CALIFORNIA ENERGY COMMISSION

California Energy Commission

Clean Transportation Program

FINAL PROJECT REPORT

RTC FUELS, LLC DBA PEARSON FUELS 19 NEW E85 STATIONS

Prepared for: California Energy Commission

Prepared by: Pearson Fuels

Gavin Newsom, Governor

August 2020 | CEC-600-2020-048

California Energy Commission

Mike Lewis
Primary Author

Pearson Fuels
1360 Rosecrans Street, Suite A
San Diego, CA 92106
(619) 8068593
Pearson Fuels Website (www.pearsonfuels.com)

Agreement Number: ARV-12-015

Esther Odufuwa
Commission Agreement Manager

Elizabeth John
Office Manager
ADAVNCED FUELS & VEHICLE TECHNOLOGIES OFFICE

Hannon Rasool
Deputy Director
FUELS AND TRANSPORTATION

Drew Bohan
Executive Director

ACKNOWLEDGEMENTS

Pearson Fuels in partnership with multiple petroleum distributors acknowledges the public funding received from the California Energy Commission (CEC) for the construction of 19 gasoline stations (ethanol-gasoline blends of 85 percent ethanol and 15 percent gasoline (E-85)). Additionally, Pearson Fuels recognizes the following organizations for incorporating retail E85 dispensers into their existing traditional gasoline stations throughout California, and the following people for their support and hard work in making this project a reality.

Ataken & Ibo

Atascadero 76

Anthem Oil

Bunnell & Almann's Petroleum

Center City Shell

Double AA Corporation

G&M Oil Incorporated

H&S Energy, LLC.

Waldport Enterprises

Young-Westwood Enterprises

Esther Odufuwa - Energy Commission

Greg Jones - Pearson Fuels

Jonathan Heins - Pearson Fuels

Sarah Williams – Energy Commission

PREFACE

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Clean Transportation Program, formerly known as the Alternative and Renewable Fuel and Vehicle Technology Program. The statute authorizes the California Energy Commission (CEC) to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state's climate change policies. Assembly Bill 8 (Perea, Chapter 401, Statutes of 2013) reauthorizes the Clean Transportation Program through January 1, 2024, and specifies that the CEC allocate up to $20 million per year (or up to 20 percent of each fiscal year's funds) in funding for hydrogen station development until at least 100 stations are operational.

The Clean Transportation Program has an annual budget of about $100 million and provides financial support for projects that:

- Reduce California's use and dependence on petroleum transportation fuels and increase the use of alternative and renewable fuels and advanced vehicle technologies.
- Produce sustainable alternative and renewable low-carbon fuels in California.
- Expand alternative fueling infrastructure and fueling stations.
- Improve the efficiency, performance and market viability of alternative light-, medium-, and heavy-duty vehicle technologies.
- Retrofit medium- and heavy-duty on-road and nonroad vehicle fleets to alternative technologies or fuel use.
- Expand the alternative fueling infrastructure available to existing fleets, public transit, and transportation corridors.
- Establish workforce-training programs and conduct public outreach on the benefits of alternative transportation fuels and vehicle technologies.

The Energy Commission issued Program Opportunity Notice (PON) PON-11-602 to provide funding opportunities under the Clean Transportation Program for projects that establish infrastructure necessary to store, distribute and dispense electricity, ethanol-gasoline blends of 85 percent ethanol and 15 percent gasoline, biomass-based diesel, and compressed or liquefied natural gas. To be eligible for funding under PON-11-602, the projects must also be consistent with the Energy Commission's Clean Transportation Program Investment Plan, updated annually. In response to PON-11-602, the recipient submitted an application that was proposed for funding in the Energy Commission's notice of proposed awards on August 16, 2012, and the agreement was executed as ARV-12-015 on February 12, 2013.

ABSTRACT

This final report describes the purpose, approach, and activities performed in the installation of 19 new dispensers into existing gasoline stations throughout California. This report also provides a synopsis of 13 months' data collected at the various stations, the observations, problems encountered as well as solutions made to successfully complete the project.

The execution of this project show that the installation of the stations offer the ability to leverage and build upon the existing fuel distribution infrastructure investments. The stations were not built from scratch; hence the administrative overhead was small.

Keywords: Pearson Fuels, E85 stations, flex fuel vehicles.

Please use the following citation for this report:

Lewis, Mike. (Pearson Fuels). 2020. *RTC Fuels, LLC DBA Pearson Fuels 19 E85 Stations.* California Energy Commission. Publication Number: CEC-600-2020-048.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

Page

EXECUTIVE SUMMARY

This final report prepared for the California Energy Commission meets the reporting requirements for ARV-12-015 with RTC Fuels, LLC, dba Pearson Fuels in partnership with several petroleum distributors. The project installed 19 fueling dispensers into 19 different retail gasoline stations throughout California, including the Los Angeles, San Diego, San Francisco and Fresno metropolitan areas. This project helped to expand retail infrastructure to areas throughout the State of California that had fewer alternative fuel retail services, and also helped traditional fuel suppliers recognize ethanol-gasoline blends of 85 percent ethanol and 15 percent gasoline as a viable alternative fuel.

CHAPTER 1: Project Introduction

Background

Pearson Fuels was awarded a California Energy Commission grant ARV-12-015 to expand E85 retail fueling infrastructure to areas throughout the State of California that are underserved by the E85 industry. E85 is used by flex fuel vehicles (FFVs). It is an alternative to petroleum gasoline that is performance optimized for use in FFVs, and is expected to play some role in California as the State transitions to lower-carbon technology for light-duty passenger vehicles, transit buses, and truck transport fleets. The Energy Policy Act of 1992 (Public Law 102-486) aims to reduce U.S. dependence on petroleum and improve air quality by addressing all aspects of energy supply and demand, including alternative fuels, renewable energy, and energy efficiency. This Legislation encouraged the production of FFVs by the U.S. auto industry in 1993.

The project included the installation of 19 E85 fueling dispensers into 19 different retail gasoline stations.

Project Description

Prior to submitting applications for grants in 2012, Pearson Fuels worked closely with the fleet manager at the California Department of Transportation and the Department of General Services to strategically locate the various stations. Stations are sited in areas with known FFVs population. The Pearson Fuels team then analyzed the FFVs registered by zip codes to estimate E85 throughput.

After selecting the sites, Pearson Fuels contacted station owners and operators to negotiate lease opportunities. Each station owner provided letters of commitment for land, fuel canopy, station staffing, annual testing, utilities, cash match and other in-kind match. Pearson Fuels executed a fueling agreement with G&M Oil Company for all the stations.

Station owners provided in-kind matching funds by dedicating their assets to minimize cash input. The Energy Commission contributed $1,350,000 of the total $27,000,000 cost to design, engineer, permit, construct, and commission all the stations.

Chapter 2: Installation and Deployment

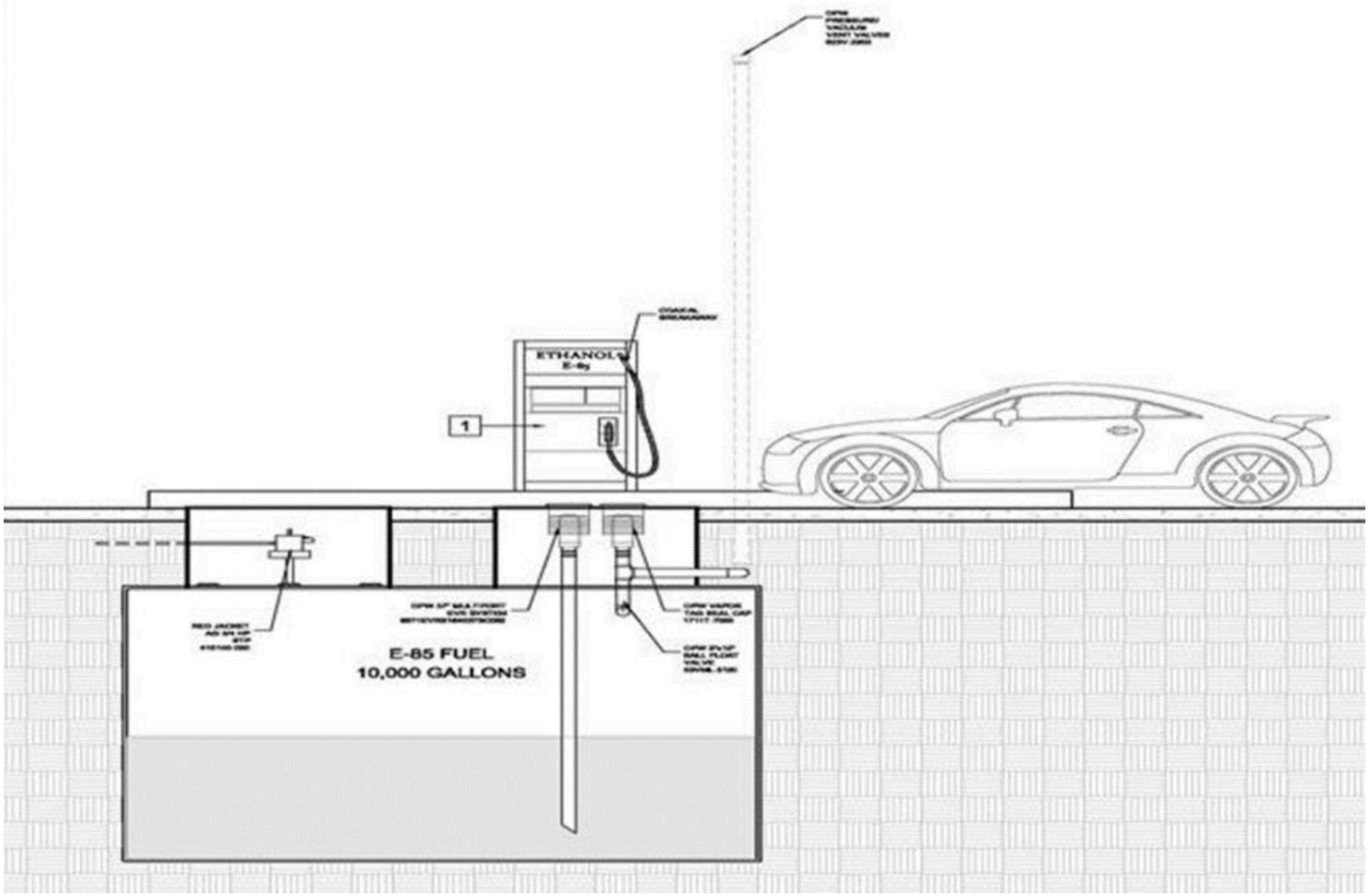
The project involved installation of new underground tanks or simple replacement of the conventional gasoline in the underground tanks at the existing gas stations with E85 fuel, replacing tank components, and replacing the existing dispenser equipment.

Construction at the various sites included: removal or relocation of any existing objects that impact desired locations of equipment; excavation of existing asphalt and pouring foundations for tanks and related equipment, canopy, fuel island, and dispenser; civil construction and trench work to support fuel piping installations, power communication, and alarms; and installation of all equipment, including safety system, card lock, and PC software. A few of the sites had the tanks retrofitted while new underground storage tanks were installed at other sites.

Construction of the first station began in early 2014 and was completed on June 26, 2014. Many of the original locations submitted in the grant application changed due to lack of station owner commitment which contributed to the length of time it took to complete the project. The 19th station at Fresno, however, experienced delays due to an accident that damaged two E-85 dispensers and claimed the life of the truck driver. The station became operational June 6, 2018.

Completion of site inspection and testing was done in accordance with local agency requirements established during the permitting process. Equipment complied with applicable American Society for Testing and Materials and Underwriter Laboratories standards. Each new tank installed was approved by the local Certified Unified Program Agencies and State Water Board. Pearson opened the stations to the public and held grand opening ceremonies. Figure 1 shows a schematic diagram of an E85 installation.

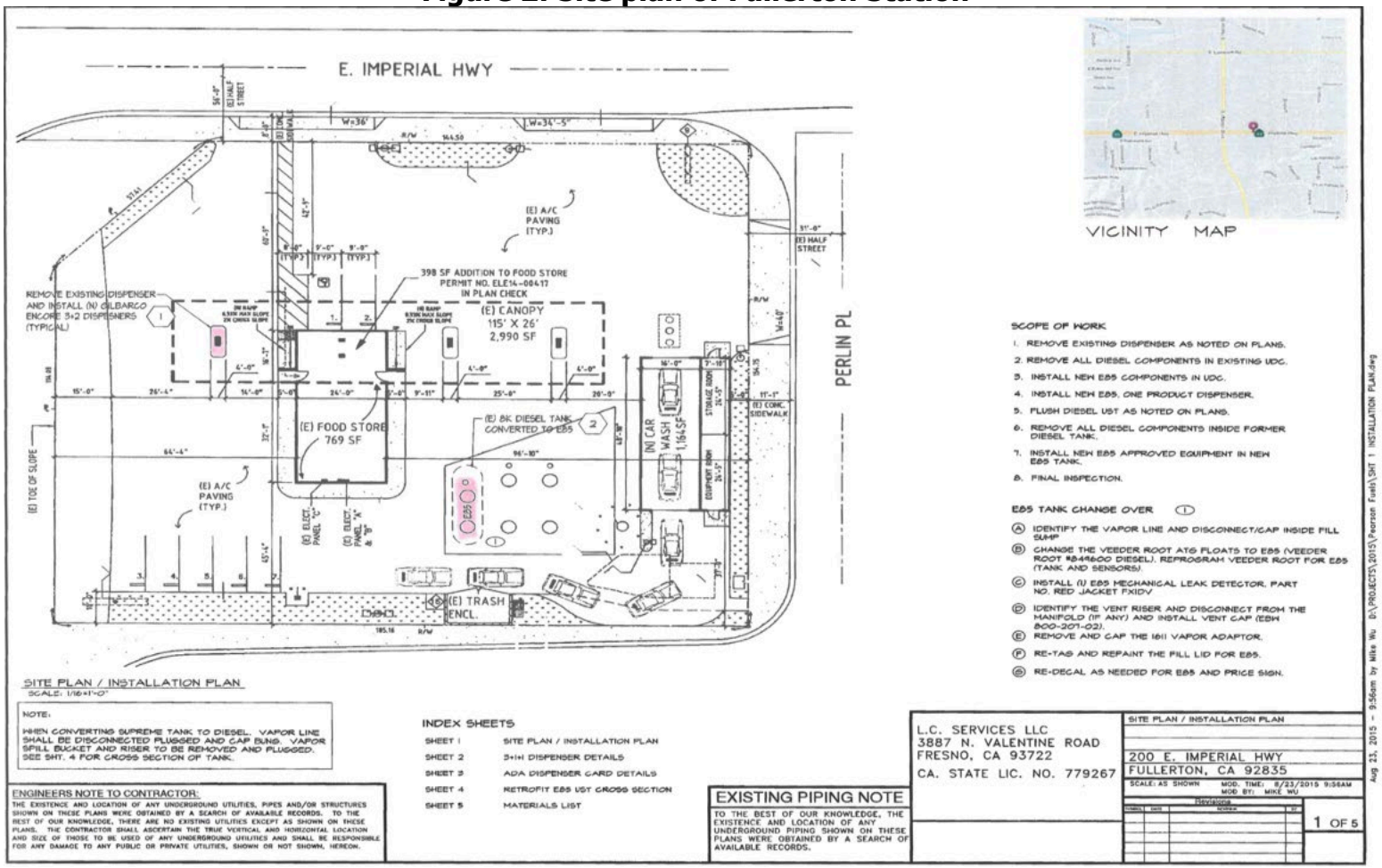
Figure 1: Schematic diagram of a typical E85 installation



Source: Pearson Fuels.

Pearson Fuels designed each station to include the specific layout of the tanks, lines and dispensers. Figure 2 is a site plan for the Mobil/Circle K on 2800 East Imperial Highway, Fullerton, CA 92835. The final station site plan for each of the remaining 18 stations are included in Appendix B.

