FISCAL Year End Status Report

On

Utility Systems

For

Harris County W.C.I.D. # 99

2017 FYE

Prepared By:

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To: Board of Directors
   Harris County W.C.I.D. #99

From: Vogt Engineering, L. P.

Subject: Annual Report on Status of Utility Systems as of Fiscal Year End, March 31, 2017

Section I. Introduction and Authorization

The Harris County Water Control and Improvement District #99 covered an area of 372.005 acres prior to de-annexation of 41.575 acres, leaving 330.43 acres in the District, of which 288.056 have been developed, containing 545 residential lots. The recorded subdivisions of the District consisted of:

1. North Hill Estates Sec. 1 80.126 ac. 134 Lots 4 Reserves
2. North Hill Estates Sec. 2 117.62 ac. 230 Lots
3. North Hill Estates Sec. 3 58.62 ac. 137 Lots
4. Lynwood Estates 26.638 ac. 39 Lots 2 Reserves

In 2004 six (6) parcels(#1-6) out of the Unrecorded Plat of Wildwood Estates were recorded as:

5. Casper Lane Estates 5.0518 ac. (Lot numbers 1 – 5)
6. Wildwood, An Unrecorded Subdivision of Land out of the B. Borrow Survey A-126, Harris County, Texas- Because this partition of land was not properly recorded, the District could not provide service to unrecorded development due to City of Houston regulations. The original Wildwood was identified as 30 “lots” of which the above mentioned Casper Lane Estates occupied lots 1-6, lots 9-11 and Tract II were acquired by Timber Lane U. D. and converted to park land and detention facilities. Lots 12, 13, and 14 are the resident at 18731 Casper Drive. Lot 15 is resident at 18723 Casper Dr. Lots 16 and 17 are resident at 18719 Casper Drive. Lot 18 is largely occupied by a tributary to Lemm Gully. The resident on lot 20 also owns lot 19. HCWCID #99 purchased lots 24 and 25. The remaining lots, 26-30 are yet to be developed. The extension of water distribution lines mentioned in Section V of this report completed the provision of access to district service lines to all of the remaining lots within Wildwood. In November of 2016 the District adopted a Resolution that required all new development in the District to connect to the district lines for both potable water and wastewater disposal.

This brings the total developed acreage to 288.056 acres and 545 lots. Refer to Section I Items 6 of this report for a discussion of activities that lead to the de-annexation of 41.575 undeveloped acres from the District leaving 330.43 acres.
The District owns, operates, and maintains the Wastewater Distribution System, Wastewater Treatment Plant, Water Plant, and Water Distribution System. The District currently serves 505 in district residential connections, 9 in district commercial connections, and 2 sprinkler connections within the District. The District also serves 3 out of district residential connections, and 3 commercial customers outside of its district, this includes Spring High School, Herman Little Park (Timberlane UD), LARG Management (golf). The total number of accounts comes to 516.

The Board of Directors established the policy which authorizes preparation of this Annual Report on the status of its utilities, to be submitted to the Board at the end of each fiscal year.

Section II. Wastewater Treatment Facility

The Wastewater Treatment Plant is in good condition. The plant is operated under authority of TCEQ Discharge Permit No. WQ0011444001, which was granted renewal on February 8, 2016, and will expire February 1, 2019. The Permit provides authority to discharge 0.225 MGD. The Wastewater Treatment Facility is additionally equipped with a standby natural gas generator.

Installation of 1,021 feet of razor wire on top of the existing fence has been installed by MJ Enterprises for additional security.

A new transfer switch was installed in June 2016.

The plant never exceeded the allowable permitted daily average flow of 225,000 gallons per day in 2017 FYE (as of February 2017).

Section III. Wastewater Collection System

The Wastewater collection system was constructed over 40 years ago, utilizing a variety of materials including concrete, ductile iron, and ABS truss pipe. The lines consist of 8, 10, 15, and 18 inch diameter pipe.

Erosion of land near the turning manhole leading to the Wastewater Treatment Facility has worsened over the last four years. Piling of the main trunk line crossing Lemm Gully is exposed, indicating erosion of channel. Action is not warranted at this time; however, it is recommended that monitoring of this area should be added to the district’s scheduled maintenance.

