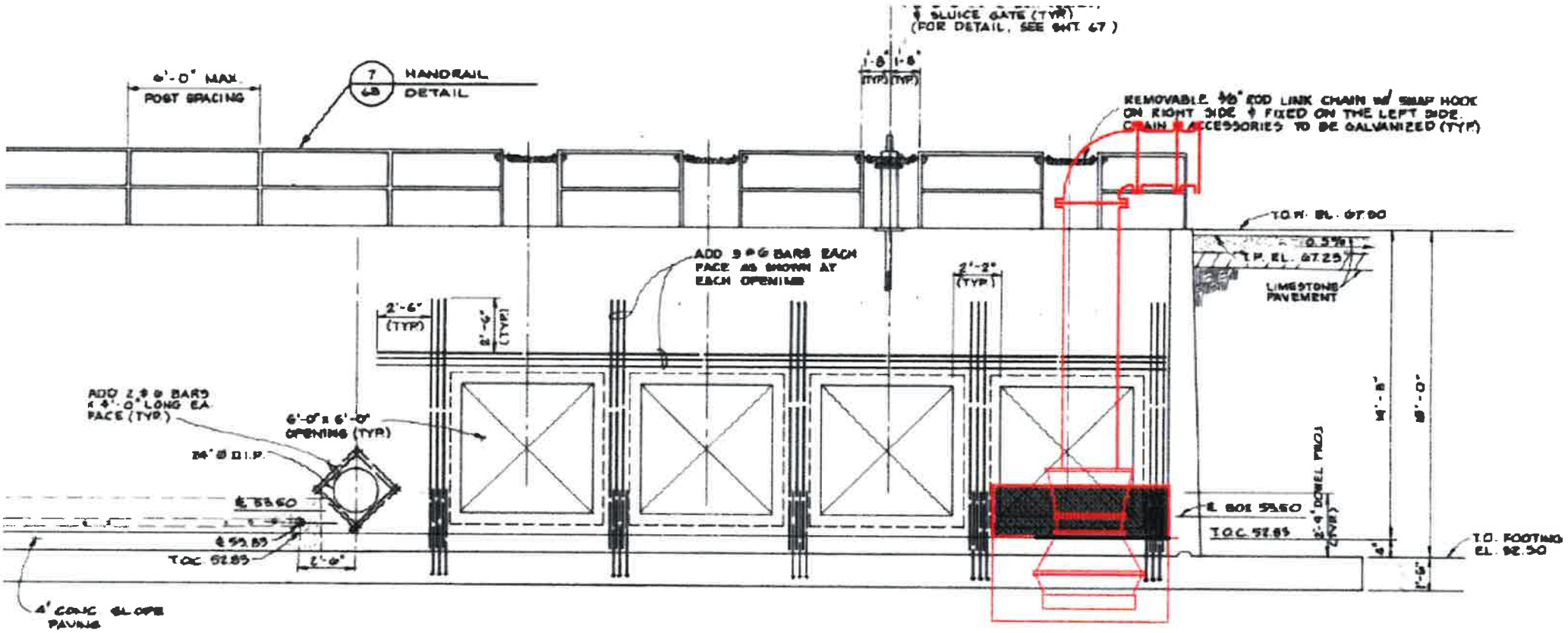
Option 2 – Elevation Plan



ELEVATION
SCALE: ¼" = 1'-0"

