



PERMIT AMENDMENT APPLICATION

Part II

# WASTE ACCEPTANCE PLAN, EXISTING CONDITIONS SUMMARY, AND FACILITY LAYOUT

Edinburg Regional Disposal Facility

Edinburg, Hidalgo County, Texas

TCEQ Permit MSW-956C



GOLDER ASSOCIATES INC.  
Professional Engineering Firm  
Registration Number F-2578

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**Submitted To:** City of Edinburg  
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## 1.0 WASTE ACCEPTANCE PLAN

No changes to the types of waste accepted at the Edinburg Regional Disposal Facility are proposed in this permit amendment application.

### 1.1 Properties and Characteristics of Waste

30 TAC §330.61(b)(1)

**Table II-1: Major Classifications of Solid Waste to be Accepted**

Major Classification	Characteristics and Sources
Garbage	Putrescible animal and vegetable waste materials resulting from the handling, preparation, cooking, and consumption of food, including waste materials from markets, storage facilities, handling, and sale of produce and other food products.
Rubbish / Trash	Non-putrescible solid waste (excluding ashes), consisting of both combustible and noncombustible waste materials. Combustible rubbish includes paper, rags, cartons, wood, excelsior, furniture, rubber, plastics, brush, or similar materials; noncombustible rubbish includes glass, crockery, tin cans, aluminum cans, and similar materials.
Brush	Cuttings or trimmings from trees, shrubs, or lawns and similar materials.
Construction and Demolition	Waste resulting from construction or demolition projects; includes all materials that are directly or indirectly the by-products of construction work or that result from demolition of buildings and other structures, including, but not limited to, paper, cartons, gypsum board, wood, excelsior, rubber, and plastics.
Class 2 non-hazardous industrial	Any individual solid waste or combination of industrial solid waste that are not described as Hazardous, Class 1, or Class 3.
Class 3 non-hazardous industrial	Inert and essentially insoluble industrial solid waste, usually including, but not limited to, materials such as rock, brick, glass, dirt, and certain plastics and rubber, etc., that are not readily decomposable.
Regulated asbestos-containing material (RACM) <sup>1</sup>	Friable asbestos material, Category I non-friable asbestos-containing material that has become friable; Category I non-friable asbestos-containing material that will be or has been subjected to sanding, grinding, cutting, or abrading; or Category II non-friable asbestos-containing material that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.
Special Waste <sup>2</sup> (subject to provisions of 30 TAC §330.171)	Any solid waste or combination of solid wastes that because of its quantity, concentration, physical or chemical characteristics, or biological properties requires special handling and disposal to protect the human health or the environment. If improperly handled, transported, stored, processed, or disposed of or otherwise managed, it may pose a present or potential danger to the human health or the environment.
White Goods <sup>3</sup>	Discarded large household appliances such as refrigerators, stoves, washing machines, or dishwashers

1. Refer to Part IVG, Regulated Asbestos Containing Material Handling Plan
2. Refer to Part IVH, Special Waste Acceptance Plan
3. Must not contain chlorinated fluorocarbon (CFC)

The following wastes are prohibited from disposal in the facility and shall not be intentionally or knowingly offered by a generator or transporter and/or accepted for disposal in accordance to 30 TAC §330.15(e):

- Lead acid storage battery.
- Do-it-yourself used motor vehicle oil, either by itself or mixed with other solid waste.
- Used oil filters from internal combustion engines.
- Whole used or scrap tires unless processed prior to disposal in a manner acceptable to the TCEQ or otherwise approved by the TCEQ (e.g. variance)
- Refrigerators, freezers, air conditioners, and any other items containing chlorinated fluorocarbon (CFC) must be handled in accordance with 40 CFR §82.156(f). Such items will only be accepted at the site if the generator or transporter provides written certification that the CFC has been evacuated from the unit and that it was not knowingly allowed to escape into the atmosphere. The site operator will verify that the refrigerant has been evacuated from the appliance or shipment of appliances. Such verification must include a signed statement from the person from whom the appliance or shipment of appliances is obtained that all refrigerant that had not leaked previously has been recovered from the appliance or shipment of appliances in accordance with 40 CFR §82.156(g) or (h), as applicable. This statement must include the name and address of the person who recovered the refrigerant and the date the refrigerant was recovered or a contract that refrigerant will be removed prior to delivery. The facility will notify persons who may deliver such items of the requirement to verify evacuation of refrigerant by signage or letter.
- Bulk or non-containerized liquid waste unless the waste is household waste other than septic waste.
- Containers holding liquid waste unless the container is a small container similar in size to that normally found in household waste, the container is designated to hold liquids for use other than storage, or the waste is household waste.
- Regulated Hazardous Waste other than from CESQGs. Municipal hazardous waste from a CESQG may be accepted, provided the generator provides a certification that it generates no more than 220 pounds of hazardous waste per calendar month.
- Polychlorinated biphenyls (PCB) wastes, as defined under 40 CFR Part 761.
- Radioactive materials
- Special waste not identified in Appendix IVH, Special Waste Acceptance Plan.
- Or other wastes prohibited by the TCEQ regulations

The facility has not in the past accepted, and will not accept, Class 1 industrial solid waste, with the exception of waste that has been designated Class 1 industrial waste only because of its asbestos content. There are no existing or proposed Class 1 cells or disposal areas at the facility; therefore, the facility is consistent with the provisions of 30 TAC §330.561.

## 1.2 Waste Parametric Limitations

30 TAC §330.61(b)(1)

Waste accepted at the facility will not have constituent concentrations or characteristics that will adversely impact or influence the design and operation of the facility. Special wastes accepted at the facility will meet the provisions of 30 TAC §330.171 and criteria outlined in Part IVH, Special Waste Acceptance Plan, including the waste management procedures set forth in Part IV, Appendix H-1, Waste Specific Special Waste Management Procedures.

## 1.3 Waste Source Generation

30 TAC §330.61(b)(1)(A)

The facility serves individuals, businesses, and communities in the Lower Rio Grande Valley, including the City of Edinburg and Hidalgo, Starr, Bexar, Kennedy, Willacy, and Cameron Counties. According to the Regional Solid Waste Management Plan Amendment developed by the Lower Rio Grande Valley Development Council, the waste types and percentage by weight are as follows.

**Table II-2: Lower Rio Grande Valley Waste Characteristics**

Types of Waste	Percentage	Description
Residential	40.73%	Durable goods - appliances and furniture Non-durable goods - papers, disposable diapers, clothing & footwear Containers and packaging Food wastes and yard wastes
Commercial	14.15%	Commercial waste - cardboard, office papers, food, disposable dinnerware, and other waste products. Disaster waste is included in this category.
Contaminated Soil	12.9%	Generated during remediation of spill sites, often in conjunction with removal of underground storage tanks.
Class II & Class III	10.8%	Waste imported from Mexico - A sub-category of industrial waste
C & D Waste	7.6%	Wastes resulting from construction and demolition processes
Brush	5.9%	Trees, shrubs and other yard waste debris
Institutional	3.93%	Institutional waste (schools, nursing homes and hospitals) generally considered the same as commercial waste.
Recreational	2.95%	Waste generated at parks and other recreational facilities.
Sludge	0.6%	Sludge from water and wastewater treatment plants and also septage (pumped from septic tanks) and grease and grit trap waste.
Class I Asbestos	0.44%	Asbestos generated during construction demolition or removal of asbestos from existing buildings and readily releases airborne particles.
Litter/Dumping	.006%	Waste generated by promiscuous dumping along road ways and other areas
Asbestos	.06%	Asbestos generated construction demolition or removal of asbestos from existing buildings and does not readily release airborne particles.



Types of Waste	Percentage	Description
Other	.007%	Waste not identified in the categories above

The population equivalent as defined by 30 TAC §330.3 is “the hypothetical population that would generate an amount of solid waste equivalent to that actually being managed based on a generation rate of five pounds per capita per day and applied to situations involving solid waste not necessarily generated by individuals.” The facility received approximately 494,319 tons of waste during the fiscal year according to the FY 2016 MSW Annual Report; therefore, the current population equivalent is approximately 542,000.

The facility does not have a waste recovery requirement but does regularly evaluate market feasibility for material reuse. Brush is mulched for beneficial use such as for side slope erosion control.

## 1.4 Waste Acceptance Rate

30 TAC §330.61(b)(1)(C)

Based on the FY 2016 MSW Annual Report, the facility received approximately 494,319 tons of waste during the fiscal year. According to the TCEQ – Municipal Solid Waste in Texas: A Year in Review 2003-2015, the greatest annual population increase was 4.4% in year 2004. Assuming a 4.4% annual increase, the estimated maximum annual waste acceptance rate for the facility projected for five years is as follows:

**Table II-3: Estimated Maximum Annual Waste Acceptance Rates**

Year	Estimated Maximum Annual Waste Acceptance Rate (tons per year)
2017	516,069
2018	538,776
2019	562,482
2020	587,231
2021	613,070

The landfill expansion will result in a permit boundary of 602.5 acres and a waste disposal area of 406.0 acres. The total disposal capacity of the expansion will be 87,301,156 cubic yards, and the remaining disposal capacity will be 76,304,934 cubic yards of waste and daily cover, based on the FY 2016 MSW Annual Report. It is projected that the maximum rate of waste disposal will reach approximately 1,500,000 tons per year and that the facility will have a site life of approximately 63.5 years. The total disposal capacity and operational life calculations are provided in Part III3A, Volume and Site Life Calculations.

As population, economic conditions, and available landfill disposal capacity change within the region, the volume of incoming waste could vary considerably. The facility will maintain quarterly records to document waste acceptance rates. If the rate exceeds the estimated rate and is not due to a temporary occurrence,

the City will file a permit modification application consistent with 30 TAC §330.125(h). As provided by rule, the estimated waste acceptance rate is not a limiting parameter of the permit.

## 2.0 EXISTING CONDITIONS SUMMARY

The Edinburg Sanitary Landfill is an active, 253.5-acre Type I municipal solid waste (MSW) facility owned and operated by the City of Edinburg, Texas (City) under TCEQ Permit MSW-956B. The lateral and vertical expansion amendment is for a 602.5-acre MSW facility. The Edinburg Regional Disposal Facility, TCEQ Permit MSW-956C, is located approximately 1,900 feet east of U.S. Hwy 281 and 3,200 feet north of FM 2812 in Edinburg, Hidalgo County, Texas as shown on Figure II-1, General Location Map.

### 2.1 General Location Maps

30 TAC §330.61(c)

The following general location maps are provided in this document. These general location maps are provided in addition to those maps provided in Part I, Facility and Applicant Information and Supplementary Technical Report. Collectively, these maps accurately show the proximity of the facility to surrounding features.

