species.

2) If one or more of the first four consecutive quarterly tests demonstrates significant toxicity, the permittee shall continue quarterly testing for that species until this permit is reissued. If a testing frequency reduction had been previously granted and a subsequent test demonstrates significant toxicity, the permittee shall resume a quarterly testing frequency for that species until this permit is reissued.

2. Required Toxicity Testing Conditions

a. Test Acceptance - The permittee shall repeat any toxicity test, including the control and all effluent dilutions, which fail to meet the following criteria:

1) a control mean survival of 80% or greater;

2) a control mean number of water flea neonates per surviving adult of 15 or greater;

3) a control mean dry weight of surviving fathead minnow larvae of 0.25 mg or greater;

4) a control coefficient of variation percent (CV%) of 40 or less in between replicates for the young of surviving females in the water flea test; and the growth and survival endpoints in the fathead minnow test;

5) a critical dilution CV% of 40 or less for the young of surviving females in the water flea test; and the growth and survival endpoints for the fathead minnow test. However, if statistically significant lethal or nonlethal effects are exhibited at the critical dilution, a CV% greater than 40 shall not invalidate the test;

6) a percent minimum significant difference of 47 or less for water flea reproduction; and

7) a percent minimum significant difference of 30 or less for fathead minnow growth.

b. Statistical Interpretation

1) For the water flea survival test, the statistical analyses used to determine if there is a significant difference between the control and an effluent dilution shall be the Fisher's exact test as described in the manual referenced in in Part 1.b.

2) For the water flea reproduction test and the fathead minnow larval survival and growth tests, the statistical analyses used to determine if there is a significant difference between the control and an effluent dilution shall be in accordance with the manual referenced in Part 1.b.

3) The permittee is responsible for reviewing test concentration-response

relationships to ensure that calculated test-results are interpreted and reported correctly. The document entitled "Method Guidance and Recommendation for Whole Effluent Toxicity (WET) Testing (40 CFR Part 136)" (EPA 821-B-00-004) provides guidance on determining the validity of test results.

4) If significant lethality is demonstrated (that is, there is a statistically significant difference in survival at the critical dilution when compared to the survival in the control), the conditions of test acceptability are met, and the survival of the test organisms are equal to or greater than 80% in the critical dilution and all dilutions below that, then the permittee shall report a survival No Observed Effect Concentration (NOEC) of not less than the critical dilution for the reporting requirements.

5) The NOEC is defined as the greatest effluent dilution at which no significant effect is demonstrated. The Lowest Observed Effect Concentration (LOEC) is defined as the lowest effluent dilution at which a significant effect is demonstrated. A significant effect is defined as a statistically significant difference between the survival, reproduction, or growth of the test organism in a specified effluent dilution when compared to the survival, reproduction, or growth of the test organism in the control.

6) The use of NOECs and LOECs assumes either a monotonic (continuous) concentration-response relationship or a threshold model of the concentration-response relationship. For any test result that demonstrates a non-monotonic (non-continuous) response, the NOEC should be determined based on the guidance manual referenced in Item 3.

7) Pursuant to the responsibility assigned to the permittee in Part 2.b.3), test results that demonstrate a non-monotonic (non-continuous) concentration-response relationship may be submitted, prior to the due date, for technical review. The guidance manual referenced in Item 3 will be used when making a determination of test acceptability.

8) TCEQ staff will review test results for consistency with rules, procedures, and permit requirements.

c. Dilution Water

1) Dilution water used in the toxicity tests must be the receiving water collected at a point upstream of the discharge point as close as possible to the discharge point but unaffected by the discharge. Where the toxicity tests are conducted on effluent discharges to receiving waters that are classified as intermittent streams, or where the toxicity tests are conducted on effluent discharges where no receiving water is available due to zero flow conditions, the permittee shall:

a) substitute a synthetic dilution water that has a pH, hardness, and alkalinity similar to that of the closest downstream perennial water unaffected by the discharge; or

b) use the closest downstream perennial water unaffected by the discharge.

2) Where the receiving water proves unsatisfactory as a result of pre-existing instream toxicity (i.e. fails to fulfill the test acceptance criteria of Part 2.a.), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:

a) a synthetic lab water control was performed (in addition to the receiving water control) which fulfilled the test acceptance requirements of Part 2.a;

b) the test indicating receiving water toxicity was carried out to completion (i.e., 7 days); and

c) the permittee submitted all test results indicating receiving water toxicity with the reports and information required in Part 3.

3) The synthetic dilution water shall consist of standard, moderately hard, reconstituted water. Upon approval, the permittee may substitute other appropriate dilution water with chemical and physical characteristics similar to that of the receiving water.

d. Samples and Composites

1) The permittee shall collect a minimum of three composite samples from Outfall 001. The second and third composite samples will be used for the renewal of the dilution concentrations for each toxicity test.

2) The permittee shall collect the composite samples such that the samples are representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance being discharged on an intermittent basis.

3) The permittee shall initiate the toxicity tests within 36 hours after collection of the last portion of the first composite sample. The holding time for any subsequent composite sample shall not exceed 72 hours. Samples shall be maintained at a temperature of 0-6 degrees Centigrade during collection, shipping, and storage.

4) If Outfall 001 ceases discharging during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions, and the sample holding time are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume sufficient to complete the required toxicity tests with renewal of the effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The sample collection duration and the static renewal protocol associated with the abbreviated

sample collection must be documented in the full report.

5) The effluent samples shall not be dechlorinated after sample collection.

3. Reporting

All reports, tables, plans, summaries, and related correspondence required in this section shall be submitted to the attention of the Standards Implementation Team (MC 150) of the Water Quality Division.

a. The permittee shall prepare a full report of the results of all tests conducted in accordance with the manual referenced in Part 1.b. for every valid and invalid toxicity test initiated whether carried to completion or not.

b. The permittee shall routinely report the results of each biomonitoring test on the Table 1 forms provided with this permit.

1) Annual biomonitoring test results are due on or before January 20th for biomonitoring conducted during the previous 12-month period.

2) Semiannual biomonitoring test results are due on or before July 20th and January 20th for biomonitoring conducted during the previous 6-month period.

3) Quarterly biomonitoring test results are due on or before April 20th, July 20th, October 20th, and January 20th for biomonitoring conducted during the previous calendar quarter.

4) Monthly biomonitoring test results are due on or before the 20th day of the month following sampling.

c. Enter the following codes for the appropriate parameters for valid tests only:

1) For the water flea, Parameter TLP3B, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

2) For the water flea, Parameter TOP3B, report the NOEC for survival.

3) For the water flea, Parameter TXP3B, report the LOEC for survival.

4) For the water flea, Parameter TWP3B, enter a "1" if the NOEC for reproduction is less than the critical dilution; otherwise, enter a "0."

5) For the water flea, Parameter TPP3B, report the NOEC for reproduction.

6) For the water flea, Parameter TYP3B, report the LOEC for reproduction.

7) For the fathead minnow, Parameter TLP6C, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

8) For the fathead minnow, Parameter TOP6C, report the NOEC for survival.

9) For the fathead minnow, Parameter TXP6C, report the LOEC for survival.

10) For the fathead minnow, Parameter TWP6C, enter a "1" if the NOEC for growth is less than the critical dilution; otherwise, enter a "0."

11) For the fathead minnow, Parameter TPP6C, report the NOEC for growth.

12) For the fathead minnow, Parameter TYP6C, report the LOEC for growth.

d. Enter the following codes for retests only:

1) For retest number 1, Parameter 22415, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

2) For retest number 2, Parameter 22416, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

4. Persistent Toxicity

The requirements of this Part apply only when a test demonstrates a significant effect at the critical dilution. Significant lethality and significant effect were defined in Part 2.b. Significant sublethality is defined as a statistically significant difference in growth/reproduction at the critical dilution when compared to the growth/reproduction in the control.

a. The permittee shall conduct a total of 2 additional tests (retests) for any species that demonstrates a significant effect (lethal or sublethal) at the critical dilution. The two retests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two retests in lieu of routine toxicity testing. All reports shall be submitted within 20 days of test completion. Test completion is defined as the last day of the test.

b. If the retests are performed due to a demonstration of significant lethality, and one or both of the two retests specified in Part 4.a. demonstrates significant lethality, the permittee shall initiate the TRE requirements as specified in Part 5. The provisions of Part 4.a. are suspended upon completion of the two retests and submittal of the TRE action plan and schedule defined in Part 5.

If neither test demonstrates significant lethality and the permittee is testing under the reduced testing frequency provision of Part 1.e., the permittee shall return to a quarterly testing frequency for that species.

c. If the two retests are performed due to a demonstration of significant sublethality, and one or both of the two retests specified in Part 4.a. demonstrates significant lethality, the permittee shall again perform two retests as stipulated in Part 4.a.

d. If the two retests are performed due to a demonstration of significant sublethality, and neither test demonstrates significant lethality, the permittee shall continue testing at the quarterly frequency.

e. Regardless of whether retesting for lethal or sublethal effects, or a combination of the two, no more than one retest per month is required for a species.

5. Toxicity Reduction Evaluation

a. Within 45 days of the retest that demonstrates significant lethality, or within 45 days of being so instructed due to multiple toxic events, the permittee shall submit a general outline for initiating a TRE. The outline shall include, but not be limited to, a description of project personnel, a schedule for obtaining consultants (if needed), a discussion of influent and effluent data available for review, a sampling and analytical schedule, and a proposed TRE initiation date.

b. Within 90 days of the retest that demonstrates significant lethality, or within 90 days of being so instructed due to multiple toxic events, the permittee shall submit a TRE action plan and schedule for conducting a TRE. The plan shall specify the approach and methodology to be used in performing the TRE. A TRE is a step-wise investigation combining toxicity testing with physical and chemical analyses to determine actions necessary to eliminate or reduce effluent toxicity to a level not effecting significant lethality at the critical dilution. The TRE action plan shall describe an approach for the reduction or elimination of lethality for both test species defined in Part 1.b. At a minimum, the TRE action plan shall include the following:

1) Specific Activities - The TRE action plan shall specify the approach the permittee intends to utilize in conducting the TRE, including toxicity characterizations, identifications, confirmations, source evaluations, treatability studies, and alternative approaches. When conducting characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled "Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I" (EPA/600/6-91/005F) or alternate procedures. The permittee shall perform multiple identifications and follow the methods specified in the documents entitled "Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081). All characterization, identification, and confirmation tests shall be conducted in an orderly and logical progression;

2) Sampling Plan - The TRE action plan should describe sampling locations, methods, holding times, chain of custody, and preservation techniques. The effluent sample volume collected for all tests shall be adequate to perform the toxicity characterization/identification/confirmation procedures and chemical-specific analyses when the toxicity tests show significant lethality. Where the permittee has identified or suspects a specific pollutant and source of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and suspected pollutant and source of effluent toxicity;

3) Quality Assurance Plan - The TRE action plan should address record keeping and data evaluation, calibration and standardization, baseline tests, system blanks, controls, duplicates, spikes, toxicity persistence in the samples, randomization, reference toxicant control charts, and mechanisms to detect artifactual toxicity; and

4) Project Organization - The TRE action plan should describe the project staff, project manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.

c. Within 30 days of submittal of the TRE action plan and schedule, the permittee shall implement the TRE.

d. The permittee shall submit quarterly TRE activities reports concerning the progress of the TRE. The quarterly reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail information regarding the TRE activities including:

1) results and interpretation of any chemical-specific analyses for the identified and suspected pollutant performed during the quarter;

2) results and interpretation of any characterization, identification, and confirmation tests performed during the quarter;

3) any data and substantiating documentation which identifies the pollutant(s) and source of effluent toxicity;

4) results of any studies/evaluations concerning the treatability of the facility's effluent toxicity;

5) any data that identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant lethality at the critical dilution; and

6) any changes to the initial TRE plan and schedule that are believed necessary as a result of the TRE findings.

e. During the TRE, the permittee shall perform, at a minimum, quarterly testing using the more sensitive species. Testing for the less sensitive species shall continue at the frequency specified in Part 1.b.

f. If the effluent ceases to effect significant lethality, i.e., there is a cessation of lethality, the permittee may end the TRE. A cessation of lethality is defined as no significant lethality for a period of 12 consecutive months with at least monthly testing. At the end of the 12 months, the permittee shall submit a statement of intent to cease the TRE and may then resume the testing frequency specified in Part 1.b.