Figure 2: Site plan of Fullerton Station



Source: Pearson Fuels.

Construction began at the sites at different times all within the Agreement timeline. Figures 3-5 show construction at the Fresno station.

Figure 3: Construction at the S. Cherry Ave, Fresno

Source: Pearson Fuels.

Figure 4: Dispensers at S, Cherry Ave. ready for installation

Source: Pearson Fuels.

Figure 5: Concrete island for the dispenser

Source: Pearson Fuels.

Figures 6-24 are photographs of the 19 installed dispensers at the various stations. These stations can be quickly and efficiently located at the [Pearson Fuels website](https://pearsonfuels.com/stations/) (https://pearsonfuels.com/stations/)

Figure 6: Station #1 Dispenser located at 1933 W Highland Ave., San Bernardino

Source: Pearson Fuels.

Figure 7: Station #2 Dispenser located at 6305 Morro Rd., Atascadero

Source: Pearson Fuels

Figure 8: Station #3 Dispenser located at 499 Sandalwood Dr., Calimesa

Source: Pearson Fuels

Figure 9: Station #4 Dispenser located at 9320 Mira Mesa Blvd., San Diego

Source: Pearson Fuels

Figure 10: Station #5 Dispenser located at 13900 Palm Drive, Desert Hot Springs

Source: Pearson Fuels

Figure 11: Station #6 Dispenser located at 2384 Cesar Chavez St., San Francisco

Source: Pearson Fuels

Figure 12: Station #7 Dispenser located at 1740 Newport Blvd., Costa Mesa

Source: Pearson Fuels

Figure 13: Station #8 Dispenser located at 2800 East Imperial Hwy., Fullerton

Source: Pearson Fuels

Figure 14: Station #9 Dispenser located at 30072 Crown Valley Pkwy., Laguna Niguel

Source: Pearson Fuels

Figure 15: Station #10 Dispenser located at 3774 Main Street, San Diego

Source: Pearson Fuels

Figure 16: Station #11 Dispenser located at 106 West Holt Street, Ontario

Source: Pearson Fuels

Figure 17: Station #12 Dispenser located at S. Cherry Ave., Fresno

Source: Pearson Fuels

Figure 18: Station #13 Dispenser located at 17499 Yorba Linda Ave., Yorba Linda

Source: Pearson Fuels

Figure 19: Station #14 Dispenser located at 800 El Camino Real, San Bruno

Source: Pearson Fuels

Figure 20: Station #15 Dispenser located at 5675 Rosemead Ave., Temple City

Source: Pearson Fuels

Figure 21: Station #16 Dispenser located at 1701 East Main St., El Cajon

Source: Pearson Fuels

Figure 22: Station #17 Dispenser located at 159 South Euclid Ave., Upland

Source: Pearson Fuels

Figure 23: Station #18 Dispenser located at 3810 Massachusetts Ave., La Mesa

Source: Pearson Fuels

Figure 24: Station #19 Dispenser located at 10961 South Beach Blvd., Stanton

Source: Pearson Fuels

Stations Declared Operational

Construction at the 19 sites was completed between 2014 and 2018 and the stations were declared operational as shown in Table 1.

Table 1: Stations Operational Dates

Station Address	Operational Date
1933 W. Highland Ave. San Bernardino, 92407	6/2/2017
6305 Morro Rd., Atascadero, 93446	1/27/2015
499 Sandalwood Drive., Calimesa, 92320	2/24/2015
9320 Mira Mesa Blvd., San Diego, 92126	10/10/2017
13900 Palm Drive., Desert Hot Springs, 92240	6/10/2015
2831 Cesar Chavez Street., San Francisco, 94110	11/28/2014
1740 Newport Blvd., Costa Mesa, 92627	8/14/2015
2800 East Imperial Highway., Fullerton, 92835	9/16/2015
30072 Crown Valley Pkwy., Laguna Niguel, 92677	11/1/2017
3774 Main St., San Diego, 92113	12/16/2015
1065 West Holt Blvd., Ontario, 91762	11/4/2015
2590 South Cherry Ave., Fresno, 93706	4/27/2018
17499 Yorba Linda Blvd., Yorba Linda, 92886	10/29/2015
800 El Camino Real., San Bruno, 94066	9/1/2017
5675 Rosemead Ave., Temple City, 91780	2/24/2017
1701 E. Main Street., El Cajon, 92021	10/23/2015
159 S. Euclid Ave., Upland, 91786	3/31/2016
3810 Massachusetts Ave., La Mesa, CA 91941	6/26/2014
10961 South Beach Blvd., Stanton, 90680	6/3/2015

Source: Pearson Fuels

Pearson Fuels also held grand opening ceremonies at the various stations. Figure 25 shows the grand opening ceremony at the 1933 West Highland Avenue in San Bernardino.

Figure 25: Grand Opening at 1933 W, Highlands Avenue, San Bernardino

Source: Pearson Fuels

CHAPTER 3: Data Collection and Analysis

The grant agreement requires that the grant recipient collect operational data from the station, analyze the data for economic and environmental impacts, and include the data and analysis in the Final Report.

E85 Stations Throughput and Usage

Pearson Fuels collected data for the 19 stations from September 2017 to September 2018 and the actual throughput for the 19 stations was roughly 5 million gallons of E85. Table 2 shows the amount of E85 dispensed each month over a period of 13 months (full data is available in Appendix A). At this rate, annual throughput is projected to be about 4.5 million gallons.

Table 2: Stations Throughput in US Gallons

Month	# of Sites Open	Volume of E85 Dispensed
Sep, 2017	16	286,052
Oct, 2017	16	306,163
Nov, 2017	17	335,631
Dec, 2017	18	368,150
Jan, 2018	18	322,339
Feb, 2018	18	354,655
Mar, 2018	18	393,794
Apr, 2018	18	414,546
May, 2018	18	436,371
Jun, 2018	18	402,805
Jul, 2018	19	410,195
Aug, 2018	19	427,664
Sept, 2018	19	385,591
Total Throughput		**4,843,956**

Source: Pearson Fuels

During data collection period, the 19 stations had more than 16,250 vehicles, or 86 vehicles per day, on average. The average number of days per year that vehicles fueled per station is about 330 days as shown in Table 3.

Table 3: Stations Usage

Station Address	Number of vehicles fueled/day	Number of days vehicles fueled
1933 W. Highland Ave, San Bernardino, CA 92407	74	396
6305 Morro Rd., Atascadero, CA 93422	72	396
499 Sandalwood Drive, Calimesa, CA 92320	91	396
9320 Mira Mesa Blvd, San Diego, CA 92126	101	236
13900 Palm Drive, Desert Hot Springs, CA 92240	76	396
2831 Cesar Chavez St., San Francisco, CA 94110	29	396
1740 Newport Blvd., Costa Mesa, CA 92627	80	396
2800 East Imperial Hwy., Fullerton, CA 92835	68	396
30072 Crown Valley Pkwy., Laguna Niguel, CA 92677	34	335
3774 Main St., San Diego, CA 92113	138	396
1065 West Holt Blvd., Ontario, CA 91761	158	396
2592 S. Cherry Ave., Fresno, CA 93706	87	65
17499 Yorba Linda Blvd., Yorba Linda, CA 92886	43	396
800 El Camino Real, San Bruno, CA 94066	25	396
5675 Rosemead Ave., Temple City, CA 91780	63	396
1701 East Main St., El Cajon, CA 92021	75	396
159 South Euclid Ave., Upland, CA 91786	58	276
3810 Massachusetts Ave., La Mesa, CA 91941	73	396
10961 South Beach Blvd., Stanton, CA 90680	66	396

Source: Pearson Fuels

The E85 project at the 19 different gasoline stations created several jobs across the State of California. These jobs are well-paying and are at prevailing wages. Table 4 shows a summary of jobs that were created.

Table 4: Jobs Created

Job Title	Number of jobs
Construction Workers	36
Equipment Manufacturers	12
Accountants	5
Project Manager/Staff	9
Total	62

Source: Pearson Fuels

Gallons of Gasoline and/or Diesel Fuel Displaced

The total throughput of about 5 million gallons of E85 translates to about 2.5 million gasoline gallon equivalents (GGEs). Pearson Fuels obtained the lower heating values from the Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (GREET) model 2018. E85 has a 23-28 percent decrease in fuel economy. Pearson Fuels used 25.5 percent as the average to determine the gallons of E85 displaced.

Calculation of Project's Carbon Intensity (CI)

In order to reduce the greenhouse gas impact of the E85 fuel, Pearson Fuels blended its ethanol, with a CI of 98.1 grams of CO2 equivalent per megajoule, with California Reformulated Gasoline Blendstock for Oxygenate Blending (CARBOB), with a CI of 95.86 grams of CO2 equivalent per megajoule. Using 83 percent ethanol and 17 percent CARBOB, the combined CI is 91.08.

This analysis used the information in Appendix A, pages A-3 and A-7 in the Full Fuel Cycle Assessment: Well-to-Wheels Energy Inputs. The fuel cycle emissions for both the E85 and baseline fuel, California Reformulated Gasoline Marginal, Internal Combustion Engine Vehicle indicates a baseline value of 473 gallons per mile (g/mile) and 431g/mile respectively. The average g/mile is 452. The average fuel pathways for E85 on pages A-19, A-20, A23 and A-24 for all 32 pathways is 275 g/mile of total weighted GHGs. The total full cycle GHG emissions of the E85 fuel pathway is less than or equal to the baseline diesel pathway by an average of 177 g/mile. The E85 dispensed at all the sites comply with applicable fuel specifications set forth in Title 13, California Code of Regulations, Div. 3, Chapter 5, Article 1, Sub article 2 and Article 3.

Source of Alternative Fuel

Pearson partnered with Zeeland Farm Services and its Nebraska Corn Processing ethanol plant to serve as the primary supplier.

Figure 26 shows the source of feedstock (ethanol) for the 19 E85 stations and the CI associated with the Life-Cycle GHG emissions.

Figure 26: Source of Alternative Fuel

SOURCE OF ALTERNATIVE FUEL
For the Period: September, 2017
PREPARED BY: RTC FUELS, LLC D/B/A PEARSON FUELS – GRANT #ARV-12-015

	STATION ADDRESS	PRODUCT LOADING TERMINAL	PRODUCT DESCRIPTION	C.I. VALUE FOR LIFE-CYCLE GHG EMISSIONS
1	1933 W. Highland Ave San Bernardino, 92407	Petro Diamond - Long Beach	MIDWEST ETHANOL (from corn)	79.90
2	6305 Morro Rd. Atascadero, 93422	Pacific Ethanol - Madera	MIDWEST ETHANOL (from corn)	72.73
3	499 Sandalwood Drive Calimesa, 92320	Petro Diamond - Long Beach	MIDWEST ETHANOL (from corn)	79.90
4	9320 Mira Mesa Blvd San Diego, 92126	Transload - San Ysidro	MIDWEST ETHANOL (from corn)	71.84
5	13900 Palm Drive Desert Hot Springs, 92240	Petro Diamond - Long Beach	MIDWEST ETHANOL (from corn)	79.90
6	2831 Cesar Chavez St. San Francisco, 94110	Transload - McClellan	MIDWEST ETHANOL (from corn)	71.84
7	1740 Newport Blvd. Costa Mesa, 92627	Petro Diamond - Long Beach	MIDWEST ETHANOL (from corn)	79.90
8	2800 East Imperial Hwy Fullerton, 92835	Petro Diamond - Long Beach	MIDWEST ETHANOL (from corn)	79.90
9	30072 Crown Valley Pkwy Laguna Niguel, 92677	Petro Diamond - Long Beach	MIDWEST ETHANOL (from corn)	79.90
10	3774 Main St. San Diego, 92113	Transload - San Ysidro	MIDWEST ETHANOL (from corn)	71.84
11	1065 West Holt Ontario, 91761	Petro Diamond - Long Beach	MIDWEST ETHANOL (from corn)	71.90
12	2592 S. Cherry Ave. Fresno, 93706	Pacific Ethanol - Madera	MIDWEST ETHANOL (from corn)	72.73
13	17499 Yorba Linda Blvd. Yorba Linda, 92886	Petro Diamond - Long Beach	MIDWEST ETHANOL (from corn)	79.90
14	800 El Camino Real San Bruno, 94066	NuStar - Stockton	MIDWEST ETHANOL (from corn)	72.73
15	5675 Rosemead Ave Temple City, 91780	Petro Diamond - Long Beach	MIDWEST ETHANOL (from corn)	79.90
16	1701 East Main St. El Cajon, 92021	Transload - San Ysidro	MIDWEST ETHANOL (from corn)	71.84
17	159 South Eudid Ave. Upland, 91786	Petro Diamond - Long Beach	MIDWEST ETHANOL (from corn)	79.90
18	3810 Massachusetts Ave La Mesa, 91941	Transload - San Ysidro	MIDWEST ETHANOL (from corn)	71.84
19	10961 South Beach Blvd. Stanton, 90680	Petro Diamond - Long Beach	MIDWEST ETHANOL (from corn)	79.90

Source: Pearson Fuels

CHAPTER 4: Observations and Challenges

The project was categorically exempt from the California Environmental Quality Act, under Section 15301, Class 1, which consists of minor alterations of existing private structures. Pearson Fuels obtained the following for each of the stations from the various local jurisdictions: Conditional Use Permit, Fire Permit, Air Pollution District Permit, and Building Permit. Because Pearson Fuels did not build any canopies at the existing gas stations, the local building permit is the only form of miscellaneous electrical permit that the contractors obtained from the local building authority.

Negotiations for sites was a major hurdle in completing the stations on time. At some point, some of the station owners were not able to provide the support due to financial reasons and in some cases no longer had interest in E85 infrastructure. This resulted in site changes that ultimately required several amendments to the agreement.

Construction time was four to five weeks on average per station but the 8815 Lake Murray in San Diego took about three to four months due to the station owner's (G&M Oil) plan to complete other sites first. G&M Oil was contracted to build 10 of the 19 sites. The South Cherry Avenue station in Fresno also experienced some delays with the project. Asbestos was discovered on the existing gasoline canopy and these had to be removed before the project proceeded.

CHAPTER 5: Conclusions

Overall, the 19 New E85 stations have successfully supported the expansion of E85 fueling infrastructure throughout California.

Pearson Fuels expects continued E85 growth in California, and has a fuel structure where-by the E85 blend is sold to retailers at wholesale price after factoring price of gasoline, ethanol, freight, taxes, Low Carbon Fuel Standard credits, Renewable Identification Number credits, and other factors.

Pearson Fuels plan to continue to build E85 infrastructure in the most streamlined, inexpensive and efficient way possible, and has developed a smart phone app where consumers can find E85 sites and prices provided by the GasBuddy website (GasBuddy.com).

GLOSSARY

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)—Enacted in 1970 and amended through 1983, established state policy to maintain a high-quality environment in California and set up regulations to inhibit degradation of the environment.

ALTERNATIVE AND RENEWABLE FUELS AND VEHICLE TECHNOLOGY PROGRAM (ARFVTP)—Now known as the Clean Transportation Program, created by Assembly Bill 118 (Nunez, Chapter 750, Statutes of 2007), with an annual budget of about $100 million. Supports projects that develop and improve alternative and renewable low-carbon fuels, improve alternative and renewable fuels for existing and developing engine technologies, and expand transit and transportation infrastructures. Also establishes workforce training programs, conducts public education and promotion, and creates technology centers, among other tasks.

CALIFORNIA AIR RESOURCES BOARD (ARB)—The "clean air agency" in the government of California whose main goals include attaining and maintaining healthy air quality, protecting the public from exposure to toxic air contaminants, and providing innovative approaches for complying with air pollution rules and regulations.

CALIFORNIA ENERGY COMMISSION (CEC)—The state agency established by the Warren-Alquist State Energy Resources Conservation and Development Act in 1974 (Public Resources Code, Sections 25000 et seq.) responsible for energy policy. The CEC's five major areas of responsibilities are:

1. Forecasting future statewide energy needs.
2. Licensing power plants sufficient to meet those needs.
3. Promoting energy conservation and efficiency measures.
4. Developing renewable and alternative energy resources, including providing assistance to develop clean transportation fuels.
5. Planning for and directing state response to energy emergencies.