**Table II-4: General Location Maps**

Figure	Title	Citation
II-1	General Location Map	30 TAC §330.61(c)(6),(7),(8),&(9)
II-2	General Topographic Map	30 TAC §330.61(c)(6),(7),&(9) & §330.61(e)
II-3	Aerial Photograph	30 TAC §330.61(c)(6),(7),&(9) & §330.61(f)(1)
II-4	Land Use Map	30 TAC §330.61(c)(4),(6),(7),&(9) & 330.61(g) & 330.61(h)(2)
II-5	Zoning Map	30 TAC §330.61(c)(6)&(9) & 330.61(h)(1)
II-6	Drainage, Pipeline, and Utility Easement Location Map	30 TAC §330.61(c)(6),(9),&(10)
II-7	Growth Trend Aerial Photograph Series	30 TAC §330.61(c)(6),(7),&(9) & §330.61(f)(2)
II-8	Water Well and Oil & Gas Well Location Map	30 TAC §330.61(c)(2),(6),(7),&(9)
II-9	Structures Location Map	30 TAC §330.61(c)(3),(6),&(9)
II-10	Wind Rose	30 TAC §330.61(c)(1)
II-11	Traffic Volumes	30 TAC §330.61(c)(5),(6),(9),&(11)

Note: 30 TAC §330.61(c)

- (1) Prevailing wind direction
- (2) Known water wells within 500 feet
- (3) Structures and inhabitable buildings within 500 feet
- (4) Schools, licensed daycare facilities, churches, hospitals, cemeteries, ponds, lakes, and residential, commercial, and recreational areas within 1 mile
- (5) Location and surface type of roads within 1 mile
- (6) Latitudes and longitudes
- (7) Area streams
- (8) Airports within 6 miles
- (9) Permit boundary

- (10) Drainage, pipeline, and utility easements
- (11) Facility access control features
- (12) Archaeological site and historical sites (None found within a 1-mile radius of facility)

### **2.1.1 General Topographic Map**

30 TAC §330.61(e)

Figure II-2, General Topographic Map depicts the permit boundary with a base map taken the United States Geological Survey (USGS) 7-1/2-minute quadrangle sheets and enhanced by Texas Natural Resource Information System (TNRIS) using content last updated by USDS in 1996 for La Blanca, TX, and 1995 for Edinburg, Hargill, and Faysville, TX delivered in a digital raster graphic (DRG) a scale of 1 inch equals 2,000 feet.

### **2.1.2 Aerial Photograph**

30 TAC §330.61(f)(1)

Figure II-3, Aerial Photograph approximately 9 inches by 12 inches with a scale of 1 inch equals 2,000 feet shows the area within at least a 1-mile-radius of the site boundaries with a base map taken from National Agriculture Imagery Program (NAIP) digital ortho-photo image published by USDA-FSA-APFO dated December 16, 2014. The permit boundary and waste fill areas are marked on the aerial photograph.

## **2.2 Land Use Compatibility**

30 TAC §330.61(a)

§§2.2 – 2.11 of this report discuss site-specific conditions that potentially require special design considerations, as set forth in 30 TAC §330.61(a), including land use compatibility, land use characterization, transportation, geology and soils, groundwater and surface water, abandoned oil & gas and water wells, floodplains, wetlands, endangered or threatened species, and Texas Historical Commission (THC) review. As documented, there are no existing site-specific conditions that require special design considerations or possible mitigation of conditions under 30 TAC §330.61(h)–(o).

### **2.2.1 Impact on Surrounding Cities, Communities, Group of Property Owners, or Individuals**

30 TAC §330.61(h)

As documented, there are no existing site-specific conditions that may impact surrounding cities, communities, group of property owners, or individuals; nor concern that the use of land for a MSW facility will adversely impact human health or the environment.

## **2.2.2 Compatibility with Surrounding Land Use, Zoning, Community Growth Patterns**

30 TAC §330.61(h)

Sections 2.3 discusses site-specific land use characterization including surrounding land use, zoning in the vicinity, community growth patterns, and proximity to residents and other uses. As documented, the MSW facility is compatible with the surrounding area.

## **2.3 Land Use Characterization**

### **2.3.1 Land Use Map**

30 TAC §330.61(g)

Figure II-4, Land Use Map is a constructed map showing the facility boundary and land uses within 1 mile such as commercial, industrial, residential, recreational, institutional, and open areas used for agricultural, pastureland, or roadways. The map shows the location of approximately 972 residences, sixty commercial and industrial businesses, a school, a licensed daycare facility, four churches, a cemetery, and a recreational area within 1 mile of the facility boundary. There are no ponds or lakes, hospitals, or historic structures and sites within 1 mile of the facility boundary.

Any existing zoning on or surrounding the property is shown on Figure II-5, Zoning Map and any drainage, pipeline, and utility easements within the facility are shown on Figure II-6, Drainage, Pipeline, and Utility Easement Location Map. Access roads serving the facility are shown on the Figure II-4, Land Use Map and Figure II-11, Traffic Volumes.

### **2.3.2 Zoning Map**

30 TAC §330.61(h)(1)

Figure II-5, Zoning Map shows the City's Official Zoning Map dated June 16, 2015 within 2 miles of the facility as well as property recently annexed by the City. The facility is located with the City of Edinburg limits zoned for industrial land use.

### **2.3.3 Drainage, Pipeline, and Utility Easement Location Map**

30 TAC §330.61(c)(10)

Figure II-6, Drainage, Pipeline, and Utility Easement Location Map shows two deed recorded dedicated pipeline easements within and adjacent to the facility property. Deed records for both pipeline easements are located in Appendix IA, Legal Description. One 20-foot wide pipeline easement, owned by Texas Gas Services, runs adjacent to the eastern and northern facility property boundary. Another 20-foot wide pipeline easement, owned by Vernon E. Faulconer, Inc. (VEFI), runs adjacent to the Texas Gas Services pipeline

along northern property boundary and continues south to the gas production well located approximately 675 feet from the north property boundary as shown on Figure II-6.

Electrical powerlines owned by Magic Valley Electric Cooperative currently run from the intersection of Encinitos Road and the west property boundary a distance of approximately 2,000 feet south along the west permit boundary and extend approximately 5,000 feet east. Another electrical powerline owned by American Electric Power is located adjacent to the entrance road into the facility. Both powerlines are not constructed on dedicated easements and may be relocated if necessary for future site development.

A City owned sanitary sewer line currently runs from the intersection of Encinitos Road and the west property boundary and extends approximately 1,900 feet east. Another City owned sanitary sewer line is located adjacent to the entrance road into the facility. Neither sewer line is constructed on dedicated easements and may be relocated if necessary for future site development.

No drainage easements are located within the facility.

#### **2.3.4 Character of Surrounding Land Use**

30 TAC §330.61(h)(2)

Information about the character of surrounding land uses within 1 mile of the facility is depicted on Figure II-4, Land Use Map. Portions of land are developed with a wide variety of uses such as commercial, industrial, residential, recreational, institutional, and open areas used for agricultural, pastureland, or roadways. A breakdown of land use type and corresponding areas is summarized in Table II-5, Land Use within One Mile.

**Table II-5: Land Use within One Mile**

Land Use	Area in Acres	Percentage of Total Area
Open	2,773	52.4%
Industrial	1,554	29.3%
Residential	779	14.7%
Commercial	86	1.6%
Institutional	83	1.6%
Recreational	19	0.4%
Total	5,294	100.0%



### **2.3.5 Growth Trends**

30 TAC §330.61(h)(3)

Information about growth trends within 5 miles of the facility with directions of major development is evaluated by area population projections, inspection of a series of aerial photographs, and local planning studies.

#### 2.3.5.1 Population Projections

Population projection data is provided by Texas State Data Center (TSDC) Office of the State Demographer county level population projections. Such projections are based on recent and projected demographic trends, including the birth rates, survival rates, and net migration rates of population groups defined by age, gender and ethnicity. The TSDC strongly recommends use of their half migration scenario for long-term planning. Population projections for the facility's current market areas are presented in Table II-6, Population Projections and Annual Growth Rates by County. The average annual growth rate for Hidalgo County is 1.75 percent.

**Table II-6: Population Projections and Annual Growth Rates by County**

Year	Hidalgo		Cameron		Willacy		Starr		Brooks	
2010	774,769		406,220		22,134		60,968		7,223	
2011	790,719	2.06%	413,216	1.72%	22,489	1.60%	61,948	1.61%	7,288	0.90%
2012	807,069	2.07%	420,341	1.72%	22,835	1.54%	62,935	1.59%	7,360	0.99%
2013	823,594	2.05%	427,512	1.71%	23,189	1.55%	63,974	1.65%	7,421	0.83%
2014	840,459	2.05%	434,651	1.67%	23,550	1.56%	64,984	1.58%	7,473	0.70%
2015	857,513	2.03%	442,043	1.70%	23,919	1.57%	66,002	1.57%	7,521	0.64%
2016	875,041	2.04%	449,385	1.66%	24,281	1.51%	67,032	1.56%	7,578	0.76%
2017	892,943	2.05%	456,745	1.64%	24,659	1.56%	68,070	1.55%	7,634	0.74%
2018	911,090	2.03%	464,372	1.67%	25,023	1.48%	69,120	1.54%	7,695	0.80%
2019	929,670	2.04%	471,949	1.63%	25,397	1.49%	70,150	1.49%	7,749	0.70%
2020	948,305	2.00%	479,754	1.65%	25,763	1.44%	71,198	1.49%	7,802	0.68%
2021	967,192	1.99%	487,619	1.64%	26,124	1.40%	72,218	1.43%	7,851	0.63%
2022	986,516	2.00%	495,617	1.64%	26,525	1.53%	73,255	1.44%	7,890	0.50%
2023	1,005,749	1.95%	503,683	1.63%	26,913	1.46%	74,309	1.44%	7,944	0.68%
2024	1,025,445	1.96%	511,744	1.60%	27,292	1.41%	75,319	1.36%	8,003	0.74%
2025	1,045,265	1.93%	519,892	1.59%	27,686	1.44%	76,313	1.32%	8,055	0.65%
2026	1,065,196	1.91%	528,188	1.60%	28,061	1.35%	77,275	1.26%	8,101	0.57%
2027	1,085,201	1.88%	536,214	1.52%	28,459	1.42%	78,253	1.27%	8,148	0.58%
2028	1,105,449	1.87%	544,417	1.53%	28,840	1.34%	79,213	1.23%	8,183	0.43%
2029	1,125,509	1.81%	552,460	1.48%	29,208	1.28%	80,124	1.15%	8,231	0.59%
2030	1,145,413	1.77%	560,637	1.48%	29,591	1.31%	81,023	1.12%	8,288	0.69%
2031	1,165,534	1.76%	568,577	1.42%	29,963	1.26%	81,913	1.10%	8,345	0.69%
2032	1,185,593	1.72%	576,698	1.43%	30,331	1.23%	82,801	1.08%	8,394	0.59%
2033	1,205,593	1.69%	584,801	1.41%	30,701	1.22%	83,706	1.09%	8,438	0.52%
2034	1,225,405	1.64%	592,893	1.38%	31,079	1.23%	84,585	1.05%	8,480	0.50%
2035	1,245,506	1.64%	600,956	1.36%	31,465	1.24%	85,462	1.04%	8,528	0.57%
2036	1,265,504	1.61%	609,040	1.35%	31,847	1.21%	86,374	1.07%	8,579	0.60%
2037	1,285,560	1.58%	617,258	1.35%	32,232	1.21%	87,268	1.04%	8,633	0.63%
2038	1,305,403	1.54%	625,479	1.33%	32,641	1.27%	88,171	1.03%	8,681	0.56%
2039	1,325,520	1.54%	633,617	1.30%	33,051	1.26%	89,070	1.02%	8,725	0.51%
2040	1,345,740	1.53%	641,946	1.31%	33,459	1.23%	89,949	0.99%	8,775	0.57%
2041	1,365,979	1.50%	650,215	1.29%	33,876	1.25%	90,848	1.00%	8,819	0.50%
2042	1,386,215	1.48%	658,619	1.29%	34,289	1.22%	91,770	1.01%	8,867	0.54%
2043	1,406,702	1.48%	667,056	1.28%	34,730	1.29%	92,689	1.00%	8,914	0.53%
2044	1,427,106	1.45%	675,597	1.28%	35,142	1.19%	93,606	0.99%	8,957	0.48%
2045	1,447,836	1.45%	684,275	1.28%	35,567	1.21%	94,514	0.97%	9,003	0.51%
2046	1,468,695	1.44%	692,910	1.26%	35,993	1.20%	95,408	0.95%	9,050	0.52%
2047	1,489,504	1.42%	701,729	1.27%	36,416	1.18%	96,294	0.93%	9,102	0.57%
2048	1,510,583	1.42%	710,603	1.26%	36,849	1.19%	97,194	0.93%	9,150	0.53%
2049	1,531,829	1.41%	719,501	1.25%	37,292	1.20%	98,072	0.90%	9,205	0.60%
2050	1,553,142	1.39%	728,518	1.25%	37,733	1.18%	98,953	0.90%	9,256	0.55%