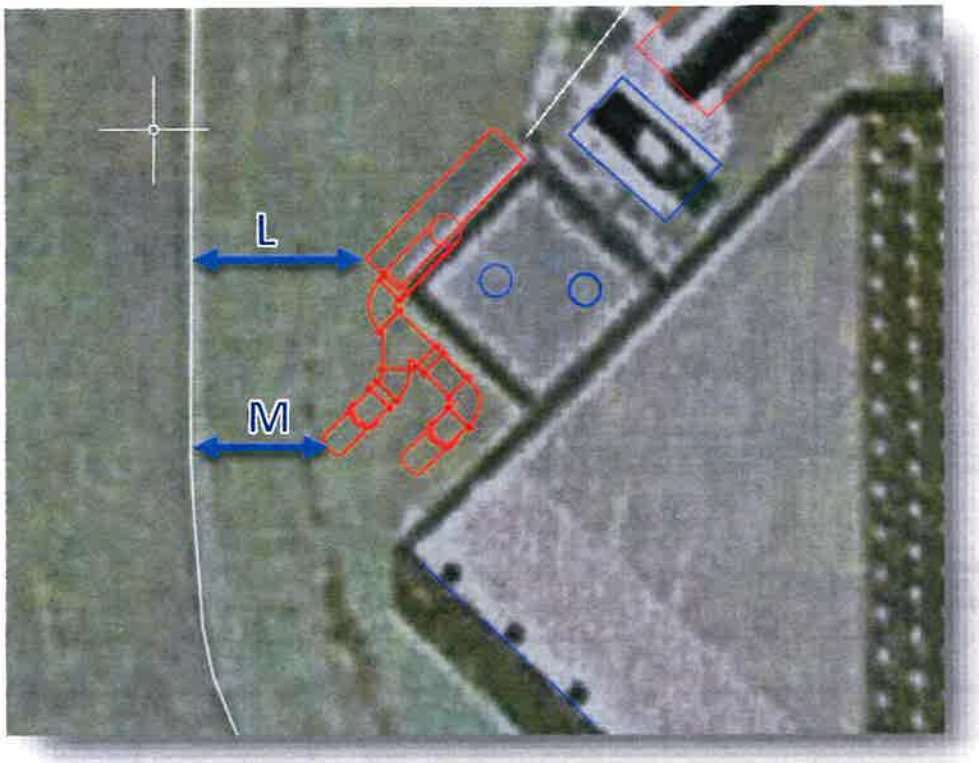
JONES | CARTER

Option 2 – Elevation Plan



JONES | CARTER

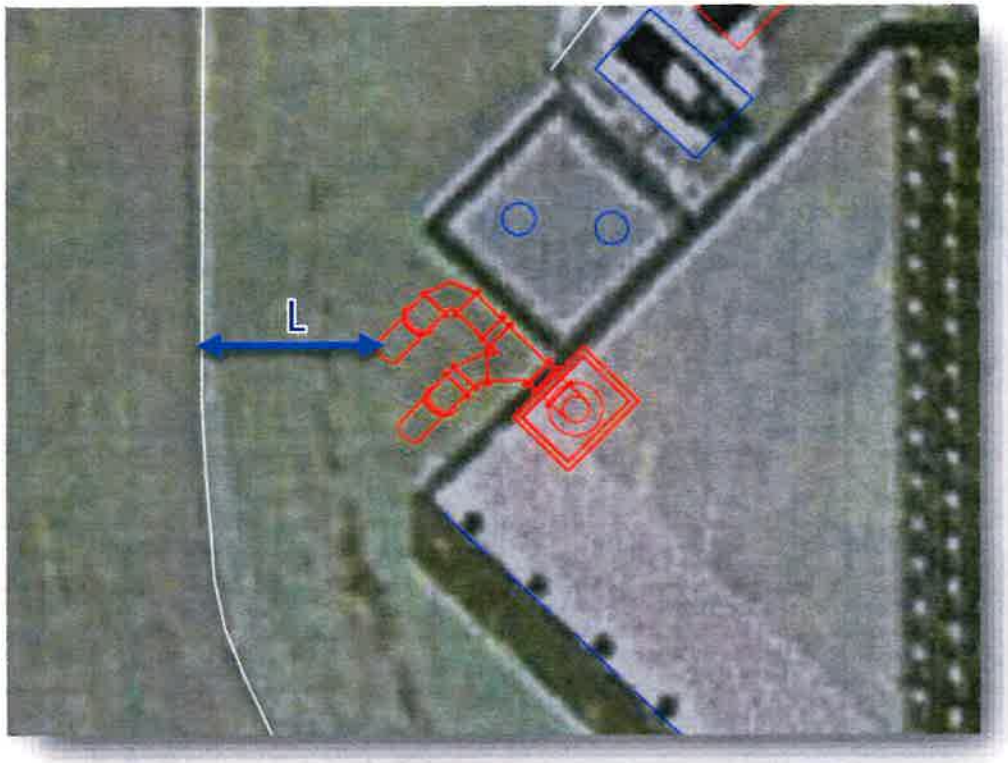
Discharge Piping Comparison



Option 1 – Traditional Expansion

L ~ 16'

M ~ 12'



Option 2 - Separate Unit

L ~ 16'

Conceptual 3rd Permanent Pump

- **CIP Budget Numbers**
  - **Traditional Expansion (3rd Pump Addition)**
    - **$450,000**
  - **Separate Pump Station Unit**
    - **$500,000**

In addition to the costs above, the 24" outfall from Avondale to the Pump Station would be upsized. Approximate Costs (Assuming Tunneling) is $362,000.

3rd Option – Masterplan Entire Station and Plan for Complete Replacement with new 3rd Pump and new generator to be constructed in 2018-2019.