Funding for the CEC's activities comes from the Energy Resources Program Account, Federal Petroleum Violation Escrow Account, and other sources.

CARBON INTENSITY (CI)—The amount of carbon by weight emitted per unit of energy consumed. A common measure of carbon intensity is weight of carbon per British thermal unit (Btu) of energy. When there is only one fossil fuel under consideration, the carbon intensity and the emissions coefficient are identical. When there are several fuels, carbon intensity is based on their combined emissions coefficients weighted by their energy consumption levels.

ETHANOL-GASOLINE BLENDS OF 85% ETHANOL AND 15% GASOLINE (E85) — E85 is an abbreviation typically referring to an ethanol fuel blend of 85% ethanol fuel and 15% gasoline or other hydrocarbon by volume.[1]

[1] E85 Wikipedia (https://en.wikipedia.org/wiki/E85)

FLEX-FUEL VEHICLE (FFV)—FFVs are designed to run on gasoline or gasoline-ethanol blends of up to 85 percent ethanol (E85). Except for a few engine and fuel system modifications, they are identical to gasoline-only models. FFVs experience no loss in performance when operating on E85, and some generate more torque and horsepower than when operating on gasoline. However, since ethanol contains less energy per volume than gasoline, FFVs typically get about 15—27 percent fewer miles per gallon when fueled with E85.

GASOLINE GALLON EQUIVALENT (GGE)—The amount of alternative fuel it takes to equal the energy content of one liquid gallon of gasoline. GGE allows consumers to compare the energy content of competing fuels against a commonly known fuel—gasoline. GGE also compares gasoline to fuels sold as a gas (natural gas, propane, and hydrogen) and electricity.

GREENHOUSE GAS (GHG)—Any gas that absorbs infrared radiation in the atmosphere. Greenhouse gases include water vapor, carbon dioxide (CO2), methane (CH4), nitrous oxide (NOx), halogenated fluorocarbons (HCFCs), ozone (O3), perfluorinated carbons (PFCs), and hydrofluorocarbons (HFCs).

LOW CARBON FUEL STANDARD (LCFS)—A set of standards designed to encourage the use of cleaner low-carbon fuels in California, encourage the production of those fuels, and therefore reduce greenhouse gas emissions. The LCFS standards are expressed in terms of the carbon intensity of gasoline and diesel fuel and their respective substitutes. The LCFS is a key part of a comprehensive set of programs in California that aim cut greenhouse gas emissions and other smog-forming and toxic air pollutants by improving vehicle technology, reducing fuel consumption, and increasing transportation mobility options.

APPENDIX A: Stations Usage by Months

Tables A-1 through A-13 display the analysis of E-85 stations including location, emissions reduction, and daily use.

Table A-1: September 2017

STATION ADDRESS	E85 ETHANOL SALES	GALLONS OF GASOLINE DISPLACED BY E85	NUMBER OF VEHICLES FUELED PER DAY	NUMBER OF DAYS OPEN DURING REFERENCED PERIOD
1933 W. Highland Ave San Bernardino, 92407	15,450	8,498	54	30
6305 Morro Rd. Atascadero, 93422	14,988	8,243	52	30
499 Sandalwood Drive Calimesa, 92320	22,381	12,310	78	30
9320 Mira Mesa Blvd San Diego, 92126	0	0	0	0
13900 Palm Drive Desert Hot Springs, 92240	16,450	9,048	57	30
2831 Cesar Chavez St. San Francisco, 94110	7,680	4,224	27	30
1740 Newport Blvd. Costa Mesa, 92627	23,567	12,962	82	30
2800 East Imperial Hwy Fullerton, 92835	17,813	9,797	62	30
30072 Crown Valley Pkwy Laguna Niguel, 92677	0	0	0	0
3774 Main St. San Diego, 92113	30,265	16,646	105	30
1065 West Holt Ontario, 91761	35,092	19,301	122	30
2592 S. Cherry Ave. Fresno, 93706	0	0	0	0
17499 Yorba Linda Blvd. Yorba Linda, 92886	13,760	7,568	48	30
800 El Camino Real San Bruno, 94066	2,959	1,627	10	30
5675 Rosemead Ave Temple City, 91780	14,841	8,163	52	30
1701 East Main St. El Cajon, 92021	19,303	10,617	67	30
159 South Euclid Ave. Upland, 91786	14,174	7,796	49	30
3810 Massachusetts Ave La Mesa, 91941	21,693	11,931	75	30
10961 South Beach Blvd. Stanton, 90680	15,636	8,600	54	30
TOTAL	**286,052**	**157,329**		
ALL VOLUMES ON THIS CHART ARE DISPLAYED IN US GALLONS				

Source: Pearson Fuels

Table A-2: October 2017

STATION ADDRESS	E85 ETHANOL SALES	GALLONS OF GASOLINE DISPLACED BY E85	NUMBER OF VEHICLES FUELED PER DAY	NUMBER OF DAYS OPEN DURING REFERENCED PERIOD
1933 W. Highland Ave San Bernardino, 92407	30,733	16,903	103	31
6305 Morro Rd. Atascadero, 93422	22,640	12,452	76	31
499 Sandalwood Drive Calimesa, 92320	29,185	16,052	98	31
9320 Mira Mesa Blvd San Diego, 92126	7,912	4,352	39	21
13900 Palm Drive Desert Hot Springs, 92240	19,249	10,587	65	31
2831 Cesar Chavez St. San Francisco, 94110	7,732	4,253	26	31
1740 Newport Blvd. Costa Mesa, 92627	15,871	8,729	53	31
2800 East Imperial Hwy Fullerton, 92835	12,001	6,601	40	31
30072 Crown Valley Pkwy Laguna Niguel, 92677	0	0	0	0
3774 Main St. San Diego, 92113	33,626	18,494	113	31
1065 West Holt Ontario, 91761	32,714	17,993	110	31
2592 S. Cherry Ave. Fresno, 93706	0	0	0	0
17499 Yorba Linda Blvd. Yorba Linda, 92886	12,702	6,986	43	31
800 El Camino Real San Bruno, 94066	0	0	0	31
5675 Rosemead Ave Temple City, 91780	15,767	8,672	53	31
1701 East Main St. El Cajon, 92021	17,087	9,398	57	31
159 South Euclid Ave. Upland, 91786	11,717	6,444	39	31
3810 Massachusetts Ave La Mesa, 91941	15,805	8,693	53	31
10961 South Beach Blvd. Stanton, 90680	21,422	11,782	72	31
TOTAL	**306,163**	**168,390**		
ALL VOLUMES ON THIS CHART ARE DISPLAYED IN US GALLONS				

Source: Pearson Fuels

Table A-3: November 2017

STATION ADDRESS	E85 ETHANOL SALES	GALLONS OF GASOLINE DISPLACED BY E85	NUMBER OF VEHICLES FUELED PER DAY	NUMBER OF DAYS OPEN DURING REFERENCED PERIOD
1933 W. Highland Ave San Bernardino, 92407	28,522	15,687	99	30
6305 Morro Rd. Atascadero, 93422	15,357	8,446	53	30
499 Sandalwood Drive Calimesa, 92320	22,894	12,592	79	30
9320 Mira Mesa Blvd San Diego, 92126	7,951	4,373	28	30
13900 Palm Drive Desert Hot Springs, 92240	23,106	12,708	80	30
2831 Cesar Chavez St. San Francisco, 94110	7,781	4,280	27	30
1740 Newport Blvd. Costa Mesa, 92627	24,468	13,457	85	30
2800 East Imperial Hwy Fullerton, 92835	16,905	9,298	59	30
30072 Crown Valley Pkwy Laguna Niguel, 92677	7,738	4,256	27	30
3774 Main St. San Diego, 92113	35,417	19,479	123	30
1065 West Holt Ontario, 91761	46,874	25,781	163	30
2592 S. Cherry Ave. Fresno, 93706	0	0	0	0
17499 Yorba Linda Blvd. Yorba Linda, 92886	11,242	6,183	39	30
800 El Camino Real San Bruno, 94066	0	0	0	30
5675 Rosemead Ave Temple City, 91780	14,336	7,885	50	30
1701 East Main St. El Cajon, 92021	21,299	11,714	74	30
159 South Euclid Ave. Upland, 91786	17,909	9,850	62	30
3810 Massachusetts Ave La Mesa, 91941	15,917	8,754	55	30
10961 South Beach Blvd. Stanton, 90680	17,915	9,853	62	30
TOTAL	**335,631**	**184,597**		
ALL VOLUMES ON THIS CHART ARE DISPLAYED IN US GALLONS				

Source: Pearson Fuels

Table A-4: December 2017

STATION ADDRESS	E85 ETHANOL SALES	GALLONS OF GASOLINE DISPLACED BY E85	NUMBER OF VEHICLES FUELED PER DAY	NUMBER OF DAYS OPEN DURING REFERENCED PERIOD
1933 W. Highland Ave San Bernardino, 92407	26,968	14,832	91	31
6305 Morro Rd. Atascadero, 93422	23,158	12,737	78	31
499 Sandalwood Drive Calimesa, 92320	27,377	15,057	92	31
9320 Mira Mesa Blvd San Diego, 92126	19,453	10,699	65	31
13900 Palm Drive Desert Hot Springs, 92240	18,755	10,315	63	31
2831 Cesar Chavez St. San Francisco, 94110	7,853	4,319	26	31
1740 Newport Blvd. Costa Mesa, 92627	24,774	13,626	83	31
2800 East Imperial Hwy Fullerton, 92835	19,965	10,981	67	31
30072 Crown Valley Pkwy Laguna Niguel, 92677	7,811	4,296	26	31
3774 Main St. San Diego, 92113	35,563	19,560	119	31
1065 West Holt Ontario, 91761	40,147	22,081	135	31
2592 S. Cherry Ave. Fresno, 93706	0	0	0	0
17499 Yorba Linda Blvd. Yorba Linda, 92886	11,673	6,420	39	31
800 El Camino Real San Bruno, 94066	7,816	4,299	26	31
5675 Rosemead Ave Temple City, 91780	18,965	10,431	64	31
1701 East Main St. El Cajon, 92021	20,578	11,318	69	31
159 South Euclid Ave. Upland, 91786	16,957	9,326	57	31
3810 Massachusetts Ave La Mesa, 91941	22,357	12,296	75	31
10961 South Beach Blvd. Stanton, 90680	17,980	9,889	60	31
TOTAL	**368,150**	**202,483**		
ALL VOLUMES ON THIS CHART ARE DISPLAYED IN US GALLONS				

Source: Pearson Fuels

Table A-5: January 2018

STATION ADDRESS	E85 ETHANOL SALES	GALLONS OF GASOLINE DISPLACED BY E85	NUMBER OF VEHICLES FUELED PER DAY	NUMBER OF DAYS OPEN DURING REFERENCED PERIOD
1933 W. Highland Ave San Bernardino, 92407	21,973	12,085	74	31
6305 Morro Rd. Atascadero, 93422	15,181	8,350	51	31
499 Sandalwood Drive Calimesa, 92320	23,773	13,075	80	31
9320 Mira Mesa Blvd San Diego, 92126	21,978	12,088	74	31
13900 Palm Drive Desert Hot Springs, 92240	21,784	11,981	73	31
2831 Cesar Chavez St. San Francisco, 94110	7,855	4,320	26	31
1740 Newport Blvd. Costa Mesa, 92627	18,985	10,442	64	31
2800 East Imperial Hwy Fullerton, 92835	16,010	8,806	54	31
30072 Crown Valley Pkwy Laguna Niguel, 92677	7,790	4,285	26	31
3774 Main St. San Diego, 92113	32,945	18,120	111	31
1065 West Holt Ontario, 91761	37,170	20,444	125	31
2592 S. Cherry Ave. Fresno, 93706		0	0	0
17499 Yorba Linda Blvd. Yorba Linda, 92886	11,777	6,477	40	31
800 El Camino Real San Bruno, 94066	6,500	3,575	22	31
5675 Rosemead Ave Temple City, 91780	14,975	8,236	50	31
1701 East Main St. El Cajon, 92021	18,183	10,001	61	31
159 South Euclid Ave. Upland, 91786	16,681	9,175	56	31
3810 Massachusetts Ave La Mesa, 91941	14,990	8,245	50	31
10961 South Beach Blvd. Stanton, 90680	13,789	7,584	46	31
TOTAL	**322,339**	**177,286**		
ALL VOLUMES ON THIS CHART ARE DISPLAYED IN US GALLONS				

Source: Pearson Fuels

Table A-6: February 2018

STATION ADDRESS	E85 ETHANOL SALES	GALLONS OF GASOLINE DISPLACED BY E85	NUMBER OF VEHICLES FUELED PER DAY	NUMBER OF DAYS OPEN DURING REFERENCED PERIOD
1933 W. Highland Ave San Bernardino, 92407	10,288	5,658	35	31
6305 Morro Rd. Atascadero, 93422	22,834	12,559	77	31
499 Sandalwood Drive Calimesa, 92320	27,952	15,374	94	31
9320 Mira Mesa Blvd San Diego, 92126	20,959	11,527	70	31
13900 Palm Drive Desert Hot Springs, 92240	19,973	10,985	67	31
2831 Cesar Chavez St. San Francisco, 94110	7,869	4,328	26	31
1740 Newport Blvd. Costa Mesa, 92627	23,374	12,856	79	31
2800 East Imperial Hwy Fullerton, 92835	22,124	12,168	74	31
30072 Crown Valley Pkwy Laguna Niguel, 92677	7,811	4,296	26	31
3774 Main St. San Diego, 92113	38,530	21,192	129	31
1065 West Holt Ontario, 91761	43,142	23,728	145	31
2592 S. Cherry Ave. Fresno, 93706		0	0	0
17499 Yorba Linda Blvd. Yorba Linda, 92886	11,384	6,261	38	31
800 El Camino Real San Bruno, 94066		0	0	31
5675 Rosemead Ave Temple City, 91780	15,874	8,731	53	31
1701 East Main St. El Cajon, 92021	22,968	12,632	77	31
159 South Euclid Ave. Upland, 91786	16,973	9,335	57	31
3810 Massachusetts Ave La Mesa, 91941	22,619	12,440	76	31
10961 South Beach Blvd. Stanton, 90680	19,981	10,990	67	31
TOTAL	**354,655**	**195,060**		
ALL VOLUMES ON THIS CHART ARE DISPLAYED IN US GALLONS				

Source: Pearson Fuels

Table A-7: March 2018

STATION ADDRESS	E85 ETHANOL SALES	GALLONS OF GASOLINE DISPLACED BY E85	NUMBER OF VEHICLES FUELED PER DAY	NUMBER OF DAYS OPEN DURING REFERENCED PERIOD
1933 W. Highland Ave San Bernardino, 92407	23,358	12,847	78	31
6305 Morro Rd. Atascadero, 93422	22,219	12,220	75	31
499 Sandalwood Drive Calimesa, 92320	27,259	14,992	92	31
9320 Mira Mesa Blvd San Diego, 92126	20,946	11,520	70	31
13900 Palm Drive Desert Hot Springs, 92240	25,159	13,837	85	31
2831 Cesar Chavez St. San Francisco, 94110	7,809	4,295	26	31
1740 Newport Blvd. Costa Mesa, 92627	24,966	13,731	84	31
2800 East Imperial Hwy Fullerton, 92835	22,142	12,178	74	31
30072 Crown Valley Pkwy Laguna Niguel, 92677	6,994	3,847	24	31
3774 Main St. San Diego, 92113	43,495	23,922	146	31
1065 West Holt Ontario, 91761	55,124	30,318	185	31
2592 S. Cherry Ave. Fresno, 93706	0	0	0	0
17499 Yorba Linda Blvd. Yorba Linda, 92886	12,769	7,023	43	31
800 El Camino Real San Bruno, 94066	7,820	4,301	26	31
5675 Rosemead Ave Temple City, 91780	17,783	9,781	60	31
1701 East Main St. El Cajon, 92021	25,354	13,945	85	31
159 South Euclid Ave. Upland, 91786	15,589	8,574	52	31
3810 Massachusetts Ave La Mesa, 91941	15,245	8,385	51	31
10961 South Beach Blvd. Stanton, 90680	19,763	10,870	66	31
TOTAL	**393,794**	**216,587**		
ALL VOLUMES ON THIS CHART ARE DISPLAYED IN US GALLONS				