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Submitted: July 2017

Revised: November 2017

### 2.3.5.2 Series of Aerial Photographs

#### §330.61(f)(2)

A series of National Agriculture Imagery Program (NAIP) digital aerial photographs for years 2006, 2008, 2010, 2012, and 2014 are presented in Figures II7A through II7E. An inspection of the series of digital aerial photographs revealed that relatively little development has occurred in the area of the facility over the past ten years in comparison to growth of the City of Edinburg in other areas. Most residential land use within the area is relatively unchanged with the exception of new single family home development east and southeast of the facility. A few commercial businesses have followed the new residential development along FM 2812 and a middle school was constructed approximately 1-1/2 miles east of the facility. West of the facility near the intersection of US Hwy 281 and FM 2812, a truck stop expanded and a produce distribution building was constructed.

### 2.3.5.3 Local Planning

The City of Edinburg developed a comprehensive plan, Edinburg Gateway Plan – An Agenda for 2025, providing integrated policy direction in the areas of land use and community character, growth and development, transportation, economic development, and utilities. According to the plan, most new residential development is occurring to the southwest and northwest of the City where commercial businesses closely follow. Downtown retail businesses have been replaced by government and professional offices and have relocated along the major transportation corridor US Hwy 281 for more market exposure.

Projected growth trends within a 5-mile radius of the facility reflect an increase in industrial activity on properties around the facility, an increase in commercial business along the US Hwy 281 corridor to the west, and an increase in residential and commercial development along FM 2812 to the east.

## **2.3.6 Proximity to Residents and Other Uses**

#### 30 TAC §330.61(h)(4)

The proximity to residences and other uses (e.g., schools, churches, cemeteries, historic structures and sites, archaeologically significant sites, sites having exceptional aesthetic quality, etc.) within 1 mile of the facility, as well as an approximate number of residences and commercial establishments, including the distances and directions to the nearest residences and commercial establishments, are presented.

### 2.3.6.1 Schools

One school is located within 1 mile of the facility, Enedina B. Guerra Elementary, approximately 5,020 feet west at 10010 Via Fernandez.

#### 2.3.6.2 Licensed Day Care Facilities

One licensed day care facility is located within 1 mile of the facility, Mis Angelito's Day Care, approximately 3,530 feet south at 3324 E FM 2812.

#### 2.3.6.3 Churches

Four churches are located within 1 mile of the facility: Iglesia Metodista Unida Cristo Vencedor, Saint Theresa Catholic Church, Iglesia Bautista Emmanuel, and Iglesia Casa De Dios. The closet church, Iglesia Bautista Emmanuel is located approximately 2,480 feet west of the facility at 9413 N Expy 281.

#### 2.3.6.4 Hospitals

No hospitals are located within 1 mile of the facility.

#### 2.3.6.5 Cemeteries

One cemetery is located within 1 mile of the facility, Cibolo Cemetery, approximately 2,900 feet northeast on Cibolo Road.

#### 2.3.6.6 Historic Structures and Sites, Archeologically Significant Sites, and Sites having Exceptional Aesthetic Quality

No known historic structures and sites, archeologically significant sites, and sites having exceptional aesthetic quality are located within 1 mile of the facility.

#### 2.3.6.7 Recreational Areas

One recreational area is located within 1 mile of the facility, J. R. "Milo" Ponce Park, approximately 3,625 feet southeast at 3516 E FM 2812.

#### 2.3.6.8 Ponds and Lakes

No ponds and lakes are located within 1 mile of the facility.

#### 2.3.6.9 Residential

Based on field inventories performed in October 2016 and examination of Google Earth imagery, approximately 972 existing residences (including houses and mobile homes) are located within 1 mile of the facility. Established residential communities are located to the west and south and a new residential development is located approximately ½ mile east of the facility. The nearest existing residence is located approximately 1,230 feet west at 1307 Encinitos Rd.

#### 2.3.6.10 Commercial and Industrial

Based on field inventories performed in October 2016, examination of Google Earth imagery, and review of Hidalgo County Appraisal District records, approximately 60 businesses are located within 1 mile of the

facility representing a mix of both commercial and industrial activity. The nearest business, Dog Obedience Inc., is located approximately 1,590 feet southwest at 502 Caballo Ln.

### **2.3.7 Water Wells and Oil & Gas Wells**

30 TAC §330.61(h)(5)

Figure II-8, Water Well and Oil & Gas Well Location Map shows the location of water wells and oil & gas wells within 1 mile and 500 feet of the permit boundary.

#### **2.3.7.1 Water Wells**

30 TAC §330.61(c)(2)

No located water wells are located within 500 feet of the facility as shown on Figure II-8, Water Well and Oil & Gas Well Location Map.

Water well location information was provided by Texas Water Development Board's (TWDB) water data interactive viewer and by the Red Sands Groundwater Conservation District (RSGCD). The TWDB search identified six located water wells within a 1-mile-radius from the facility. Total depths of the wells range from 74 feet to 1,250 feet and are noted to be in the upper parts of the Evangeline aquifer. RSGCD provided approximate locations of an additional six water wells within a 1-mile-radius from the facility. The locations and records of these additional wells could not be verified. No water wells are located within the facility property.

#### **2.3.7.2 Oil & Gas Wells**

Three located plugged gas wells identified as OG-1, OG-4, and OG-15; and one dry hole identified as OG-3; and one production gas well identified as OG-1 are located on facility property and within 500 feet of the facility as shown on Figure II-8, Water Well and Oil & Gas Well Location Map. The gas production well identified as OG-1, owned by VEFI, located on the northern portion of the facility will remain active and will not interfere with landfill operations.

Oil & gas well location information was provided by the Texas Railroad Commission's (Texas RRC) public GIS viewer. The Texas RRC search identified 30 oil & gas wells within a 1-mile-radius from the site. Of those wells, two are production gas wells, six are dry holes, and 22 are plugged gas wells.

### **2.3.8 Structures**

30 TAC §330.61(c)(3)

All structures and inhabitable buildings within 500 feet of the facility are shown on Figure II-9, Structures Location Map. Edinburg Landfill Gas Treatment Facility (LFGTF) TCEQ Permit AIR-134429 is currently



located on the southern boundary of the facility west of the entrance road. The flare station located directly north of the LFGTF on facility property may be moved for future site development to a location within the LFGTF permit boundary. The unused container storage pad and storage building will be removed as operational development progresses.

### **2.3.9 Prevailing Wind Direction**

30 TAC §330.61(c)(1)

A wind rose is included as Figure II-10, Wind Rose to illustrate the prevailing wind direction for the Brownsville Airport located approximately 50 miles southeast for the period January 1, 1984 to December 31, 1992. The prevailing wind direction is from the south and southeast with a strength that can be greater than 21 knots. Calm winds are 5.23 percent of the time.

## **2.4 Transportation**

### **2.4.1 Traffic**

A traffic and location restrictions review and correspondence with Texas Department of Transportation (TxDOT) is included in Appendix IIA, Traffic.

#### **2.4.1.1 Access Road Availability and Adequacy**

30 TAC §330.61(i)(1)

##### **2.4.1.1.1 Access Road Availability**

The facility entrance is located at 8601 Jasman Road north of FM 2812 and is shared with the City's Type IV Landfill, TCEQ Permit MSW-2302. The access route from US Hwy 281 is eastbound on FM 2812 and north onto Jasman Rd. An additional facility access route used only for landfill operations and maintenance vehicles as well as for emergency response vehicles from US Hwy 281 is eastbound Encinitos Rd. Figure II-11, Traffic Volume shows the access roads to facility.

##### **2.4.1.1.2 Access Road Adequacy**

Access road adequacy for US Hwy 281 and FM 2812, as provided by TxDOT, and a summary of their characteristics is presented in Table II-7, Access Road Characteristics. The portion of Jasman Rd located north of FM 2812 is owned, operated, and maintained by the City.