This provision accommodates situations where operational errors and upsets, spills, or sampling errors triggered the TRE, in contrast to a situation where a

single toxicant or group of toxicants cause lethality. This provision does not apply as a result of corrective actions taken by the permittee. Corrective actions are defined as proactive efforts that eliminate or reduce effluent toxicity. These include, but are not limited to, source reduction or elimination, improved housekeeping, changes in chemical usage, and modifications of influent streams and effluent treatment.

The permittee may only apply this cessation of lethality provision once. If the effluent again demonstrates significant lethality to the same species, the permit will be amended to add a WET limit with a compliance period, if appropriate. However, prior to the effective date of the WET limit, the permittee may apply for a permit amendment removing and replacing the WET limit with an alternate toxicity control measure by identifying and confirming the toxicant and an appropriate control measure.

g. The permittee shall complete the TRE and submit a final report on the TRE activities no later than 28 months from the last test day of the retest that confirmed significant lethal effects at the critical dilution. The permittee may petition the Executive Director (in writing) for an extension of the 28-month limit. However, to warrant an extension the permittee must have demonstrated due diligence in its pursuit of the toxicity identification evaluation/TRE and must prove that circumstances beyond its control stalled the toxicity identification evaluation/TRE. The report shall provide information pertaining to the specific control mechanism selected that will, when implemented, result in the reduction of effluent toxicity to no significant lethality at the critical dilution. The report shall also provide a specific corrective action schedule for implementing the selected control mechanism.

h. Based on the results of the TRE and proposed corrective actions, this permit may be amended to modify the biomonitoring requirements, where necessary, require a compliance schedule for implementation of corrective actions, specify a WET limit, specify a best management practice, and specify a chemical-specific limit.

i. Copies of any and all required TRE plans and reports shall also be submitted to the U.S. EPA Region 6 office, 6WQ-PO.

TABLE 1 (SHEET 1 OF 4)

BIOMONITORING REPORTING

CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION

Dates and Times Composites Collected

Date Time Date Time

No. 1 FROM: _____ TO: _____

No. 2 FROM: _____ TO: _____

No. 3 FROM: _____ TO: _____

Test initiated: _____ am/pm _____ date

Dilution water used: _____ Receiving water _____ Synthetic Dilution water

NUMBER OF YOUNG PRODUCED PER ADULT AT END OF TEST

REP	Percent effluent					
	0%	31%	42%	56%	74%	99%
A						
B						
C						
D						
E						
F						
G						
H						
I						
J						
Survival Mean						
Total Mean						
CV%*						
PMSD						

*Coefficient of Variation = standard deviation x 100/mean (calculation based on young of the surviving adults)

Designate males (M), and dead females (D), along with number of neonates (x) released prior to death.

TABLE 1 (SHEET 2 OF 4)

CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION TEST

1. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean number of young produced per adult significantly less than the number of young per adult in the control for the % effluent corresponding to significant nonlethal effects?

   CRITICAL DILUTION (99%): _____ YES _____ NO

PERCENT SURVIVAL

	Percent effluent					
Time of Reading	0%	31%	42%	56%	74%	99%
24h						
48h						
End of Test						

2. Fisher's Exact Test:

   Is the mean survival at test end significantly less than the control survival for the % effluent corresponding to lethality?

   CRITICAL DILUTION (99%): _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEC\LOEC below:

   a.) NOEC survival = _____% effluent

   b.) LOEC survival = _____% effluent

   c.) NOEC reproduction = _____% effluent

   d.) LOEC reproduction = _____% effluent

TABLE 1 (SHEET 3 OF 4)

BIOMONITORING REPORTING

FATHEAD MINNOW LARVAE GROWTH AND SURVIVAL

Dates and Times Composites Collected

Date Time Date Time

No. 1 FROM: _____ TO: _____

No. 2 FROM: _____ TO: _____

No. 3 FROM: _____ TO: _____

Test initiated: _____am/pm _____date

Dilution water used: _____ Receiving water _____ Synthetic dilution water

FATHEAD MINNOW GROWTH DATA

Effluent Concentration	Average Dry Weight in replicate chambers					Mean Dry Weight	CV%*
	A	B	C	D	E		
0%							
31%							
42%							
56%							
74%							
99%							
PMSD							

* Coefficient of Variation = standard deviation x 100/mean

1. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean dry weight (growth) at 7 days significantly less than the control's dry weight (growth) for the % effluent corresponding to significant nonlethal effects?

   CRITICAL DILUTION (99%): _____ YES _____ NO

TABLE 1 (SHEET 4 OF 4)

BIOMONITORING REPORTING

FATHEAD MINNOW GROWTH AND SURVIVAL TEST

FATHEAD MINNOW SURVIVAL DATA

Effluent Concentration	Percent Survival in replicate chambers					Mean percent survival			CV%*
	A	B	C	D	E	24h	48h	7 day	
0%									
31%									
42%									
56%									
74%									
99%									

* Coefficient of Variation = standard deviation x 100/mean

2. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean survival at 7 days significantly less than the control survival for the % effluent corresponding to lethality?

   CRITICAL DILUTION (99%): _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEC\LOEC below:

   a.) NOEC survival = _____% effluent

   b.) LOEC survival = _____% effluent

   c.) NOEC growth = _____% effluent

   d.) LOEC growth = _____% effluent

24-HOUR ACUTE BIOMONITORING REQUIREMENTS: FRESHWATER

The provisions of this section apply to Outfall 001 for WET testing.

1. Scope, Frequency, and Methodology

a. The permittee shall test the effluent for lethality in accordance with the provisions in this section. Such testing will determine compliance with Texas Surface Water Quality Standard 30 TAC § 307.6(e)(2)(B), which requires greater than 50% survival of the appropriate test organisms in 100% effluent for a 24-hour period.

b. The toxicity tests specified shall be conducted once per six months. The permittee shall conduct the following toxicity tests using the test organisms, procedures, and quality assurance requirements specified in this section of the permit and in accordance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms," fifth edition (EPA-821-R-02-012) or its most recent update:

1) Acute 24-hour static toxicity test using the water flea (*Daphnia pulex* or *Ceriodaphnia dubia*). A minimum of five replicates with eight organisms per replicate shall be used in the control and each dilution.

2) Acute 24-hour static toxicity test using the fathead minnow (*Pimephales promelas*). A minimum of five replicates with eight organisms per replicate shall be used in the control and each dilution.

A valid test result must be submitted for each reporting period. The permittee must report, and then repeat, an invalid test during the same reporting period. The repeat test shall include the control and the 100% effluent dilution and use the appropriate number of organisms and replicates, as specified above. An invalid test is defined as any test failing to satisfy the test acceptability criteria, procedures, and quality assurance requirements specified in the test methods and permit.

c. In addition to an appropriate control, a 100% effluent concentration shall be used in the toxicity tests. The control and dilution water shall consist of standard, synthetic, moderately hard, reconstituted water.

d. This permit may be amended to require a WET limit, a best management practice, a chemical-specific limit, or other appropriate actions to address toxicity. The permittee may be required to conduct a toxicity reduction evaluation (TRE) after multiple toxic events.

2. Required Toxicity Testing Conditions

a. Test Acceptance - The permittee shall repeat any toxicity test, including the control, if the control fails to meet a mean survival equal to or greater than 90%.

b. Dilution Water - In accordance with Part 1.c., the control and dilution water shall consist of standard, synthetic, moderately hard, reconstituted water.

c. Samples and Composites

1) The permittee shall collect one composite sample from Outfall 001.

2) The permittee shall collect the composite sample such that the sample is representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance being discharged.

3) The permittee shall initiate the toxicity tests within 36 hours after collection of the last portion of the composite sample. The sample shall be maintained at a temperature of 0-6 degrees Centigrade during collection, shipping, and storage.

4) If Outfall 001 ceases discharging during the collection of the effluent composite sample, the requirements for the minimum number of effluent portions are waived. However, the permittee must have collected a composite sample volume sufficient for completion of the required test. The abbreviated sample collection, duration, and methodology must be documented in the full report.

5) The effluent sample shall not be dechlorinated after sample collection.

3. Reporting

All reports, tables, plans, summaries, and related correspondence required in this section shall be submitted to the attention of the Standards Implementation Team (MC 150) of the Water Quality Division.

a. The permittee shall prepare a full report of the results of all tests conducted in accordance with the manual referenced in Part 1.b. for every valid and invalid toxicity test initiated.

b. The permittee shall routinely report the results of each biomonitoring test on the Table 2 forms provided with this permit.

1) Semiannual biomonitoring test results are due on or before July 20th and January 20th for biomonitoring conducted during the previous 6-month period.

2) Quarterly biomonitoring test results are due on or before April 20th, July 20th, and October 20th, and January 20th for biomonitoring conducted during the previous calendar quarter.

c. Enter the following codes for the appropriate parameters for valid tests only:

1) For the water flea, Parameter TIE3D, enter a "0" if the mean survival at 24 hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."

2) For the fathead minnow, Parameter TIE6C, enter a "0" if the mean

survival at 24 hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."

d. Enter the following codes for retests only:

1) For retest number 1, Parameter 22415, enter a "0" if the mean survival at 24 hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."

2) For retest number 2, Parameter 22416, enter a "0" if the mean survival at 24 hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."

4. Persistent Mortality

The requirements of this part apply when a toxicity test demonstrates significant lethality, which is defined as a mean mortality of 50% or greater of organisms exposed to the 100% effluent concentration for 24 hours.

a. The permittee shall conduct 2 additional tests (retests) for each species that demonstrates significant lethality. The two retests shall be conducted once per week for 2 weeks. Five effluent dilution concentrations in addition to an appropriate control shall be used in the retests. These effluent concentrations are 6%, 13%, 25%, 50% and 100% effluent. The first retest shall be conducted within 15 days of the laboratory determination of significant lethality. All test results shall be submitted within 20 days of test completion of the second retest. Test completion is defined as the 24th hour.

b. If one or both of the two retests specified in Part 4.a. demonstrates significant lethality, the permittee shall initiate the TRE requirements as specified in Part 5.

5. Toxicity Reduction Evaluation

a. Within 45 days of the retest that demonstrates significant lethality, the permittee shall submit a general outline for initiating a TRE. The outline shall include, but not be limited to, a description of project personnel, a schedule for obtaining consultants (if needed), a discussion of influent and effluent data available for review, a sampling and analytical schedule, and a proposed TRE initiation date.

b. Within 90 days of the retest that demonstrates significant lethality, the permittee shall submit a TRE action plan and schedule for conducting a TRE. The plan shall specify the approach and methodology to be used in performing the TRE. A TRE is a step-wise investigation combining toxicity testing with physical and chemical analyses to determine actions necessary to eliminate or reduce effluent toxicity to a level not effecting significant lethality at the critical dilution. The TRE action plan shall lead to the successful elimination of significant lethality for both test species defined in Part 1.b. At a minimum, the TRE action plan shall include the following:

1) Specific Activities - The TRE action plan shall specify the approach the permittee intends to utilize in conducting the TRE, including toxicity

characterizations, identifications, confirmations, source evaluations, treatability studies, and alternative approaches. When conducting characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures" (EPA/600/6-91/003) or alternate procedures. The permittee shall perform multiple identifications and follow the methods specified in the documents entitled "Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081). All characterization, identification, and confirmation tests shall be conducted in an orderly and logical progression;

2) Sampling Plan - The TRE action plan should describe sampling locations, methods, holding times, chain of custody, and preservation techniques. The effluent sample volume collected for all tests shall be adequate to perform the toxicity characterization/identification/confirmation procedures and chemical-specific analyses when the toxicity tests show significant lethality. Where the permittee has identified or suspects specific pollutant and source of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and suspected pollutant and source of effluent toxicity;

3) Quality Assurance Plan - The TRE action plan should address record keeping and data evaluation, calibration and standardization, baseline tests, system blanks, controls, duplicates, spikes, toxicity persistence in the samples, randomization, reference toxicant control charts, and mechanisms to detect artifactual toxicity; and

4) Project Organization - The TRE Action Plan should describe the project staff, project manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.

c. Within 30 days of submittal of the TRE action plan and schedule, the permittee shall implement the TRE.

d. The permittee shall submit quarterly TRE activities reports concerning the progress of the TRE. The quarterly TRE activities reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail information regarding the TRE activities including:

1) results and interpretation of any chemical-specific analyses for the identified and suspected pollutant performed during the quarter;

2) results and interpretation of any characterization, identification, and confirmation tests performed during the quarter;

3) any data and substantiating documentation that identifies the pollutant

and source of effluent toxicity;

4) results of any studies/evaluations concerning the treatability of the facility's effluent toxicity;

5) any data that identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to eliminate significant lethality; and

6) any changes to the initial TRE plan and schedule that are believed necessary as a result of the TRE findings.

e. During the TRE, the permittee shall perform, at a minimum, quarterly testing using the more sensitive species. Testing for the less sensitive species shall continue at the frequency specified in Part 1.b.

f. If the effluent ceases to effect significant lethality, i.e., there is a cessation of lethality, the permittee may end the TRE. A cessation of lethality is defined as no significant lethality for a period of 12 consecutive weeks with at least weekly testing. At the end of the 12 weeks, the permittee shall submit a statement of intent to cease the TRE and may then resume the testing frequency specified in Part 1.b.

