

NOTICE OF A SPECIAL AND REGULAR MEETING OF THE CITY OF FRIENDSWOOD PLANNING AND ZONING COMMISSION, TO BE HELD THURSDAY, DECEMBER 6, 2018, BEGINNING AT 7 PM, IN THE COUNCIL CHAMBERS AT CITY HALL LOCATED AT 910 S. FRIENDSWOOD DRIVE, FRIENDSWOOD, TEXAS

SPECIAL MEETING, P&Z ACTING AS THE CAPITAL IMPROVEMENTS ADVISORY COMMITTEE

1. Call to order
2. Communication from the public
(To comply with provisions of the Open Meetings Act, the Commission may not deliberate on subjects discussed under this agenda item. However, the Commission may direct such subjects be placed on a later regular Commission agenda for discussion and/or possible action.)
3. Consideration and possible action regarding providing a written report to City Council regarding the City of Friendswood [2018 Update Study for Land Use Assumptions, Capital Improvements Plan, and Impact Fees – present final draft](#)
4. Adjournment

REGULAR MEETING

1. Call to order
2. Communication from the public/committee liaisons
(To comply with provisions of the Open Meetings Act, the Commission may not deliberate on subjects discussed under this agenda item. However, the Commission may direct such subjects be placed on a later regular Commission agenda for discussion and/or possible action.)
3. Consent agenda
These items are considered routine or ministerial in nature and will be enacted with one motion. There will be no separate discussion of items unless a commissioner or citizen so requests in which case the item would be removed from the consent agenda and considered separately.

A. Minutes from November 15, 2018

Action Items

According to the Planning and Zoning Rules of Procedure (R2010-09), all action of the Commission shall be made by an affirmative vote of four (4) or more members of the Commission present at such Commission meetings.

4. Consideration and possible action regarding the [site plan for Parkwood District Shopping Center to be located at 1501 W. Parkwood Ave.](#)

5. Consideration and possible action regarding the [site plan amendment to add a covered parking structure at 107 W. Heritage Drive](#)
6. Consideration and possible action regarding future Planning and Zoning Commission meeting dates

Thursday, December 20 – regular meeting
7. Communications
 - a. Commissioners
 - Suggestions for future agenda items and general comments
 - Updates from liaison assignments
 - b. Council Liaison – Sally Branson
 - c. Staff
8. Adjournment

Aubrey Harbin, LEED AP
Director of Community Development/City Planner

This facility is wheelchair accessible and accessible parking spaces are available. Requests for accommodations or interpretative services must be made 48 hours prior to this meeting. Please contact the City Secretary's Office at (281) 996-3270 for further information.

I, Melinda Welsh, City Secretary of the City of Friendswood, do certify that the ABOVE NOTICE OF MEETING of the Friendswood Planning and Zoning Commission was posted in a place convenient to the general public in compliance with Chapter 551, Texas Government Code on the 3rd day of December, 2018, at _____.

Melinda Welsh, City Secretary

<i>All meetings of the Planning & Zoning Commission are open to the public, except when there is a necessity to meet in an Executive Session (closed to the public) under the provisions of Section 551, Texas Government Code. The Planning & Zoning Commission reserves the right to convene into Executive Session to hear any of the above described agenda items that qualifies for an executive session by publicly announcing the applicable section number of the Open Meetings Act.</i>



FRIENDSWOOD PLANNING & ZONING COMMISSION AGENDA ITEM FORM

Subject: 2018 Update Study of Land Use Assumptions, Capital Improvements Plan & Impact Fees

Current Ordinance/Requirement:
Chapter 395 – Local Government Code

SUMMARY / ORIGINATING CAUSE

Impact fees are capital recovery fees used to expand the water and sewer systems to accommodate new growth. In order to assess an impact fee, a City must use land use assumptions to determine population growth and provide details on specific capital improvement projects that will be funded with the fees collected.

The impact fees are paid at the time of building permit issuance and are based on meter size. The City first began charging impact fees in 1990. Chapter 395 of the Local Government Code requires an updated study every five years. The last update was in 2013.

The City hired Daniel Scott Engineering, LLC to update the study for 2018. The draft of the study is provided in the back-up material. As the Capital Improvement Advisory Committee (CAIC), the commission is tasked with providing a written report, which is required before the fifth business day before the Public Hearing that is scheduled for Monday, January 14, 2019.

Since the draft presented at the November 15 meeting, some of the water project costs were adjusted to be consistent with the adopted Capital Improvements Program (2017). This resulted in a slightly higher water impact fee as detailed below under Recommendations.

IMMINENT CONSEQUENCES / BENEFIT TO COMMUNITY

Changing the amount of the impact fees affects the fees that developers are required to pay for new development; however, the funds that are collected go towards expansion of the City's water and sewer system to accommodate for the growth.

RECOMMENDATIONS

Amended recommended fees (Final Draft) in the study are as follows:

\$1,407 – water

\$2,820 – sewer

\$4,227 – total for a one-inch meter

Previous recommendation:

The recommended fee in the study are as follows:

\$1,391 - water

\$2,820 – sewer

\$4,211 – total for a one-inch meter.

ATTACHMENTS

[2018 Final Draft Update Study of Land Use Assumptions Capital Improvements Plan and Impact Fees](#)

IMPACT FEE STUDY

2018 UPDATE STUDY OF LAND USE ASSUMPTIONS,
CAPITAL IMPROVEMENTS PLAN & IMPACT FEES

WATER SUPPLY/DISTRIBUTION AND
WASTEWATER TREATMENT/COLLECTION

CITY OF FRIENDSWOOD, TEXAS



NOVEMBER 2018

PREPARED BY:

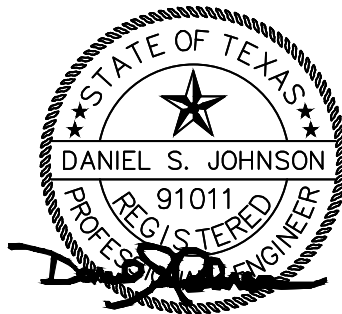
DANIEL SCOTT
ENGINEERING, LLC

19701 MORRIS AVENUE, MANVEL, TEXAS 77578
TBPE F-9827

CITY OF FRIENDSWOOD
IMPACT FEE STUDY

CAPITAL IMPROVEMENTS ADVISORY COMMITTEE

JOE MATRANGA
RICHARD CLARK
BRETT BANFIELD
ERIC GUENTHER
LISA LUNDQUIST
RICHARD SASSON
MARCUS PERRY



11/27/2018

CITY OF FRIENDSWOOD
IMPACT FEE STUDY

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CITY OF FRIENDSWOOD
IMPACT FEE STUDY

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CITY OF FRIENDSWOOD
IMPACT FEE STUDY

I. INTRODUCTION

A. BACKGROUND

The City of Friendswood, Texas has elected to adopt Water and Wastewater Impact Fees to assist in the financing of Capital Improvements for those systems that are necessitated by growth and development anticipated in the City. These Impact Fees were first adopted on June 4, 1990 by Resolution No. 90-22, in accordance with the provisions of the, then current State Law.

The State Law originally required that impact fees be reviewed and updated at least every three years from the adoption date; however, the legislation was amended to revise the maximum period to five years between required updates. Table 1 provides a historical summary of all updates to the Impact Fee Study for the City of Friendswood:

TABLE 1
IMPACT FEE STUDY UPDATE SUMMARY

Year	Revision	Resolution	Preparer
1990	Original	R90-22	Brown & Gay Engineers, Inc.
1991	Amendment	R91-4	Brown & Gay Engineers, Inc.
1993	Update #1	R93-24	Brown & Gay Engineers, Inc.
1997	Update #2	R97-48	Claunch & Miller, Inc.
2000	Update #3	R2000-40	Claunch & Miller, Inc.
2003	Update #4	R2003-47	Claunch & Miller, Inc.
2008	Update #5	R2008-17	HDR/Claunch & Miller, Inc.
2013	Update #6	R2013-11	JET Civil Consulting, LLC
2018	Update #7		Daniel Scott Engineering, LLC

In 2013, the City Council authorized JET Civil Consulting, LLC to prepare the update of the Land Use Assumptions, Capital Improvements Plan (CIP), and Impact Fee Study in accordance with Chapter 395 of the Local Government Code (Impact Fee Legislation), which is the state legislation regulating this adoption process.

In July 2018, the City authorized Daniel Scott Engineering, LLC (DSE) to prepare the required five-year update of the 2013 Study. This document includes the basis for determination of the Water and Wastewater Impact Fee per Equivalent Service Unit (ESU), based on Land Use Assumptions and the corresponding CIP.

CITY OF FRIENDSWOOD
IMPACT FEE STUDY

B. CAPITAL IMPROVEMENTS ADVISORY COMMITTEE

The City Council has appointed a Capital Improvements Advisory Committee to give policy direction, guide the public hearing process, and make a recommendation to the Council regarding the final report and fee amount. This committee consists of the Friendswood Planning and Zoning Commission (P&Z), which currently has at least one member representing the real estate industry, as required by the Impact Fee Legislation.

C. PLANNING PERIOD

The City of Friendswood is located in a high growth corridor along Interstate 45, approximately 20 miles southeast of the City of Houston, and about 30 miles northwest of the City of Galveston. The planning period for this Impact Fee Study will be for the ten-year period from 2018-2028 in accordance with requirements of the aforementioned Chapter 395. Population projections and resulting growth for the planning period can be found in the Land Use Assumptions, and details of the projects are shown in the CIP.

D. CAPITAL IMPROVEMENTS

Water and Wastewater Capital Improvements are defined as *“any facility that has a life expectancy of three or more years and are owned and operated by or on behalf of a political subdivision: water supply, treatment and distribution facilities; wastewater collection and treatment facilities.”*

Costs for system improvements necessitated by regulatory changes, maintenance requirements, or to correct deficiencies in existing developed areas are not eligible for reimbursement by impact fees and are therefore not included in the CIP developed for the purposes of this study. Many of the improvements may be financed through the issuance of bonds, and therefore finance charges can be estimated and included in the fee calculation. Acquisition of land, easements, and engineering costs for the projects are also eligible under the legislation and can be included in the calculation.

E. IMPACT FEES

This document will establish the projected number of Equivalent Service Units estimated to be added to the City of Friendswood’s water and wastewater system over the Planning Period, as well as the anticipated areas, which will require these services. The required Capital Improvements to be constructed can then be determined with cost estimates that will be utilized to calculate the proposed Impact Fees.

CITY OF FRIENDSWOOD
IMPACT FEE STUDY

II. LAND USE ASSUMPTIONS

A. BASIS

The Land Use Assumptions established herein are based on the following:

- The City's current Zoning Map
- The City's Capital Improvements Program 2017 Update
- The City's Comprehensive Plan adopted in 1998
- Vision 2020
- 2001 Groundwater Reduction Plan
- Area Growth projections provided by HGAC and other sources
- United States Census Bureau data and previous historical data
- Current growth trends experienced in the City
- Availability of vacant tracts in the City

B. SERVICE AREA

The Impact Fee Legislation defines Land Use Assumptions as: *"a description of the service area and projections of changes in land uses, densities, intensities and population in the service area over at least a ten-year period."* The City of Friendswood has elected to define the service area for Impact Fees as the current City Limits. The legislation also allows the City to impose impact fees in the City's Extraterritorial Jurisdiction (ETJ); however, the City of Friendswood has no ETJ.

The City has elected to establish Impact Fees on a system-wide basis. Currently, the City has no standalone systems (Municipal Utility Districts) providing water and wastewater to residents and businesses.

CITY OF FRIENDSWOOD
IMPACT FEE STUDY

C. POPULATION PROJECTIONS

According to the United States Census Bureau (Table 2), the population for the City of Friendswood was estimated at 39,839 on July 1, 2017. This represents an increase of 11.3% from the 2010 Official Census (35,805), and an increase of 4,034 people in seven years. After the increase of 23.3% (6,768 people) from 2000 (29,037) to 2010 (35,805), the Census Bureau continues to document Friendswood's growth toward buildout.

Over the last 47 years of Census data, the City of Friendswood has experienced varying population increases. The City witnessed tremendous population spikes of 88.9% from 1970 to 1980, and 112.8% from 1980 to 1990, and a steady increase of about 6,300 people every decade since the 1990's. Altogether, the City has experienced an average annual population increase of 4.27% since 1970.

The 2013 Impact Fee Study incorporated an average annual increase of 1.5% for the population projection, which proved to be consistent with the 1.54% increase observed by the Census Bureau.