**Table II-7: Access Road Characteristics**

Access Road	Maximum Weight (Pounds)	Number of Lanes <sup>1</sup>	Width of Lanes (ft)	Curb/Shoulders <sup>2</sup>	Surface Type
US Hwy 281 <sup>3</sup>	80,000	4	12	5 to 10-ft shoulder	Asphaltic concrete Pavement surface overlaying a limed caliche base
FM 2812 <sup>4</sup>	80,000	2 <sup>4</sup>	12	~10-ft shoulder	Asphaltic concrete Pavement surface overlaying a limed caliche base

1. The number of lanes represent the total in both directions.
2. Curb and shoulder exist in both directions.
3. Near the intersection with FM 2812, US Hwy 281 northbound frontage road has three 12-foot wide lanes.
4. For a distance of approximately 500 foot on the eastern side of the intersection with US Hwy 281, FM 2812 has four 12-foot wide lanes.

#### 2.4.1.2 Volume of Vehicular Traffic

30 TAC §330.61(i)(2)

Volume of vehicular traffic on access roads within 1 mile of the proposed facility, both existing and future, during the expected life of the proposed facility is summarized in Table II-8, Volume of Vehicular Traffic and presented on Figure II-11, Traffic Volume. The expected life is estimated at 60 years with a 2 percent annual growth rate.

**Table II-8: Volume of Vehicular Traffic**

Access Road	Location	Existing Annual Average Daily Traffic	Future Annual Average Daily Traffic
US Hwy 281	North of FM 2812 intersection	18,954 VPD	667,605 VPD
US Hwy 281	South of FM 2812 intersection	32,674 VPD	1,150,856 VPD
FM 2812	West of Jasman Road intersection	9,610 VPD	58,286 VPD
FM 2812	East of Jasman Road intersection	8,420 VPD	51,069 VPD

#### 2.4.1.3 Facility Traffic Volume

30 TAC §330.61(i)(3)

Volume of vehicular traffic expected to be generated by the facility on access roads within 1 mile of the proposed facility summarized in Table II-9, Facility Traffic Volume and presented on Figure II-11, Traffic Volume. The expected life is estimated at 60 years with a 2 percent annual growth rate.

**Table II-9: Facility Traffic Volume**

Access Road	Location	Existing Annual Average Daily Traffic	Future Annual Average Daily Traffic
Jasman	Facility Entrance	187 VPD	763 VPD

#### 2.4.1.4 Coordination with TxDOT

30 TAC §§330.61(i)(4) & 330.23(a)

A traffic and location restrictions request for review was submitted to TxDOT presenting general location of access roads within a 1-mile-radius of the facility, access road availability and adequacy, existing and expected vehicular traffic volume, and expected traffic volume generated by the facility. TxDOT responded in general agreement with the amendment. Therefore, coordination of designs of proposed public roadway improvements, screening or special operating requirements, and solicitation of recommendations regarding access road adequacy and design capacity to safely accommodate additional traffic expected to be generated is not required.

### **2.4.2 Airport Safety**

Documentation of coordination with the Federal Aviation Administration for compliance with airport location restrictions is included in Appendix IIB, Airport Safety.

#### 2.4.2.1 Airport Locations

Two airports are located within a 6-mile-radius of the facility as shown on Figure II-1, General Location Map. South Texas International Airport at Edinburg (FAA Identifier EBG) is located approximately 2.3 miles north of the facility and a privately owned airport, Norman and White Airport (FAA Identifier 6TE1) is located approximately 2.4 miles south of the facility.

#### 2.4.2.2 Airport Impact

30 TAC §330.61(i)(5)

The impact of the facility upon airports was analyzed and no bird hazards and no obstruction to navigable airspace were determined to exist.

#### 2.4.2.3 Coordination with Federal Aviation Administration

30 TAC §330.61(i)(5)

Notification of the proposed landfill expansion was submitted to the Federal Aviation Administration (FAA) including a description of the landfill expansion, location of facility and airports within a 6-mile-radius of facility, plan and profile views of the proposed landfill expansion condition and the imaginary surface for the South Texas International Airport at Edinburg, and a copy of the Brownsville Sectional Aeronautical Chart. A notice of proposed construction or alteration was filed with the Air Traffic Division and the FAA responded that an aeronautical study was conducted and issued a determination of no hazard to air navigation.

#### 2.4.2.4 No Bird Hazards

30 TAC §§330.545(a) & 330.545(c)

The facility is located greater than 10,000 feet from the South Texas International Airport at Edinburg's runway end used by turbojet aircraft and greater than 5,000 feet from the Norman and White Airport's runway end used by piston-type aircraft. The facility is not located in an area where the attraction of birds can cause a significant bird hazard to low-flying aircraft, and the facility has been designed and will be operated so that the municipal solid waste landfill units do not pose a bird hazard to aircraft.

#### 2.4.2.5 Notice to Airports and FAA

30 TAC §330.545(b)

In addition to the FAA, notification of the proposed landfill expansion was submitted to the South Texas International Airport at Edinburg and Norman and White Airport.

### **2.5 General Geology and Soils Statement**

30 TAC §330.61(j)(1)-(4)

Detailed discussion of the site geology is included in Part III4, Geology Report.

#### **2.5.1 Geology and Soils**

30 TAC §330.61(j)(1)

##### 2.5.1.1 Geology

In the Lower Rio Grande Valley (LRGV) the depositional stratigraphy described as the Gulf Coast Aquifer (GCA) are Quaternary and Neogene period sediments consisting primarily of fine to medium-grained materials deposited by fluvial and eolian processes. The outcrop of each progressively older, underlying unit is found to the west of the younger, overlying unit. Because of continental shelf differential subsidence, units typically thicken and dip toward the coastline of the Gulf of Mexico.

Figure II-12, Geologic Map presents the McAllen-Brownsville Sheet, Geologic Atlas of Texas prepared by the Bureau of Economic Geology. This map presents geologic units and structural features within the vicinity of the facility with text describing the stratigraphy and lithology of the map units. The facility is located on Neogene sediment overlain by Quaternary windblown sediment.

The generalized stratigraphic column of the area beneath the facility is presented to a depth of approximately 1,600 ft-bgs, which is the base of the Evangeline Aquifer. Based on Figure II-12, Geologic Map and Figure II-13, Stratigraphic Cross-Section, the Goliad Formation outcrops in the vicinity and is overlain by a veneer of Holocene eolian deposits. A description of the stratigraphy, including geologic age,

lithology including variations, thickness, depth, geometry, hydraulic conductivity, and depositional facies of each geologic unit as available through current geologic information is included in Table III4-1.

**Table II-10: Stratigraphic Units Underlying Facility**

System	Series	Age (M.Y.)	Stratigraphic Units	Lithology	Approx. Thickness (ft)	Approx. Depth (ft-bgs)	Geometry	Hydraulic Conductivity	Depositional Facies
Quaternary	Holocene	0.02	Stabilized Sand Dune Deposits	Sand; Silt	0-30	10	Sand sheets and dunes	Moderate to High	Eolian
Neogene	Miocene	4.4	Upper Goliad	Clay or Mud; Sandstone; Mudstone, Carbonate, Limestone, Conglomerate	400	400	Large planar, cross bedding, and lamination.	Moderate	Fluvial / Meander belt
		11.3	Lower Goliad		550	950			Lower Coastal Plain Fluvial / Coastal
		13.3	Upper Lagarto	Sandstone	650	1600	Dips east towards gulf coastline; units thicken down dip	Low	
		15.6	Middle Lagarto	Clay or Mud	700	2300			

(Table compiled after Baker, 1979; Chowdhury and Mace, 2007; and Young et al., 2010)

### 2.5.1.2 Soils

Figure II-14, Soils Map presents the distribution of six soil series, predominantly loamy, located across the facility according to the Soil Survey of Hidalgo County, Texas. These soil series include: the Brennan, Hebbronville (#22, #23, and #24), Hidalgo, Racombs, and Willacy Series. Table II-11, Soil Types lists sixteen soil types within the facility boundary, percentage of area covered, and potential for water and wind erosion.

**Table II-11: Soil Types**

Soil	Unit Name	Area Covered <sup>1</sup> (%)	Water Erosion Hazard	Wind Blowing Hazard
3	Brennan fine sandy loam, 0 to 1 percent slopes	7.8	Slight	Moderate
9	Delfina loamy fine sand, warm, 0 to 2 percent slopes	4.2	Moderate	Severe
16	Hargill fine sandy loam, 0 to 1 percent slopes	9.5	Slight	Moderate
17	Hargill fine sandy loam, 1 to 3 percent slopes	6.6	Moderate	Moderate
22	Hebbronville sandy loam, 0 to 1 percent slopes	7.7	Slight	Moderate



Soil	Unit Name	Area Covered <sup>1</sup> (%)	Water Erosion Hazard	Wind Blowing Hazard
23	Hebbronville sandy loam, 1 to 3 percent slopes	11.7	Moderate	Moderate
24	Hebbronville sandy loam, 3 to 5 percent slopes	8.9	Severe	Moderate
25	Hidalgo fine sandy loam, 0 to 1 percent slopes	9.1	Slight	Moderate
48	Racombe sandy clay loam	5.1	Slight	Slight
60	Rio clay loam	1.2	Moderate	Slight
70	Willacy fine sandy loam, 0 to 1 percent slopes	19.1	Slight	Moderate
71	Willacy fine sandy loam, 1 to 3 percent slopes	4.0	Moderate	Moderate

Notes:

- The percentages do not add up to 100% due to part of the area being occupied by the landfill and ponds that are not accounted for in the data. The data is obtained from the NRCS Web Soil Survey Tool:  
<http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

## 2.5.2 Active Geologic Faulting Assessment

30 TAC §330.61(j)(2) & §330.555(a)

New municipal solid waste landfill units and lateral expansions shall not be located within 200 feet of a fault that has had displacement in Holocene time (representing the most recent 10,000 years), referred to herein as an active fault. Sites located within areas that may be subject to differential subsidence or active geological faulting must include detailed fault studies. When an active fault is known to exist within 1/2 mile of the site, the site must be investigated for unknown faults. There is no evidence of active geological faulting or differential subsidence that would impair the integrity of any landfill component.

Salt domes cause much of the recent fault activity in the Gulf Coastal Plains. In Hidalgo County, salt domes are rare because the Jurassic salt layer, found throughout the Gulf Coast, is thin (Worral & Snelson, 1989). This occurrence has reduced recent fault activity to a minimum in Hidalgo County. The Geologic Atlas of Texas (McAllen-Brownsville Sheet) presented in Figure II-12, Geologic Map and Texas Water Development Board (TWDB) Reports showing faults, were reviewed to determine the presence of faults within the vicinity. Based on the review of the maps and published literature, there are no faults or surface expression of Holocene faults indicated within a one-half-mile radius of the facility. As depicted on Figure II-12, Geologic Map there are no mapped surface expressions of active or inactive faults located within at least a five-mile-radius of the facility

### 2.5.3 Seismic Impact Zone Assessment

30 TAC §330.61(j)(3) & §330.557

New municipal solid waste landfill units and lateral expansions shall not be located in seismic impact zones. A seismic impact zone is defined as an area with a 10-percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10 g in 250 years.