This provision accommodates situations where operational errors and upsets, spills, or sampling errors triggered the TRE, in contrast to a situation where a single toxicant or group of toxicants cause lethality. This provision does not apply as a result of corrective actions taken by the permittee. Corrective actions are defined as proactive efforts that eliminate or reduce effluent toxicity. These include, but are not limited to, source reduction or elimination, improved housekeeping, changes in chemical usage, and modifications of influent streams and effluent treatment.

The permittee may only apply this cessation of lethality provision once. If the effluent again demonstrates significant lethality to the same species, the permit will be amended to add a WET limit with a compliance period, if appropriate. However, prior to the effective date of the WET limit, the permittee may apply for a permit amendment removing and replacing the WET limit with an alternate toxicity control measure by identifying and confirming the toxicant and an appropriate control measure.

g. The permittee shall complete the TRE and submit a final report on the TRE activities no later than 18 months from the last test day of the retest that demonstrates significant lethality. The permittee may petition the Executive Director (in writing) for an extension of the 18-month limit. However, to warrant an extension the permittee must have demonstrated due diligence in its pursuit of the toxicity identification evaluation/TRE and must prove that circumstances beyond its control stalled the toxicity identification evaluation/TRE. The report shall specify the control mechanism that will, when implemented, reduce effluent toxicity as specified in Part 5.h. The report shall also specify a corrective action schedule for implementing the selected control mechanism.

h. Within 3 years of the last day of the test confirming toxicity, the permittee shall comply with 30 TAC § 307.6(e)(2)(B), which requires greater than 50% survival of the test organism in 100% effluent at the end of 24-hours. The permittee may petition the Executive Director (in writing) for an extension of the 3-year limit. However, to warrant an extension the permittee must have demonstrated due diligence in its pursuit of the toxicity identification evaluation/TRE and must prove that circumstances beyond its control stalled the toxicity identification evaluation/TRE.

The permittee may be exempted from complying with 30 TAC § 307.6(e)(2)(B) upon proving that toxicity is caused by an excess, imbalance, or deficiency of dissolved salts. This exemption excludes instances where individually toxic components (e.g., metals) form a salt compound. Following the exemption, this permit may be amended to include an ion-adjustment protocol, alternate species testing, or single species testing.

i. Based upon the results of the TRE and proposed corrective actions, this permit may be amended to modify the biomonitoring requirements where necessary, require a compliance schedule for implementation of corrective actions, specify a WET limit, specify a best management practice, and specify a chemical-specific limit.

j. Copies of any and all required TRE plans and reports shall also be submitted to the U.S. EPA Region 6 office, 6WQ-PO.

TABLE 2 (SHEET 1 OF 2)

WATER FLEA SURVIVAL

GENERAL INFORMATION

	Time	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN						

Enter percent effluent corresponding to the LC50 below:

24 hour LC50 = _____% effluent

TABLE 2 (SHEET 2 OF 2)

FATHEAD MINNOW SURVIVAL

GENERAL INFORMATION

	Time	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

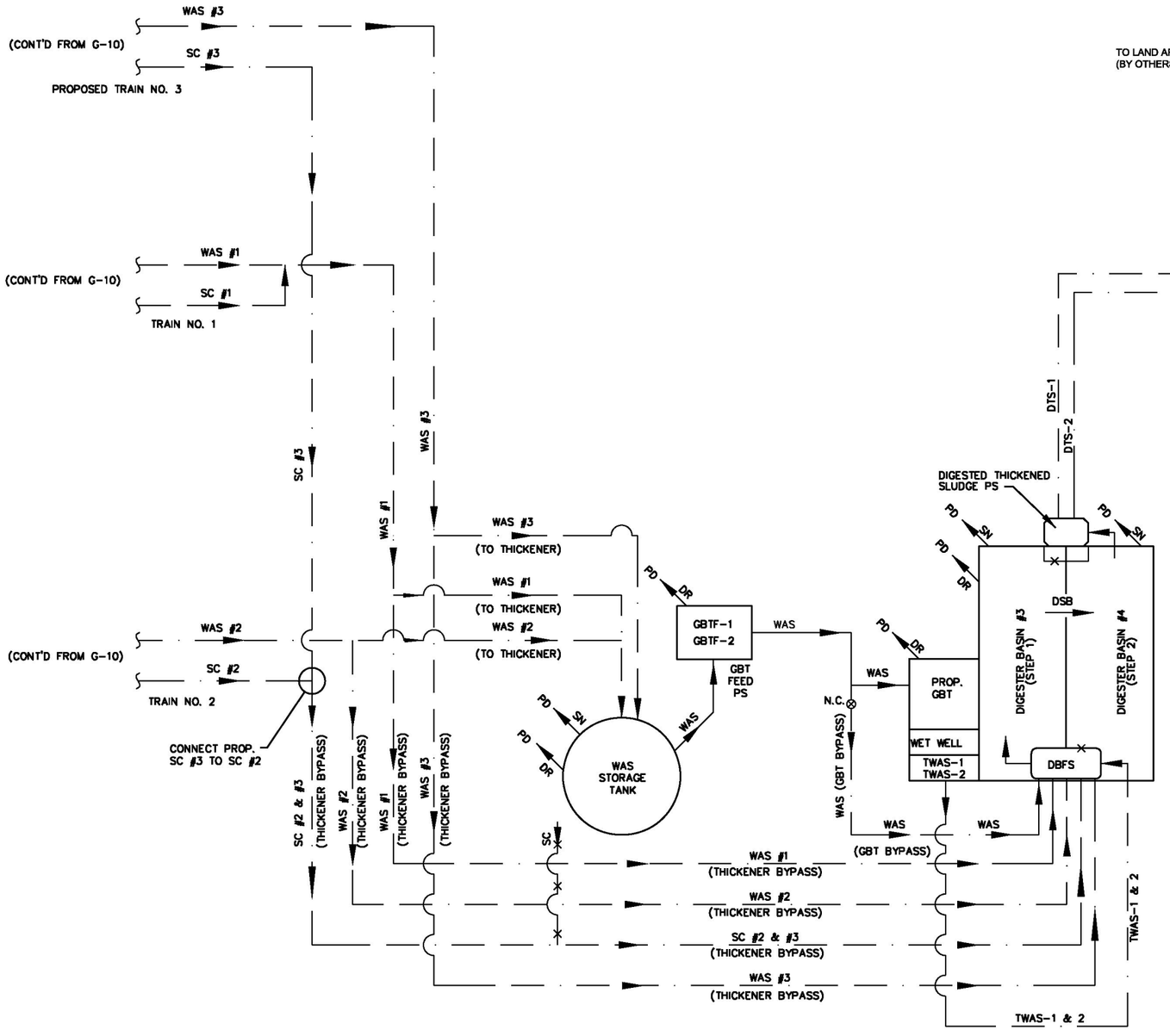
Time	Rep	Percent effluent					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN						

Enter percent effluent corresponding to the LC50 below:

24 hour LC50 = _____% effluent

Appendix D

Process Flow Diagram



Flow Stream Identification

Abbrv	Description
	PROCESS FORWARD FLOW
WW	WASTE WATER
FM	FORCE MAIN
SAN SWR	SANITARY SEWER (GRAVITY LINES & DRAINS)
SEP SEW	SEPTAGE (SEPTIC SEWAGE)
RS	RAW SEWAGE
SRS	SCREENED RAW SEWAGE
MLSS	MIXED LIQUOR SUSPENDED SOLIDS
TFE	TRICKLING FILTER EFFLUENT
SC PS	SCUM PUMP STATION
PD	PLANT DRAIN (PROCESS)
DR	DRAIN (PROCESS)
UD	UNDERDRAIN
SE	SETTLED EFFLUENT
CE	CLORINATED EFFLUENT
DE	DECHLORINATED EFFLUENT
FE	FILTERED EFFLUENT
UVE	ULTRAVIOLET LIGHT EFFLUENT
PE	PLANT EFFLUENT
BYP	BYPASS
DBFS	DISTRIBUTION BOX (FLOW SPLITTER)
MH	MANHOLE (PLANT DRAIN- PROCESS)
	SLUDGE PROCESS
AS	ACTIVATED SLUDGE
RAS	RETURN ACTIVATED SLUDGE
WAS	WASTE ACTIVATED SLUDGED
TWAS	THICKENED WASTE ACTIVATED SLUDGE
DSB	DIGESTED SLUDGE BLENDED
DTS	DIGESTED THICKENED SLUDGE
DWS	DEWATERED SLUDGE
SC	SCUM
SN	SUPERNATANT
BYP	BYPASS
DBFS	DISTRIBUTION BOX (FLOW SPLITTER)
	CHEMICAL FEED SYSTEMS
CL	CHLORINE
CLG	CHLORINE GAS
CLGP	CHLORINE GAS (PRESSURE)
CLGV	CHLORINE GAS (VACUUM)
CLL	CHLORINE LIQUID
CS	CHLORINE SOLUTION
CLSP	CHLORINE SOLUTION PRESSURE
POLYML	POLYMER LIQUID
POLYM	POLYMER
POLYMS	POLYMER SOLUTION
SDG	SULFUR DIOXIDE GAS
SDGV	SULFUR DIOXIDE GAS (VACUUM)
SDL	SULFUR DIOXIDE LIQUID
SDS	SULFUR DIOXIDE SOLUTION
	WATER SYSTEMS
NPW	NON-POTABLE WATER
PPW	PLANT PROCESS WATER
PW	POTABLE WATER

DIRECTION OF FLOW

XX — FLOW STREAM IDENTIFIER

LINE OR PROCESS UNIT TO BE REMOVED FROM FLOW STREAM

Garcia Infrastructure Consultants, LLC
Texas Firm No. F-17794
12042 Blanco Rd., Ste. 203
San Antonio, Texas 78216
Ph. (210) 437-0323

CITY OF PHARR
MASTER PLAN

CITY OF PHARR

APPENDIX D.1
WWTP
SLUDGE PROCESS FLOW DIAGRAM
(SOLID STREAM)

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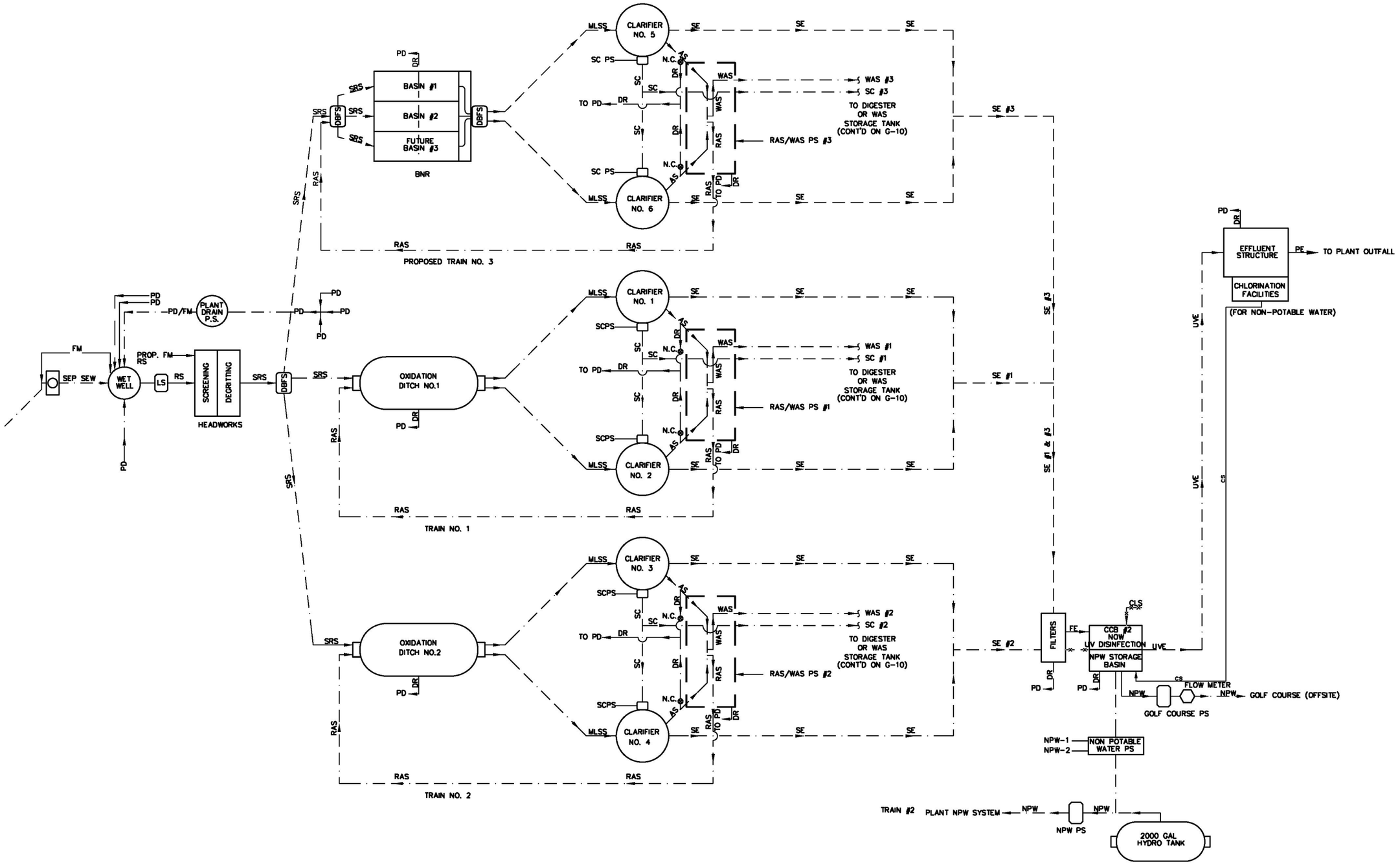