TABLE 2
US CENSUS BUREAU

Geography Name	Year	Household Population	% Increase	Population Increase
Friendswood	1970	5,675		
Friendswood	1980	10,719	88.9%	5,044
Friendswood	1990	22,814	112.8%	12,095
Friendswood	2000	29,037	27.3%	6,223
Friendswood	2010	35,805	23.3%	6,768
Friendswood	2017	39,839	11.3%	4,034
		ANNUAL AVERAGE		
		SINCE 1970:	4.27%	726.9
		SINCE 1980:	3.62%	787.0
		SINCE 1990:	2.09%	630.6
		SINCE 2000:	1.88%	635.4
		SINCE 2010:	1.54%	576.3

CITY OF FRIENDSWOOD
IMPACT FEE STUDY

The City's Comprehensive Plan, Vision 2020, and the Groundwater Reduction Plan projected a build-out population of 57,400 within the combined 21 square miles of the City. Growth trends for the current decade are on a similar track with Houston Galveston Area Council (HGAC) projecting a population increase of 9,147 by 2028. The HGAC population projections for the 10-Year Planning Period are presented in Table 3.

TABLE 3
HGAC POPULATION PROJECTIONS

Place	Year	Household Population	% Increase	Population Increase
Friendswood	2015	38,435	-	-
Friendswood	2016	39,066	-	-
Friendswood	2017	39,697	-	-
Friendswood	2018	40,327	-	-
Friendswood	2019	40,958	1.6%	630.8
Friendswood	2020	41,589	1.5%	630.8
Friendswood	2021	42,853	3.0%	1,263.8
Friendswood	2022	44,117	2.9%	1,263.8
Friendswood	2023	45,380	2.9%	1,263.8
Friendswood	2024	46,644	2.8%	1,263.8
Friendswood	2025	47,908	2.7%	1,263.8
Friendswood	2026	48,430	1.1%	522.1
Friendswood	2027	48,952	1.1%	522.1
Friendswood	2028	49,474	1.1%	522.1
		ANNUAL AVERAGE: TOTAL:	2.1%	9,147

CITY OF FRIENDSWOOD
IMPACT FEE STUDY

D. GROWTH RATE

According to the Census Bureau, the City of Friendswood has experienced an average growth rate of 1.54% per year over the last seven years. In turn, HGAC projects the City's average annual growth rate at 2.1% over the next ten years.

The 2008 Impact Fee Study used a 1.9% annual growth rate, which projected a population in 2017 of 42,988. The 2013 Impact Fee Study implemented a slightly more conservative rate of 1.5% and estimated a population in 2017 of 41,144. According to the US Census Bureau, Friendswood's 2017 population was actually estimated at 39,839, which is on target with the 2013 projection. Therefore, the recommendation of this 2018 Updated Study is to maintain the same conservative growth rate for the planning period between 2018 and 2028 at **1.5%**.

This 1.5% Growth Rate is recommended for the projection of population and resulting service units for the calculation of the Impact Fee amount. Table 4 indicates the resulting population projections by year, with a total estimated population growth of **6,492** over the next 10 years.

TABLE 4
1.5% ANNUAL GROWTH RATE PROJECTIONS

Source	Year	Household Population	% Increase	Population Increase
<i>US Census Data</i>	<i>2000</i>	<i>29,037</i>		
	<i>2010</i>	<i>35,805</i>	<i>23.3%</i>	<i>6,768</i>
	<i>2017</i>	<i>39,839</i>	<i>11.3%</i>	<i>4,034</i>
Friendswood	2018	40,436		
Friendswood	2019	41,043		607
Friendswood	2020	41,659		616
Friendswood	2021	42,284		625
Friendswood	2022	42,918		634
Friendswood	2023	43,562		644
Friendswood	2024	44,215		653
Friendswood	2025	44,878		663
Friendswood	2026	45,552		673
Friendswood	2027	46,235		683
Friendswood	2028	46,928		694
		AVERAGE: TOTAL:	1.5%	6,492

CITY OF FRIENDSWOOD
IMPACT FEE STUDY

III. CAPITAL IMPROVEMENTS PLAN

A. CAPITAL IMPROVEMENTS PROGRAM

Pursuant to the City Charter, the City Manager is required to submit a Capital Improvements Program (PROGRAM) to the City Council. By agreement, this program is to be updated periodically to reflect the completion of projects, the addition of new projects, and to update project costs for financial projection and management efforts. The first PROGRAM was adopted in 1999 and has been updated in 2003, 2007, 2009, 2012, 2014, and 2017.

From the 2017 Update: *“The intent of the updated program is to identify, describe, and prioritize the infrastructure needs of the community as it grows and evolves. The overall goal of the CIP is to maintain the same high quality of life for all citizens through the timely anticipation of the City’s needs, planning of improvement projects and determining funding sources as the community grows. The program is also intended to depict financial challenges of the City’s growth and maintenance of infrastructure that characterize the City’s future and the associated funding requirements to meet these objectives. The programming portion includes formulating preliminary plans, projecting estimated project costs, setting priorities, identifying funding sources, and scheduling the implementation of the plans.”*

The City of Friendswood adopted their current Capital Improvement Projects Manual in May of 2017 by Resolution R2017-13. This Manual proposed 77 projects for water, wastewater, facilities, drainage, parks, and streets. Within those 77 projects, 7 water and 10 wastewater projects were identified for the next 5 years (2017-2021). Additionally, 23 water and wastewater projects were identified in the “Beyond 5 Year Plan.”

Since the planning period for the Impact Fee adoption process is *10 years*, all of the *eligible* water and wastewater projects from the Capital Improvements Program are included, as well as other projects anticipated within the 10-year range.

CITY OF FRIENDSWOOD
IMPACT FEE STUDY

B. EXISTING CAPITAL IMPROVEMENTS

1. WATER SUPPLY AND DISTRIBUTION

Historically, water supply for the City of Friendswood was served exclusively by groundwater. However, in 1975, the Harris-Galveston Subsidence District (HGSD) was created by the Texas Legislature for the purpose of preventing land subsidence and increased flooding. Under HGSD's requirements, it was determined that the City's future water supply must be converted from a majority of groundwater use to a majority of surface water use.

In January 2001, a Groundwater Reduction Plan (GRP) was developed by Klotz Associates, Inc. in order to meet the HGSD requirements. The GRP indicated that the total water supply needed for the anticipated buildout population of 57,400 would be 16.8 million gallons per day (MGD):

$$57,400 \times 136 \text{ gallons per person per day} \times 2.16 \text{ peaking factor} = 16.8 \text{ MGD}$$

Further, it determined that, in order to meet groundwater reduction goals, the appropriate mix should be 11.8 MGD surface water and 5.0 MGD groundwater. As such, the City of Friendswood has diligently purchased 12.0 MGD of water treatment capacity from the City of Houston's Southeast Water Purification Plant, La Porte Water Authority, and MUD 55.

As described in the PROGRAM, there are six (6) water projects that will be needed in the next 5 years in order to upgrade, update, and improve the existing Capital Improvements to meet the existing needs of the City. Although these projects cannot be used in the Impact Fee calculation, their inclusion in this Study is a requirement of Section 395.014 (a) (1) and (2) of the Impact Fee Legislation:

TABLE 5
WATER PROJECTS FOR EXISTING NEEDS

<u>WATER PROJECTS</u>	<u>APPROXIMATE COST</u>
1. City of Houston Water Plant Rehabilitation	\$ 3,500,000
2. Water Plant #1 Rehabilitation	\$ 1,339,000
3. 42" Water Main Replacement	\$ 12,656,000
4. Elevated Storage Tank #2 Rehabilitation	\$ 1,059,000
5. Water Plant Tank #3 Rehabilitation	\$ 706,000
6. Water Plant Tank #4 Rehabilitation	\$ 706,000
SUBTOTAL WATER	\$ 19,966,000

CITY OF FRIENDSWOOD
IMPACT FEE STUDY

2. WASTEWATER COLLECTION AND TREATMENT

Since 1979, the City of Friendswood has purchased 4.875 MGD of the 9.25 MGD capacity in the Blackhawk Regional Wastewater Treatment Facility. Of the City's total capacity, 2.5 MGD was purchased in the Phase I construction to serve existing development. An additional 2.375 MGD was purchased in the Phase II expansion project to serve new development and has previously been subject to the impact fee.

In order to serve the anticipated buildout population of 57,400 people, a total capacity of 6.5 MGD will be needed:

$$\begin{aligned} 57,400 \text{ people} / 2.8 \text{ people per connection} &= 20,500 \text{ connections} \\ 20,500 \text{ connections} \times 315 \text{ gallons per connection} &= 6.5 \text{ MGD} \end{aligned}$$

Therefore, a 2.0 MGD Phase III expansion is anticipated to serve new development and was included in the 2013 impact fee calculation. Additionally, the PROGRAM identified 10 wastewater projects needed in the next 5 years in order to upgrade, update, and improve the existing Capital Improvements to meet the existing needs of the City. Although these projects cannot be used in the Impact Fee calculation, their inclusion in this Study is a requirement of Section 395.014 (a) (1) and (2) of the Impact Fee Legislation:

TABLE 6
WASTEWATER PROJECTS FOR EXISTING NEEDS

WASTEWATER PROJECTS	APPROXIMATE COST
1. Lift Station #1 Replacement	\$ 1,774,000
2. Lift Station #4 Replacement	\$ 1,774,000
3. Lift Station #17 Replacement	\$ 1,774,000
4. Lift Station #22 Replacement	\$ 2,637,000
5. Lift Station #23 Replacement	\$ 3,935,000
6. Sanitary Sewer System Assessment Phase 4	\$ 1,464,000
7. Sanitary Sewer System Assessment Phase 5	\$ 100,000
8. Sanitary Sewer System Assessment Phase 6	\$ 100,000
9. Sanitary Sewer System Assessment Phase 7	\$ 175,000
10. Sanitary Sewer System Assessment Phase 8	\$ 1,830,000
SUBTOTAL WASTEWATER	\$ 15,563,000

CITY OF FRIENDSWOOD
IMPACT FEE STUDY

C. PROJECTS

As discussed, the City's Capital Improvements Program (PROGRAM) identified 77 projects for water, wastewater, facilities, drainage, parks, and streets. The Capital Improvements Plan (CIP) contained within this 2018 Updated Impact Fee Study document consists of only *eligible* water and wastewater projects from the City's PROGRAM.

Four (4) water projects and five (5) wastewater projects were identified within the PROGRAM for this CIP and are included in Table 7. The approximate subtotal costs are \$6.8M for the water projects and \$13.7M for the wastewater projects.

TABLE 7
CAPITAL IMPROVEMENTS PLAN

<u>WATER PROJECTS</u>	<u>APPROXIMATE COST</u>
1. Sixteen Inch Waterline Phase III	\$ 2,500,000
2. Beamer Road Waterline	\$ 2,043,000
3. East Waterline	\$ 1,354,000
4. South Friendswood Service Area Loop	\$ 955,000
SUBTOTAL WATER	\$ 6,852,000
<u>WASTEWATER PROJECTS</u>	<u>APPROXIMATE COST</u>
1. Beamer Road Sanitary Sewer	\$ 4,200,000
2. El Dorado/Lundy Lane Sanitary Sewer	\$ 3,880,000
3. FM 528 – Falcon Ridge to Windsong Sanitary Sewer	\$ 1,005,000
4. FM 528 – Lundy Lane to Tower Estates Sanitary Sewer	\$ 1,585,000
5. Windsong Sanitary Sewer	\$ 3,061,000
SUBTOTAL WASTEWATER	\$ 13,731,000

CITY OF FRIENDSWOOD
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D. PROJECT DESCRIPTIONS

Project descriptions for the four (4) water projects and five (5) wastewater projects contained within this CIP were also included within the PROGRAM, and are provided below per the requirement of Section 395.014 (a) (3) of the Impact Fee Legislation:

Water Project #1: Sixteen Inch Waterline Phase III \$ 2,500,000

The proposed improvements would extend waterlines west from Water Plant #4 connecting to existing City waterlines in the western reaches of the City Limits. Currently, limited unlooped waterlines service various developments throughout the western region of Friendswood. This proposed water line loop would open up development opportunities along FM 528 and greatly improve water pressure.

Water Project #2: Beamer Road Waterline \$ 2,043,000

This project consists of the proposed installation of a twelve-inch waterline along Beamer Road from FM2351 to Dixie Farm Road. The proposed improvements will expand those installed in the 2010 Beamer Road utility project funded with U.S. Economic Development Administration Grant. Efforts to attract light industry and office warehouse business and development into this area are largely dependent on availability of City service infrastructure.

Water Project #3: East Waterline \$ 1,354,000

This project consists of the installation of approximately 2,850 linear feet of fourteen-inch waterline that would extend water service to the East Service Area, and then loop the line back into the existing system by installing 6,600 linear feet of twelve-inch waterline to Bay Area Boulevard. This project will provide water to the eastern most area of the City and loop the FM 528 line to the Bay Area Boulevard line.