The 2014 U.S. Geological Survey (USGS) National Seismic Hazard Maps display earthquake ground motions for various probability levels across the United States up to 50 years. According to the USGS, ground motion values having a 2% probability of exceedance in 50 years should be approximately the same as those having 10% probability of being exceeded in 250 years. Figure II-15, Seismic Impact Map shows the maximum horizontal acceleration is approximately 0.02g at the location of the facility. Because the maximum horizontal acceleration is less than 0.1g, the facility is not located in a seismic impact zone.

### 2.5.4 Unstable Areas Assessment

30 TAC §§330.61(j)(4) & 330.559

An unstable area is defined to be a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of a landfill's structural components responsible for preventing releases from the landfill; unstable areas can include poor foundation conditions, areas susceptible to mass movement, and karst terrains. No unstable areas exist within the vicinity of the facility that would impair the integrity of any landfill components.

#### 2.5.4.1 Local Soil Conditions

The soils within vicinity of the facility are predominantly sandy loam and have similar soil properties. They are well drained because of high infiltration rates and lack natural drainage features. No significant differential settling is anticipated.

#### 2.5.4.2 Local Geologic or Geomorphologic Features

The lithology within the vicinity of the facility is moderately consistent and no indication of any karst conditions, active geological faulting, or presence of salt domes; therefore no differential subsidence is anticipated.

#### 2.5.4.3 Local Human-Made Features

In Part III3, Waste Management Unit Design analyses were performed to assess the performance of the landfill with respect to slope stability and settlement using very conservative assumptions. Results of the analyses indicate slope stability and long-term settlement would not impair the integrity of the landfill's

structural components responsible for preventing releases, including performance of the leachate collection system.

## **2.6 Groundwater and Surface Water**

### **2.6.1 Groundwater Conditions**

§330.61(k)(1)

A detailed discussion of the groundwater conditions is included in Part III4, Geology Report. Based upon an evaluation of the soil boring and groundwater data from subsurface investigations, the uppermost water-bearing unit (uppermost aquifer) is identified as fine, poorly graded, sands or silty sand layer. Based on hydrogeologic investigations of the facility area, vertical flow is restricted by underlying low permeability clays that act as a local aquiclude dividing the uppermost water-bearing unit from lower aquifers.

The predominant groundwater flow direction in the uppermost water-bearing unit (uppermost aquifer) is generally controlled by the natural surface topography. Groundwater generally flows towards the southeast from the northwest within the currently permitted area; within the expansion area groundwater flow is predominantly towards the east, northeast, or southeast in subdued conformance to topography.

### **2.6.2 Surface Water Conditions**

30 TAC §330.61(k)(2)

A detailed discussion of the surface water conditions is included in Part III4, Geology Report. Gullying and channeling are uncommon in the area because of high infiltration rates and little relief. Soils in the area are well drained and have slopes of less than or equal to 5.2%. Only sheet flow may occur during very heavy rainfall as evident by lack of natural drainage features on or near the facility.

### **2.6.3 Texas Pollutant Discharge Elimination System**

30 TAC §330.61(k)(3)

The facility is designed to prevent the discharge of pollutants into waters of the State of Texas or waters of the United States, as defined by the Texas Water Code and the Federal Clean Water Act, respectively. As demonstrated in Part III2, Surface Water Drainage Report the storm water ponds have freeboards ranging from a minimum of 5 feet to over 10 feet considering the 25-year 24-hour design storm; such design ensures that the ponds have adequate capacity for more severe storms or consecutive storms. All stormwater will be contained within the facility boundary with no discharge into surface water in the state, including no discharge during, or as the result of any storm event.

According to the Texas Pollution Discharge Elimination System (TPDES) General Permit TXR050000, Part II, Section B, 12(f), "Facilities that dispose of all storm water associated with industrial activity by any of the following practices would not be required to obtain coverage for the storm water under this general permit nor under an individual TPDES permit or alternative general permit: (f) Containment of all storm water within property boundaries, with no discharge into surface water in the state, including no discharge during, or as the result of, any storm event." Therefore, the facility would not be required to obtain coverage under TPDES General Permit or alternate general permit.

#### **2.6.4 Location Restrictions**

30 TAC §330.549(a)&(b)

The facility is not located over the Edwards Aquifer recharge zone and is not subject to 30 TAC Chapter 213. No Class 1 cells exist or are proposed at the facility; therefore, the facility is not subject to location restrictions 30 TAC §335.584(b)(1)&(2) and is not subject to active coastal shoreline erosion and 30 TAC §335.584(b)(4) & 30 TAC §330.561.

### **2.7 Abandoned Oil, Gas, and Water Wells**

#### **2.7.1 Water Wells**

30 TAC §330.61(l)(1)

As described in Section 2.3.7.1 of this narrative, there are no located water wells situated within the facility. The City does not require water wells for supply for operations at the landfill. Should any unknown existing or abandoned water wells be discovered during facility development, the City shall provide, within 30 days prior to construction, the executive director with written certification that all such wells have been capped, plugged, and closed in accordance with all applicable rules and regulations of the commission or other state agency.

#### **2.7.2 Oil and Gas Wells**

30 TAC §330.61(l)(2)

There are two plugged gas wells, identified as OG-2 and OG-4, situated within the facility. If any abandoned crude oil or natural gas wells or other wells associated with mineral recovery are located during site development, the City shall provide the executive director with written certification that these wells have been properly capped, plugged, and closed in accordance with all applicable rules and regulations of the Texas RRC.

In addition, a producing natural gas well owned by VEFI identified as OG-1 is located within the facility boundary. OG-1 will not affect or hamper landfill operations and may remain.

## 2.8 Floodplains

30 TAC §§330.61(m)(1) & 330.547(b)

The facility's northern boundary extends into two small unnamed ponding areas designated as a 100-yr flood zone without floodways. Construction of the facility's perimeter berm and storm water management structures—placement of fill in the 100-yr flood zone without floodways—will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment. The City of Edinburg has jurisdiction over the facility and adjacent properties and the Director of Public Works has reviewed and approved the construction of the facility's perimeter berm and storm water management structures.

### 2.8.1 Location

The facility's property boundary is located on the Flood Insurance Rate Map (FIRM) panel number 480334 0325D dated June 6, 2000 as depicted in Figure IIC-1, Flood Insurance Rate Map (FIRM). A Flood Insurance Study (FIS) and FIRM for the Unincorporated Areas of Hidalgo County, Texas, have been revised by a Letter of Map Revision (LOMR) case number 01-06-1095P dated May 17, 2001 to reflect revised hydrologic and hydraulic analyses, and more accurate topographic information. Figure IIC-2, Revised FIRM to Reflect LOMR depicts the facility's property boundary on the revised FIRM based on LOMR 01-06-1095P with revised Special Flood Hazard Areas (SFHA). The most current SFHA delineations available are FEMA Quality Level 3 (Q3) Flood Data files. Figure IIC-3, FEMA Q3 Flood Data shows the facility's northern boundary extends into two small unnamed ponding areas designated as SFHA Zone A, 100-year flood with no base flood elevations determined.

### 2.8.2 Data Source

The Facility's property boundary is located on the Flood Insurance Rate Map (FIRM) panel number 480334 0325D dated June 6, 2000, which was revised by LOMR 01-06-1095P dated May 17, 2001. The SFHA changes made by subsequent Letter of Map Changes (LMOCs) have not yet been incorporated into FEMA's National Flood Insurance Program (NFIP) National Flood Hazard Layer (NFHL) digital database and does not yet contain high resolution flood hazard mapping data for Hidalgo County. The most current SFHA delineations available for the project area are FEMA Quality Level 3 (Q3) Flood Data files as verified by FEMA.

### 2.8.3 Floodplain Evaluation

A floodplain evaluation for TCEQ Permit MSW-956B was performed using FIRM revised by a LOMR case number 01-06-1095P dated May 17, 2001 as depicted on Figure IIC-2, Revised FIRM to Reflect LOMR. Appendix IIC1, Floodplain Evaluation for TCEQ Permit MSW-956B includes floodplain correspondence in

Appendix IIC1-1 and documentation that the development of TCEQ Permit MSW-956B was certified not to violate floodplain restrictions in Appendix IIC1-2.

A floodplain evaluation was performed for the expansion property for TCEQ Permit MSW-956C as depicted in Figure IIC-3, FEMA Q3 Flood Data and a request for Conditional Letter of Map Revision Based on the Placement of Fill (CLOMR-F) was submitted to FEMA. Appendix IIC2, Floodplain Evaluation for TCEQ Permit MSW-956C Expansion Area includes Appendix IIC2-1, FEMA CLOMR-F Request which includes a detailed evaluation of proposed fill in the two SFHA Zone A areas, figures detailing facility design plan and profiles, and required documentation to demonstrate compliance with each applicable requirement of 30 TAC §§330.63(c)(2), 330.307(b), and 330.547.

As discussed in Appendix IIC2-1, FEMA CLOMR-F Request, the facility's stormwater management system will incorporate ponds with adequate capacity to hold all runoff, and there will be no offsite stormwater discharge except the insignificant runoff from the exterior slope of the access road berm. The facility perimeter berms are designed to protect deposited waste from flooding. The diversion structures route stormwater run-off to the stormwater ponds along the perimeter of the facility and the access roads prevent run-on from entering the facility.

As detailed in Appendix IIC2-1, FEMA CLOMR-F Request, FEMA's Q3 Flood Data Zone A delineation was used to determine a 100-year base flood elevation (BFE) of 86 feet above mean sea level (ft-msl) for the two small unnamed ponding areas designated (SFHA) Zone A without floodways using contour interpolation as described in FEMA's guide, Managing Floodplain Development in Approximate Zone A Areas. Figure 4 in Appendix IIC2-1, FEMA CLOMR-F Request presents Sections A and B for profile views of the northeast Zone A SFHA and northwest Zone A SFHA, respectively. Section A shows that the construction in the northeast Zone A SFHA includes the waste buttressed by a landfill perimeter berm, a facility stormwater perimeter channel, and a perimeter access road with a crest elevation of 95 ft-msl. Section B shows the waste buttressed by a landfill perimeter berm, a stormwater perimeter channel, an access road with a minimum elevation of 89 ft-msl, a stormwater pond, and a facility perimeter berm with a minimum elevation of 89 ft-msl, i.e. a 3-ft minimum freeboard is maintained above the 100-year design flood (86 ft-msl) in accordance with 30 TAC 330.307(b).

As demonstrated in Appendix IIC2-1, FEMA CLOMR-F Request, construction of the facility's landfill perimeter berm and storm water management structures—placement of fill in the SFHA Zone A areas—will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment.