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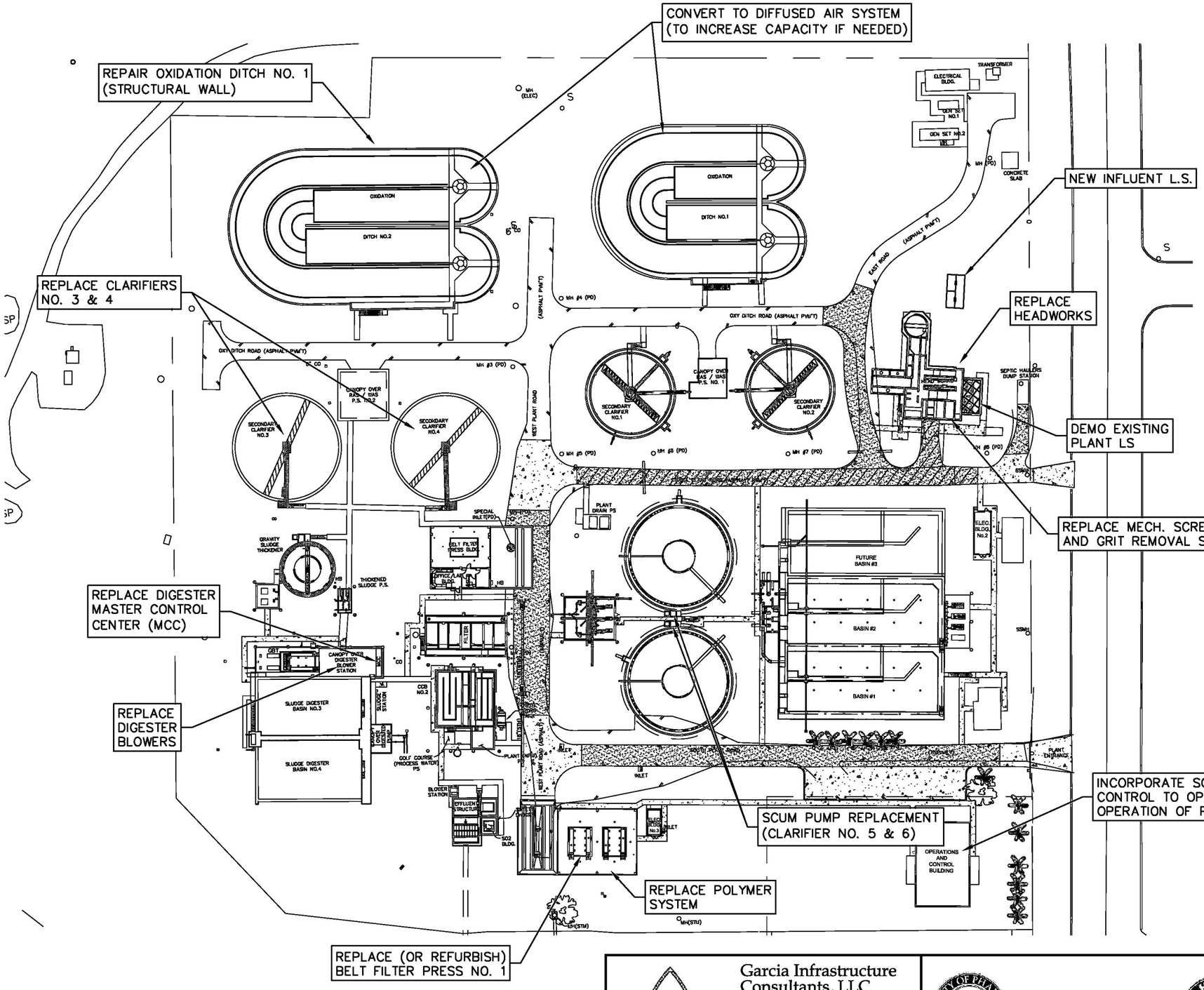
APPENDIX D.2
WWTP
PROCESS FLOW DIAGRAM
(LIQUID STREAM)

file:Exh-PFD_LS.dwg

Appendix E

WWTP Plant Improvements



LEGEND

INF – INFLUENT
AE – AERATION EFFLUENT
SE – SECONDARY CLARIFIER EFFLUENT
SS – SECONDARY CLARIFIER SLUDGE
DS – DIGESTED SLUDGE
CLE – CHLORINE CONTACT BASIN EFFLUENT
PE – PLANT EFFLUENT

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Texas Firm No. 17794

CITY OF PHARR MASTER PLAN

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APPENDIX E
RECOMMENDED WWTP MP IMPROVEMENTS

PHARR, TEXAS

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Appendix F

Lift Station Evaluation Memorandum

City of Pharr- Lift Station Assessment

PREPARED BY: Garcia Infrastructure Consultants, LLC (GIC)

PREPARED FOR: City of Pharr

SUBJECT: City of Pharr Water Master Plan – Lift Station Assessment

DATE: September 21, 2018

The City of Pharr currently owns and operates thirty-three (33) lift stations. GIC conducted an assessment that consisted of staff interviews and site field visits. The report is intended to provide a general overview regarding the condition and basic information regarding these facilities.

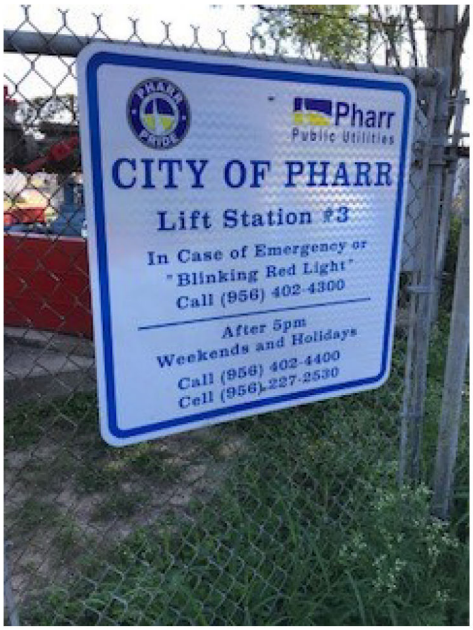
Lift Station 1- Main Lift Station

Enclosure-	CMU Block Building- Great condition
Type of Pumps:	Wet-Pit/Dry Pit Arrangement (Self Priming Pumps used under a flooded suction condition).
# of Pumps-	4-Pumps
Pump Hp:	85-Hp
Model-	10-inch Gorman Rupp
Wet Well:	Rectangular wet well 7-ft X 17-ft.
Wet well Depth:	25-ft
Age:	18-Year
Suction Piping:	DIP; Good shape.
Discharge Piping:	DIP; Good Shape
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	Light provided inside building but not outdoors.
Water:	Yes; no backflow preventer.
Accessibility:	Good access
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	Not applicable
General Notes:	This station has multiple operational problems that need to be addressed. It is one of the City's major lift stations serving most of Central Pharr. During major wet-weather conditions; only one pump can operate. Staff must switch out pump pully to reduce flow. The station will run full during these conditions at the exact time all pumps are required. If flow from this station is not reduced during these conditions; overflows occur at the Intersection of I Road and Ridge Road. Need to check capacity and condition of 24-inch on I Road. No automatic transfer switch is provided between City's incoming power and generator. If power goes out, there is no alarm to notify staff to switch over to the generator.

Deficiencies:	Pumps do not alternate. Transfer switch not available. Capacity of station is limited due to overflows at I Road and Ridge. Need to be addressed. Drainage problems appear to be coming from the Street. Power pole is slanted. Foundation compromised. Odor problems; multiple complaints from customers. Not surprised given size and location of station. Incoming power set at ground level. Dangerous due to flooding issues. Auto dialer not working. This station has been targeted to be abandoned. Recommend extending a sewer main to I Road. This would allow City to abandon this Lift Station. Central Region Interceptor.

Lift Station 3- DeLeon Lift Station

Enclosure-	Chain link fence; poor condition.
Type of Pumps:	Self Priming
# of Pumps-	2-Pumps
Pump Hp:	7.5-Hp
Model-	4-inch Crown (pumps obsolete)
Wet Well:	6-ft. Diameter (Circular)- Very poor conditions.
Wet well Depth:	20-ft
Age:	31-Year
Suction Piping:	DIP; Poor condition
Discharge Piping:	DIP; Poor condition
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	No
Water:	Yes; no backflow preventer
Accessibility:	Poor access via dirt road.
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	Not applicable
General Notes:	This station is not very big and does not receive a lot of flow. It has odor issues/complaints. Receives a lot of inflow/infiltration. Control panel was recently replaced (approximately 5-years ago).
Deficiencies:	Station is in very poor conditions. Wet well should be rehabbed. Good candidate to abandoned. This station is beyond rehabilitation and consideration should be given to replace.


Pharr
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CITY OF PHARR
Lift Station #3
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After 5pm
Weekends and Holidays
Call (956) 402-4400
Cell (956)-227-2530

Lift Station 6- PUB (Large/Major Lift Station)

Enclosure-	Chain Link Fence (next to Baseball Field)
Type of Pumps:	Submersible
# of Pumps-	3-Pumps
Pump Hp:	110-Hp (1) & 123-Hp (2)
Model-	Flygt (1) & ABS (2)
Wet well:	Circular (18-ft Diameter)
Wet well Depth:	46.35-ft
Age:	10-Years
Piping Condition:	Good
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	Yes
Light:	Yes
Water:	Yes
Accessibility:	Directly off Sam Houston Rd.; No problems
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	No fall protection/grate at Valve Vault
General Notes:	Station has a low-profile valve vault. Station has one single disconnect switch for all three pumps. If one pump goes out it affects all three pumps. This station receives a lot of flow. It receives flow from seven (7) lift stations (north side of town). These includes 7, 25, 27 29, 31, & 33. Due to recent modifications, the station now also receives all flow from Lift Station No. 1- Main Lift Station. The main lift station collects flow from Lift Station 3, 15, & 17. Suction piping in wet well was recently replaced; DIP Pipe was removed and replaced with PVC Yellow-mine Pipe.
Deficiencies:	Station is good conditions. City needs to make sure to continue to carefully monitor this lift station as it a very critical facility. Discharge piping and piping in valve vault needs to be painted (general maintenance).