Source: Pearson Fuels

Table A-8: April 2018

STATION ADDRESS	E85 ETHANOL SALES	GALLONS OF GASOLINE DISPLACED BY E85	NUMBER OF VEHICLES FUELED PER DAY	NUMBER OF DAYS OPEN DURING REFERENCED PERIOD
1933 W. Highland Ave San Bernardino, 92407	15,423	8,483	54	30
6305 Morro Rd. Atascadero, 93422	21,277	11,702	74	30
499 Sandalwood Drive Calimesa, 92320	28,864	15,875	100	30
9320 Mira Mesa Blvd San Diego, 92126	20,851	11,468	72	30
13900 Palm Drive Desert Hot Springs, 92240	29,854	16,420	104	30
2831 Cesar Chavez St. San Francisco, 94110	7,772	4,275	27	30
1740 Newport Blvd. Costa Mesa, 92627	23,182	12,750	80	30
2800 East Imperial Hwy Fullerton, 92835	20,556	11,306	71	30
30072 Crown Valley Pkwy Laguna Niguel, 92677	7,764	4,270	27	30
3774 Main St. San Diego, 92113	40,318	22,175	140	30
1065 West Holt Ontario, 91761	52,395	28,817	182	30
2592 S. Cherry Ave. Fresno, 93706	7,661	4,214	200	4
17499 Yorba Linda Blvd. Yorba Linda, 92886	15,743	8,659	55	30
800 El Camino Real San Bruno, 94066	7,791	4,285	27	30
5675 Rosemead Ave Temple City, 91780	22,902	12,596	80	30
1701 East Main St. El Cajon, 92021	20,121	11,067	70	30
159 South Euclid Ave. Upland, 91786	24,916	13,704	87	30
3810 Massachusetts Ave La Mesa, 91941	23,446	12,895	81	30
10961 South Beach Blvd. Stanton, 90680	23,710	13,041	82	30
TOTAL	**414,546**	**228,000**		
ALL VOLUMES ON THIS CHART ARE DISPLAYED IN US GALLONS				

Source: Pearson Fuels

Table A-9: May 2018

STATION ADDRESS	E85 ETHANOL SALES	GALLONS OF GASOLINE DISPLACED BY E85	NUMBER OF VEHICLES FUELED PER DAY	NUMBER OF DAYS OPEN DURING REFERENCED PERIOD
1933 W. Highland Ave San Bernardino, 92407	19,267	10,597	65	31
6305 Morro Rd. Atascadero, 93422	22,539	12,396	76	31
499 Sandalwood Drive Calimesa, 92320	31,427	17,285	106	31
9320 Mira Mesa Blvd San Diego, 92126	21,353	11,744	72	31
13900 Palm Drive Desert Hot Springs, 92240	23,842	13,113	80	31
2831 Cesar Chavez St. San Francisco, 94110	7,750	4,263	26	31
1740 Newport Blvd. Costa Mesa, 92627	26,642	14,653	90	31
2800 East Imperial Hwy Fullerton, 92835	26,537	14,595	89	31
30072 Crown Valley Pkwy Laguna Niguel, 92677	15,521	8,537	52	31
3774 Main St. San Diego, 92113	49,296	27,113	166	31
1065 West Holt Ontario, 91761	51,469	28,308	173	31
2592 S. Cherry Ave. Fresno, 93706	0	0	0	31
17499 Yorba Linda Blvd. Yorba Linda, 92886	12,926	7,109	43	31
800 El Camino Real San Bruno, 94066	13,905	7,648	47	31
5675 Rosemead Ave Temple City, 91780	19,894	10,942	67	31
1701 East Main St. El Cajon, 92021	28,641	15,753	96	31
159 South Euclid Ave. Upland, 91786	18,077	9,942	61	31
3810 Massachusetts Ave La Mesa, 91941	27,616	15,189	93	31
10961 South Beach Blvd. Stanton, 90680	19,669	10,818	66	31
TOTAL	**436,371**	**240,004**		
ALL VOLUMES ON THIS CHART ARE DISPLAYED IN US GALLONS				

Source: Pearson Fuels

Table A-10: June 2018

	STATION ADDRESS	E85 ETHANOL SALES	GALLONS OF GASOLINE DISPLACED BY E85	NUMBER OF VEHICLES FUELED PER DAY	NUMBER OF DAYS OPEN DURING REFERENCED PERIOD
R037	1933 W. Highland Ave San Bernardino, 92407	22,912	12,602	80	30
R011	6305 Morro Rd. Atascadero, 93422	22,028	12,115	76	30
GM080	499 Sandalwood Drive Calimesa, 92320	25,761	14,169	89	30
R044	9320 Mira Mesa Blvd San Diego, 92126	28,008	15,404	0	0
GM122	13900 Palm Drive Desert Hot Springs, 92240	23,609	12,985	82	30
R015	2831 Cesar Chavez St. San Francisco, 94110	7,731	4,252	27	30
GM043	1740 Newport Blvd. Costa Mesa, 92627	27,657	15,211	96	30
R026	2800 East Imperial Hwy Fullerton, 92835	21,429	11,786	74	30
R046	30072 Crown Valley Pkwy Laguna Niguel, 92677	15,471	8,509	54	30
GM045	3774 Main St. San Diego, 92113	46,235	25,429	161	30
GM009	1065 West Holt Ontario, 91761	51,358	28,247	178	30
R051	2592 S. Cherry Ave. Fresno, 93706	0	0	0	30
GM085	17499 Yorba Linda Blvd. Yorba Linda, 92886	12,887	7,088	45	30
R043	800 El Camino Real San Bruno, 94066	6,920	3,806	24	30
GM139	5675 Rosemead Ave Temple City, 91780	20,031	11,017	70	30
GM059	1701 East Main St. El Cajon, 92021	21,818	12,000	76	30
GM022	159 South Euclid Ave. Upland, 91786	0	0	0	0
R009	3810 Massachusetts Ave La Mesa, 91941	28,110	15,461	98	30
GM050	10961 South Beach Blvd. Stanton, 90680	20,840	11,462	72	30
	TOTAL	**402,805**	**221,543**		
	ALL VOLUMES ON THIS CHART ARE DISPLAYED IN US GALLONS				

Source: Pearson Fuels

Table A-11: July 2018

	STATION ADDRESS	E85 ETHANOL SALES	GALLONS OF GASOLINE DISPLACED BY E85	NUMBER OF VEHICLES FUELED PER DAY	NUMBER OF DAYS OPEN DURING REFERENCED PERIOD
R037	1933 W. Highland Ave San Bernardino, 92407	22,898	12,594	80	30
R011	6305 Morro Rd. Atascadero, 93422	21,908	12,049	76	30
GM080	499 Sandalwood Drive Calimesa, 92320	28,038	15,421	97	30
R044	9320 Mira Mesa Blvd San Diego, 92126	21,262	11,694	0	0
GM122	13900 Palm Drive Desert Hot Springs, 92240	23,501	12,926	82	30
R015	2831 Cesar Chavez St. San Francisco, 94110	15,355	8,445	53	30
GM043	1740 Newport Blvd. Costa Mesa, 92627	24,297	13,363	84	30
R026	2800 East Imperial Hwy Fullerton, 92835	22,815	12,548	79	30
R046	30072 Crown Valley Pkwy Laguna Niguel, 92677	7,708	4,239	27	30
GM045	3774 Main St. San Diego, 92113	45,205	24,863	157	30
GM009	1065 West Holt Ontario, 91761	49,698	27,334	173	30
R051	2592 S. Cherry Ave. Fresno, 93706	7,598	4,179	0	0
GM085	17499 Yorba Linda Blvd. Yorba Linda, 92886	12,644	6,954	44	30
R043	800 El Camino Real San Bruno, 94066	13,806	7,593	48	30
GM139	5675 Rosemead Ave Temple City, 91780	23,109	12,710	80	30
GM059	1701 East Main St. El Cajon, 92021	24,513	13,482	85	30
GM022	159 South Euclid Ave. Upland, 91786	0	0	0	0
R009	3810 Massachusetts Ave La Mesa, 91941	22,309	12,270	77	30
GM050	10961 South Beach Blvd. Stanton, 90680	23,531	12,942	82	30
	TOTAL	**410,195**	**225,607**		
	ALL VOLUMES ON THIS CHART ARE DISPLAYED IN US GALLONS				

Source: Pearson Fuels

Table A-12: August 2018

	STATION ADDRESS	E85 ETHANOL SALES	GALLONS OF GASOLINE DISPLACED BY E85	NUMBER OF VEHICLES FUELED PER DAY	NUMBER OF DAYS OPEN DURING REFERENCED PERIOD
R037	1933 W. Highland Ave San Bernardino, 92407	21,019	11,560	73	30
R011	6305 Morro Rd. Atascadero, 93422	28,213	15,517	98	30
GM080	499 Sandalwood Drive Calimesa, 92320	28,018	15,410	97	30
R044	9320 Mira Mesa Blvd San Diego, 92126	16,377	9,007	0	0
GM122	13900 Palm Drive Desert Hot Springs, 92240	20,330	11,182	71	30
R015	2831 Cesar Chavez St. San Francisco, 94110	7,710	4,241	27	30
GM043	1740 Newport Blvd. Costa Mesa, 92627	25,647	14,106	89	30
R026	2800 East Imperial Hwy Fullerton, 92835	22,000	12,100	76	30
R046	30072 Crown Valley Pkwy Laguna Niguel, 92677	13,830	7,607	48	30
GM045	3774 Main St. San Diego, 92113	49,767	27,372	173	30
GM009	1065 West Holt Ontario, 91761	55,850	30,718	194	30
R051	2592 S. Cherry Ave. Fresno, 93706	12,725	6,999	0	0
GM085	17499 Yorba Linda Blvd. Yorba Linda, 92886	13,822	7,602	48	30
R043	800 El Camino Real San Bruno, 94066	18,335	10,084	64	30
GM139	5675 Rosemead Ave Temple City, 91780	20,347	11,191	71	30
GM059	1701 East Main St. El Cajon, 92021	25,853	14,219	90	30
GM022	159 South Euclid Ave. Upland, 91786	0	0	0	0
R009	3810 Massachusetts Ave La Mesa, 91941	26,700	14,685	93	30
GM050	10961 South Beach Blvd. Stanton, 90680	21,121	11,617	73	30
	TOTAL	**427,664**	**235,215**		
	ALL VOLUMES ON THIS CHART ARE DISPLAYED IN US GALLONS				

Source: Pearson Fuels

Table A-13: September 2018

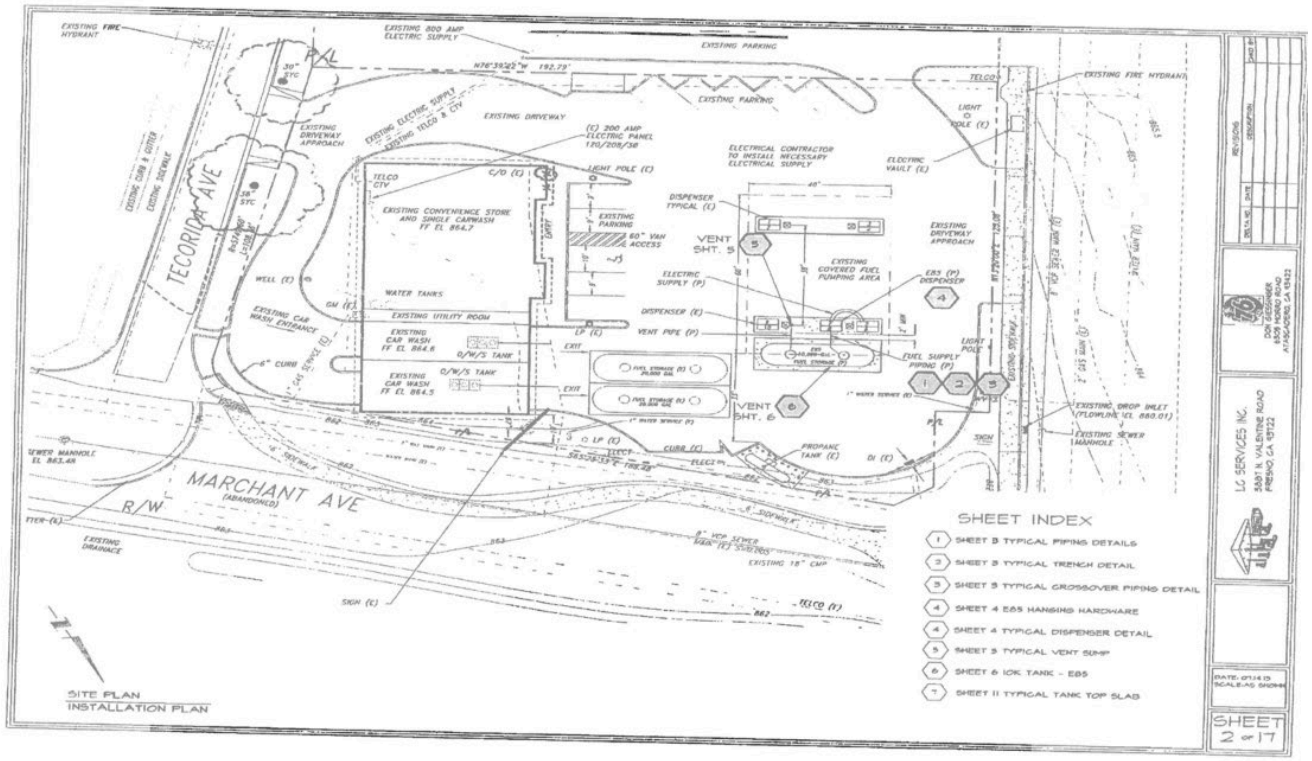
	STATION ADDRESS	E85 ETHANOL SALES	GALLONS OF GASOLINE DISPLACED BY E85	NUMBER OF VEHICLES FUELED PER DAY	NUMBER OF DAYS OPEN DURING REFERENCED PERIOD
R037	1933 W. Highland Ave San Bernardino, 92407	21,840	12,012	76	30
R011	6305 Morro Rd. Atascadero, 93422	22,018	12,110	76	30
GM080	499 Sandalwood Drive Calimesa, 92320	24,715	13,593	86	30
R044	9320 Mira Mesa Blvd San Diego, 92126	20,769	11,423	0	0
GM122	13900 Palm Drive Desert Hot Springs, 92240	22,161	12,189	77	30
R015	2831 Cesar Chavez St. San Francisco, 94110	7,589	4,174	26	30
GM043	1740 Newport Blvd. Costa Mesa, 92627	22,166	12,191	77	30
R026	2800 East Imperial Hwy Fullerton, 92835	17,600	9,680	61	30
R046	30072 Crown Valley Pkwy Laguna Niguel, 92677	11,684	6,426	41	30
GM045	3774 Main St. San Diego, 92113	45,086	24,797	157	30
GM009	1065 West Holt Ontario, 91761	50,062	27,534	174	30
R051	2592 S. Cherry Ave. Fresno, 93706	26,425	14,534	0	0
GM085	17499 Yorba Linda Blvd. Yorba Linda, 92886	8,910	4,901	31	30
R043	800 El Camino Real San Bruno, 94066	7,440	4,092	26	30
GM139	5675 Rosemead Ave Temple City, 91780	22,357	12,296	78	30
GM059	1701 East Main St. El Cajon, 92021	17,828	9,805	62	30
GM022	159 South Euclid Ave. Upland, 91786	0	0	0	0
R009	3810 Massachusetts Ave La Mesa, 91941	22,105	12,158	77	30
GM050	10961 South Beach Blvd. Stanton, 90680	14,836	8,160	52	30
	TOTAL	**385,591**	**212,075**		
	ALL VOLUMES ON THIS CHART ARE DISPLAYED IN US GALLONS				