Water Project #4: South Friendswood Service Area Loop \$ 955,000

This project would extend waterlines to existing City water-lines in the southern reaches of the City Limits. Currently, limited unlooped water lines service various developments throughout the southern region of Friendswood. The proposed water line loop would open up development opportunities along FM 528.

CITY OF FRIENDSWOOD
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Wastewater Project #1: Beamer Road Sanitary Sewer \$ 4,200,000

This project consists of the proposed installation of additional gravity sewer lines along Beamer Road toward Dixie Farm. The proposed improvements will expand those installed in the 2010 Beamer Road utility project funded with U.S. Economic Development Administration Grant. Efforts to attract light industry and office warehouse business and development into this area are largely dependent on availability of City service infrastructure.

Wastewater Project #2: El Dorado/Lundy Lane Sanitary Sewer \$ 3,880,000

This project will include approximately 2,500 feet of six-inch force main, 5,000 feet of twelve-inch gravity sewer, 1,500 feet of fifteen-inch gravity sewer, and twenty manholes. The lift station will be located in the vicinity of the intersection of Lundy Lane and El Dorado Lane. Easements must be obtained for construction and installation of the Lift Station. Currently this area consists of 36 large lots and large acreage tracts, and is served by individual septic systems.

Wastewater Project #3: \$ 1,005,000
FM528 - Falcon Ridge to Windsong Sanitary Sewer

The purpose of this project is to provide sanitary sewer to the non-serviced area along FM 528 from Falcon Ridge to Windsong. The project will require construction of a Lift Station, approximately 5,700 feet of eight-inch force main, 4,800 feet of ten-inch gravity line and fourteen manholes. Easements must be obtained for construction and installation of the force main.

Wastewater Project #4: \$ 1,585,000
FM528 – Lundy Lane to Tower Estates Sanitary Sewer

The construction of a new sanitary sewer is required to provide services to the currently non-serviced areas along FM 528 from Lundy Lane to Tower Estates. The project will consist of approximately 3,000 feet of ten-inch gravity line, 800 feet of eight-inch line, and ten manholes.

Wastewater Project #5: Windsong Sanitary Sewer \$ 3,061,000

This project will provide sanitary sewer to the non-serviced area on Windsong to FM 528. The project will also include the Wind Creek and Windwood Lane areas. This project will consist of the construction of a Lift Station, in the vicinity of Windsong and Wind Creek Lane, approximately 3,000 feet of 6-inch force main, 6,450 feet of 8-inch gravity line and 18 manholes. In addition, a utility easement will be required for the construction of the Lift Station. Currently, the area is served by individual septic systems.

CITY OF FRIENDSWOOD
IMPACT FEE STUDY

E. EQUIVALENT SERVICE UNITS

In Section 395.014 (a) (4), the Impact Fee Legislation requires that the study provide a *“definitive table establishing the specific quantity of use, consumption, generation, or discharge of a service unit for each category of capital improvements or facility expansions, and an equivalent or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial, and industrial.”*

Many municipalities have determined that the method that is the most equitable and easy to administer is based on the water meter size required to support the proposed building or facility. The American Water Works Association has published tables identifying the industry standard rated flow rates for meters of various sizes.

These flow rates are compared to the standard residential meter (1” for Friendswood) as one service unit and provide an equivalency factor to determine the total impact fee. This method is recommended since it provides the most equitable determination of actual *impact* of the development on the water and wastewater systems.

Table 8 establishes Equivalency Factors for water meters based on AWWA hydraulic capacities standard to the engineering industry:

TABLE 8
EQUIVALENT METER TABLE

Actual Meter Size (inches)	AWWA Capacity (GPM)	Equivalency Factor
1	50	1
1-1/2	100	2
2	160	3
3	300	6
4	500	10
6	1000	20
8	1600	32
10	2300	46
12	4300	86

CITY OF FRIENDSWOOD
IMPACT FEE STUDY

As of October 2018, the Utility Billing Department reported a total of 12,614 existing residential water meters in the City of Friendswood. As shown in Table 9, the majority of those meters (12,513/12,614 = 99%) are 1" in size or smaller, and therefore represent a 1:1 equivalency. However, there are also 101 residential meters that are larger than 1".

Using the Equivalency Factors determined in Table 8 above, these 12,614 residential meters represent a total of 12,760 equivalent meters:

TABLE 9
CURRENT RESIDENTIAL METER SUMMARY

Meter Size (inches)	Equivalency Factor	Residential Water Meters	Equivalent Meters
1*	1	12,513	12,513
1-1/2	2	66	132
2	3	34	109
3	6	1	6
4	10		0
6	20		0
8	32		0
10	46		0
12	86		0
Total		12,614	12,760

* Includes 3/4", 5/8", and 1" water meters.

CITY OF FRIENDSWOOD
IMPACT FEE STUDY

In addition to the residential water meters, the Utility Billing Department also identified 558 existing non-residential water meters in the City of Friendswood. As shown in Table 10, the majority of those meters (339/558 = 60%) are 1" in size or smaller, and therefore represent a 1:1 equivalency. However, there are also 219 non-residential meters that are larger than 1".

Using the Equivalency Factors determined in Table 8 above, these 558 non-residential meters represent a total of 1,140 equivalent meters:

TABLE 10
CURRENT NON-RESIDENTIAL METER SUMMARY

Meter Size (inches)	Equivalency Factor	Non-Residential Water Meters	Equivalent Meters
1*	1	339	339
1-1/2	2	50	100
2	3	141	451
3	6	18	108
4	10	7	70
6	20	2	40
8	32	1	32
10	46		0
12	86		0
Total		558	1,140

* Includes 3/4", 5/8", and 1" water meters.

CITY OF FRIENDSWOOD
IMPACT FEE STUDY

By combining the *Total Actual* and *Total Equivalent* meter data from Tables 9 and 10 for residential and non-residential water meters, Table 11 shows that approximately 8% of the current demand can be attributed to that of non-residential usage:

TABLE 1 1
CURRENT WATER METER SUMMARY

	Residential Water Meters	Non-Residential Water Meters	Total Water Meters
Total Actual Meters	12,614	558	13,172
Total Equivalent Meters	12,760	1,140	13,900
Percentage of Equivalent Meters	92%	8%	100%

In November 1998, when Vision 2020 was prepared by Kenneth Balk & Associates, the non-residential land usage at the time was observed as 8% (536 acres out of 6,759 acres). While the Vision Summary was to “*develop undeveloped land in Friendswood in general conformance to the existing zoning plan with regard to the split between residential and non-residential land as 73% Residential and 27% Commercial and Light Industrial,*” Friendswood is still predominantly a residential community.

Utilizing the 1.5% Growth Rate recommended in Section II. Land Use Assumptions, the number of Equivalent Service Units (ESU) projected to be added from 2018 to 2028 can be determined per Section 395.014 (a) (5) and (6) of the Impact Fee Legislation.

According to the HGAC data, there were 13,511 total households within the City limits of Friendswood in 2015. With a corresponding 2015 population of 38,435, this equates to a ratio of 2.84 persons per household. In the year 2020, HGAC predicts that Friendswood will have 41,589 people in 14,258 households, representing 2.92 persons per household. Averaging these HGAC data points (2.84 and 2.92) results in a density of 2.88, which directly corresponds with the 2016 Census data of 2.88 persons per household in Friendswood. Previous updates have implemented 2.80, 2.82, and 3.00, indicating that 2.88 persons per household is an appropriate value for this Study.

In addition to Friendswood’s residential population, approximately 8% of the water and wastewater usage is represented by non-residential development. Assuming a continued density of 2.88 people per household, and a corresponding increase in non-residential development of 8%, the following increase in ESU will provide the basis for determining the maximum allowable impact fee that may be charged by the City:

CITY OF FRIENDSWOOD
IMPACT FEE STUDY

TABLE 12
EQUIVALENT SERVICE UNITS
Section 395.014 (a) (6)

Projected increase in population for planning period (Table 4):	6,492
Projected increase in population per Service Unit:	6,492/2.88
Projected increase in Residential Service Units:	2,254
Projected increase in Non-Residential Service Units (8%):	180
Equivalent Service Units for planning period (2018-2028) =	2,434 ESU

CITY OF FRIENDSWOOD
IMPACT FEE STUDY

IV. IMPACT FEES

The impact fee amount per Equivalent Service Unit (ESU) will be determined based on the number of service units projected to be added to the systems over the 10-year planning period. The single-family residence will be considered as the standard service unit.

A. ADMINISTRATIVE ITEMS

1. The impact fee will be *assessed* (subject to future updates) at the time that a plat is filed (where applicable), and *collected* during the building permit process, as identified in the impact fee legislation.
2. Parks and temporary construction trailers will not be assessed any impact fees.
3. Houses and businesses obtaining additional meter(s) for fire line or lawn irrigation purposes only will not pay the impact fee associated with water or wastewater.
4. The Architect or Engineer for the Owner will size the water meter for the development based on industry standards.
5. Governmental buildings will not pay the water and wastewater impact fees based on the proposed assessment method.
6. Schools are exempt from payment of impact fees unless the board of trustees consents to a specific agreement in accordance with Chapter 395, Local Government Code.
7. When an existing water meter is changed out, additional impact fees will only be assessed if the meter size is increased. The fee will be based on the incremental increase in the Service Units.
8. When meters are changed out for the same size meter or a smaller meter, no Impact Fee will be assessed.
9. If an existing home is currently on a private well and/or septic system, and public water or wastewater become available:
 - a. If the homeowner connects within 1 year of the installation of the City services, they will not have to pay impact fees.
 - b. If the homeowner has not connected to City services within 1 year, they will pay the full impact fee at the time of their connection.
10. Impact fees do not include tap or meter fees; these regulations do not waive any tap or meter fees.

CITY OF FRIENDSWOOD
IMPACT FEE STUDY

B. MAXIMUM IMPACT FEE DETERMINATION

Chapter 395 of the Local Government Code was amended in 2001 to include that the City must provide for one of the following from Section 395.014 Paragraph (a) (7):

- (A) *a credit for the portion of ad valorem tax and utility service revenues generated by new service units during the program period that is used for the payment of improvements, including the payment of debt, that are included in the Capital Improvements Plan; or*
- (B) *in the alternative, a credit equal to 50 percent of the total projected cost of implementing the capital improvements plan.*

The City of Friendswood has elected to follow option (B) and provide the credit equal to 50 percent of the CIP resulting in the following maximum Impact Fees. Therefore:

TABLE 13
MAXIMUM IMPACT FEES

Total Cost of Water Projects	(Table 7)	=	\$ 6,852,000
Total Cost of Wastewater Projects	(Table 7)	=	\$ 13,731,000
Increase in Service Units	(Table 12)	=	2,434
Total Cost of Water Projects from CIP/Increase in Service Units (2018-2028)			
	$\$6,852,000 / 2,434$	=	\$ 2,815 / ESU
Total Cost of Wastewater Projects from CIP/Increase in Service Units (2018-2028)			
	$\$13,731,000 / 2,434$	=	\$ 5,641 / ESU
Maximum Water Impact Fee:	$\$ 2,815 \times 50\%$	=	\$ 1,407 / ESU
Maximum Wastewater Impact Fee:	$\$ 5,641 \times 50\%$	=	\$ 2,820 / ESU
Maximum Total Impact Fee:	$\$ 1,407 + \$2,820$	=	\$ 4,227 / ESU

CITY OF FRIENDSWOOD
IMPACT FEE STUDY

V. SUMMARY AND RECOMMENDATIONS

The City of Friendswood, Texas has elected to adopt Water and Wastewater Impact Fees to assist in the financing of Capital Improvements for the systems that are necessitated by growth and development anticipated in the City.

- The Planning Period for this Impact Fee Study is **2018 to 2028**.
- A growth rate of **1.5%** per year is recommended for projection of population and resulting service units for the calculation of the Impact Fee amount.
- The projected population increase for this Planning Period is **6,492** people.
- The equivalent increase in service units is **2,434 ESU**.
- The Total Costs for eligible Water Projects identified in the CIP equate to **\$6,852,000**.
- The Total Costs for eligible Wastewater Projects in the CIP equate to **\$13,731,000**.
- The Maximum Water Impact Fee is **\$1,407** per ESU.
- The Maximum Wastewater Impact Fee is **\$2,820** per ESU.

TABLE 14
PREVIOUS IMPACT FEES

Year	Water	Sewer	Total
2003	\$1,892	\$967	\$2,859
2008	\$1,849	\$1,290	\$3,139
2013	\$2,088	\$840	\$2,928

The City of Friendswood has traditionally adopted the maximum calculated Impact Fee, as recommended by the Capital Improvement Advisory Committee. While a community can elect to adopt a *lesser* amount than the maximum calculated Impact Fee, they cannot adopt a *greater* amount.