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Lift Station 7- Bagwell

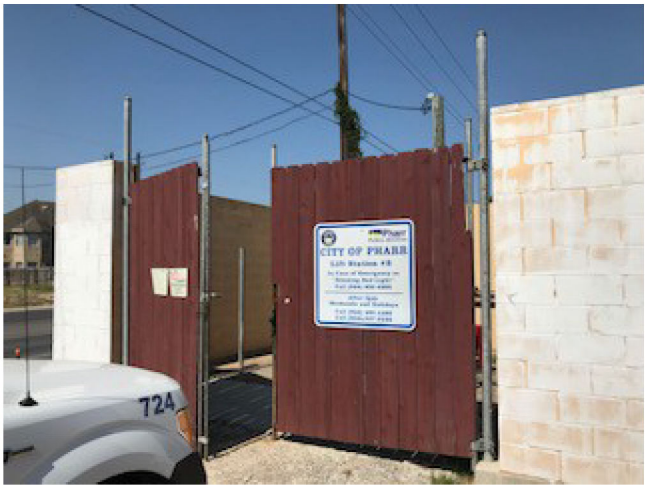
Enclosure-	Chain link fence w/ green slats- Good conditions
Type of Pumps:	Submersible
# of Pumps-	3-Pumps
Pump Hp:	60-Hp (Flygt) & 75-Hp (ABS)
Model-	2 X Flygt and 1 X ABS
Wet Well:	Circular 15-ft Diameter.
Wet well Depth:	41-ft
Age:	6-Year
Suction Piping:	Yellow Mine (PVC); Recently installed. Great shape.
Discharge Piping:	DIP
Discharge Gate Valve:	Yes (low profile valve vault) Discharge
Check Valve:	Yes (low profile valve vault)
Air Release:	No; port available but Air Release/Vacuum Valves Removed.
Light:	Yes, but not adequate. Light insufficient.
Water:	Yes; backflow preventer provided.
Accessibility:	Good access; asphalt all weather road.
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	Yes
General Notes:	Fence needs to be removed to access force main during bypass situation. The fence is removed to allow staff to park trailer mounted pump. This station includes two influent sewer lines. Staff must plug both lines to work on lift station. Low profile valve vault. All flow from the North side of town is collected at this facility and considered one of the City's Major Lift Stations.
Deficiencies:	Upstream manholes in bad conditions. Severe corrosion was noted. Consider rehabbing or replacing manhole. Air release/vacuum valves removed. Electrical repairs required at this station. The electrical conduit seals appear to have failed/removed or never installed. Hydrogen sulfide gases have

corroded the electrical boxes. Wires are connected using black electrical tape. Electrical repairs are needed ASAP.

Odor Control system was operational. Important to maintain unit operational since it provides both odor and corrosion protection.

Lift Station 8- Ridge Rd

Enclosure-	CMU Block Fence
Type of Pumps:	Self Priming
# of Pumps-	2 Pumps
Pump Hp:	7.5-Hp
Model-	4-inch Crown Pumps
Wet well:	Circular (6-ft Diameter)
Wet well Depth:	20-ft
Age:	Unknown
Piping Condition:	Good
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	No
Water:	Yes
Accessibility:	Driveway off Ridge Rd.
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	Unknown (confirm if required)
General Notes:	This station does not receive much flow
Deficiencies:	Stations appears to have been retrofitted. Holes were punctured for suction piping. No seal as suction pipe exits the wet well. This results in significant infiltration during wet-weather conditions. Seal wet well to limit infiltration/inflow. Provide concrete driveway.


CITY OF PHARR
724

Lift Station 10- Moore

Enclosure-	CMU Block Fence
Type of Pumps:	Self-Priming
# of Pumps-	2 Pumps
Pump Hp:	35-Hp
Model-	6-inch Crown and Gorman
Wet well:	Rectangular (7-ft X 10-ft)
Wet well Depth:	15-ft
Age:	Very old
Piping Condition:	Good
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	No
Water:	Yes
Accessibility:	Directly off Moore Road; No problems
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	None
General Notes:	This station receives a lot of flow. Pumps run all the time. Five (5) gravity sewer mains discharge at this station.
Deficiencies:	Station is very poor conditions and this station receives a lot of flow. It receives flow from five (5) lift stations (16, 14. 40, 12, and 44). This station needs to be high priority to replace or eliminate.

Lift Station 12- Dunyln Acres

Enclosure-	Chain Link Fence
Type of Pumps:	Self-Priming
# of Pumps-	2-Pumps
Pump Hp:	7.5-Hp
Model-	4-inch Crown
Wet well:	Circular (6-ft Diameter)
Wet well Depth:	25-ft
Age:	Unknown
Piping Condition:	Suction Piping has experienced some corrosion but not extreme. Standard painting would help. However, the force main shows extreme corrosion at the point the pipe enters the ground. Pump bases are also severely corded.
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	No
Water:	No
Accessibility:	Located within a gated community; Area is tight but no problems with access. Staff use code provided by community.
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	Not applicable
General Notes:	Station is utilizing pumps that are obsolete and no longer in use. Piping has experience some minor corrosion. Suction pipe is PVC. Wet well appears to be in good shape. Station does not receive much flow.
Deficiencies:	Station utilizes a steel plate that covers the wet well. This plate has multiple cracks and has gaping holes that allow inflow during wet-weather conditions.

Station also has severe structural damage which may be due to drainage deficiencies. The slab is cracked in multiple locations. This facility does not receive significant flow and wet well appears to be in acceptable conditions. Minimal space is available to replace this station. If unable to relocate or abandon it may be possible to rehab as the wet well appears to be in decent shape and station does not receive significant flow. This station would be a good candidate to eliminate if possible.

Lift Station 14- Canal

Enclosure-	Chain link fence
Type of Pumps:	Submersible
# of Pumps-	2 Pumps
Pump Hp:	?-Hp
Model-	4-inch Crown & ?-inch Gorman Rupp
Wet well:	Rectangular (5.5 X 13-ft)
Wet well Depth:	24-ft
Wet Well Condition:	Poor; consider replacing entire lift station
Age:	Unknown
Piping Condition:	Poor
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	No
Water:	No
Accessibility:	Acceptable; from Sam Houston
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	No
General Notes:	This station is in very poor conditions; staff has made multiple repairs and replaced pumps on several occasions.
Deficiencies:	Station is beyond repair and should be added to CIP list to either eliminate of replace.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Lift Station #14
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Cell (956) 227-2530

Lift Station 15- RGV

Enclosure-	Chain link fence
Type of Pumps:	Self priming pump
# of Pumps-	2-Pumps
Pump Hp:	15-Hp
Model-	4-inch Pioneer Pumps (very old pumps)
Wet Well:	6-ft Diameter (Circular)
Wet well Depth:	16-ft
Age:	30-year Plus
Suction Piping:	PVC
Discharge Piping:	DIP; decent conditions. Consider painting. Discharge
Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	No
Water:	Yes
Accessibility:	No all-weather road available.
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	None
General Notes:	Very small footprint. Pumps are very old and should be replaced. No all-weather road.
Deficiencies:	Pump station is in decent conditions. Pump should be replaced and access to lift station improved.


CITY OF PHARR
Lift Station #15


722

Lift Station 16- Civic

Enclosure:	Chain link fence
Type of Pumps:	Self priming pump
# of Pumps-	2-Pumps
Pump Hp:	7.5-Hp
Model-	4-inch Gorman Rupp
Wet Well:	6-ft Diameter (Circular)
Wet well Depth:	20-ft
Age:	40-year Plus
Suction Piping:	PVC
Discharge Piping:	Combination of DIP & PVC
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	No
Water:	Yes
Accessibility:	Directly off-S. Palm Dr.
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	None
General Notes:	Very small footprint. Station looks like a manhole. Lift Station receives a lot of flow. Pumps replaced approximately 8-Years Ago.
Deficiencies:	Repair wet well.


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Lift Station #16
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After 5pm
Weekends and Holidays
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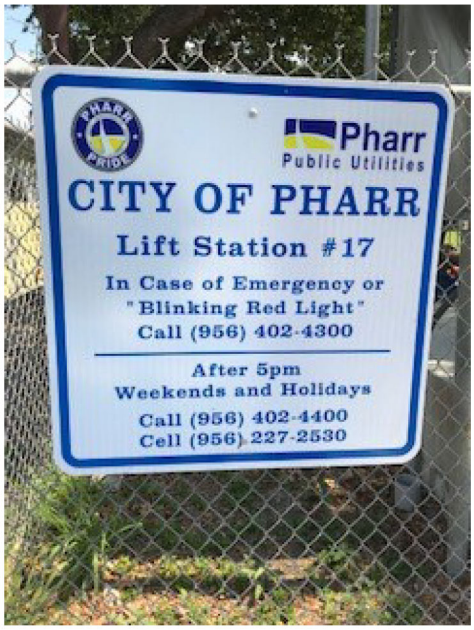
Call (956) 227-2630

Lift Station 17- Beto Espinoza

Enclosure:	Chain link fence
Type of Pumps:	Self priming pump
# of Pumps-	2-Pumps
Pump Hp:	7.5-Hp
Model-	4-inch Pioneer Pumps (very old pumps)
Wet Well:	6-ft Diameter (Circular)
Wet well Depth:	18-ft
Age:	40-year Plus
Suction Piping:	PVC
Discharge Piping:	Combination of DIP & PVC
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	No
Water:	Yes
Accessibility:	Directly off-street W. Egly Ave.
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	None
General Notes:	Very small footprint. Station looks like a manhole. Short force main that pumps to Egly & Flag Street. Lift Station receives a lot of flow. This station has a mop that is used for odor control.
Deficiencies:	Need to determine why this station receives so much flow. Good candidate to eliminate if possible. Station is old and should be considered for a major rehab or replacement.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Lift Station #17
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Lift Station 18- N. Plantation

Enclosure:	Cedar Fence Enclosure (Good condition)
Type of Pumps:	Self-Priming
# of Pumps-	2-Pumps
Pump Hp:	20-Hp
Model-	6-inch Crown (This pump manufacture is not in business)
Wet well:	Square Well (9-ft x 9-ft)
Wet well Depth:	18-ft
Age:	Unknown
Piping Condition:	Suction Piping is PVC. Appears to be in good shape.
Discharge Piping:	Needs to be maintained; painted.
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	No
Water:	No
Accessibility:	Accessibility problems to station during wet weather conditions. Very long drive around golf course to reach station. Consider providing an alternate access via subdivision. This may not be practical.
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	Not Applicable. Station includes two manholes to access wet well.
General Notes:	Accessibility is a problem for this station. It is located next to the golf course behind. Consider providing access of Rhett Dr. Structural rehab was recently completed to replace covers. Existing pumps were transferred from a separate facility. A hydraulic analysis may not have been completed to confirm pump sizing.
Deficiencies:	Extreme corrosion was noted on the discharge

pipe as it enters the ground. This station receives a lot of flow when full and stays full during weather conditions. Need to improve accessibility. Need to perform an engineering analysis to determine why the pump is unable to keep up with flow.

Lift Station 20- S. Plantation

Enclosure-	Cedar Fence Enclosure (Good condition)
Type of Pumps:	Submersible Pumps
# of Pumps-	3-Pumps
Pump Hp:	5-Hp
Model-	4-inch Flygt (Pumps work great)
Wet well:	Circular (6-ft Diameter)
Wet well Depth:	14-ft (FRP Wet Well)
Age:	8-Years
Piping Condition:	Suction Piping is DIP and in a very severe conditions. The suction piping needs to be replaced as soon as possible.
Discharge Piping:	Good shape.
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	Yes
Light:	No
Water:	No
Accessibility:	Easy facility to access.
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	None; add fall protection.
General Notes:	Station is new and generally in good shape. Structural cracks were observed that need to be monitored.
Deficiencies:	Extreme corrosion was noted on the suction pipe and failure appears imminent.


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Lift Station #20
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After 5pm
Weekends and Holidays
Call (956) 402-4400
Cell (956) 227-2530

Lift Station 23- Texas Trails

Enclosure-	Chain link fence
Type of Pumps:	Submersible
# of Pumps-	2-Pumps
Pump Hp:	7.5-Hp
Model-	4-inch Crown Pumps (pumps are obsolete)
Wet Well:	Rectangular 10-ft by 10-ft (Recently Epoxy lined Wet Well)
Wet well Depth:	19-ft
Age:	Recently rehabbed
Suction Piping:	PVC
Discharge Piping:	DIP
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	No
Water:	No
Accessibility:	Station is located behind a commercial building. Accessibility is an issue for maintenance purpose. No room for vector truck or to bring in a temporary pump, etc. No parking available for routine site visits.
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	No
General Notes:	This station was recently rehabbed as part of residential development in area. The old crown pumps were reused. These pumps should have been replaced as part of the proposed development. Station does not receive a significant amount of flow.
Deficiencies:	Replace pumps with new pumps. Good candidate to abandon lift statin if an affordable option is identified.