Source: Pearson Fuels

APPENDIX B: Station Site Plans

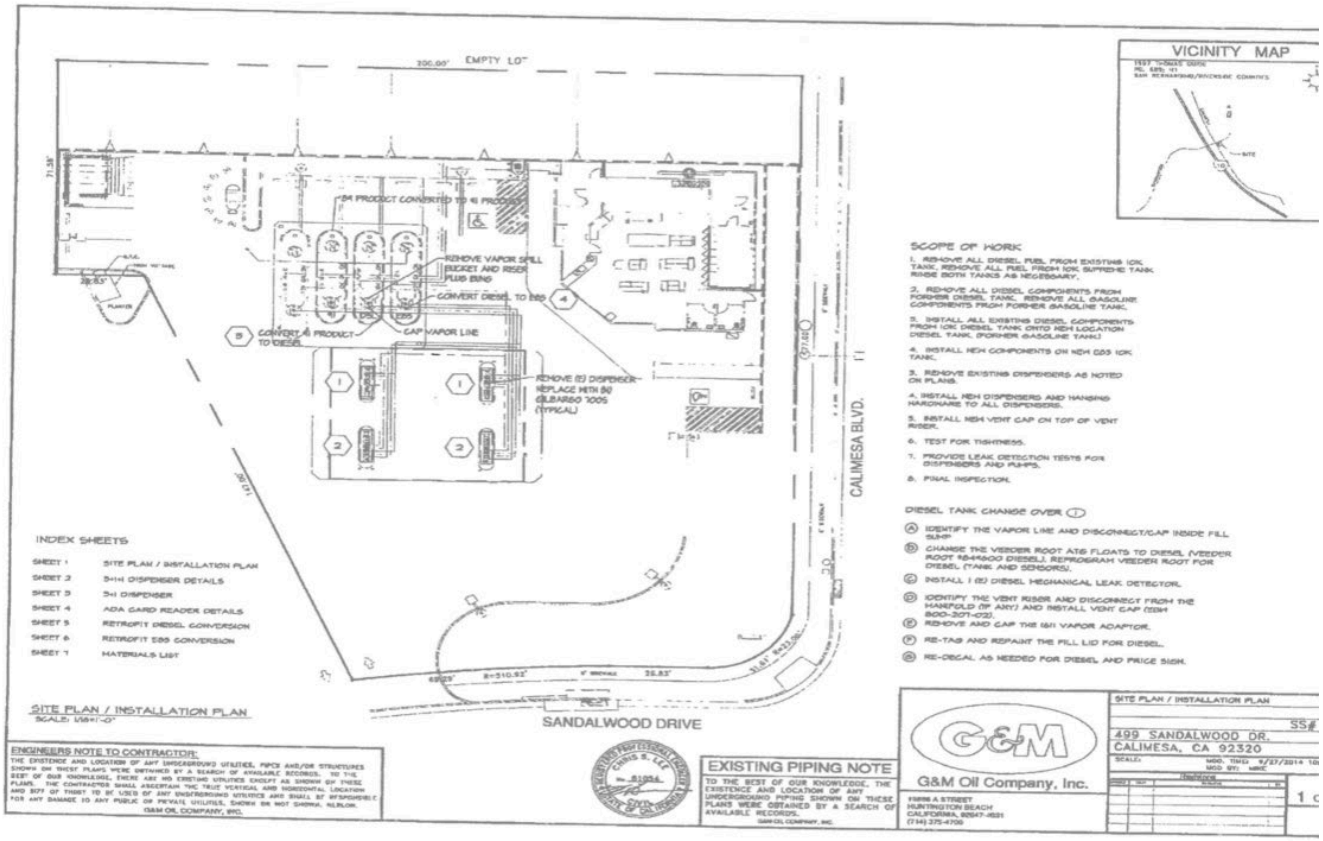
Figure B-1 through B-18 show station site plans across California using detailed maps.

Figure B-1: Site Plan Atascadero



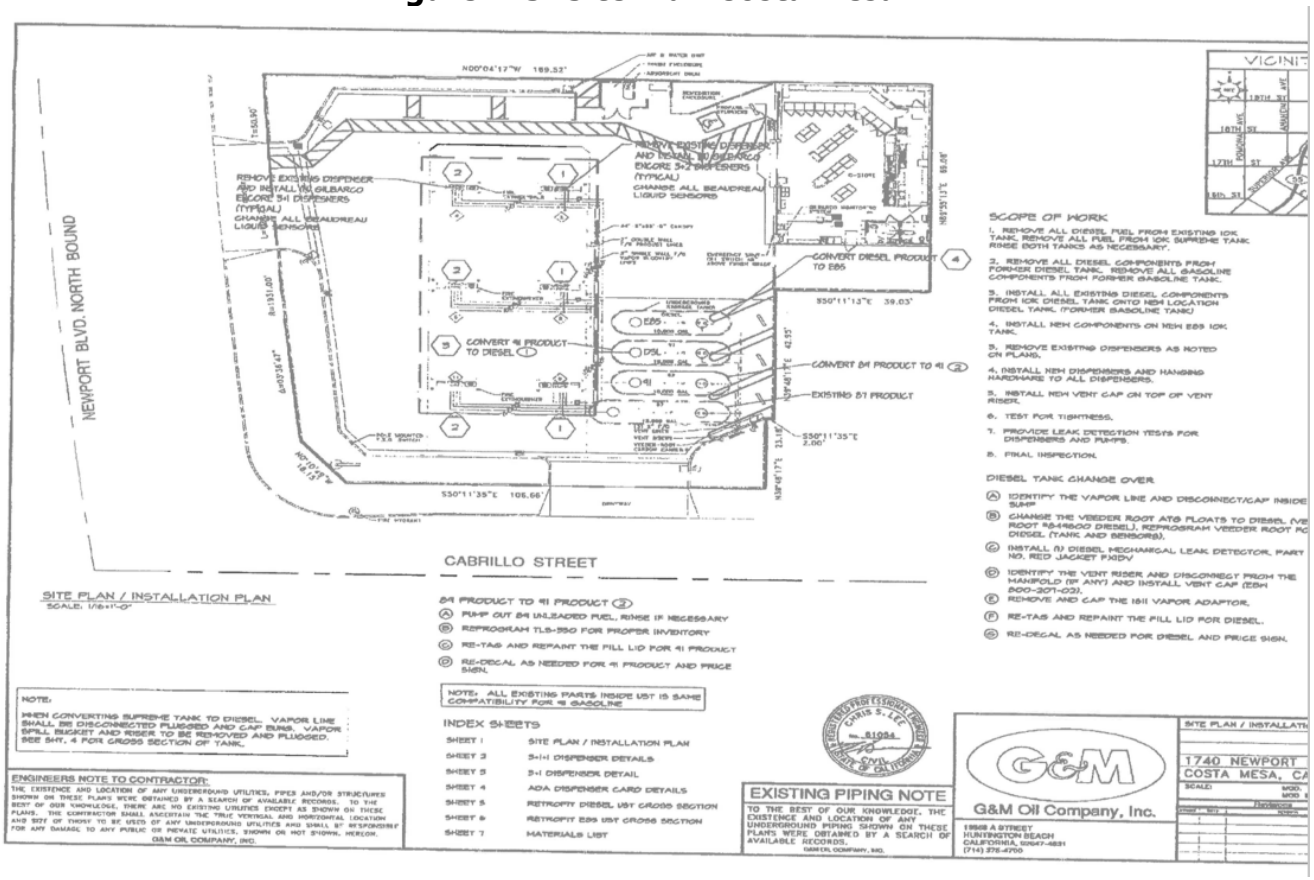
Source: Pearson Fuels. Original figure is higher resolution.

Figure B-2: Site Plan Calimesa



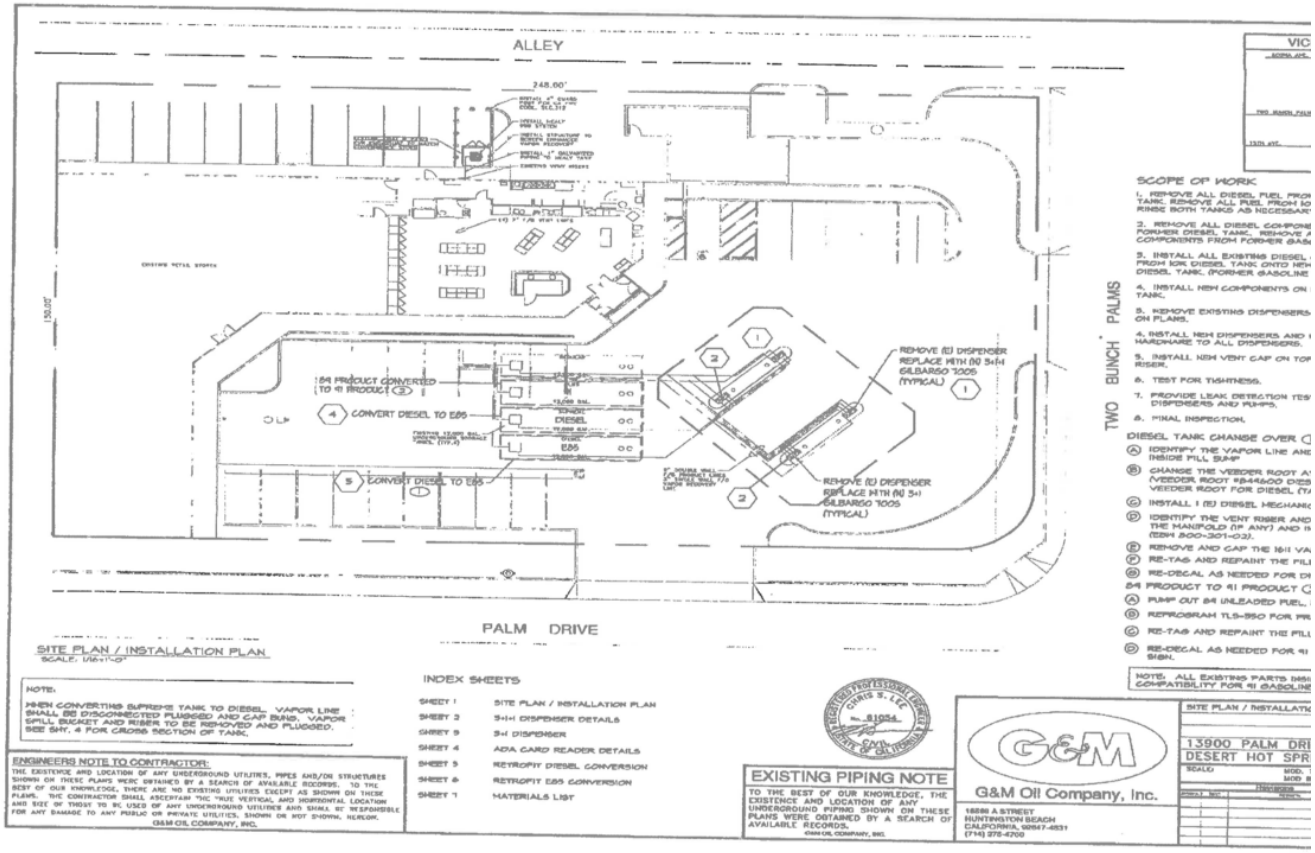
Source: Pearson Fuels. Original figure is higher resolution.

Figure B-3: Site Plan Costa Mesa



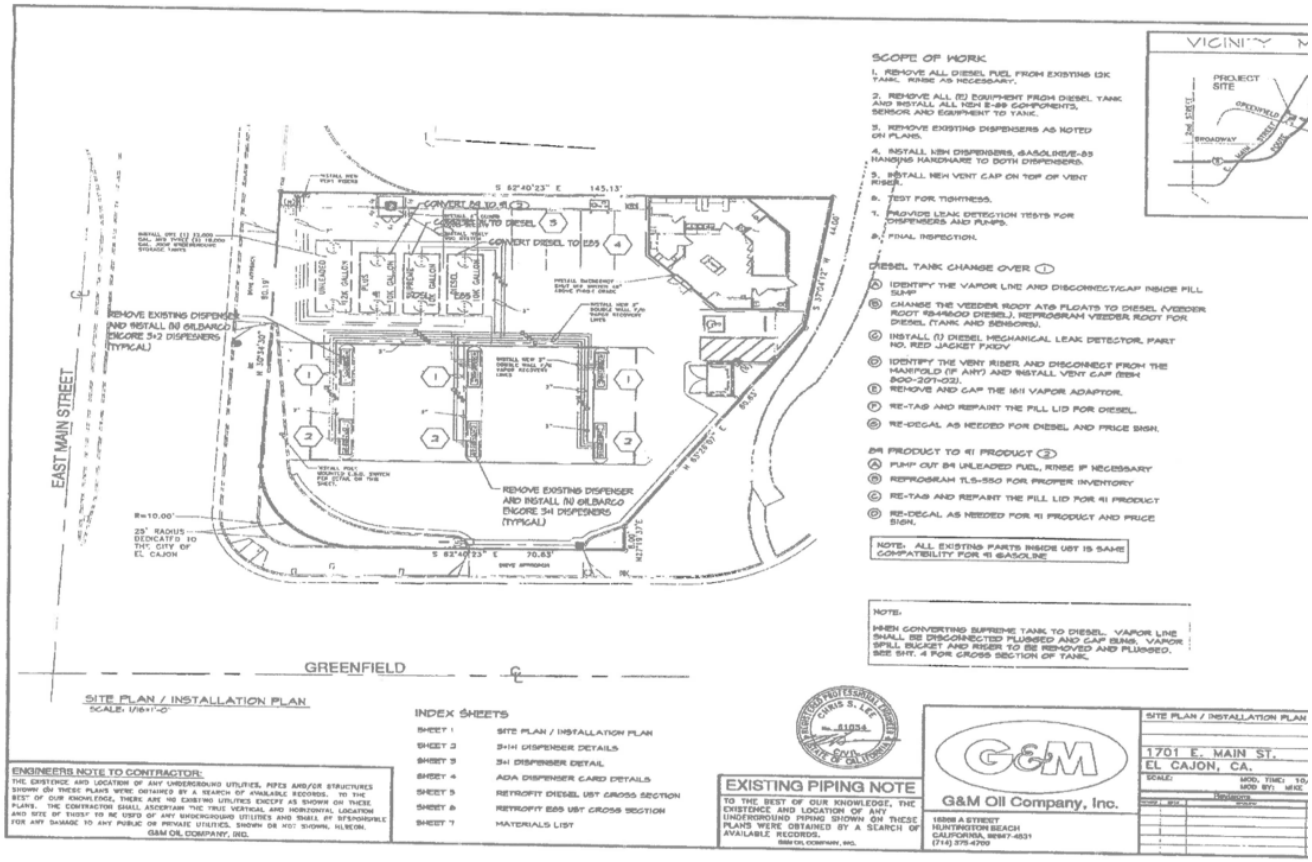
Source: Pearson Fuels. Original figure is higher resolution.