Based on the information presented in this 2018 Impact Fee Study, the Capital Improvement Advisory Committee recommends that the City Council adopt the following Impact Fee rates:

RECOMMENDED WATER IMPACT FEE	=	\$1,407 / ESU
RECOMMENDED WASTEWATER IMPACT FEE	=	\$2,820 / ESU
RECOMMENDED TOTAL IMPACT FEE	=	\$4,227 / ESU



PLANNING & ZONING COMMISSION

**MINUTES OF A
SPECIAL & REGULAR MEETING
HELD THURSDAY, NOVEMBER 15, 2018
AT 7:00 PM**

**CITY HALL
COUNCIL CHAMBERS
910 S. FRIENDSWOOD DRIVE
FRIENDSWOOD, TEXAS**

SPECIAL MEETING AS CAPITAL IMPROVEMENTS ADVISORY COMMITTEE

1. The Special Meeting was called to order at 7:00pm with the following people in attendance:

Chairman Joe Matranga
Commissioner Brett Banfield
Commissioner Marcus Perry
Aubrey Harbin, Director of CDD/Planner
Becky Summers, Development Coordinator

Commissioner Richard Sasson
Commissioner Lisa Lundquist
City Attorney Mary K. Fischer

Absent: Clark, Guenther

2. Communication from the public/committee liaisons
(To comply with the provisions of the Open Meetings Act, the Commission may not deliberate on subjects discussed under this agenda item. However, the Commission may direct such subjects to be placed on a later regular Commission agenda for discussion and/or possible action.)

No public comments.

3. Consideration and possible action regarding the City of Friendswood **2018 Update Study for Land Use Assumptions, Capital Improvements Plan, and Impact Fees**

Motion to Approve: Sasson

Second: Perry

Vote: 5 to 0 Unanimous

Motion Passed

Harbin explained that for the City to be allowed to charge impact fees, Chapter 395 of the Local Government Code requires a review every five years.

Patrick Donart, City Engineer/Director of Public Works thanked Harbin and Summers for their help with the 2018 study and introduced Dan Johnson, the engineer that prepared the

study. Donart said Johnson made the information very easy to follow and felt the study was thorough.

Johnson said he had been the City Engineer for Friendswood from 2000 to 2006 and was part of the 2003 Impact Fee Study. He said the previous formulas were very convoluted using the number of bathrooms, etc. and was difficult to explain to developers. He said the current method is based on water meter size and is very common with other cities.

Johnson explained he used the number of meters in service, provided by the Utility Billing Department, to calculate the percentage of residential versus commercial in the City. Perry asked if upcoming developments were taken into consideration. Harbin answered the Georgetown development was excluded because the developer would be installing three water lines as part of their project.

Perry questioned if schools and churches were exempt from impact fees by the City's choice. Johnson stated schools are exempt by code but churches can be charged impact fees.

Lundquist asked Johnson for a big picture overview. Johnson explained that cities do not have to charge impact fees but if they do, a review is required every five years. He said the study looks at population and capital projects to see what their impact would be on city services. He said projects are divided by connections and Local Government Code allows up to 50% be recouped through impact fees.

Sasson said the numbers seemed reasonable based on the study provided. He asked if old capital project costs were figured into the study. Johnson said he used a clean slate and did not calculate in the cost of previous projects. He said the numbers even out in the long run.

Sasson mentioned charging interest on capital project bonds along with the impact fees. Johnson said the code allowed for that but he was not comfortable adding in those fees. He said it opens up the City and the study to more scrutiny.

Sasson pointed out that water fees decreased and sewer fees increased. He guessed the fees swing based on water versus sewer projects. Donart agreed.

Banfield asked if the City had been adopting the maximum rate for impact fees, historically. Johnson said the max rate has been opted for after each study. Banfield said he was comfortable with keeping with that trend.

Perry asked if commercial growth was included in the study. Johnson explained commercial growth was too hard to predict.

Sasson asked how the proposed fee stood against other cities. Johnson said on the low end, Manvel charges \$3000 while on the higher end, League City charges \$6477. The proposed impact fee of \$4211 for Friendswood would fall in the middle.

Sasson asked staff if developers ever push back against impact fees. Harbin said builders roll that cost into the home and pass it on to buyers.

4. The Special Meeting adjourned at 7:47pm.

Regular Meeting

1. The Regular Meeting was called to order at 7:47pm with the same people in attendance.
2. Communication from the public/committee liaisons
(To comply with the provisions of the Open Meetings Act, the Commission may not deliberate on subjects discussed under this agenda item. However, the Commission may direct such subjects to be placed on a later regular Commission agenda for discussion and/or possible action.)

No public comments.

3. Consent agenda
These items are considered routine or ministerial in nature and will be enacted with one motion. There will be no separate discussion of items unless a commissioner or citizen so requests in which case the item would be removed from the consent agenda and considered separately.

a. Minutes from November 5, 2018

Motion to approve: Lundquist

Second: Sasson

Vote: 5 to 0 Unanimous

Motion passed

Action Items

According to the Planning and Zoning Rules of Procedure (R2010-09), all action of the Commission shall be made by an affirmative vote of four (4) or more members of the Commission present at such Commission meetings.

4. Consideration and possible action regarding the **Preliminary Plat of Clear Creek Community Church of Friendswood** being a subdivision of 39.41 acres of land out of a call 135.778 acre tract of land located in the Sarah McKissick Survey, A-549, City of Friendswood, Harris County, Texas

Motion to approve: Sasson

Second: Banfield

Vote: 5 to 0 Unanimous

Motion passed

Harbin said the property being platted was known as the Whitcomb Property or Friendswood Towne Center based on the ordinance approved in 2015 for a Planned Unit Development (PUD). She explained this was a partial plat of the 135 acre tract which was exhibited on the face of the plat.

Harbin stated the church would be on one of the restricted reserves with the other reserves being for commercial use and detention use.

Sasson remarked the parcels on the PUD and the reserves on the plat looked a little different in size. Harbin said a PUD allows for a 25% deviation in area. She said the conceptual plan on the PUD did not account for the needed area to build roads. Harbin said the church was also proposing changes to the driveway layout and would be submitting an updated Traffic Impact Analysis.

Sasson commented that the PUD did not include a detention reserve as shown on the plat. Harbin said the church, commercial tract, and roadways will all drain to the pond reserve.

Perry asked how to ensure the PUD is complied with. Harbin said staff has been meeting with the church to work through minor changes. She said the important thing, at this point, is to make sure the Townes Road extension is aligned properly. She explained the church is still on their allocated parcel and the City has a vested interest in protecting the remainder for commercial development.

Lundquist mentioned the church property abutted a creek and asked what flood zone map is being used. Harbin said the 2017 maps are in effect and the structure must be built to comply with the City's flood ordinance.

Matranga asked what other plans the Commission would see. Harbin said the Commission would see the final plat then site plans for the church and any future commercial development. Matranga said the PUD showed the church having a smaller parcel. Harbin explained the plat combined the church parcel and the green space behind. Summers said staff would review the church's lot coverage during site plan review. She explained one parcel is cleaner for platting.

Lundquist asked if the flood maps change, could the church change what they build. Harbin said yes but showed on the plat where the church was dedicating land to the Harris County Flood Control District. She explained the church will not be able to expand towards the creek because they are giving that land away.

5. Consideration and possible action regarding future Planning and Zoning Commission meeting dates

Harbin said the next regular meetings would be held December 6th and December 20th plus a Commission retreat to be held on December 4th.

6. Communications

a. Commissioners – Sasson said the FDEDC meeting was good and they would be making a presentation to the Commission soon to share information.

Matranga said the Downtown District subcommittee had just had their kickoff meeting and it went well.

b. Council Liaison – Not present.

c. Staff - Harbin stated the October 2018 DRC Report had been sent out and that projects were slowing down with the holidays coming up.

7. The meeting was adjourned at 8:08pm.

These minutes respectfully submitted by:

Becky Summers

Becky Summers
Development Coordinator/P&Z Secretary

Parkwood District Shopping Center

1501 W Parkwood Ave.

1. [Compliance memo](#)
2. [Cover Sheet](#)
3. [Site plan](#)
4. [Landscape plan](#)
5. [Building elevations](#)
6. [Colored renderings](#)
7. [Photometric plan](#)

Memo

To: Planning and Zoning Commission

From: Becky Summers, Development Coordinator

Date: November 29, 2018

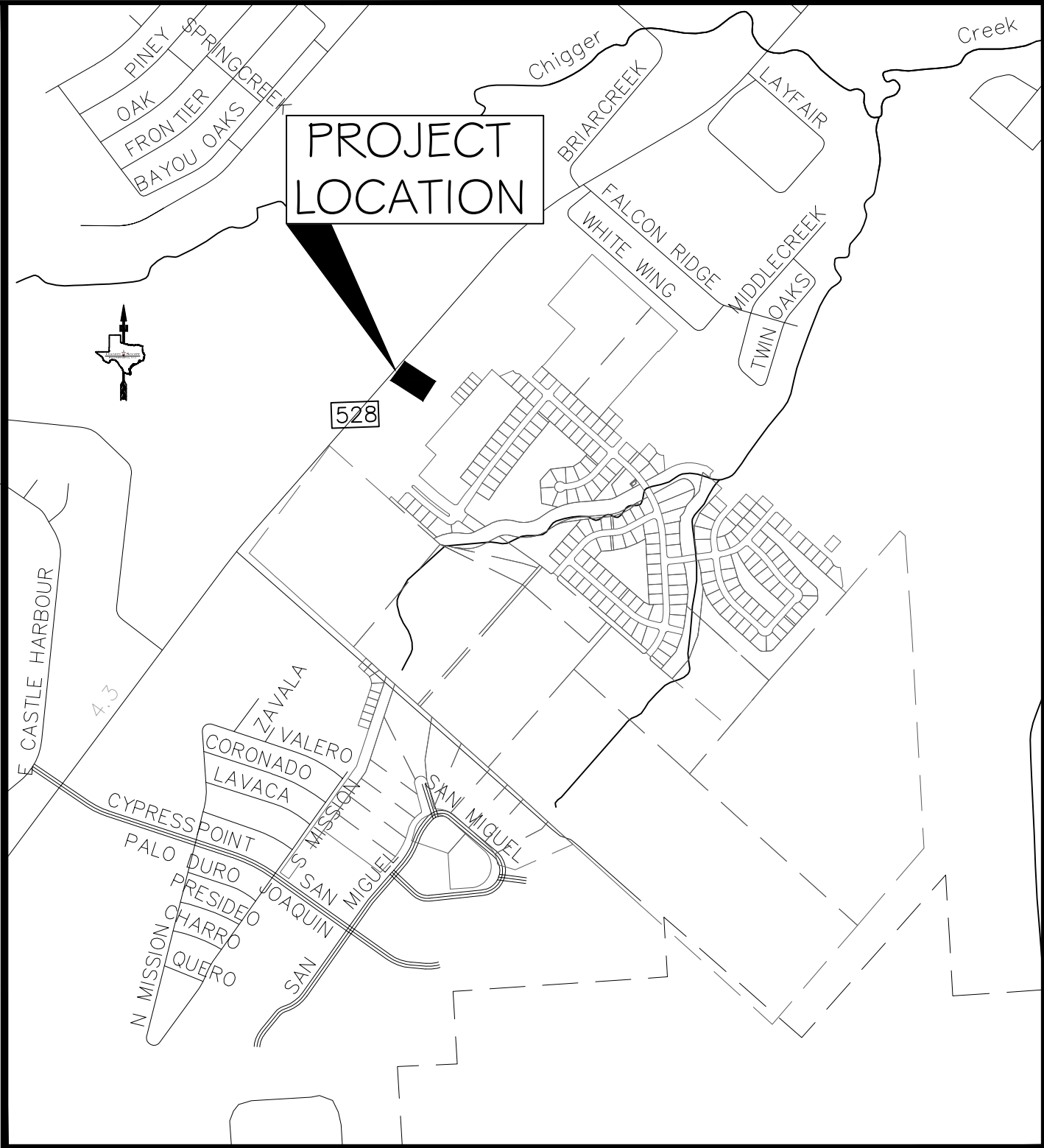
Re: Parkwood District Shopping Center
Commercial Site Plan

Project Description: Property located at 1501 W. Parkwood Ave. is proposing two new commercial buildings for retail lease space.

The plan has been reviewed by staff in the following departments: Planning, Public Works/Engineering, Fire Marshal, and Police Department. The proposed project appears to be in compliance with current City codes.

The plan is subject to review and approval by the Planning and Zoning Commission.