### 2.8.4 Construction Approval

Appendix IIC2-2, FEMA Response to CLOMR-F Request states the proposed development does not encroach on a FEMA designated floodway and no buildings are anticipated to be constructed on the site, there are no procedures under the NFIP regulations that require action on your requests by FEMA. Hidalgo County, or other agencies having jurisdiction of the site, may have requirements that apply. The City of Edinburg has jurisdiction over the facility and adjacent properties. The Director of Public Works reviewed and approved the request for CLOMR-F thus signing the Community Acknowledgement Form included in Appendix IIC2-3, Community Floodplain Management Review and Approval; therefore, no further action is required.

## 2.9 Wetlands

Appendix IID, Wetlands includes a wetlands evaluation and correspondence with the Department of Army, US Army Corps of Engineers (USACE).

### 2.9.1 Wetlands Determination

30 TAC §330.61(m)(2)

Appendix IID1, Wetlands Evaluation is a wetlands assessment for the facility's expansion area conducted by Naismith Engineering, Inc. (NEI) under applicable federal, state, and local laws. The assessment was conducted to determine if existing water features within the facility's expansion area meet federal 33 CFR §328.3(c)(4) and state 30 TAC §307.3(84) criteria for wetlands, and if any jurisdictional "waters of the US" are within the expansion area. Under the federal Clean Water Act § 404 (CWA § 404), the USACE regulates the discharge of dredged and fill material into "waters of the US". The phrase "waters of the US" defines the extent of the USACE's geographic jurisdiction of the CWA § 404. There are no known local laws or ordinances that would regulate or otherwise apply to wetlands within the proposed expansion area.

The wetlands assessment identified a potential wetland meeting the criteria of hydrology, vegetation, and hydric soils and performed a wetland delineation. The delineated isolated wetland is approximately 1/3 acre in size and located in the middle of the facility's expansion area. According to the wetlands assessment, the small isolated wetland of less than an acre has been manipulated over time by agricultural practices and may have been created by excavation; therefore the potential wetland does not meet state 30 TAC §307.3(84) criteria for wetlands.

A request for wetlands verification was submitted to the Galveston District of USACE. The USACE issued an approved jurisdictional determination that the small isolated wetland is not a water of the U.S. and is based on the isolated nature and the lack of a significant nexus to navigable or interstate waters. A Department of the Army permit is not required for expansion of the facility.

### 2.9.2 Wetlands Location

30 TAC §§330.61(m)(3), 330.553(a), & 330.553(b)

No federally jurisdictional wetlands nor existing water features meeting state criteria for wetlands are located within the facility boundary. Therefore compliance with location restrictions 30 TAC §330.553 is not required.

### 2.10 Endangered or Threatened Species

An Endangered Species Biological Assessment, Texas Parks and Wildlife Department (TPWD) recommendations, and United States Department of the Interior Fish and Wildlife Service (USFWS) agreements are included in Appendix IIE, Endangered or Threatened Species.

#### 2.10.1 Protection of Endangered or Threatened Species 30 TAC §§330.61(n)(1) & 330.551(b)(1)

Construction and operation of the facility shall not result in the destruction or adverse modification of the critical habitat or cause or contribute to the taking of endangered or threatened species.

#### 2.10.2 Endangered or Threatened Species Assessment

30 TAC §330.61(n)(2)

Naismith Engineering, Inc. (NEI) performed an Endangered Species Biological Assessment for the landfill expansion area under applicable federal, state, and local laws. As part of the assessment, they conducted field surveys to determine if environmental features necessary for supporting the list of Federal and State threatened and endangered species existed. Emphasis was directed towards three areas designated as upland habitat types along the eastern boundary of the proposed expansion area that would be more likely to contain suitable habitat for threatened and endangered species. The assessment identified 18 of the 79 listed species that could potentially occur within the landfill expansion area based on habitats observed during the site visit. Of those, 11 species could potentially be impacted or affected by the proposed project expansion activities if present at the site: one federal- and state-listed endangered, eight state-listed threatened, and two state-listed rare.

The City submitted a request for threatened or endangered species review to the TPWD Wildlife Diversity Program and USFWS Wildlife Diversity Program. TPWD responded with recommendations which included preservation of potential ocelot habitat. In response, the City made an agreement with USFWS to preserve a 200-foot wide corridor of dense native woodland along the northern property boundary established with native vegetation, connecting to the southern property boundary of dense native woodland owned by the City.

## 2.11 Texas Historical Commission Review

30 TAC §330.61(o)

The City submitted a request for review to the Texas Historical Commission (THC) documenting compliance with the Natural Resources Code, Chapter 191, Texas Antiquities Code. The request included two figures showing the general location and site location with existing and proposed limits of the permit boundary and copies of the previously submitted letters documenting archeological and historical review. The State Historic Preservation Officer determined that no survey was required and the project may proceed. Documentation of correspondence with THC is included in Appendix IIF, Texas Historical Commission.

## 2.12 Council of Governments and Local Government Review Request

30 TAC §§330.61(p) & 330.57(e)(2)

The City submitted a MSW Facility Permit Application Review Form to the Lower Rio Grande Valley Development Council (LRGVDC) and gave a presentation to the Solid Waste Advisory Committee (SWAC). LRGVDC responded that Board of Directors has gone on record with favorable comments and the expansion of the landfill falls within the goals of the LRGVDC Regional Solid Waste Management Plan. Parts I and II of this application and any subsequent revisions will be furnished to the LRGVDC. Documentation of correspondence with LRGVDC is included in Appendix IIG, Council of Governments.

## 3.0 FACILITY LAYOUT PLAN

The landfill expansion will add 349.0 acres resulting in a facility boundary of 602.5 acres, a waste disposal area of 406.0 acres, and a 196.5 acres of non-waste disposal to be used for buffer, landfill access roads, leachate force main, and drainage features with 11 storm water ponds.

### 3.1 Easements and Buffer Zones

#### 3.1.1 Easement Protection

30 TAC §330.543(a)

No solid waste unloading, storage, disposal, or processing operations shall occur within any easement, buffer zone, or right-of-way that crosses the facility. No solid waste disposal shall occur within 25 feet of the center line of any utility line or pipeline easement but no closer than the easement, unless otherwise authorized by the executive director. All pipeline and utility easements shall be clearly marked with posts that extend at least 6 feet above ground level, spaced at intervals no greater than 300 feet.

#### 3.1.2 Buffer Zones

The facility will provide and maintain buffer zones within and adjacent to the permit boundary and shall not be narrower than that necessary to provide for safe passage for firefighting and other emergency vehicles.

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Submitted: July 2017

Revised: November 2017

### 3.1.2.1 Buffer Zone Establishment

30 TAC §330.543(b)(2)

A buffer zone by definition is a zone free of municipal solid waste processing and disposal activities within and adjacent to the facility boundary on property owned or controlled by the owner or operator. Buffer distances from the waste footprint to the facility boundary are illustrated on Figure II-17, Facility Layout Plan.

Buffer zones for Pre-Subtitle D Units 1-4 and Subtitle D Units 5 and 6 were established under TCEQ Permit MSW-956A and TCEQ Permit MSW-956B, respectively before the comprehensive rule revisions of 30 TAC §330.543 as adopted in 2006 became effective; therefore, the buffer zones in the area are subject to the former rules and shall be maintained in compliance with the permit. Buffer zones for Pre-Subtitle D Units 1-4 and Subtitle D Units 5 and 6 were established at 100 feet with an exception of an established 50-foot buffer zone along the southeast corner of Unit 5.

For any vertical expansion, a 125-foot buffer zone must be maintained. The vertical expansion over Pre-Subtitle D Units 1-4 and Subtitle D Units 5 and 6 is the height increase that exceeds the maximum permitted final contour. The buffer distance is measured from the outermost edge of the newly permitted solid waste disposal airspace. The buffer distance for the vertical expansion over Pre-Subtitle D Units 1-4 and Subtitle D Units 5 and 6 is greater than 125 feet and therefore is in compliance with §330.543(b)(2).

For any lateral expansion to areas not previously permitted, a 125-foot buffer zone must be maintained. The buffer distance is measured from the edge of the horizontally expanded portion of the landfill. The buffer distance for the lateral expansion of Unit 7 will be greater than 125 feet along the eastern and northern permit boundary. However, the buffer distance for Unit 7 along the southern boundary will be 100 feet because the prescribed buffer zone standard is not feasible for alignment and keying into previously approved Unit 6. This is also the case if the Unit 8 option instead of the Overliner option is developed, which is discussed in Section 3.4.1. An alternative to the buffer zone requirement is demonstrated in the following section.

### 3.1.2.2 Alternate to Buffer Zone Requirements

30 TAC §330.543(b)(3)

The prescribed standard to maintain a 125-foot buffer zone for a lateral expansion into areas not previously permitted is not feasible along the southern boundary of Unit 7. Likewise, it is not feasible if the Unit 8 option instead of the Overliner option is developed. It is most feasible to maintain a 100-foot buffer zone because construction and waste filling operations will be aligned with Unit 6.

The City owns the property south of the facility boundary and the Type I Landfill is adjacent to the Type IV Landfill TCEQ Permit MSW-2302. As indicated on Figure II-17, Facility Layout Plan the facility currently shares a perimeter access road with the Type IV landfill, thereby providing ready access for emergency response, maintenance, and monitoring, as well as sufficient distance to meet the drainage and sediment control requirements applicable to the facility. Visual screening of solid waste disposal activities and control of odors and windblown waste of a 100-foot buffer zone will be equivalent to that of the prescribed standard.

## 3.2 Facility Layout Drawings

30 TAC §330.61(d)

The following facility layout drawings are provided in this document.