Figure B-4: Site Plan Desert Hot Springs



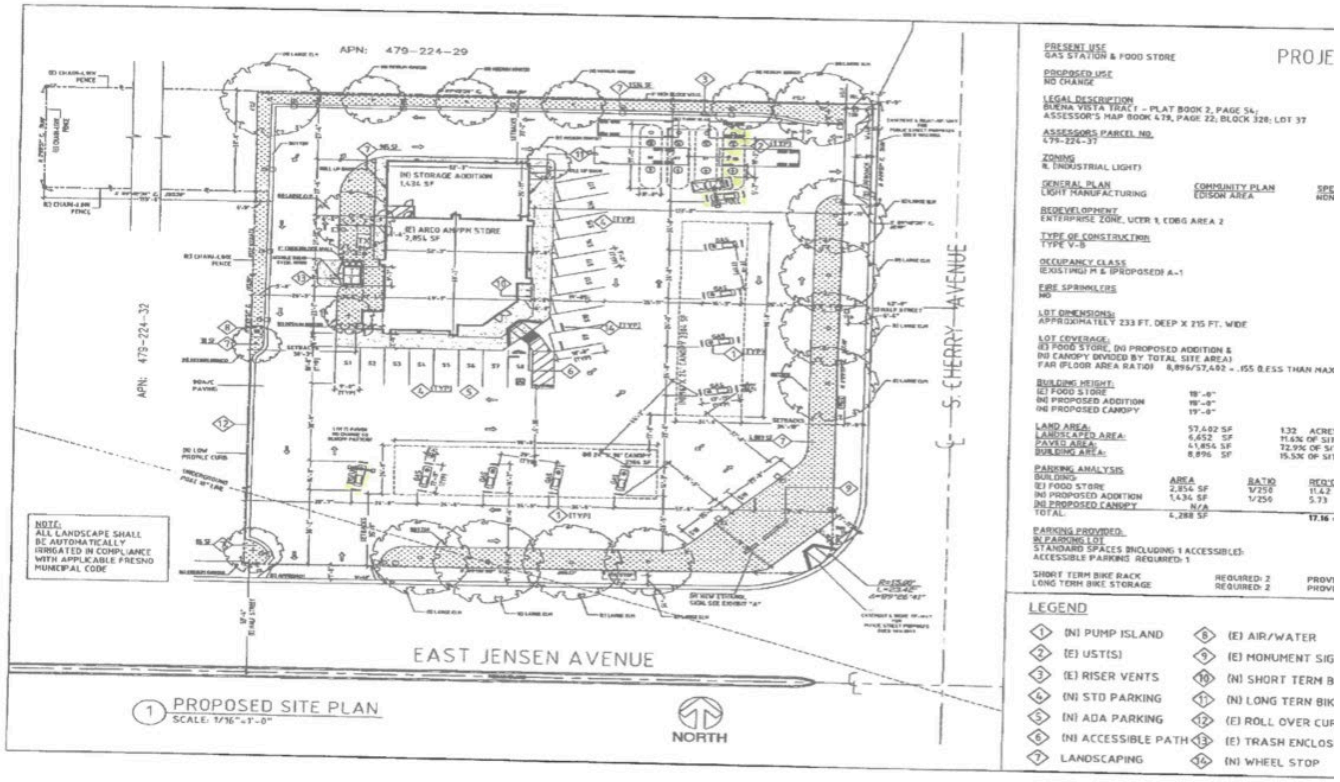
Source: Pearson Fuels. Original figure is higher resolution.

Figure B-5: Site Plan El Cajon



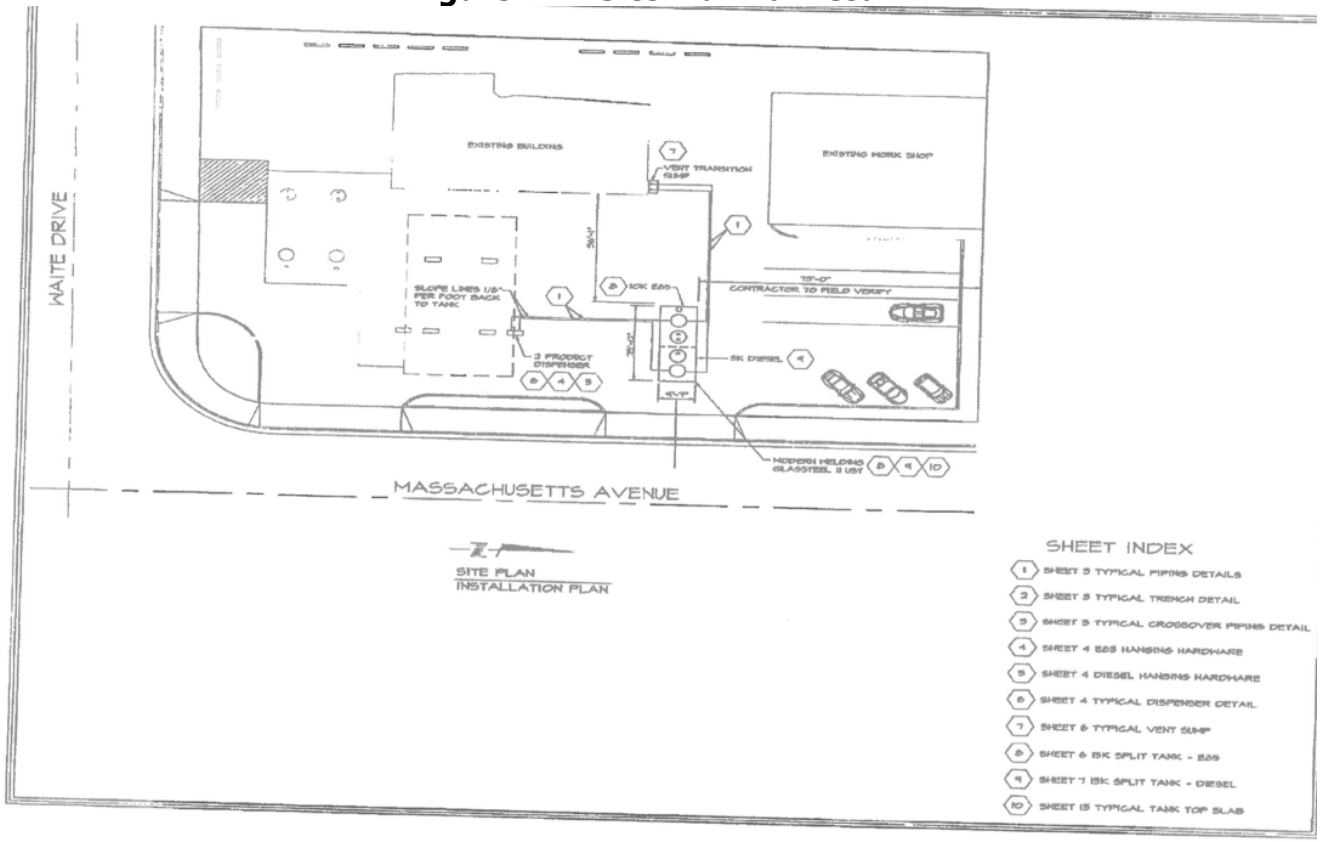
Source: Pearson Fuels. Original figure is higher resolution.

Figure B-6: Site Plan Fresno



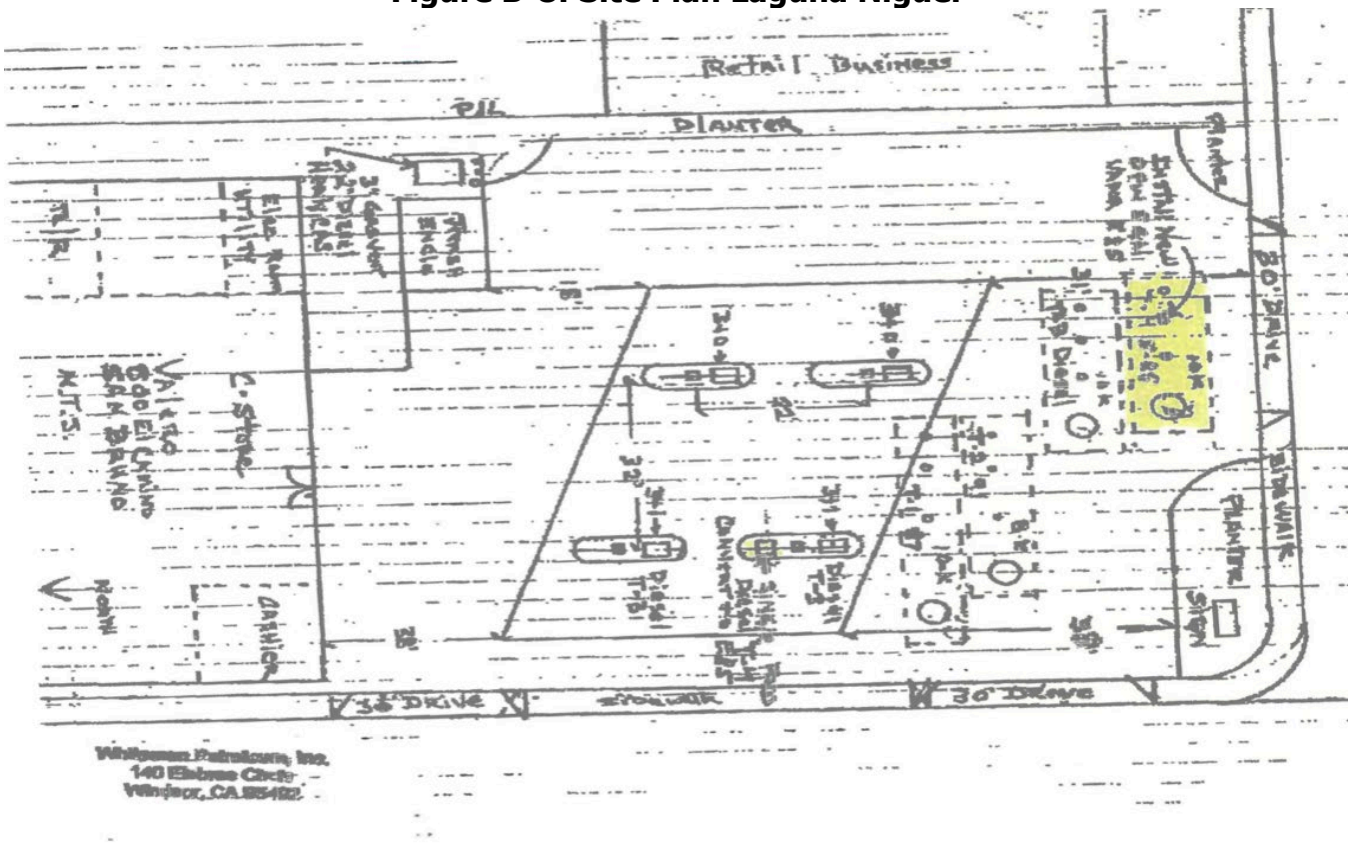
Source: Pearson Fuels. Original figure is higher resolution.

Figure B-7: Site Plan La Mesa



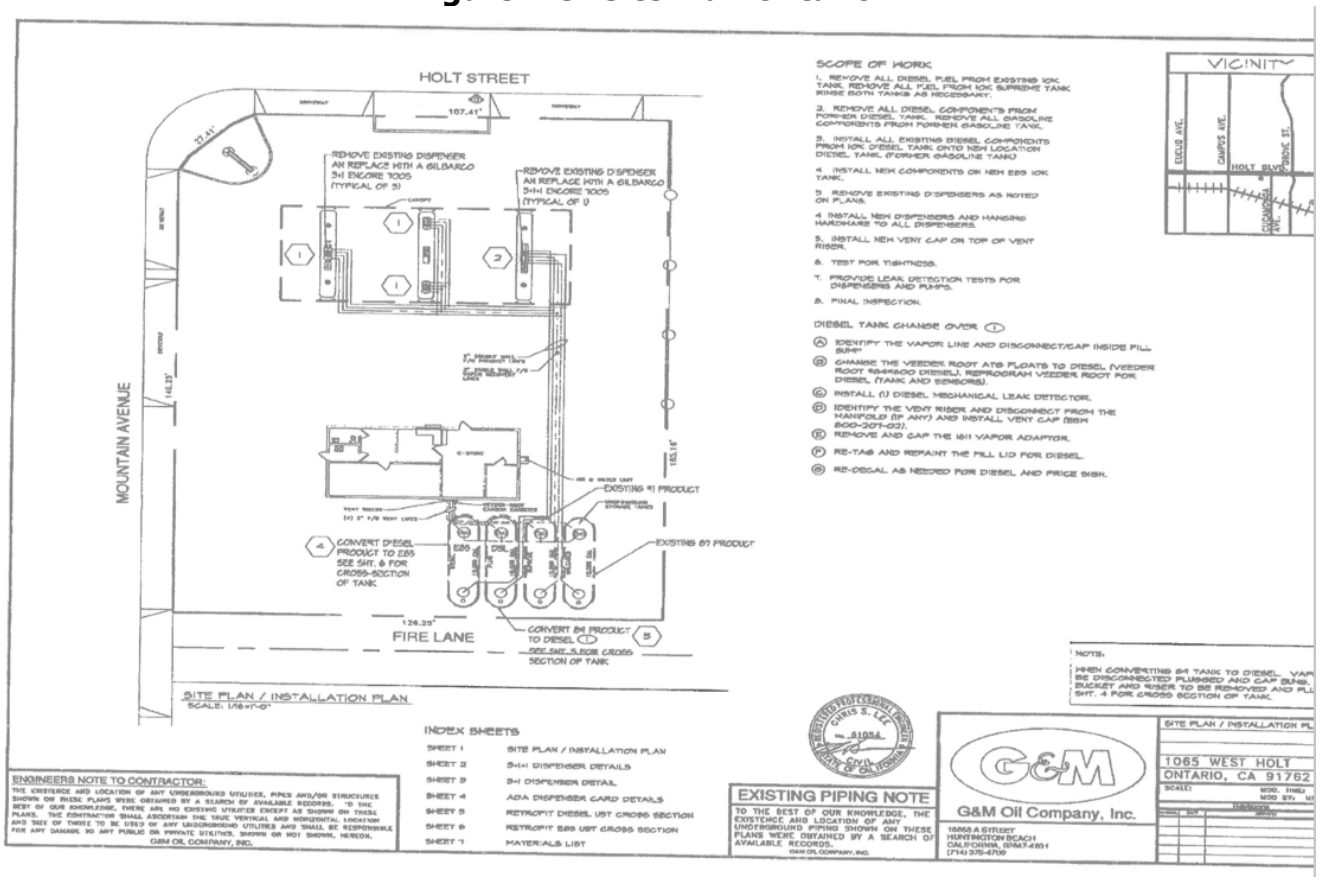
Source: Pearson Fuels. Original figure is higher resolution.

Figure B-8: Site Plan Laguna Niguel



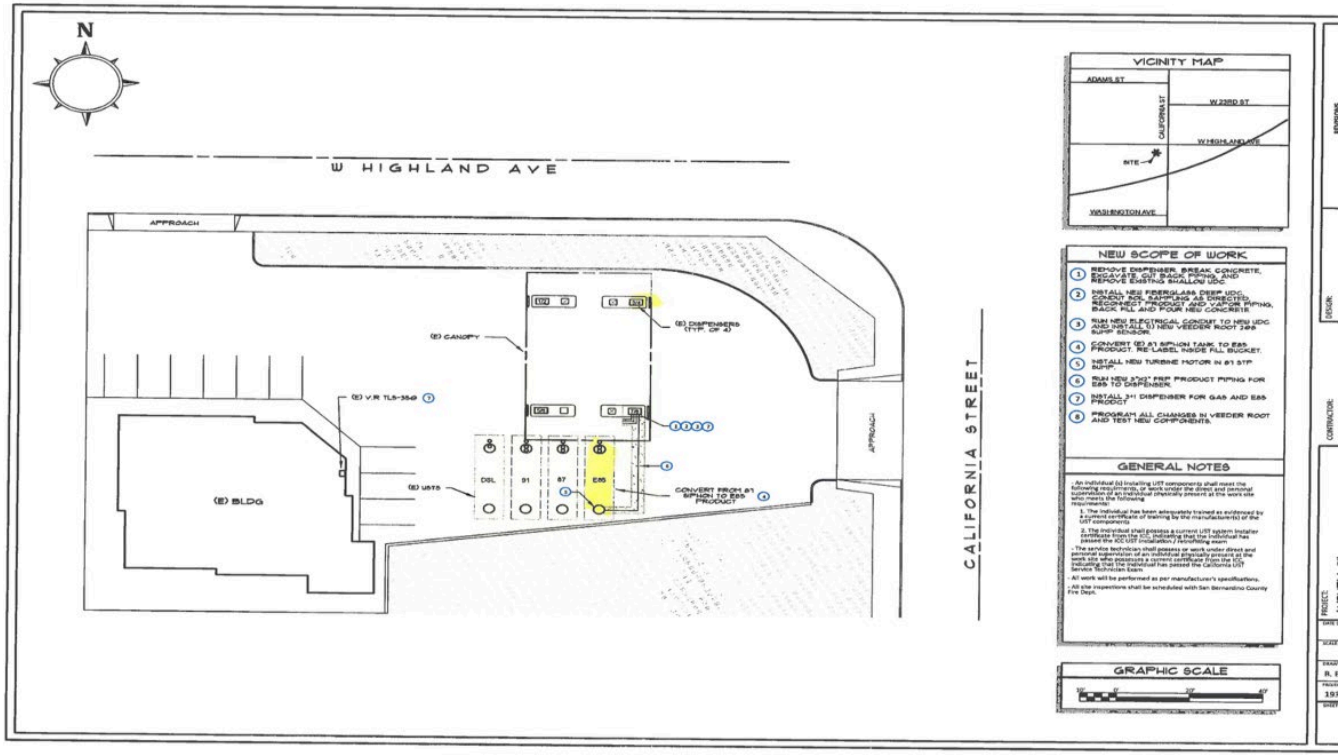
Source: Pearson Fuels. Original figure is higher resolution.