GALVESTON COUNTY
CITY OF FRIENDSWOOD, TEXAS
FINAL CONSTRUCTION PLANS FOR
W. PARKWOOD PLACE



VICINITY MAP
SCALE: 1" = 1/4 MILE



DRAWING INDEX

SHEET #	DRAWING NAME
1.	VICINITY MAP, LOCATION MAP & DRAWING INDEX
2.	GENERAL CONSTRUCTION NOTES
3.	GENERAL CONSTRUCTION NOTES (CONTINUED)
4.	FINAL DRAINAGE PLAN
4A.	FINAL DRAINAGE CALCULATIONS
5.	FINAL UTILITY PLAN
6.	FINAL GRADING PLAN
7.	FINAL PAVING PLAN
8.	SWPPP
9.	PAVING STANDARD DETAILS
10.	PERMANENT PAVEMENT MARKINGS STANDARD DETAILS
11.	SANITARY SEWER STANDARD DETAILS
12.	SANITARY SEWER STANDARD DETAILS (MANHOLES)
13.	STORM SEWER STANDARD DETAILS
14.	STORM SEWER STANDARD DETAILS (CONT.)
15.	WATER DISTRIBUTION STANDARD DETAILS
16.	STORM WATER POLLUTION PREVENTION PLAN (SWPPP) STANDARD DETAILS
17.	STORM WATER POLLUTION PREVENTION PLAN (SWPPP) STANDARD DETAILS (CONT.)
18.	BARRICADE AND MISCELLANEOUS DETAILS

SEPTEMBER 06, 2018

DEVELOPER:
JOE GARZA
1501 W. PARKWOOD
FRIENDSWOOD, TEXAS 77546
JOEGARZA11@GMAIL.COM

DANIEL SCOTT
ENGINEERING, LLC

P.O. BOX 1549, ALVIN, TX 77512 (281) 519-8530
TBPE F-9827 scott@danielscottenineering.com

Approved by the GALVESTON COUNTY CONSOLIDATED DRAINAGE DISTRICT

Director _____ Date _____

Director _____ Date _____

This is to certify that the above signed based on the recommendation of the District's Engineer having reviewed all sheets provided and found them to be to be general compliance with the District's "Drainage Criteria Manual". This approval is only valid for three hundred sixty-five (365) days. Please note, this does not necessarily mean that all the calculations provided in these plans have been completely checked and verified. The plans submitted have been prepared, signed and sealed by a Professional Engineer licensed to practice in the State of Texas, which conveys the engineer's responsibility and accountability.



PATRICK DENNEY, P.E., CEM
PUBLIC WORKS DIRECTOR/CITY ENGINEER

DATE

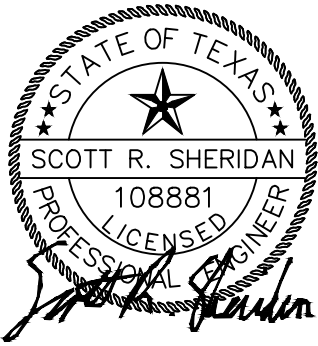
RENE IBARRA, CEM
DEPUTY DIRECTOR OF PUBLIC WORKS

DATE

NOTE:

THIS IS TO CERTIFY THAT THE ABOVE SIGNED HAVE REVIEWED ALL SHEETS PROVIDED AND FOUND THEM TO BE IN GENERAL COMPLIANCE WITH THE REQUIREMENTS ESTABLISHED BY THE CITY OF FRIENDSWOOD. THIS APPROVAL IS ONLY VALID FOR THREE HUNDRED SIXTY-FIVE (365) CALENDAR DAYS. PLEASE NOTE, THIS DOES NOT NECESSARILY MEAN THAT ALL THE CALCULATIONS PROVIDED IN THE PLANS HAVE BEEN COMPLETELY CHECKED AND VERIFIED. THE PLANS SUBMITTED HAVE BEEN PREPARED, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE ENGINEERING IN THE STATE OF TEXAS, WHICH CONVEYS THE ENGINEER'S RESPONSIBILITY AND ACCOUNTABILITY.

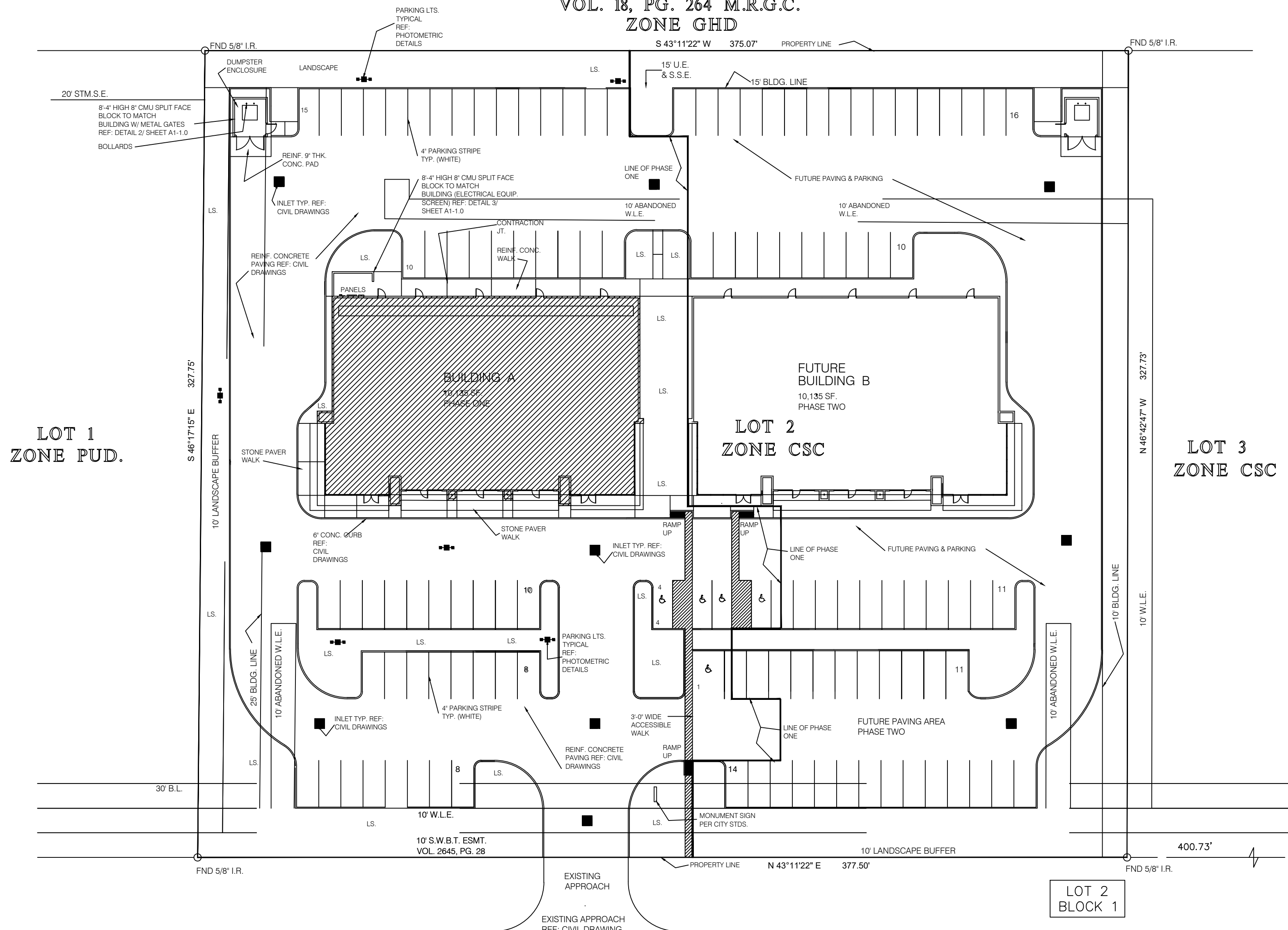
EFFECTIVE DATE: JULY 1ST, 2017



SEPTEMBER 06, 2018

WARNING:
CONTRACTOR TO PERFORM A TEXAS ONE CALL AT
LEAST 48 HRS PRIOR TO COMMENCING
CONSTRUCTION.

RESERVE "A"
FRIENDSWOOD LAKES
GARDEN HOMES
VOL. 18, PG. 264 M.R.G.C.
ZONE GHD



F.M. 528
(A.K.A. WEST PARKWOOD AVENUE)
(180' R.O.W.)

LEGAL DESCRIPTION

A LAND TITLE SURVEY OF LOT 2, IN BLOCK 1, OF GARDENS AT FRIENDSWOOD LAKES, AN ADDITION IN GALVESTON COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT THEREOF RECORDED IN PLAT RECORD 2008A, MAP NO. 85 OF THE MAP/PLAT RECORDS OF GALVESTON COUNTY, TEXAS.

BASED ON RETAIL:

4 SPACES PER 1000 SF. FOR 5,000 SF.

FOOD SERVICE WILL REQUIRE MORE

SPACES/ REF: ORDINANCE

FUTURE TENANT MEDICAL 4.5/ 1000 = 12 FOR 2,600 SF.

FUTURE TENANT GYM 7/ 1000 = 17 FOR 2,400 SF.

PHASE ONE: REQUIRED SPACES: 49

PROVIDED SPACES: 56

PHASE TWO: REQUIRED SPACES: 41

PROVIDED SPACES: 62

TOTAL REQUIRED SPACES 82

TOTAL PARKING 118 SPACES PROVIDED

36 ADDITIONAL SPACES PROVIDED

ONE H.C. SPACE PER 25 STD. SPACES

5 REQUIRED

5 PROVIDED

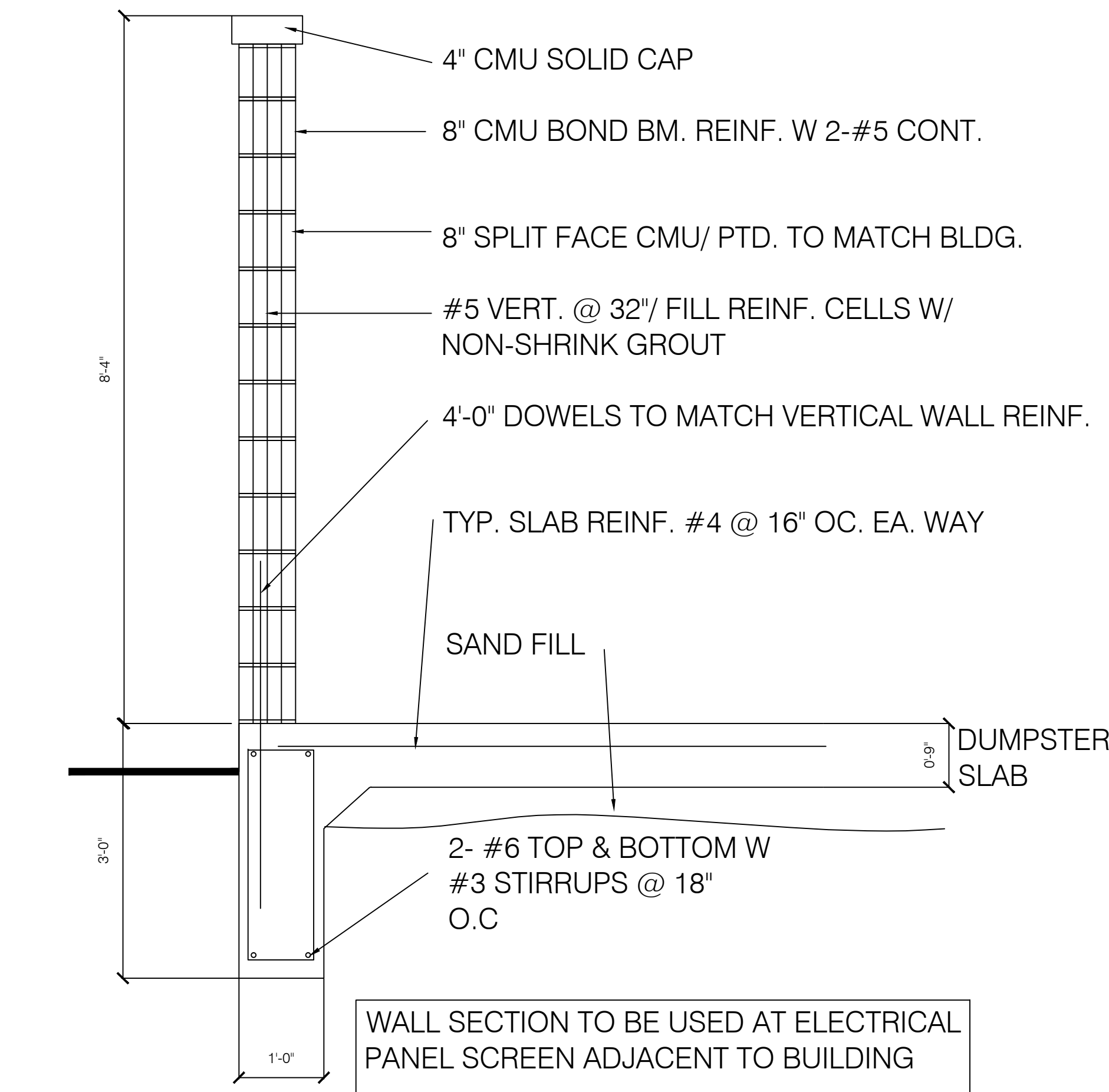
SITE PLAN EXPIRATION NOTE:

APPROVAL OF THE SITE PLAN WILL EXPIRE ONE YEAR AFTER APPROVAL OF THE SITE PLAN BY THE COMMISSION. UPON EXPIRATION OF THAT TIME THE APPLICANT MUST RESUBMIT A SITE PLAN THAT CONFORMS TO CURRENT ORDINANCES

2

DUMPSTER ENCLOSURE

Scale: 1/4" = 1'-0"



2

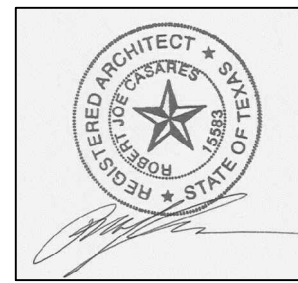
DUMPSTER ENCLOSURE

Scale: 1/4" = 1'-0"

Breed Architecture

2150 Town Square Place
Suite 150
Sugar Land, Tx. 77479
Cell- (713) 320-3607
rcasares71@gmail.com
breedarchitecture.com

Seal: State of Texas



Robert Casares 15583

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Client Without Prior

Permission In Writing

From Breed Architecture, LLC.