PHARR PRIDE
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CITY OF PHARR
Lift Station #23
In Case of Emergency or
"Blinking Red Light"
Call (956) 402-4300
After 5pm
Weekends and Holidays
Call (956) 402-4400
Cell (956) 227-2530

Lift Station 24- La Quinta

Enclosure-	Chain link fence with privacy slats and wooden canopy for shade protection.
Type of Pumps:	Self Priming
# of Pumps-	2-Pumps
Pump Hp:	25-Hp (Pumps seem too large for this facility)
Model-	6-inch Gorman Rupp
Wet well:	Circular (6-ft Diameter)
Wet well Depth:	18-ft (FRP Wet Well)
Age:	10-Years
Suction Piping:	Suction Piping is PVC and in good conditions.
Discharge Piping:	Good shape.
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	Yes
Light:	No
Water:	Yes
Accessibility:	All weather concrete driveway.
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	None; add fall protection.
General Notes:	Station is new and generally in good shape. It was recently rehabbed. Everything appears to be in good shape, but the pumps are old and should be replaced.
Deficiencies:	Located in a very tight environment. Replace self-priming pumps.


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Cell (956) 227-2530

Lift Station 25- High School Lift Station

Enclosure-	CMU Block Wall
Type of Pumps:	Submersible
# of Pumps-	3-Pumps
Pump Hp:	45-Hp
Model-	Flygt
Wet Well:	Circular 15-ft Diameter (FRP Wet Well)
Wet well Depth:	33-ft
Age:	New
Suction Piping:	Yellow Mine (PVC)
Discharge Piping:	DIP
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	Yes
Light:	Yes
Water:	No
Accessibility:	Good access; asphalt all weather road.
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	Yes
General Notes:	New facility; no improvements required.
Deficiencies:	Provide odor control facility. Provide adjustable pipe supports under discharge piping/gate valve. All three locations.


CITY OF FRARR

Lift Station 26- Anaya

Enclosure-	CMU Block Walls
Type of Pumps:	Self Priming
# of Pumps-	2-Pumps
Pump Hp:	25-Hp
Model-	6-inch Gorman Rupp
Wet well:	Circular (6-ft Diameter)
Wet well Depth:	19-ft
Age:	Very old (30-Years Plus)
Suction Piping:	PVC
Discharge Piping:	Poor conditions
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	No
Water:	Yes
Accessibility:	Decent access.
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	Not applicable
General Notes:	Very old stations that should be a primary candidate to be replaced or abandoned if possible. This station receives a lot of flow from multiple lift stations. This station is one of the main facilities that receives flow from 10 lift stations.
Deficiencies:	This station is a major facility and a priority for the City to either replace or abandon. Large openings at suction pipe that result in large inflow during wet-weather conditions.

Lift Station 28- Industrial

Enclosure-	Chain link fence; large footprint.
Type of Pumps:	Self Priming
# of Pumps-	2-Pumps
Pump Hp:	15-Hp
Model-	4-inch Gorman Rupp
Wet well:	Circular (6-ft Diameter)
Wet well Depth:	19-ft
Age:	Unknown
Suction Piping:	PVC; decent shape.
Discharge Piping:	Fair conditions; needs to be painted.
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	No
Water:	No
Accessibility:	Decent access
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	Not applicable
General Notes:	Large footprint. This station was recently rehabbed by the City. New pumps were added and wet well rehabbed. Station is working well.
Deficiencies:	Suction piping into well not sealed. Significant inflow during wet-weather conditions. Target to be eliminated as part of South Interceptor Project.


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Lift Station #28
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Lift Station 29- President

Enclosure-	Chain link fence
Type of Pumps:	Self-Priming
# of Pumps-	2-Pumps
Pump Hp:	7.5-Hp
Model-	4-inch Crown Pumps (pumps are obsolete)
Wet Well:	6-ft Diameter (Circular)
Wet well Depth:	20-ft
Age:	30-year Plus
Suction Piping:	PVC
Discharge Piping:	DIP
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	No
Water:	No
Accessibility:	Station is located behind a residential lot and no easement available. Home owners will not allow City to access lift station without permission.
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	Not Applicable
General Notes:	This station needs to be abandoned. The station is too close to multiple residential homes and City has no accessibility easement. Furthermore, the force main is located under multiple residential homes and presents an immediate safety and liability concern. Station was converted from submersible to self-priming.
Deficiencies:	Pump station is in poor conditions and the force main presents a serious issue. City should consider abandoning as soon as possible.


Pharr
CITY OF PHARR
Lift Station #29

Lift Station 30- W 3072 (Dicker)

Enclosure-	CMU Block Building
Type of Pumps:	Self Priming
# of Pumps-	2-Pumps; a third pump on a trailer appears to be permanently set at this facility.
Pump Hp:	7.5-Hp
Model-	4-inch Crown Pumps (Pumps obsolete)
Wet well:	Circular (6-ft Diameter)
Wet well Depth:	18-ft (FRP Wet Well)
Age:	Very old (30-Years Plus)
Suction Piping:	Unable to inspect
Discharge Piping:	Poor conditions
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	No
Water:	Yes
Accessibility:	Decent access.
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	Not applicable
General Notes:	Very old stations that should be a primary candidate to be replaced or abandoned if possible. The station includes two pumps in the CMU Block Building and a third pump mounted on a trailer outside.
Deficiencies:	This station floods and should be a priority for the City to either replace or abandoned.


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CITY OF PHARR
Lift Station #30
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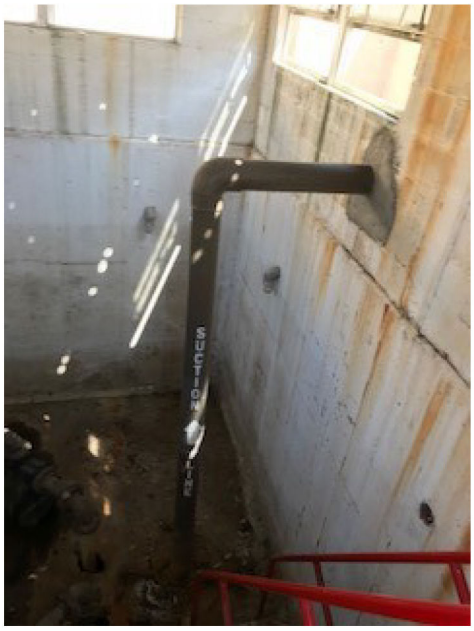
Call (956) 402-4300
After 5pm
Weekends and Holholidays
Call (956) 402-4400
Cell (956) 227-2530



Lift Station 31- Rudy's

Enclosure-	CMU Block Fence; Pump Station in a separate CMU Block Building
Type of Pumps:	Wet pit/dry pit arrangement; using Self Priming
# of Pumps-	2-Pumps
Pump Hp:	15-Hp
Model-	4-inch Gorman Rupp
Wet Well:	Two (2) Rectangular (10-ft X 12-ft) Wet Wells; decent condition.
Wet well Depth:	20-ft
Age:	40-Years Plus; very old facility.
Suction Piping:	DIP; acceptable conditions. Make shift suction pipe used to feed one pump. No isolation valve provided.
Discharge Piping:	DIP; acceptable conditions (need to be painted) Discharge
Gate Valve:	Yes; vertical installation.
Discharge Check Valve:	Yes; vertical
installation. Air Release:	No
Light:	Yes, inside and outside of building
Water:	No
Accessibility:	Poor access via dirt road; in the middle of a commercial development
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	Not applicable
Sewer shed (Ac):	320
Projected Q, gpm:	382-gpm (ADF) & 1,146-gpm (PHF)
Force Main:	10-inch
Force Main Length:	1,000-ft (Intersection to Rudy's & Nolana to east side of 281).
General Notes:	This station receives a large amount flow; it collects most of the flow from the City's northwest quadrant. The wet well includes four (4) suction lines but only two pumps are

	installed. Need to confirm/verify capacity. Control panel ok.
Deficiencies:	Station is a very poor conditions and primary candidate to be replaced. Drainage issues need to be addressed. Confirm if City has access easement to this lift station. Fix suction piping. Current pipe is rigged and connected to suction main for Pump No. 2 using a PVC pipe.

Replace LS 31

Abandoned and replace LS 31 with a new submersible lift station. Include new all-weather access road and shorten force; discharge at Northwest Interceptor.

Wet Well Depth=	20-ft
Capacity=	598-gpm (0.86-mgd)
Force Main:	8-inch
FM Length:	800-ft

Lift Station 33- Crystal Estates

Enclosure-	Wooden Fence
Type of Pumps:	Submersible
# of Pumps-	2-Pumps
Pump Hp:	5-Hp
Model-	4-inch ABS
Wet Well:	6-ft Diameter (Circular); FRP Wet Well
Wet well Depth:	24-ft
Age:	30-year Plus
Suction Piping:	PVC
Discharge Piping:	DIP; low profile valve vault
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	Yes
Water:	Yes; with backflow preventer.
Accessibility:	Station is awkwardly located at the intersection of Eldora and Sugar Rd. No problem with accessibility but very little room to work/park.
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	None
General Notes:	Single submersible pump operational. The second pump is not operational due to missing rails. Rails and pump base will need to be replaced. Station currently receives too much flow for a single pump. Control panel is in acceptable conditions. Influent manhole is located fence outside
Deficiencies:	Pump station is in decent conditions. The second pump issue needs to be resolved and low-profile valve vault piping painted, etc. Station targeted to be abandoned as part of Northwest Interceptor Project.

Lift Station 34- West Hi-Line

Enclosure-	Old CMU Block Building + Chain Link Fence
Type of Pumps:	Self Priming
# of Pumps-	2-Pumps
Pump Hp:	7.5-Hp
Model-	4-inch Crown (obsolete Pumps)
Wet well:	Circular (6-ft Diameter)
Wet well Depth:	16-ft
Age:	30-year Plus
Suction Piping:	DIP; decent shape.
Discharge Piping:	DIP; decent shape. Needs to be painted.
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	No
Water:	No
Accessibility:	Good access
Alarm (Visual):	No
Alarm (Audio):	No
Fall Protection:	Not applicable
General Notes:	Large footprint. Bypass piping provided outside CMU Block Building. Similar design to LS 30 W. 3072 (Dicker). Roof was recently added. Station has a history of flooding. Station needs to be replaced.
Deficiencies:	Old station with multiple deficiencies. Station floods. Considering replacing or eliminating. Target to eliminate as part of South Interceptor Project.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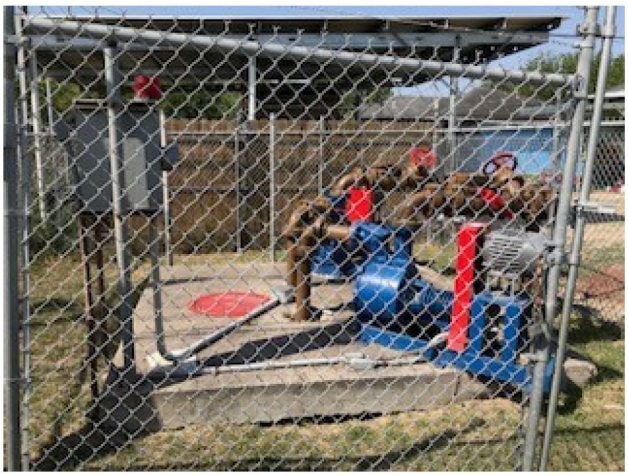
CITY OF PHARR
Lift Station #34
In Case of Emergency or
"Blinking Red Light"
Call (956) 402-4500
After 5pm
Weekends and Holidays
Call (956) 402-4400

Lift Station 36- Los Ebanos

Enclosure-	Chain link fence; large footprint.
Type of Pumps:	Self Priming
# of Pumps-	2-Pumps
Pump Hp:	7.5-Hp
Model-	4-inch Crown (obsolete pumps)
Wet well:	Circular (6-ft Diameter)
Wet well Depth:	17-ft
Age:	30 plus years
Suction Piping:	DIP; decent shape
Discharge Piping:	Good conditions
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	Yes, but insufficient
Water:	No
Accessibility:	Decent access
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	Not applicable
General Notes:	Station is not a great shape but is decent. This station is targeted for elimination based on the pending South Interceptor Project. Large site footprint.
Deficiencies:	Major openings at suction pipe that result in major inflow during wet-weather conditions. Station always stays flow. Pumps and/or force main is undersized. Station targeted to be abandoned pending South Interceptor Project.