Figure B-9: Site Plan Ontario



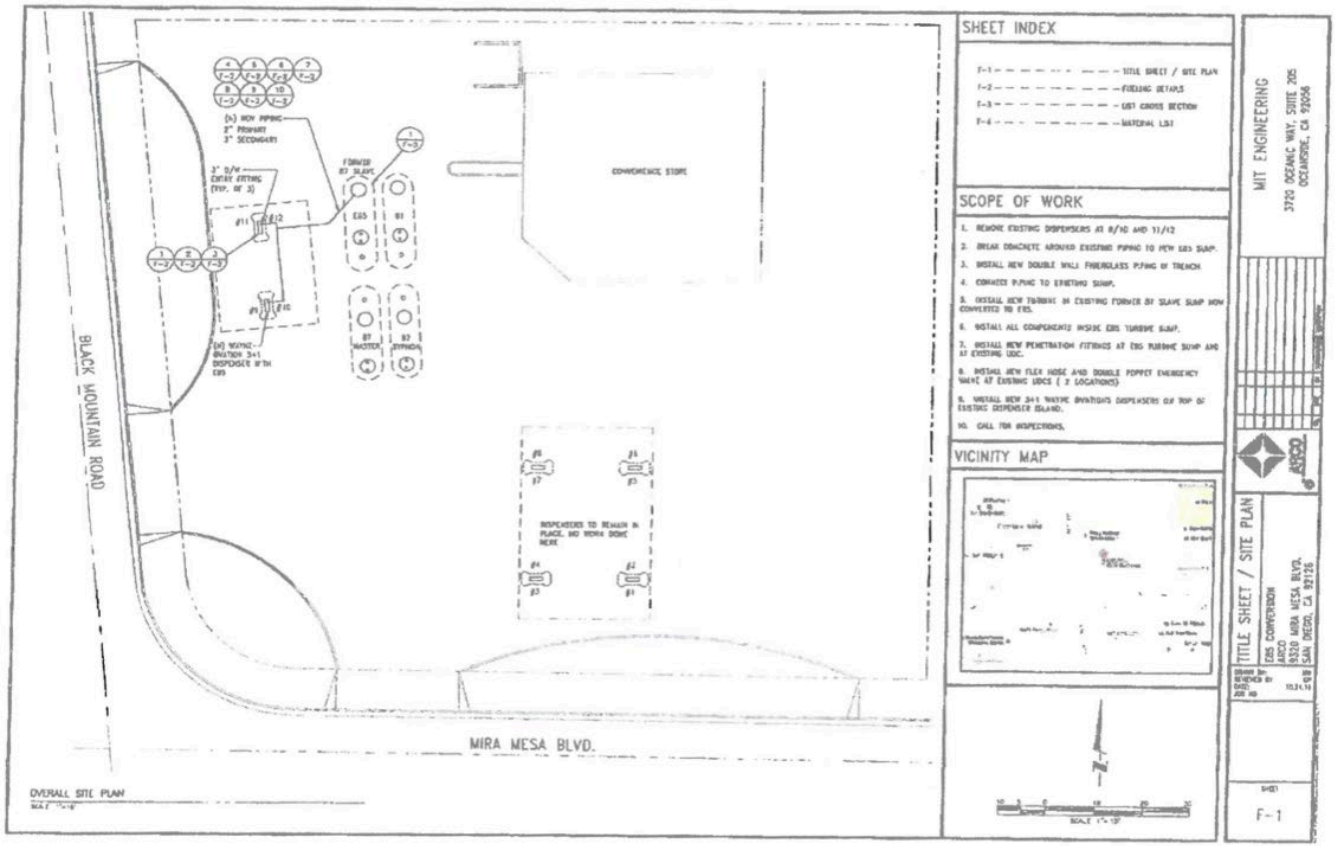
Source: Pearson Fuels. Original figure is higher resolution.

Figure B-10: Site Plan San Bernardino



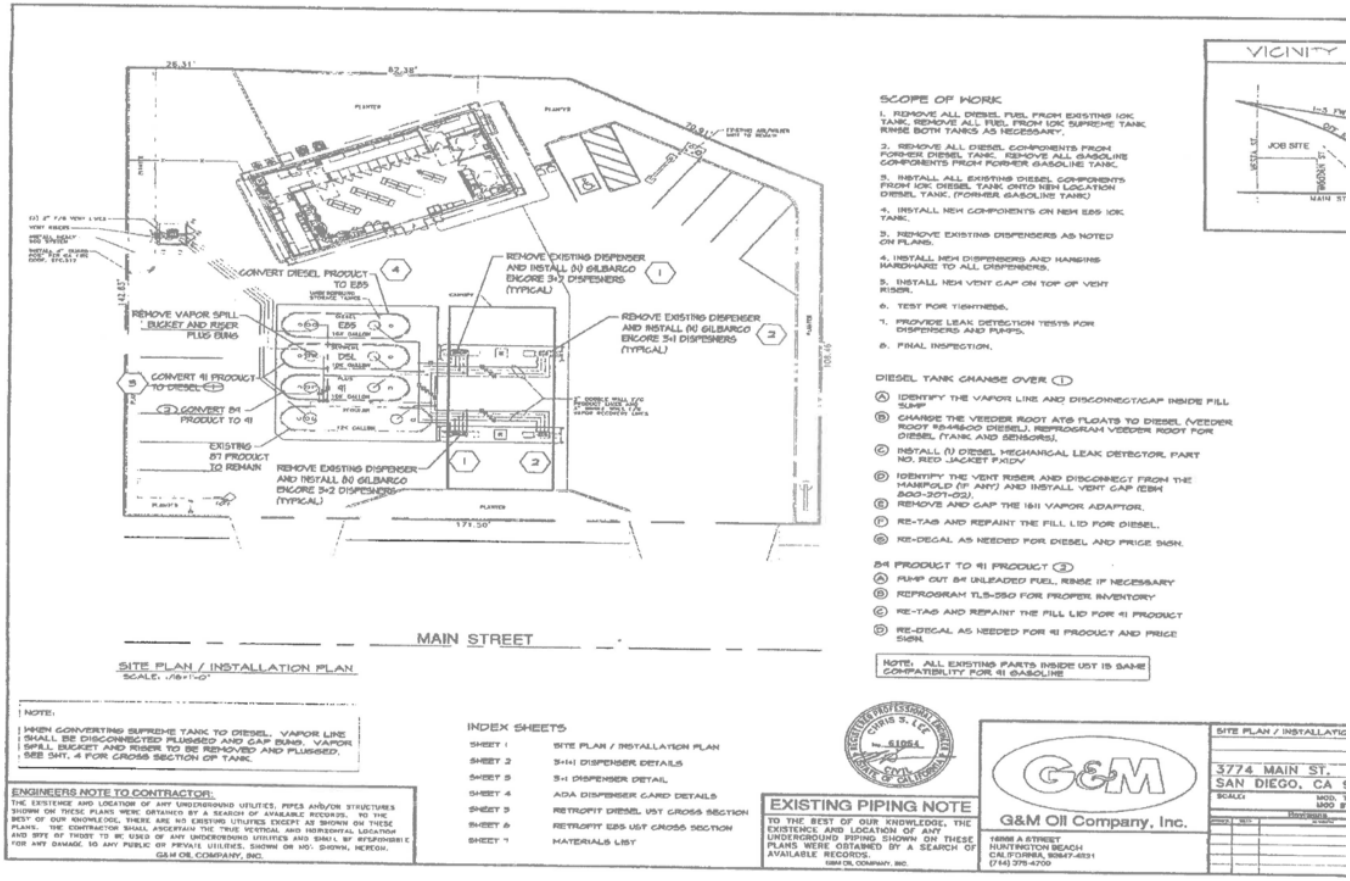
Source: Pearson Fuels. Original figure is higher resolution.

Figure B-11: Site Plan San Bruno



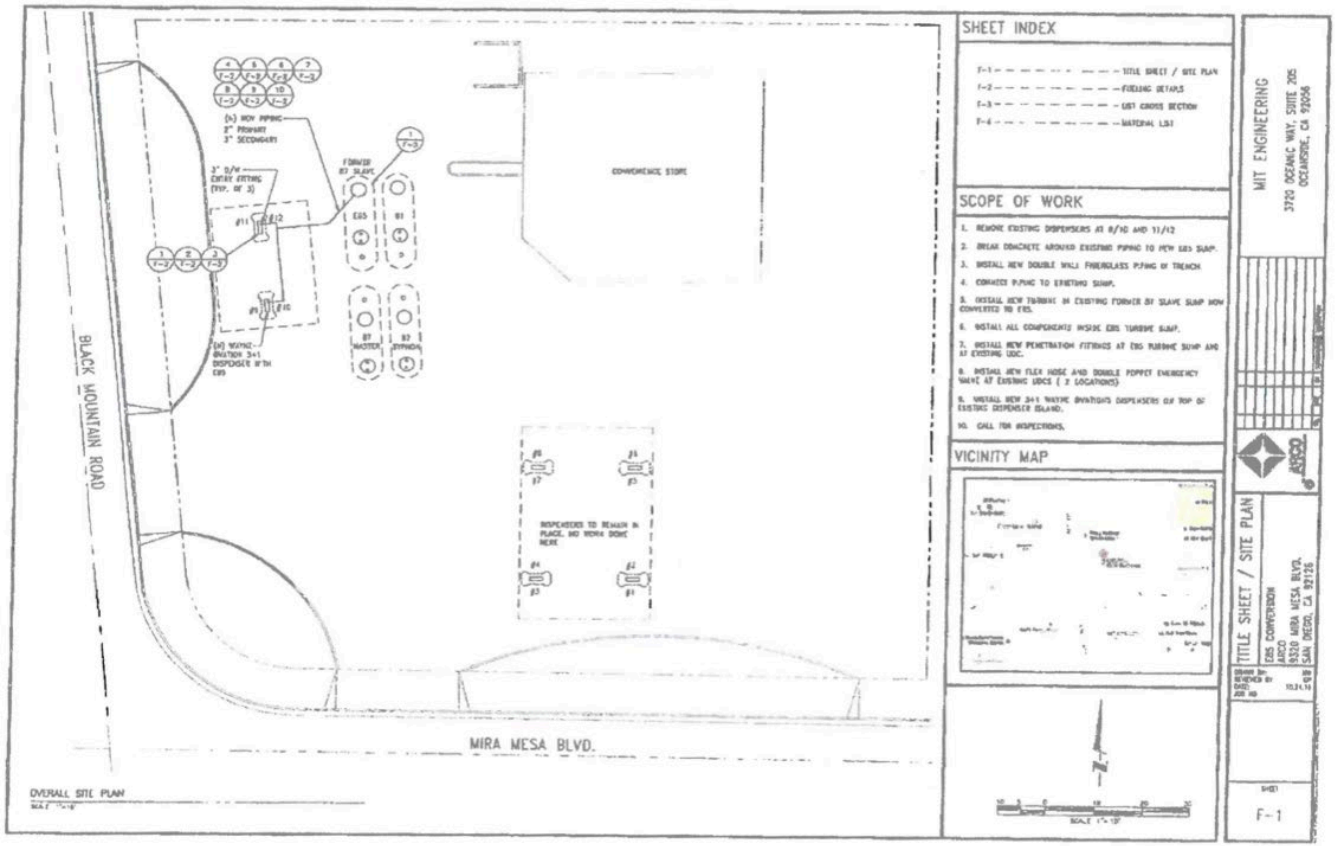
Source: Pearson Fuels. Original figure is higher resolution.

Figure B-12: Site Plan San Diego Main Street



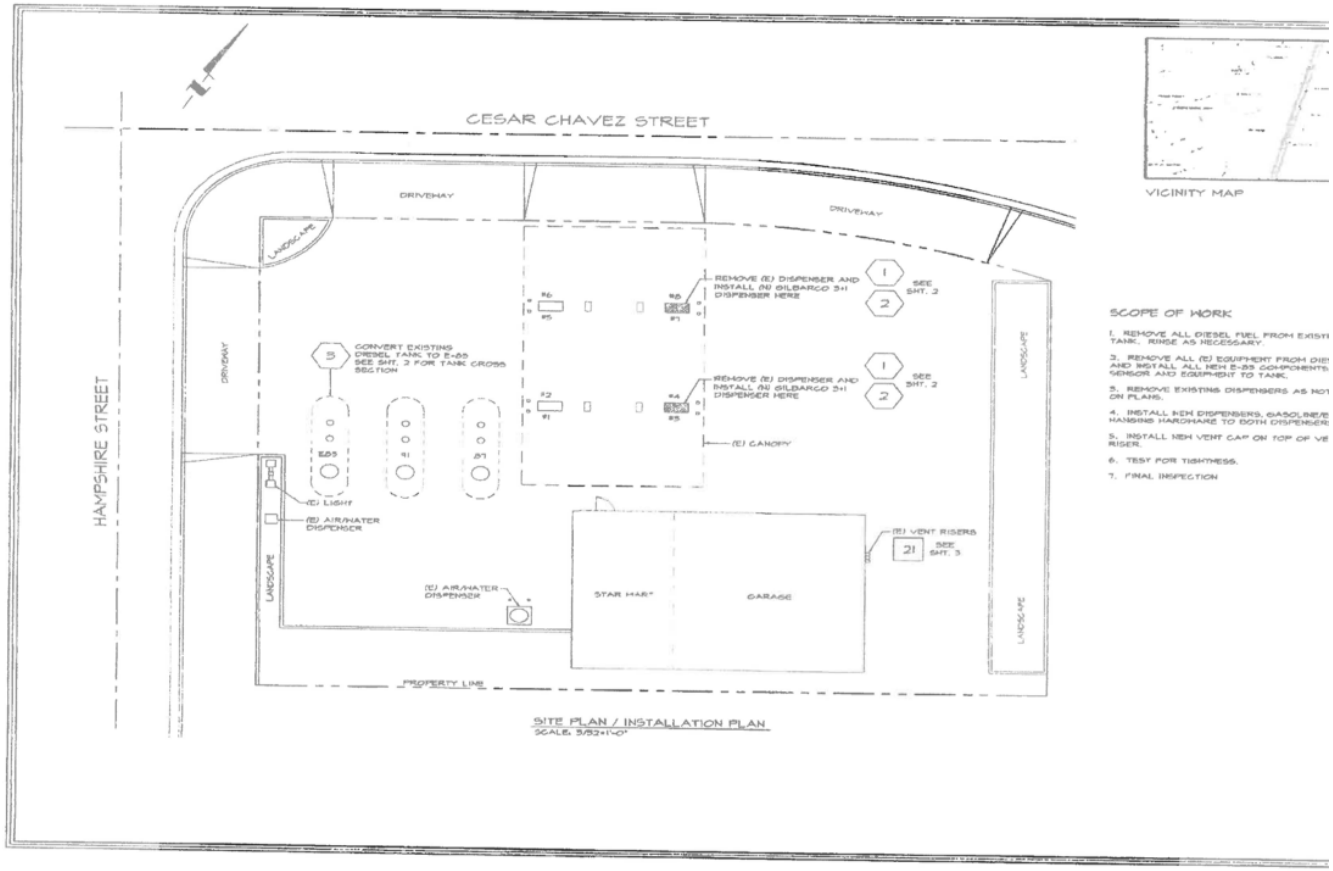
Source: Pearson Fuels. Original figure is higher resolution.