Project

Parkwood District

1501 Parkwood Ave
Friendswood, Tx.

Drawn By:

Checked By:

Schematic Design:

No.	Status	Date
1	Review	02/09/18

Design Development:

1	MUD Review	
2	Review	06/18/18

Construction Documents:

1	Permit	08/13/18
2	Permit	09/24/18

Revisions:

Project:

01-0118

Date:

01/15/18

Scale:

1/32" = 1'-0"

Sheet:

A1-1.0

1

NOTED SITE PLAN

Scale: 1/32" = 1'-0"

LANDSCAPE
PLAN

Drawn By:

Checked By:

Schematic Design:

No.	Status	Date
1	Review	02/09/18

Design Development:

1	MUD Review	
2	Review	06/18/18

Construction Documents:

1	Review	

Revisions:

Project:

01-0118

Date:

01/15/18

Scale:

1/32" = 1'-0"

Sheet:

L1

LANDSCAPING TABLE

TOTAL AREA OF PARKING AND PAVING= 65,874SQ FT

LANDSCAPING AREA REQUIRED=65,874 SQ FT X 10% = 6,587 SQ FT.

TOTAL LANDSCAPING PROVIDED =9,721

LANDSCAPING AREA IN ISLANDS

REQUIRED (6,587 SQ. FT.) X 0.5 = 3,294 SQ FT

TOTAL LANDSCAPE IN ISLAND PROVIDED=4,854 SQ. FT

BUFFER TREES REQUIRED: (1 TREE EVERY 25FT; MIN 2" CALIPER

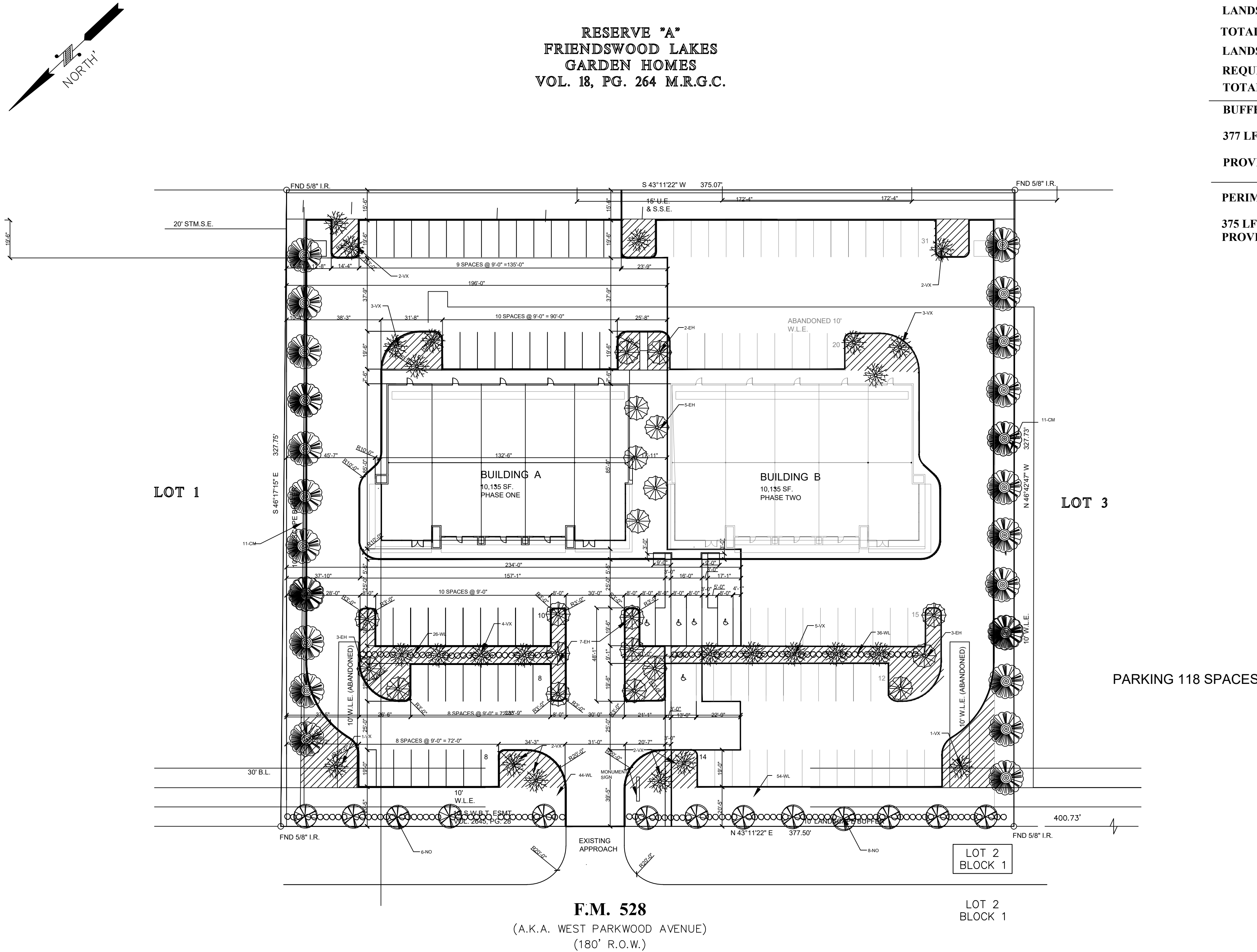
377 LF- 31 LF (ROAD) + 327 LF = 674 LF / 25 = 27 TREES REQUIRED

PROVIDED: 27 TREES

PERIMETER TREES REQUIRED: (1 TREE EVERY 40FT)

375 LF + 328 LF = 703/40 = 18 TREES REQUIRED

PROVIDED :50 TREES



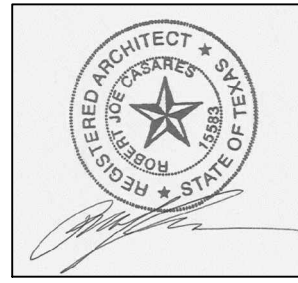
COMMERCIAL SURFACE PARKING PLANT LIST

BLOCK	SYM	QTY.	BOTANICAL NAME	COMMON NAME	TYPE	REMARKS
	CM	11	LAGESTROEMIA INDICA	CRAPEMYRTLE	TREE	2" CALIPER TRUNK, PLANT 25' O.C., 10' TALL AT PLANTING
	EH	20	LLEX X ATTENUATA 'EAGLESTON'	EAGLESTON HOLLY	TREE	2" CALIPER TRUNK, PLANT 20' O.C., 8' TALL AT PLANTING
	VX	25	VITEX AGNUS-CASTUS	VITEX	TREE	PLANT 15' O.C., 8' HIGH AT PLANTING
	WL	160	LIGUSTRUM JAPONICUM	WAX LEAF LIGUSTRUM	SHRUB	PLANT 24" O.C., 31" HIGH AT PLANTING
	NO	14	QUERCUS TEXANA	NUTALL OAK	TREE	2" CALIPER TRUNK, PLANT 20' O.C., 8' TALL AT PLANTING

Breed
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Suite 150
Sugar Land, Tx. 77479
Cell- (713) 320-3607
rcasares71@gmail.com
breedarchitecture.com

Seal: State of Texas



Robert Casares

15583

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Client Without Prior
Permission In Writing
From Breed Architecture, LLC.

Project

Parkwood District

1501 Parkwood Ave
Friendswood, Tx.

Drawn By:

Checked By:

Schematic Design:

No.	Status	Date
1	Review	02/09/18

Design Development:

1	MUD Review	
2	Review	06/18/18

Construction Documents:

1	Permit	08/13/18
2	Permit	09/24/18

Revisions:

Project:

01-0118

Date:

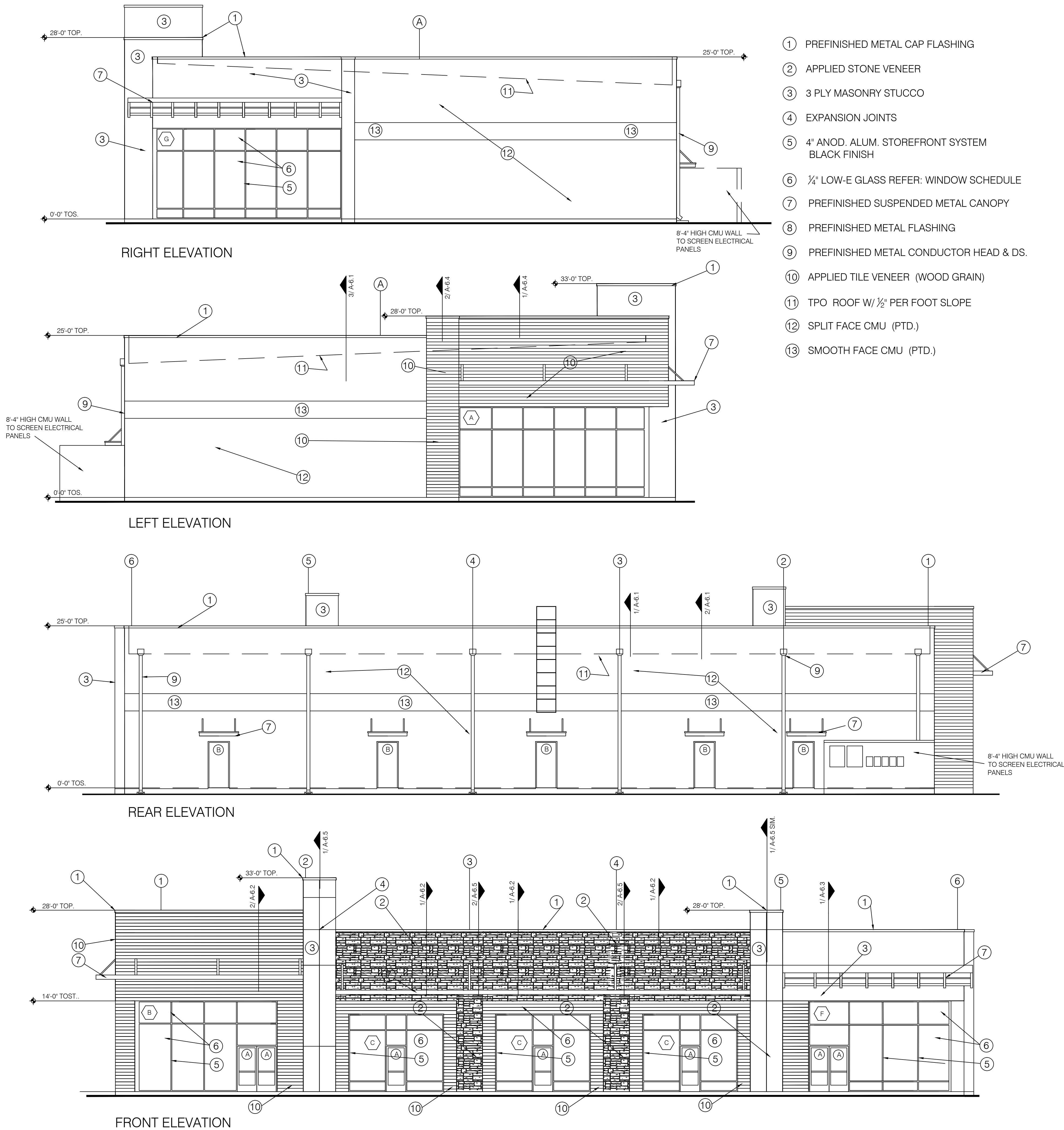
01/15/18

Scale:

1/8" = 1'-0"

Sheet:

A3-1.0

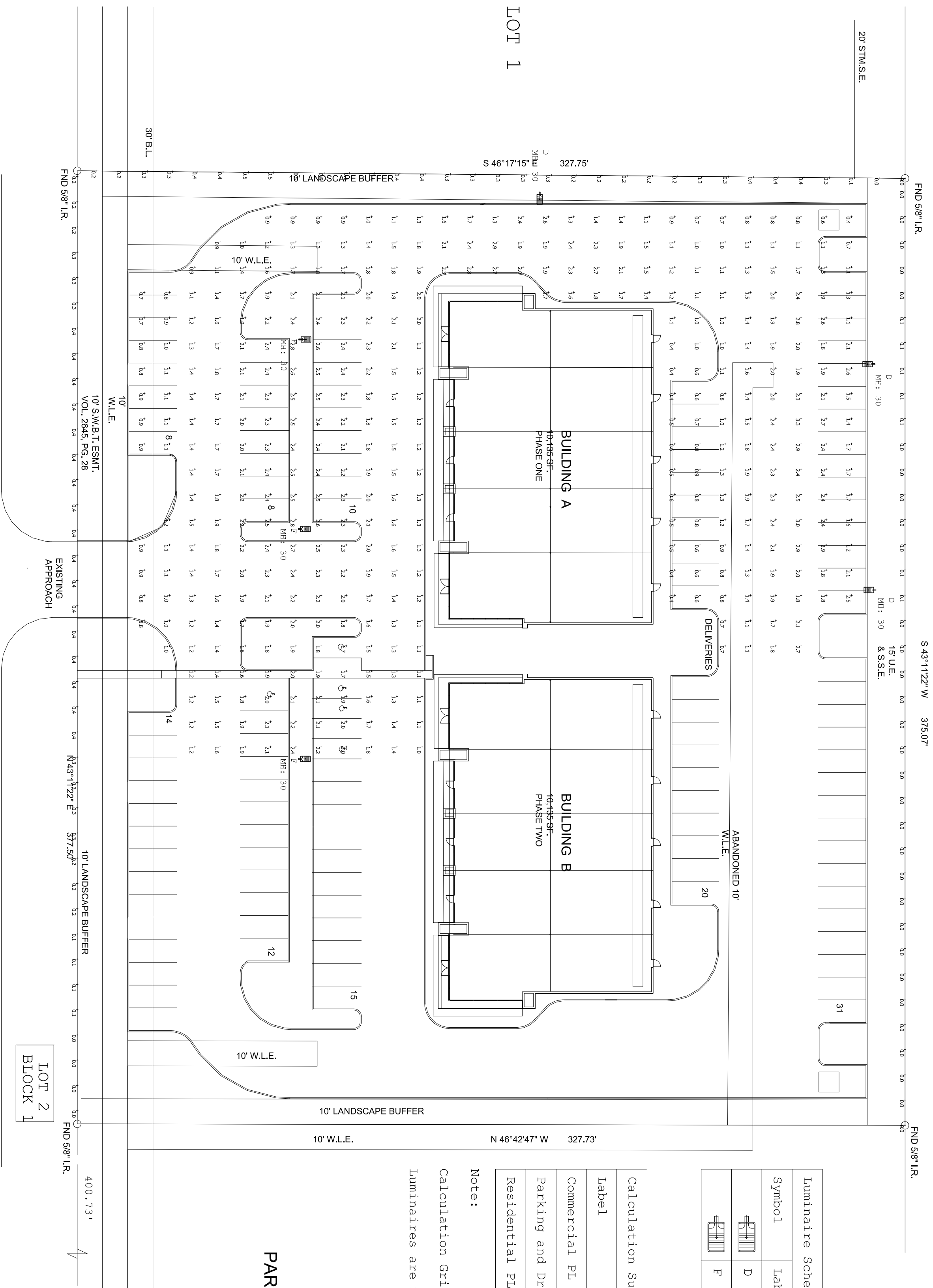








RESERVE "A"
FRIENDSWOOD LAKES
GARDEN HOMES
VOL. 18, PG. 264 M.R.G.C.



Luminaire Schedule						
Symbol	Label	Qty	Lum. Watts	Lum. Lumens	Life	Arrangement
	D	3	220	15072	0.900	SINGLE
	F	3	220	26023	0.900	SINGLE
Description						
VPL-96L-220-4KT-4W-BC						
VPL-96L-220-4KT-5W						

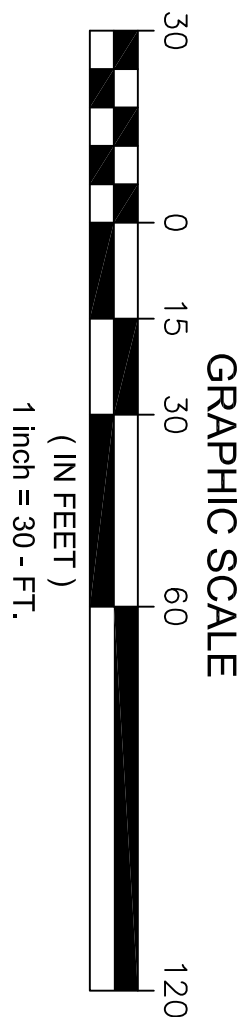
Calculation Summary						
Label	CalcType	Units	Avg	Max	Min	Avg/Min
Commercial PL	Illuminance	Fc	0.29	0.5	0.0	N.A.
Parking and Driveway	Illuminance	Fc	1.64	3.3	0.4	4.10
Residential PL	Illuminance	Fc	0.02	0.1	0.0	N.A.

Note:

Calculation Grid (10ft X 10ft) @ Ground Level.

Luminaires are mounted @ 30ft from the Ground Level.

PARKING 118 SPACES

[illegible]

Site plan amendment: 107 W. Heritage Dr.

1. [Compliance memo](#)
2. [Cover sheet](#)
3. [Site plan and landscape plan](#)
4. [Covered parking – aerial elevation](#)
5. [Covered parking – profile elevation](#)
6. [Proposed fence](#)

Memo

To: Planning and Zoning Commission

From: Becky Summers, Development Coordinator

Date: December 3, 2018

Re: 107 W. Heritage – parking structure
Commercial Site Plan amendment

Project Description: Property located at 107 W. Heritage is proposing the addition of a covered parking structure.

The plan has been reviewed by staff in the following departments: Planning, Public Works/Engineering, Fire Marshal, and Police Department. The proposed project appears to be in compliance with current City codes with the following exception:

- 1) Applicant is requesting to replace the existing wooden fence with a new wooden fence and slide gate.

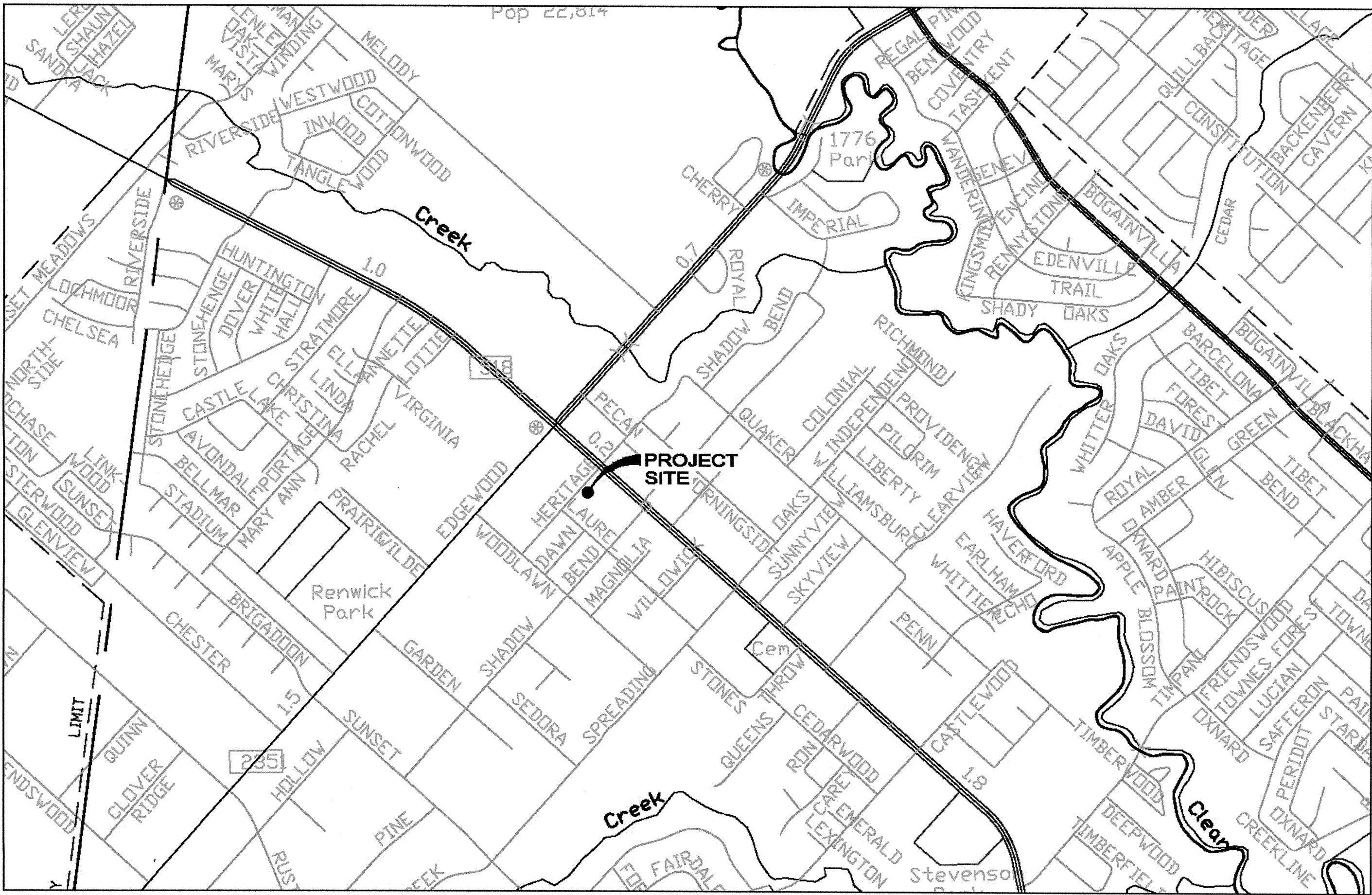
The plan is subject to review and approval by the Planning and Zoning Commission.

PROPOSED COVERED PARKING STRUCTURE

107 WEST HERITAGE DRIVE, FRIENDSWOOD, TX 77546

GALVESTON COUNTY

NOVEMBER 2018



VICINITY MAP
SCALE: 1"=1000'

SHEET	INDEX
C-1	COVER SHEET
C-2	TOPOGRAPHIC SURVEY
C-3	EXISTING DRAINAGE CONDITION
C-4	PROPOSED DRAINAGE CONDITION AND DRAINAGE CALCULATION
C-5	PROPOSED LANDSCAPE PLAN



PATRICK DENNEY, P.E., CDR
PUBLIC WORKS DIRECTOR/CITY ENGINEER

DATE

RENE GRINDSTAFF, CDR
DEPUTY DIRECTOR OF PUBLIC WORKS

DATE

NOTE: I, the undersigned, hereby certify that the above signed have reviewed all sheets provided and found them to be in general compliance with the requirements established by the City of Friendswood. This approval is only valid for three hundred sixty-five (365) calendar days. Please note, this does not necessarily mean that all the calculations provided in the plans have been completely checked and verified. The plans submitted have been prepared, signed, and sealed by a Professional Engineer licensed to practice engineering in the State of Texas, which conveys the engineer's responsibility and accountability.

EFFECTIVE DATE: JULY 1ST, 2017

Approved by the GALVESTON COUNTY CONSOLIDATED DRAINAGE DISTRICT

Director

DATE

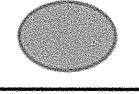
Director

DATE

This is to certify that the above was signed based on the recommendation of the District's Engineer having reviewed all sheets provided and found them to be in general compliance with the District's "Drainage Criteria Manual". This approval is only valid for three hundred sixty-five (365) calendar days. Please note, this does not necessarily mean that all the calculations provided in these plans have been completely checked and verified. The plans submitted have been prepared, signed, and sealed by a Professional Engineer licensed to practice engineering in the State of Texas, which conveys the engineer's responsibility and accountability.