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CITY OF PHARR
Lift Station #36
In Case of Emergency or
"Blinking Red Light"
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After 5pm
Weekends and Holidays
Call (956) 402-4400
Cell (956) 727-2530

Lift Station 38- West Hi-Line

Enclosure-	Chain link fence
Type of Pumps:	Submersible
# of Pumps-	2-Pumps
Pump Hp:	5-Hp
Model-	4-inch Ebarra
Wet well:	Circular (6-ft Diameter)
Wet well Depth:	13-ft
Age:	28-year Plus
Suction Piping:	PVC; decent shape.
Discharge Piping:	DIP; decent shape. Needs to be painted.
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	No
Water:	No
Accessibility:	Good access
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	None
General Notes:	Station serves only the school. It does collect a lot of flow during wet-weather conditions. Wet well is small.
Deficiencies:	Address flooding issues. Target to eliminate as part of South Interceptor Project.


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Lift Station #38
In Case of Emergency or
"Blinking Red Light"
Call (956) 402-4300
After 5pm
Weekends and Holidays
Call (956) 402-4400
Cell (956) 227-2530

Lift Station 40- Hall Acres

Enclosure-	Chain Link Fence (good condition)
Type of Pumps:	Self-Priming
# of Pumps-	2-Pumps
Pump Hp:	15-Hp
Model-	4-inch Crown (This pump manufacture is not in business)
Wet well:	Circular (6-ft Diameter); FRP good condition.
Wet well Depth:	25-ft
Age:	15-Years
Piping Condition:	Suction Piping is PVC. Appears to be in good shape.
Discharge Piping:	Needs to be maintained; painted.
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	Yes
Light:	No
Water:	No
Accessibility:	Located directly off Hall Acres Rd; Access is not via an asphalt driveway, but access is manageable.
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	Not provided
General Notes:	Station utilizes one pump that is obsolete and no longer supported by manufacture. The station was converted from a submersible to a self-priming Suction pipe is PVC. Wet well is in great shape (FRP Wet Well).
Deficiencies:	Inlet pipe is not sealed allowing inflow during wet-weather conditions. Station has structural damage due to drainage deficiencies. Erosion was identified in and around the wet well. Discharge Pipe is susceptible to crack due to settlement.


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Lift Station #40
In Case of Emergency or
"Blinking Red Light"
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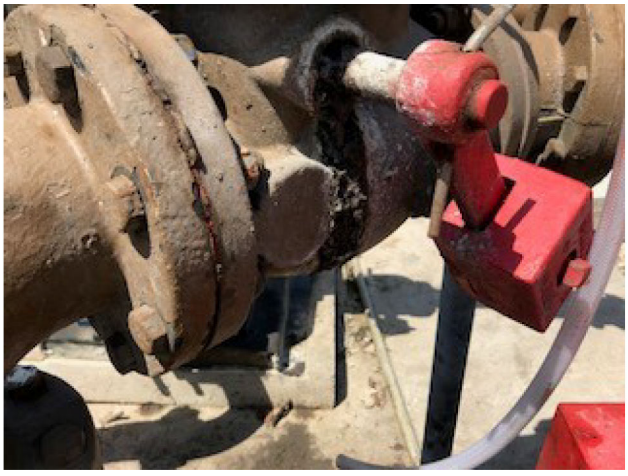
After 5pm
Weekends and Holidays
Call (956) 402-4400
Cell (956) 227-2530



Lift Station 42- East Hi Line

Enclosure-	Chain link fence; large footprint.
Type of Pumps:	Self Priming
# of Pumps-	1-Pumps
Pump Hp:	7.5-Hp
Model:	4-inch Gorman Rupp
Wet well:	Circular (6-ft Diameter)
Wet well Depth:	25-ft
Age:	Unknown
Suction Piping:	DIP; decent shape. Needs to be coated/painted. Portion of pipe is a flexible hose.
Discharge Piping:	Poor conditions; needs to be painted.
Discharge Gate Valve:	No
Discharge Check Valve:	No
Air Release:	No
Light:	No
Water:	No
Accessibility:	Decent access
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	Not applicable
General Notes:	Large footprint. Station was modified by the City approximately 5-years ago as a temporary fix. Converted from submersible to self-priming with a single pump. This was done on a temporary basis, but station is still operational as modified.
Deficiencies:	This station has major problems and needs to be either abandoned or replaced. At a minimum, a second pump should be added. Station targeted to be abandoned, pending South Interceptor Project.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CITY OF PHARR
Lift Station #42
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"Blinking Red Light"
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After 5pm
Weekends and Holidays
Call (956) 402-4400
Cell (956) 227-2530

Lift Station 44- Encanto Ridge

Enclosure-	Chain link fence
Type of Pumps:	Submersible
# of Pumps-	2 Pumps
Pump Hp:	5-Hp
Model-	4-inch Flygt
Wet well:	Concrete Circular (6-ft Diameter)
Wet well Depth:	20-ft
Wet Well Condition:	Acceptable; consider epoxy coating.
Age:	Unknown
Piping Condition:	Good
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	Yes
Light:	No
Water:	Yes
Accessibility:	Difficult to access
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	Yes
General Notes:	This station does not receive much flow.
Deficiencies:	Station appears to be in good conditions. Accessibility is an issue; an all-weather access road is not available which makes it difficult during wet-weather conditions. Consider providing access through the adjacent subdivision. Long drive along dirt road to access station. Again, consider providing access off subdivision. Address drainage issues. Station has major drainage erosion around the perimeter of the station slab.


Pharr
CITY OF PHARR
Lift Station #44

Lift Station 46- Las Palmas

Enclosure-	Chain link fence
Type of Pumps:	Submersible
# of Pumps-	2-Pumps
Pump Hp:	3-Hp
Model-	4-inch Ebarra
Wet well:	Circular (6-ft Diameter)
Wet well Depth:	18-ft
Age:	Unknown
Suction Piping:	PVC; decent shape.
Discharge Piping:	DIP; buried in low profile valve vault. Very poor conditions. Needs to be painted.
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	No
Water:	Yes
Accessibility:	Good access
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	None
General Notes:	Very small pumps; guide rails vibrate and are loose. Difficult to remove pumps.
Deficiencies:	Fix guide rails and removal of pump difficulties. Target to eliminate as part of South Interceptor Project.


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Lift Station #46
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"Blinking Red Light"
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Cell (956) 227-2530

Lift Station 48- San Gabriel

Enclosure-	Chain link fence w/ plenty of land
Type of Pumps:	Self Priming
# of Pumps-	2-Pumps
Pump Hp:	20-Hp (Pumps seem too large for this facility)
Model-	6-inch Gorman Rupp
Wet well:	Circular (6-ft Diameter); good shape
Wet well Depth:	22-ft (FRP Wet Well)
Age:	18-Years
Suction Piping:	Suction Piping is PVC and in good conditions.
Discharge Piping:	Good shape.
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No
Light:	Yes (present but no working)
Water:	No
Accessibility:	All weather concrete driveway.
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	None; add fall protection.
General Notes:	Station is in good conditions. No problems noted by staff.
Deficiencies:	Fix light.


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CITY OF PHARR
Lift Station #48
In Case of Emergency or
"Blinking Red Light"
Call (956) 402-4900
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Call (956) 402-4400
Cell (956) 227-2530
DANGER
NO
TRESPASSING


VENT

Lift Station 50- I Road Lift Station

Enclosure-	Chain link fence- Good conditions
Type of Pumps:	Submersible
# of Pumps-	3-Pumps
Pump Hp:	85-Hp
Model-	8-inch Flygt
Wet Well:	Dual Rectangular Wet well and Splitter Box. Each well is 16-ft X 16-ft. Splitter Box is 14-ft X 5-ft.
Wet well Depth:	47-ft
Age:	6-Year
Suction Piping:	Yellow Mine (PVC); Recently installed. Great shape.
Discharge Piping:	DIP
Discharge Gate Valve:	Yes
Discharge Check Valve:	Yes
Air Release:	No; port available but Air Release/Vacuum Valves Removed.
Light:	Yes, but not adequate. Light insufficient.
Water:	Yes
Accessibility:	Good access
Alarm (Visual):	Yes
Alarm (Audio):	Yes
Fall Protection:	Yes
General Notes:	This station provides tremendous flexibility given the flow splitter box. It allows Staff to isolate one chamber for maintenance purposes and access to the wet well bottom if necessary without taking the station out of service. This should be included as a standard on larger lift stations. The second well is not currently being used and allocated for future flows. Flow is collected from Las Milpas (South Pharr) at this facility.
Deficiencies:	Air release/vacuum valves removed. Air release valves protect the pipeline system and maintain its efficiency. They also allow air back into the pipeline during emptying. This is important because some pipe materials can collapse

under negative pressure. Air Release/Vacuum Valves need to be replaced. According to staff once an air release valve fails, they remove it and it never gets replaced.

Electrical repairs desperately required at this station. The electrical conduit seals appear to have failed, been removed or never installed. Hydrogen sulfide gases have corroded the electrical boxes. Wires are connected using black electrical tape. It is my understanding that there was a minor flash/explosion of the electrical box several years ago. Electrical repairs are needed ASAP. This is a major lift station.

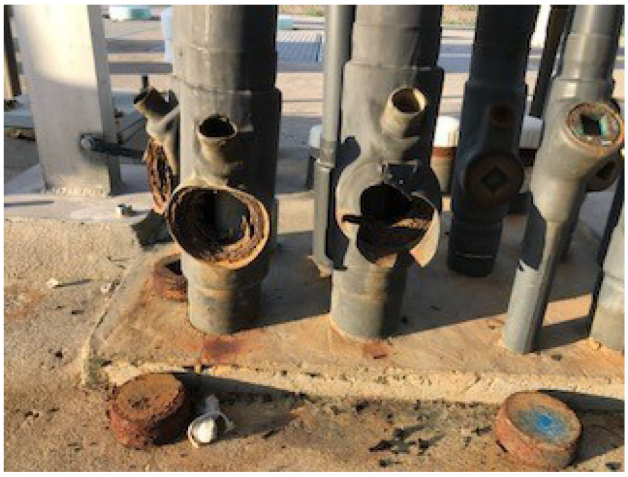
Odor Control system was operational. Important to maintain unit operational since it provides both odor and corrosion protection. Exposed aggregate noted on the wet well slab. This needs to be sealed.

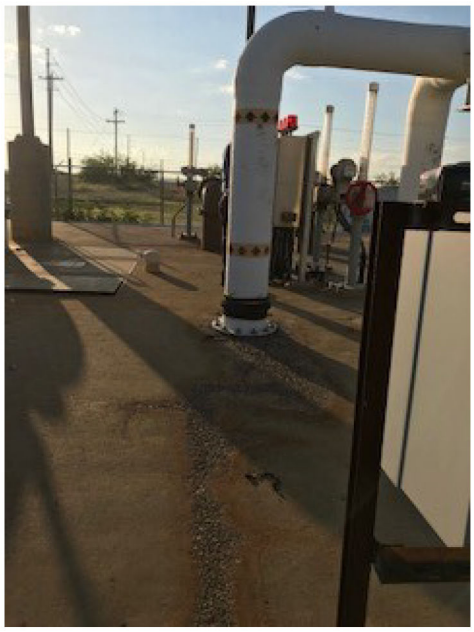
Insufficient space between the wet well and fence to set temporary pump. Suction line is dropped into the wet well and blind flange used to access force main.

AC recently installed. Needs to be set and anchored on a concrete pad.

Auto dialer not working


CITY OF PHARR
Lift Station #50





Appendix G

Hydraulic Analysis

SCALE: N.T.S.

OWASA ROAD

OWASA ROAD

LS #27

LS #23

1

NODE #2

MINNESOTA ROAD

NODE #1

SUGAR ROAD

U.S. HIGWAY (U.S. 281)

2

3

LS #25

NOLANA LOOP

NOLANA ROAD

NODE #3

LS #31

LS #29

N. JACKSON ROAD (F.M. 2061)

RAIDERS AVENUE

VETERANS BLVD. (I. ROAD)

4

LS #33

SEPTIC TANKS

ELDORA ROAD

5

SIOUX RD.

SIOUX RD.