**Table II-12: Facility Layout Drawings**

Figure	Title	Citation
II-16	Facility Entrance Plan	30 TAC §330.61(d)(4),(6),(7),&(8)
II-17	Facility Layout Plan	30 TAC §330.61(d)(1),(2),(3),&(9)(A)
II-18A	Subgrade Layout Plan – Overliner Option	30 TAC §330.61(d)(9)(D)
II-18B	Subgrade Layout Plan – Unit 8 Option	30 TAC §330.61(d)(9)(D)
II-19	Final Contour Map	30 TAC §330.61(d)(9)(E)
II-20	Operational Sequence I	30 TAC §330.61(d)(5),(9)(B),&(9)(C)
II-21	Operational Sequence II	30 TAC §330.61(d)(5),(9)(B),&(9)(C)
II-22	Operational Sequence III	30 TAC §330.61(d)(5),(9)(B),&(9)(C)
II-23	Operational Sequence IV	30 TAC §330.61(d)(5),(9)(B),&(9)(C)
II-24	Operational Sequence V	30 TAC §330.61(d)(5),(9)(B),&(9)(C)
II-25	Operational Sequence VI	30 TAC §330.61(d)(5),(9)(B),&(9)(C)

Note: 30 TAC §330.61(d)

- (1) the outline of the units
- (2) general locations of main interior facility roadways, and for landfill units, the general locations of main interior facility roadways that can be used to provide access to fill areas
- (3) locations of monitor wells
- (4) locations of buildings
- (5) any other graphic representations or marginal explanatory notes necessary to communicate the proposed construction sequence of the facility
- (6) fencing
- (7) provisions for the maintenance of any natural windbreaks, such as greenbelts, where they will improve the appearance and operation of the facility and, where appropriate, plans for screening the facility from public view
- (8) all site entrance roads from public access roads
- (9) for landfill units
  - (A) sectors with appropriate notations to communicate the types of wastes to be disposed of in individual sectors
  - (B) the general sequence of filling operations
  - (C) sequence of excavation and filling
  - (D) dimensions of cells or trenches
  - (E) maximum waste elevations and final cover.

### 3.3 Facility Entrance Plan

The facility entrance and maintenance facilities are located south of the Type I disposal areas. Figure II-16, Facility Entrance Plan illustrates existing facility buildings and designated areas, existing fencing and screening, and site entrance roads.

#### 3.3.1 Facility Buildings

30 TAC §330.61(d)(4)

Existing structures/areas located at the facility, which will remain as part of this permit amendment application, include:

- Landfill administrative office
- Maintenance buildings
- Gatehouse and scales
- Dumpster / roll off box storage area
- Citizen collection station
- Landfill gas to energy facility including landfill flare and blower
- Reusable material staging area
- Large item salvage and white goods storage area
- Fuel storage tank

#### 3.3.2 Fencing

30 TAC §§330.61(d)(6) & 330.223(c)

Access to the facility is controlled by a perimeter fence, a composite of either a four-foot barbed wire fence or a six-foot steel-link mesh fence, currently installed around contiguous properties owned by the City. The perimeter fence encompasses the facility permit boundary as well as the Type IV Landfill TCEQ Permit MSW-2302 and landfill facilities to the south and additional City owned properties to the east as depicted on Figure II-16, Facility Entrance Plan.

A gate located at the facility entrance is locked by site personnel at the end of the day's operations. Another gate is located on the west side of the facility on Encinitos Road and is locked unless access is needed by site personnel.



### 3.3.3 Screening

30 TAC §330.61(d)(7)

Although there exist some visual screening of the along the southern portion of the facility boundaries, plans for screening the facility from public view is not required because the nearest high traffic roadway is located approximately 1,900 feet to the west and surrounding land use is primarily agricultural and industrial.

### 3.3.4 Site Entrance Roads

30 TAC §330.61(d)(8)

The facility entrance is located at 8601 Jasman Rd north of FM 2812 and is shared with the City's Type IV Landfill TCEQ Permit MSW-2302. Access to the facility entrance from US Hwy 281 is eastbound on FM 2812 and north onto Jasman Rd. The site entrance of the facility is on its southern permit boundary directly north of the scale house as shown on Figure II-16, Facility Entrance Plan

## 3.4 Facility Layout Plan

30 TAC §330.61(d)(9)(A)

Figure II-17, Facility Layout Plan illustrates an outline of the solid waste management units to receive waste accepted by facility as outlined in §1.0, Waste Acceptance Plan; general locations of main interior facility roadways that can be used to provide access to fills areas; surface water drainage features and ponds; buffer zones; and location of monitoring wells. Figure II-17, Facility Layout Plan includes the location of the permanent site benchmark.

### 3.4.1 Outline of Solid Waste Management Units

30 TAC §330.61(d)(1)

Figure II-17, Facility Layout Plan illustrates an outline of the solid waste management units. Waste within Pre-Subtitle D Units 1-4 will either be relocated for development of Unit 8 or an Overliner will be constructed for vertical expansion. Therefore, Subtitle D waste disposal areas are 52.9 acres in Unit 5, 110.8 acres in Unit 6, 205.7 acres in Unit 7, and 36.6 acres in Unit 8/Overliner.

### 3.4.2 Interior Facility Roadways

30 TAC §330.61(d)(2)

The facility has interior roadways that can be used to provide access to the solid waste management units as shown on Figure II-17, Facility Layout Plan.

### 3.4.3 Monitoring Wells

30 TAC §330.61(d)(3)

Figure II-17, Facility Layout Plan shows the location of 38 monitoring wells used for the groundwater monitoring system outlined in Part III5, Groundwater Characterization Report.

### 3.5 Subgrade Layout Plan

30 TAC §330.61(d)(9)(D)

Currently active disposal areas are Unit 5, Cells SD-1 through SD-8 and Unit 6, Cells 1A through 6A. Figure II-18A, Subgrade Layout Plan – Overliner Option, depicts the subgrade elevations of the lateral expansion cells within Unit 7 and Overliner and lists their approximate dimensions. Likewise Figure II-18B, Subgrade Layout Plan –Unit 8 Option, depicts the subgrade elevations of the lateral expansion cells within Unit 7 and Unit 8 and lists their approximate dimensions. Cells may be divided into smaller areas for development. Resulting divisions will be labeled with parent cell designation appended with an incremental letter.

### 3.6 Final Contour Map

30 TAC §330.61(d)(9)(E)

Figure II-19, Final Contour Map depicts the maximum final cover elevation of approximately 398 ft-msl. The maximum waste elevation is the final cover elevation minus the thickness of final cover and is dependent on thickness of the final cover lining option used. Part III7, Closure Plan details final cover lining options.

### 3.7 Sequence of Site Development

30 TAC §330.61(d)(5)

Figures II-20, Operational Sequence I – V demonstrate the general sequence of filling operations and sequence of excavation.

The pattern of waste disposal will be governed by the area fill disposal method. Landfilling will occur below grade and above grade, depending on the stage of operational development and operational considerations. Initially, filling will occur above grade over the existing constructed fill areas to attain the design top of waste grades. New landfill cells will be developed adjacent to existing filled areas and waste placement operations will continue below grade.

Waste filling operations have been completed on the Pre-Subtitle D areas and final cover has been constructed over the Units 1–4. As waste placement progresses on the Subtitle D units, final cover will be placed in incremental phases to meet the 180-day requirement for a landfill unit that has reached final waste grade. Figures II-20, Operational Sequence I – V present the basic capping sequence that will be followed.

It is expected that the largest area to receive final cover will be approximately 159.1 acres as shown on Figure II-20A, Operational Fill Sequence I.

Groundwater and landfill gas monitoring will be on-going activities for the life of the site. Monitoring wells MW-101 through MW-126 and gas monitoring probes GP-101 through GP-126 will be installed at the approximate locations identified on Figure II-17, Facility Layout Plan.

Storm water from the developed waste disposal units will be collected by add-on berms and downchutes constructed on the cover of the landfill and routed to perimeter channels around the perimeter of the disposal units. The surface water will then be conveyed to the storm water ponds located on the north and east sides of the waste disposal units. The 11 storm water ponds collectively have sufficient storage capacity for severe or consecutive storms.

### 3.7.1 Schedule of Development

30 TAC §330.61(d)(9)(B)&(C)

An anticipated schedule of development for this facility is provided in Table II-13, Schedule of Development. Cells within lateral expansion Unit 7 and Unit 8/Overliner may be incrementally constructed wholly or partially in any sequence for operational feasibility.

**Table II-13: Schedule of Development**

Operational Sequence I	Waste Fill	Waste placement in Units 5 and 6.	
	Excavation	Excavate the southern portion of Unit 7 for soil borrow.	
	Cell Construction	Construct the southern portion of Unit 7, Cells 1–7	
	Storm Water Control Features	Amend existing and construct additional perimeter channels and construct storm water Ponds W1, W2, W6, E1, and E2	
	Groundwater Monitoring System	Abandon	MW-1R, MW-8R, MW-7R, MW-4A, MW-11, MW-15R, MW-16, MW-19, MW-14R, MW-20, MW-17, & MW-21
		Install	MW-101, MW-102, MW-103, MW-104, & MW-105
	Landfill Gas Monitoring System	Abandon	GP-32, GP-33, GP-18, GP-19R, GP-36, GP-37, GP-38, GP-39, GP-40, GP-41, GP-42, & GP-43
		Install	GP-101, GP-102, GP-103 & GP-104

Operational Sequence II	Waste Fill	Waste placement in southern portion of Unit 7, Cells 1–7	
	Excavation	Progressively excavate Unit 7 adjacent to sequential cell development for soil borrow.	
	Cell Construction	Construct the northeast portion of Unit 7, Cells 6 – 9	
	Storm Water Control Features	Construct storm water Ponds W3, W4, and W5.	

	Groundwater Monitoring System	Install	MW-119, MW-120, MW-121, MW-122, MW-123, MW-124, MW-125, & MW-126
	Landfill Gas Monitoring System	Install	GP-119, GP-120, GP-121, GP-122, GP-123, GP-124, GP-125, & GP-126
	Final Cover Placement	North, west, and south side slopes of Unit 5 and north and south of Unit 6	

Operational Sequence III	Waste Fill	Waste placement in Unit 7, Cells 1–9	
	Excavation	Progressively excavate Unit 7 adjacent to sequential cell development for soil borrow.	
	Cell Construction	Construct northern portion of Unit 7, Cells 10 – 12.	
	Storm Water Control Features	Construct storm water Pond E4.	
	Groundwater Monitoring System	Install	MW-112, MW-113, MW-114, MW-115, MW-116, MW-117, & MW-118
	Landfill Gas Monitoring System	Install	GP-112, GP-113, GP-114, GP-115, GP-116, GP-117, & GP-118
	Final Cover Placement	South and southeast side slopes and of Unit 7	

Operational Sequence IV	Waste Fill	Waste placement in Unit 7, Cells 1–12	
	Excavation	For Unit 8 option of cell development, relocate Pre-Subtitle D waste and excavate to subgrade.	
	Cell Construction	Construct Unit 8/Overliner	
	Storm Water Control Features	Construct storm water Pond E3	
	Groundwater Monitoring System	Install	MW-108, MW-109, MW-110, & MW-111
	Landfill Gas Monitoring System	Install	GP-107, GP-108, GP-109, GP-110, & GP-111
	Final Cover Placement	East and northeast side slopes of Unit 7	

Operational Sequence V	Waste Fill	Waste placement in Unit 5, Unit 6, and Unit 8/Overliner	
	Storm Water Control Features	Construct storm water Pond W7	
	Final Cover Placement	North and west side slopes and crest of Unit 7	

Closure / Post Closure Care	Closure signs		
	Notify TCEQ of intent to close		
	Complete final cover construction over the waste fill units		
	Closure Certification		
	Affidavit to public is filed for notification of complete closure of facility		

### 3.7.2 Excavation and Bottom Liner Construction

30 TAC §330.61(d)(9)(C)

Throughout the development of the facility, the general excavation sequence will be as follows:

- Excavate to subgrade elevations shown on Figure II-18, Subgrade Layout Plan.
- Construct temporary erosion controls including diversion berms, channels, silt fences, and sediment basins.
- Construct an alternative liner system in accordance with Part III3F, Liner Quality Control Plan.