Figure B-13: Site Plan San Diego Mira Mesa Street



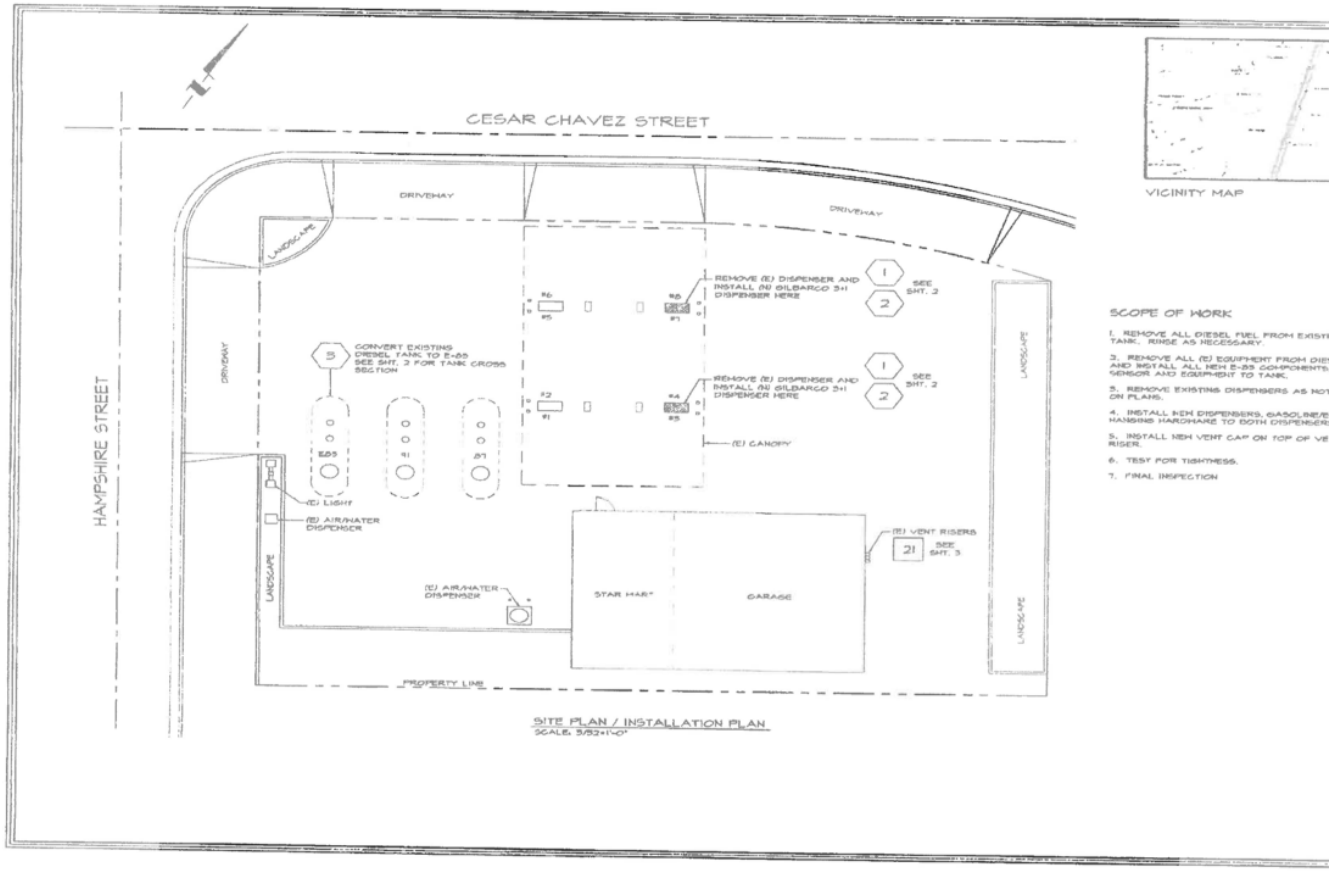
Source: Pearson Fuels. Original figure is higher resolution.

Figure B-14: Site Plan San Francisco



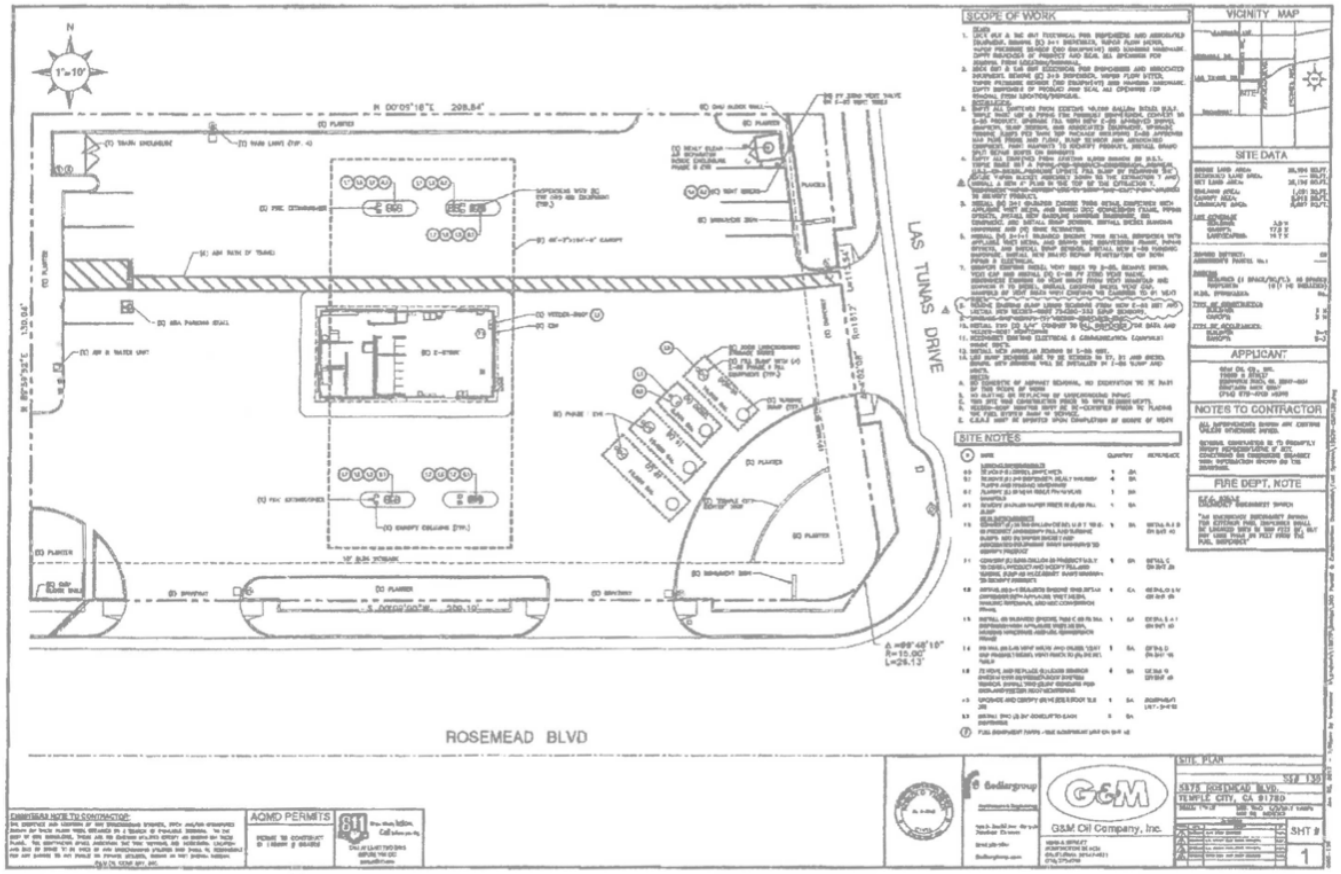
Source: Pearson Fuels. Original figure is higher resolution.

Figure B-15: Site Plan Stanton



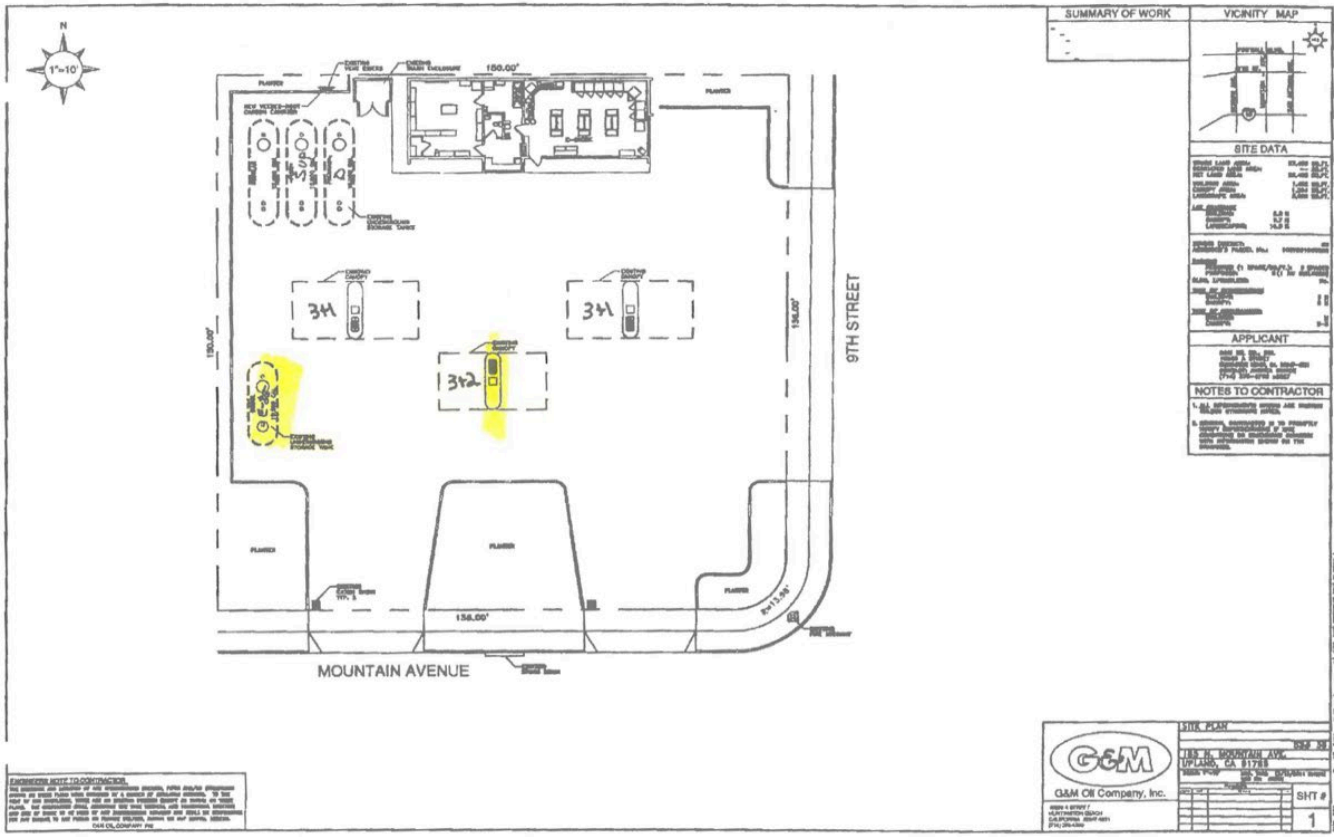
Source: Pearson Fuels. Original figure is higher resolution.

Figure B-16: Site Plan Temple City



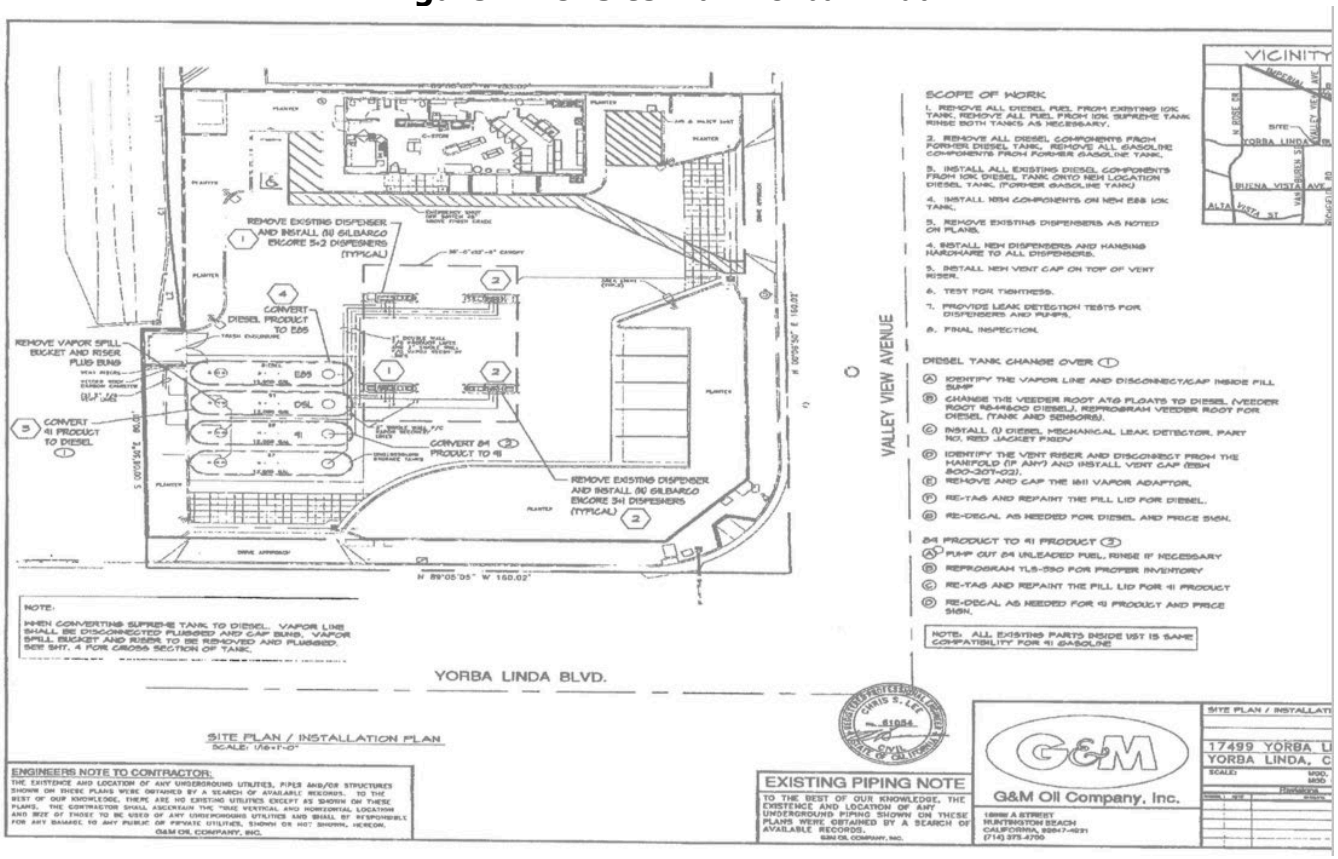
Source: Pearson Fuels. Original figure is higher resolution.

Figure B-17: Site Plan Upland



Source: Pearson Fuels. Original figure is higher resolution.

Figure B-18: Site Plan Yorba Linda



Source: Pearson Fuels. Original figure is higher resolution.