				DESIGNED <u>DN</u>	 9119 Highway 6, Suite 230 #233 Missouri City, Texas 77459 Phone: (979)264-3510 Firm Registration Number: F-13495	 The seal appearing on this document was authorized by DONG H. NGUYEN P.E. 93048 Date: <u>11/20/18</u>	OWNER: NICK GRINDSTAFF 107 WEST HERITAGE DRIVE FRIENDSWOOD, TX 77546	PLAN: _____ PROFILE: _____ HORIZONTAL: _____ VERTICAL: _____	PROPOSED COVERED PARKING STRUCTURE 107 WEST HERITAGE DRIVE FRIENDSWOOD, TEXAS 77546	COVER SHEET
				DRAWN <u>DD</u>						
				CHECKED _____						
				DATE _____						
NO.	DATE	DESCRIPTION	APPROVED							
REVISIONS										

Plant List

Symbol	Quantity	Common Name	Botanical Name	Type
	2	Wax Myrtle	Myrica cerifera	Tree
	17	Wax Ligustrum	Ligustrum japonicum	Shrub

GENERAL NOTES

1. Approval of the site plan will expire one year after the approval of the site plan by the Commission. Upon expiration of that time, the applicant must resubmit a site plan that conform to current ordinances. Provided, however, the applicant may request an extension in writing, which may be granted by the Commission for a period not to exceed a total of six (6) months
2. This property is located within the Community Overlay District and the site will comply with the city ordinances in the COD
3. The proposed site is located in Zone X as shown on FEMA Panel 4854680005 E dated September 22, 1999
4. The topographic information shown hereon established using RTK GPS observation and based from 4 459 with an observed elevation of 26.34 feet, NAVD Datum, 1978 adj.

CALCULATION TABLES

PARKING TABLE

- 03 No. of spaces required for 3,000 sq.ft convered parking
04 No. of spaces providedincluding 1 handicap parking
PARKING USE CATEGORY (from Design Criteria Manual) Warehousing & Storage
one space for each 1,000 sq.ft.

Provide detailed calculation from Parking Group Table in the DCM. If multiple uses are proposed, provide calculations for each use.

EXAMPLE:
Retail Trade - 1,000 square feet GFA
1,000/4 spaces = 4 required parking spaces
4 parking spaces provided

LANDSCAPE TABLE - COMMUNITY OVERLAY DISTRICT

Small Parking Lot (20 cars or less)
Total Area of Parking & Driveways (Area) 2,000 X 15% = 300 sq. ft Landscaping Area Required
750 sq. ft Landscaping Area Provided

1 tree (Class 1 or 2) per 250sqft of landscape area required
No. of trees required: 2
No. of trees provided: 2

OR Large Parking Lot (more than 20 cars)
Total area of Parking & Driveways (area) X 20% = Landscape Area Required
Landscape Area Provided

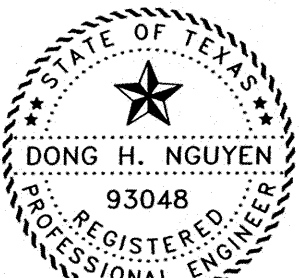
Required landscaping multiplied by .50 = Landscape area in Islands Required
Landscape area in Islands Provided
*1 tree required per island

AND Perimeter Landscaping: 1 tree per 30 linear feet for property lines not requiring a landscape buffer
Perimeter Trees Required: 17 per 517 linear feet
Perimeter Trees Provided: 17

PLUS Landscape Buffers (along ROWs and/or to separate uses per Subsection 8.1)
Buffer Width: Minimum 15 feet
Requires 1 tree planted every 25 linear feet; minimum 2" caliper tree measured 18 inches above natural ground level

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

AL&B ENGINEERING SERVICES, LLC
9119 Highway 6, Suite 230 #233
Missouri City, Texas 77459
Phone : (979)264-3510
Firm Registration Number: F-13495



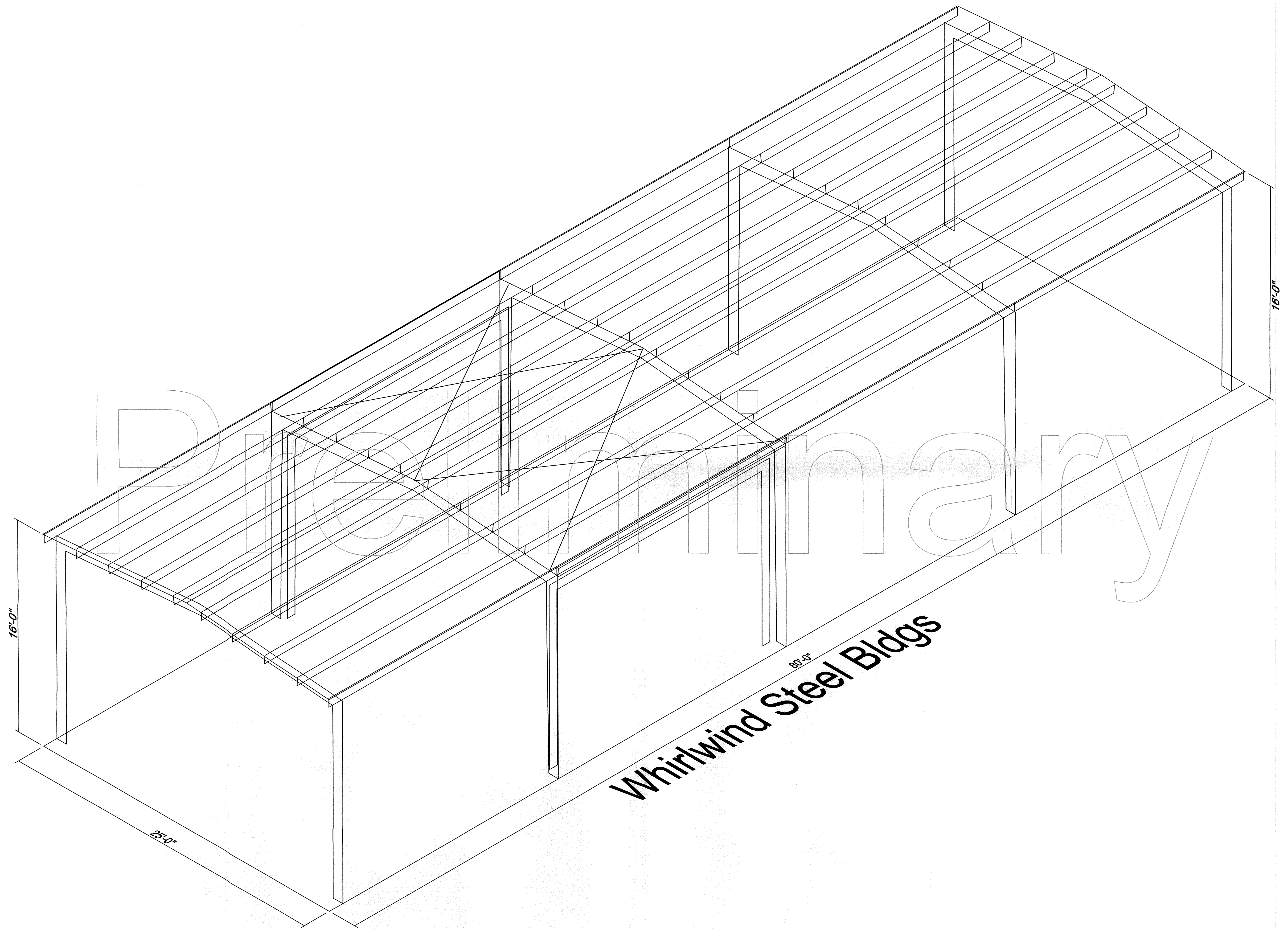
The seal appearing on this document was authorized by
DONG H. NGUYEN
P.E. 93048
Date: 11/20/18

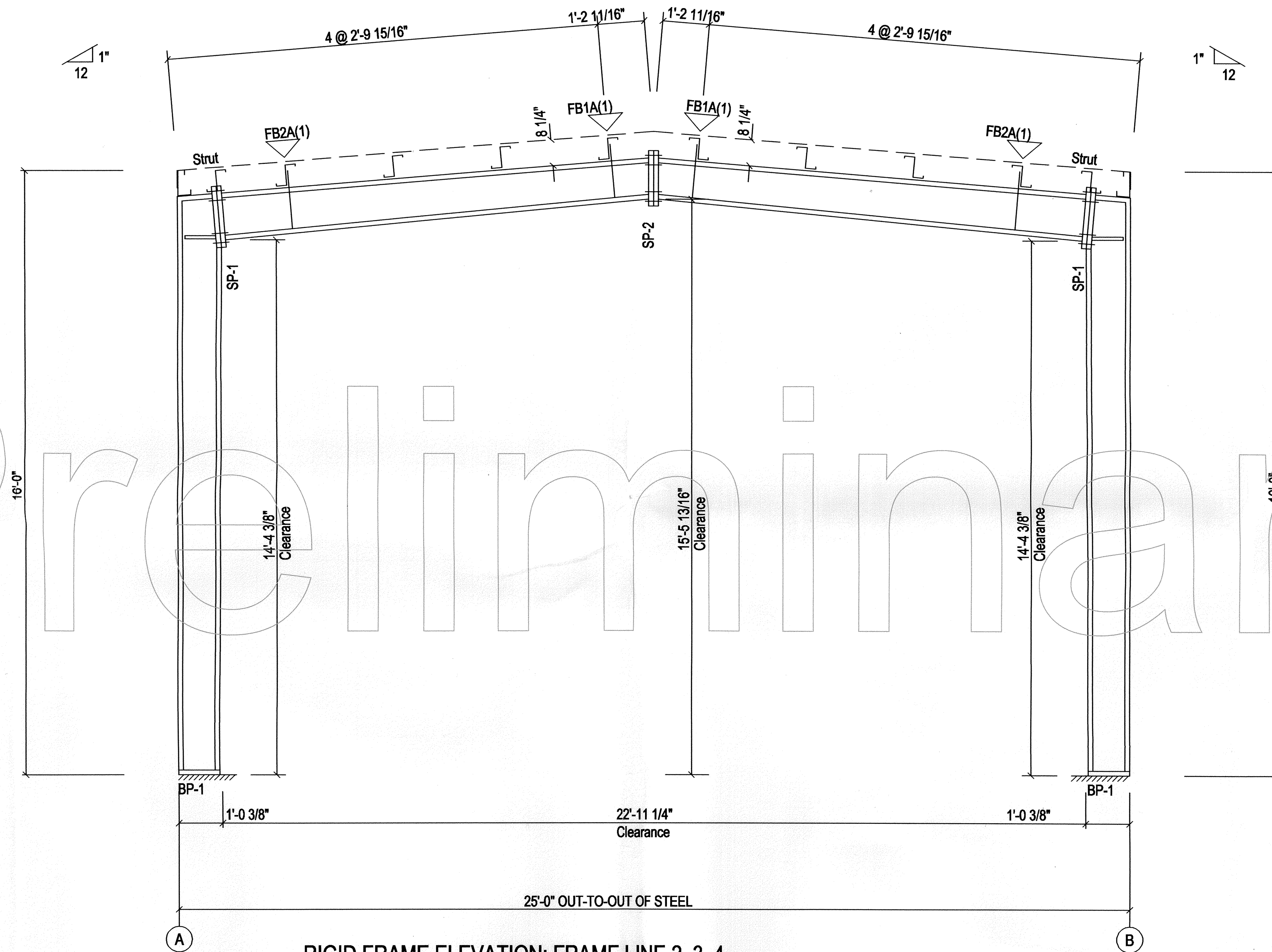
OWNER:
NICK GRINDSTAFF
107 WEST HERITAGE DRIVE
FRIENDSWOOD, TX 77546

PLAN: _____
PROFILE: _____
HORIZONTAL: _____
VERTICAL: _____

PROPOSED
COVERED PARKING STRUCTURE
107 WEST HERITAGE DRIVE
FRIENDSWOOD, TX 77546

PROPOSED
LANDSCAPE
PLAN





RIGID FRAME ELEVATION: FRAME LINE 2 3 4

Whirlwind Steel Bldgs				
PROJECT	Jody Schibi	RIGID FRAME ELEVATION		
ID	RF-0618-JS	DESIGN:	DRAFT:	CHECK:
PROJECT		DATE: 9/12/18	SHEET	OF
ADDRESS	Friendswood, TX 77546			