The Operator checked the District’s 203 manholes, and approximately one half were recommended for repairs, many of which are minor. A District-wide smoke test was
completed in December 2015 to provide a better indication of required repairs and a total of 17 manholes were repaired. A total of 22 inflow protectors were also replaced.

A new duplex pump lift station was installed at the Challe Circle West Lift Station (LS). The existing malfunctioning lift station was abandoned in place. The new LS has a fiberglass wet well with 2-1 HP submersible grinder pumps, each rated at a peaking factor of 4 times average daily flow for a service area of 51 single family dwelling units (SDU).

Section IV. Water Production Facilities

The Water Plant Site on Lockridge Drive contains the following:

- Well No. 1 – 50 HP, 313 GPM
- Well No. 2 – 150 HP, 811 GPM
- Two – 5,000 Barrel Ground Storage Tanks
- One – 5,000 Gallon Hydropnuematic Tank
- One - 6,000 Gallon Hydropnuematic Tank
- One – 1,000 GPM Booster Pump
- Two – 600 GPM Booster Pumps
- District Meeting and Record Storage building
- Equipment Building
- Standby Diesel Generator

The water production facilities listed above are in good condition and well maintained by the operator.

The District spent $70,600 in the 2014 FYE to televisie and make major repairs to water Well #2, which is over 40 years old. The Board was informed that there could only be a 6-7 year life expectancy on the well. The Board of Directors authorized the District’s Engineer on March 18, 2014 to obtain additional information from Alsay Incorporated about the well, and begin communications with Harris County WCID #110 and the North Harris County Regional Water Authority to begin preparing for a permanent supply of surface water, in the event of failure of Well #2. Refer to the Long Range Water Plan (LRWP).

The engineer for the NHCRWA has been contacted by the District Engineer and discussions were made regarding the district’s request for surface water allocation. Additional data was provided per request by the NHCRWA to determine the magnitude of the district’s dry weather demand. Using 2012 water use records, with the district’s most current well production data and a limitation of Pump One run time at 315gpm, it was determined that approximately 378,000 gallons per day allocation for all but the worst conditions was required.
The Semi-Annual Inspection Report was conducted by GM Services on October 13, 2016 for both, Well #1 & Well #2. With the exception of the poor efficiency of the water well #1 pump and a marginal vibration analysis result on water well #2 pump, results concluded both Wells were in good condition.

The repair of an existing turbine booster pump (#3) and a replacement with a new 50 HP VHS motor have both been completed.

The District is in compliance with the 200 gallons of Ground Storage Tank Capacity per connection requirement.

Section V. Water Distribution System

The water distribution system is comprised of 2, 4, 6, 8, and 12 inch lines which have been in place for over 40 years. There is an initial water line in section 1 constructed by the Developer about 1964, which still serves some of the customers. The system is in relatively good condition, requiring only one line repair on Casper Court Drive during the past year. Fire protection is provided for customers within the District’s boundaries.

The continuing program to check water meters for accuracy led to the replacement of 45 water meters during the past year.

The Board of Directors authorized construction of a waterline along the north side of Casper Drive from park area and to the sewer plant at a cost of $20,050 has been completed. The line consisted of 500 ft of 6” waterline and 750 ft of 4” waterline. The new line replaced an existing line located under Lemm Gully which was valved off and disconnected.

Section VI. Water Interconnect

The district has a contract with Harris County WCID #110 to provide emergency water on a limited basis. The water interconnect valve to District 110 on the west side to Enchanted Oaks has been repaired at the beginning of 2015.

Section VII. Summary

The system is in relatively good condition despite its age. The following repairs were required in the past 2 years:

- Only one waterline repair (on Casper Lane) was required. No sewer lines were repaired and 45 water meters were replaced in FYE 2017.
- A new duplex pump lift station was installed at the Challe Circle W Lift Station.
A new transfer switch was installed in the wastewater treatment facility.

The existing turbine booster pump #3 was repaired and another booster pump was replaced with a new 50 HP VHS motor at the water plant.

The water production facilities and distribution system are in good condition.

Eagle Water Management, Inc. continues to operate and maintain the District facilities in a very professional manner.

The District maintains reserve fund within its operating budget to provide for any contingency which may occur. The board intends to re-evaluate their Rate Schedule due to projected new cost related to the District’s Long Range Water Plan (LRWP), and aging utility system and recent drain on the operating fund balance.