250 kW Generator Replacement

- Plan
  - Existing Generator to be Removed (Slab to Remain)
  - Proposed Generator to be Located on Diesel Tank Slab
    - Diesel Tank Modified on Skid or for 3rd Pump Operation
  - Will run Pumps and Storage Building Only

- CIP Budget Numbers
  - $200,000

Portable Pump Options

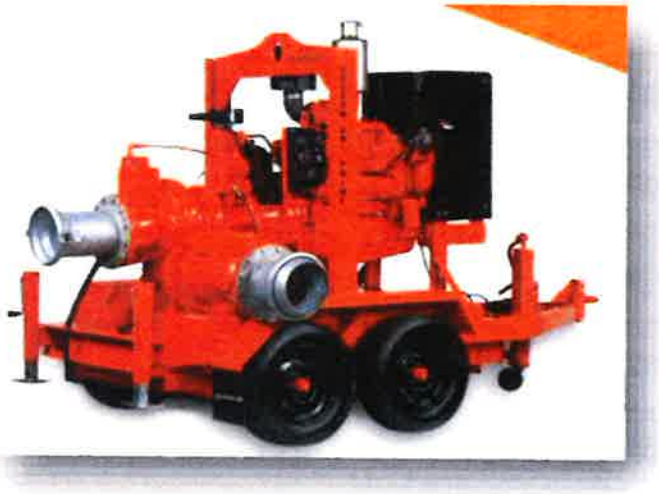
- **Advantages**
  - Quick Response if Needed
  - Can Lend to Other Districts in Need

- **Limitations**
  - Single Pump Capacity ~ 2,000 to 4,000 GPM
  - At Current Pump Limit (34 Million Gallons) time to pump with one portable 190 Hours

Portable Pump - Storage

Portable Pump Options

- CIP Budget Numbers
  - Single Pump (Including Hoses)
    - $65,200
  - Two Pumps (Including Hoses)
    - $130,400



Godwin Offers Same Pump With Critically Silenced Enclosure.

CIP Cost Summary

Item No	Item	Notes	Estimated Cost - Option 1	Estimated Cost - Option 2
1	20'x40' Operations Center	Assumes the building is constructed on currently owned District Property.	$ 200,000.00	$ 200,000.00
2	Permanent 3rd Stormwater Pump	Assumes connecting discharge to both existing discharges	$ 450,000.00	$ 500,000.00
3	Replace 24" DIP outfall for additional stormwater pump capacity	Assumes tunneling underneath Avondale.	$ 362,000.00	$ 362,000.00
4	2 Desiel Portable pumps w/ associated hoses and components		$ 130,400.00	$ 130,400.00
5	Open up guardrail for access from street		$ 1,500.00	$ 1,500.00
6	Replace Existing Generator	Assumes running two pumps at one time and the storage building.	$ 200,000.00	$ 200,000.00
7	Convert storage tank into a portable take (add skid or trailer)		$ 2,000.00	$ 2,000.00
8	Reliable industrial/commercial grade rain guage at station	Similar to those found on Harris County's Flood Warning System.	$ 30,000.00	$ 30,000.00
9	Residental Slab Surveys		$ 2,000.00	$ 2,000.00
		Total Harvey CIP Projects	**$ 1,377,900.00**	**$ 1,427,900.00**
1	Commonwealth Rip Rap Replacement	Assumes Revised Low Bidder	$ 350,000.00	$ 350,000.00
		Total Potential 2018 CIP Projects	**$ 1,727,900.00**	**$ 1,777,900.00**

***Assumes Engineering Design and Construction Phase Services**

JONES | CARTER

CIP Reserve Fund Summary for FY2018

Cash Report Balance (As of 10/3/17)	$	2,141,321.45	$	2,141,321.45
1 Year Operating (FY 2018 Budget Minus CIP)	$	545,162.00	$	545,162.00
Total Capital Reserve Fund Balance (FY 2018)	$	1,596,159.45	$	1,596,159.45
		Option 1		**Option 2**
Scenario A - Assumes Commonwealth Project				
Commonwealth Total Estimated Project Costs	$	350,000.00	$	350,000.00
Hurricane Harvey CIP Concept Costs	$	1,377,900.00	$	1,427,900.00
Total CIP Costs	$	1,727,900.00	$	1,777,900.00
Remaining Capital Fund Balance	$	(131,740.55)	$	(181,740.55)
Scenario B - Assumes No Commonwealth Project				
Commonwealth Total Estimated Project Costs	$	10,000.00	$	10,000.00
Hurricane Harvey CIP Concept Costs	$	1,377,900.00	$	1,427,900.00
Total CIP Costs	$	1,387,900.00	$	1,437,900.00
Remaining Capital Fund Balance	$	208,259.45	$	158,259.45
Scenario C - Assumes Commonwealth Project and Delay of Permanent Pump				
Commonwealth Total Estimated Project Costs	$	350,000.00	$	350,000.00
Hurricane Harvey CIP Concept Costs	$	927,900.00	$	927,900.00
Total CIP Costs	$	1,277,900.00	$	1,277,900.00
Remaining Capital Fund Balance	$	318,259.45	$	318,259.45
Scenario C - Assumes No Commonwealth Project and Delay of Permanent Pump				
Commonwealth Total Estimated Project Costs	$	10,000.00	$	10,000.00
Hurricane Harvey CIP Concept Costs	$	927,900.00	$	927,900.00
Total CIP Costs	$	937,900.00	$	937,900.00
Remaining Capital Fund Balance	$	658,259.45	$	658,259.45