6

SUGAR ROAD

U.S. HIGHWAY (U.S. 281)

LS #7

FM.495 (FERGUSON ROAD)

FM.495 (FERGUSON ROAD)

N. JACKSON ROAD (F.M. 2061)

7

U.S. EXPRESSWAY 83

LS #15

POLK AVENUE

LS #3

8

LEGEND

- CATCHMENT BOUNDARY SUB-AREA
- LIFT STATION
- CITY LIMITS
- REGION LIMITS
- LAND (UNDEVELOPED)
- LAND (DEVELOPED)
- HIDALGO COUNTY DRAINAGE DISTRICT
- (1) SEWERSHED

NORTH

CENTRAL

SOUTH

KEY MAP

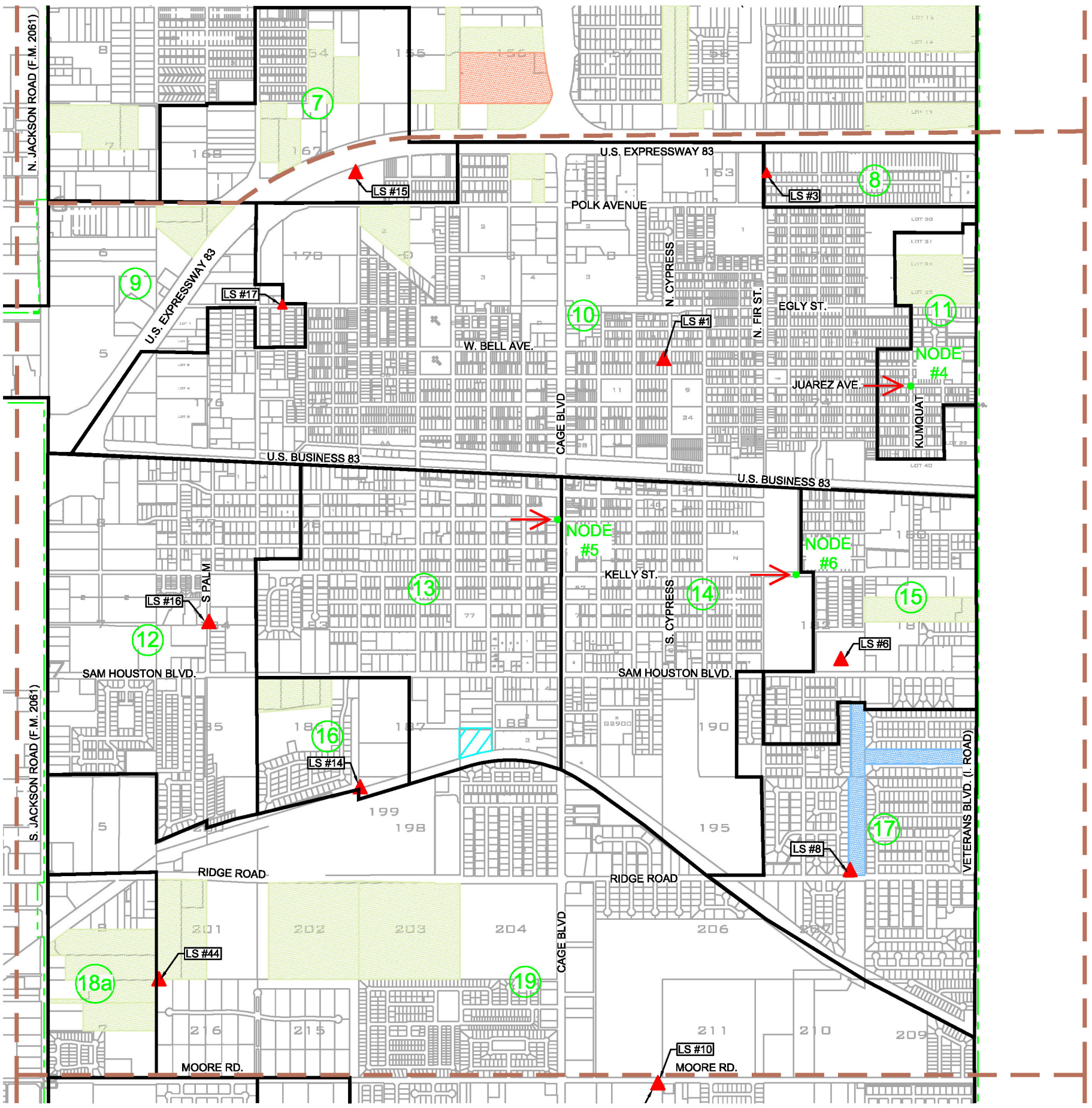
Garcia Infrastructure Consultants, LLC
12042 Blanco Rd., Ste. 203 San Antonio, Texas 78216 Ph: (210) 437-0323
Texas Firm No. 17794

CITY OF PHARR

NORTH REGION SEWERSHED MAP

file:Exh-SWR_SHED_03.dwg

SCALE: 1"=1500'



LEGEND

- CATCHMENT BOUNDARY SUB-AREA
- LIFT STATION
- CITY LIMITS
- REGION LIMITS
- LAND (UNDEVELOPED)
- LAND (DEVELOPED)
- HIDALGO COUNTY DRAINAGE DISTRICT
- (1) SEWERSHED

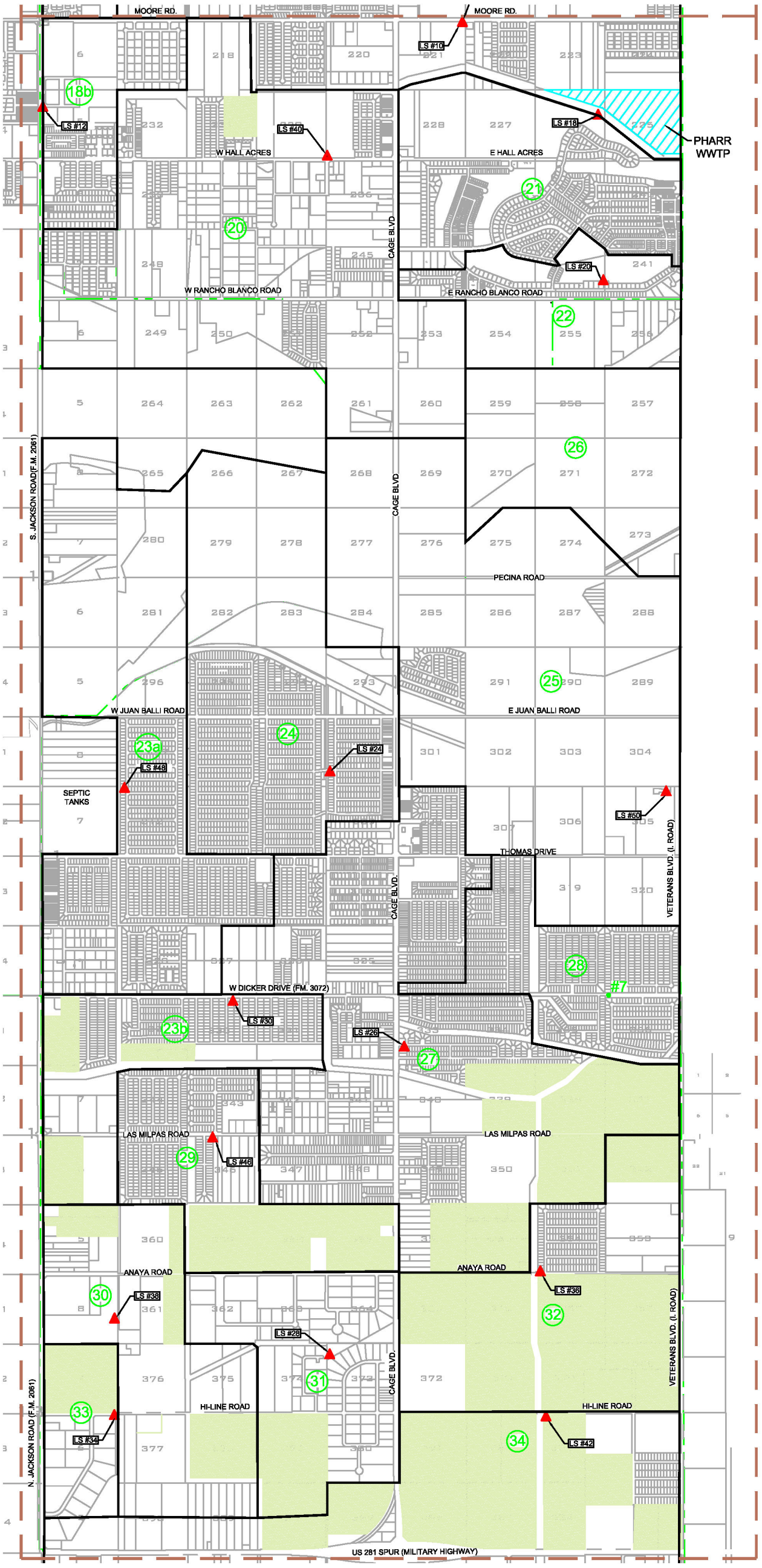
KEY MAP

Garcia Infrastructure Consultants, LLC
12042 Blanco Rd., Ste. 203
San Antonio, Texas 78216
Ph: (210) 437-0323
Texas Firm No. 17794

CITY OF PHARR

CENTRAL REGION SEWERSHED MAP

file:Exh-SWR_SHED_03.dwg



SCALE: 1"=2200'

LEGEND

- CATCHMENT BOUNDARY SUB-AREA
- LIFT STATION
- CITY LIMITS
- REGION LIMITS
- LAND (UNDEVELOPED)
- LAND (DEVELOPED)
- HIDALGO COUNTY DRAINAGE DISTRICT
- (1) SEWERSHED

NORTH
CENTRAL
SOUTH

KEY MAP

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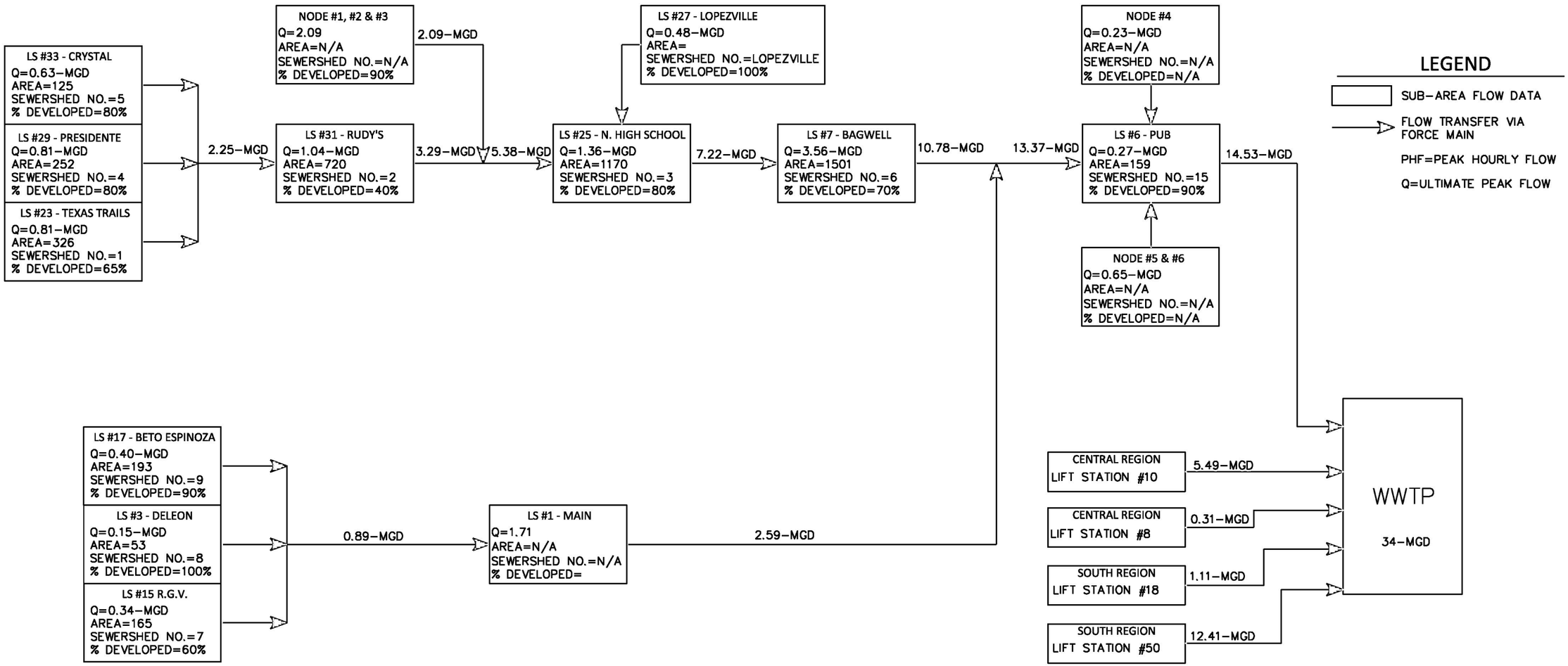
CITY OF PHARR

SOUTH REGION SEWERSHED MAP

file:Exh-SWR_SHED_03.dwg



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CITY OF PHARR
MASTER PLAN

CITY OF PHARR

NORTH REGION
WASTEWATER COLLECTION
LIFT STATION FLOW PATH

file:Exh-LS FLOW SCH.dwg