### 3.7.3 General Filling Sequence

30 TAC §330.61(d)(9)(B)

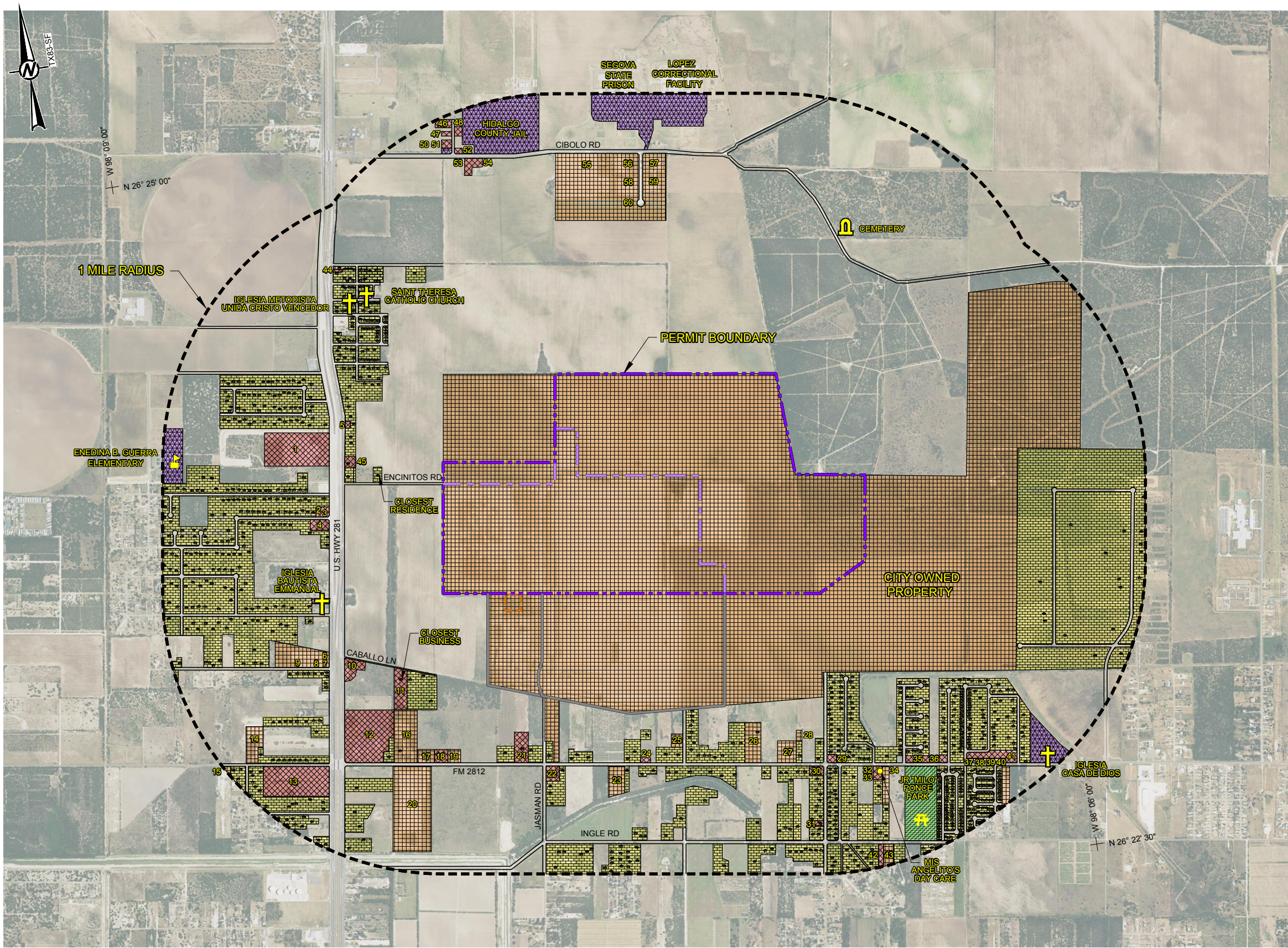
Throughout the development of the facility, the general filling sequence will be as follows:

- The location of the initial working face in a newly constructed cell will be established around and including the sump area. Up-gradient berms will be constructed as necessary until the entire lined area of the constructed cell has been covered with waste including daily cover or an approved alternate.
- Place waste in lifts as determined by the site operator and construct storm water control berms as indicated within Part III2B, Active Face Berm Sizing.
- Temporary waste slopes will be graded at a maximum slope of 3H:1V. Temporary waste slope stability analysis is presented in Part III3B-2C, Interior Waste Slope Stability.
- Gas Collection and Control System will be installed incrementally as waste fill progresses in accordance with Part III6, Landfill Gas Management Plan.
- Provide intermediate cover as final grade is reached and in areas where storm water run-off discharges to the perimeter channel system.
- Install final cover in accordance with Part III7D, Final Cover Quality Control Plan over areas which will not receive additional waste.
- Drainage features must be incrementally constructed to manage surface water from within areas impacted by cell development in accordance to Part III2, Surface Water Drainage Report.
- Groundwater monitoring wells and gas probes must be installed within 500 feet of constructed cells prior to waste acceptance in accordance to Part III5, Groundwater Characterization Report and Part III6, Landfill Gas Management Plan respectively.

### 3.7.4 Closure and Post-Closure Care

Closure and Post Closure care of the facility are discussed in Part III7, Closure Plan and Part III8, Post-Closure Care Plan respectively.





LEGEND			
	PERMIT BOUNDARY		RESIDENTIAL
	1 MILE RADIUS		RECREATIONAL
	COMMERCIAL		INSTITUTIONAL
	INDUSTRIAL		
	AGRICULTURAL / PASTURELAND / OPEN		

**SCHOOLS**  
THERE IS ONE SCHOOL LOCATED WITH IN ONE MILE OF THE FACILITY. ENEDINA B. GUERRA ELEMENTARY IS LOCATED APPROXIMATELY 5,020 FT WEST AT 10010 VIA FERNANDEZ.

**CHURCHES**  
THERE ARE 4 CHURCHES LOCATED WITHIN ONE MILE OF THE FACILITY. IGLESIA BAUTISTA EMMANUEL IS THE CLOSEST CHURCH LOCATED APPROXIMATELY 2,480 FT WEST OF THE FACILITY AT 9413 N. EXPRESSWAY 281.

**CEMETERY**  
THERE IS ONE CEMETERY LOCATED WITHIN ONE MILE OF THE FACILITY. CIBOLO CEMETERY IS LOCATED APPROXIMATELY 2,900 FT NORTHEAST ON CIBOLO RD.

**LICENSED DAY CARE FACILITY**  
THERE IS ONE LICENSED DAY CARE FACILITY LOCATED WITHIN ONE MILE OF THE FACILITY. MIS ANGELITO'S DAY CARE IS LOCATED APPROXIMATELY 3,530 FT SOUTH AT 3324 E FM 2812.

**RECREATIONAL AND PARKS AREA**  
THERE IS ONE RECREATIONAL AREA LOCATED WITHIN ONE MILE OF THE FACILITY. J. R. "MILO" PONCE PARK IS LOCATED APPROXIMATELY 3,625 FT SOUTHEAST AT 3516 E FM 2812.

**RESIDENTIAL**  
BASED ON FIELD INVENTORIES PERFORMED ON OCTOBER 2016 AND A REVIEW OF GOOGLE EARTH IMAGERY, IT IS ESTIMATED THAT THERE ARE APPROXIMATELY 972 EXISTING RESIDENCES LOCATED WITHIN ONE MILE OF THE FACILITY. THE NEAREST EXISTING RESIDENCE IS LOCATED APPROXIMATELY 1,230 FT WEST AT 1307 ENCINITOS RD.

**COMMERCIAL AND INDUSTRIAL**  
BASED ON FIELD INVENTORIES PERFORMED ON OCTOBER 2016, REVIEW OF GOOGLE EARTH IMAGERY, AND REVIEW OF HIDALGO COUNTY APPRAISAL DISTRICT PROPERTY MAP SEARCH, APPROXIMATELY 60 BUSINESSES ARE LOCATED WITHIN ONE MILE OF THE FACILITY REPRESENTING A MIX OF BOTH COMMERCIAL AND INDUSTRIAL ACTIVITY. THE NEAREST BUSINESS, DOG OBEDIENCE INC., IS LOCATED APPROXIMATELY 1,590 FT SOUTHWEST AT 502 CABALLO LN.

1 HOLT CAT AGRIBUSINESS	31 UIS MARTINEZ ADAN
2 ALANIS AUTO CENTER	32 DAISY'S BEAUTY SALON
3 TEX MEX FOOD MART	33 MIS ANGELITO'S DAY CARE
4 SANTO CRUZ PROPERTIES	34 LAS CASITAS METAL BUILDINGS
5 LAURA'S KITCHEN	35 PUEBLO DE PALMAS
6 PRUMAR TRADING SOLUTIONS LLC	36 DELICIAS BAKERY
7 DCP MIDSTREAM	37 VILLA BONITA RESTAURANTE
8 LG PACKING CO.	38 EL FOGON
9 CHIP BERRY PRODUCE	39 MORA TIRES AND TRUCK CENTER
10 JEA TIRES	40 TEXAS SOUTH PROPANE
11 DOG OBEDIENCE SCHOOL	41 DOLLAR GENERAL
12 LOVE'S TRAVEL STOP	42 CHARLIE'S AUTO REPAIR
13 TA EDINBURG	43 G & D LOGISTICS LLC
14 AQUAWORKS PIPING	44 RODRIGUEZ BAIL BONDS
15 J BROTHERS TRUCKING	45 OWL HOUSE PAINTING LC
16 HIDALGO COUNTY WATER DISTRICT 15	46 METRO VALLEY SECURITY
17 GRIFFIN INDUSTRIES INC.	47 REYES BAIL BONDS
18 GARCIA'S LIFT TRUCK SERVICE	48 CORDOVA SOUTH TEXAS BAIL BONDS
19 BOOKER TRANSPORTATION SERVICES, INC.	49 ANZALDUA BAIL BONDS
20 DON HUGO PRODUCE	50 A-QUICK BAIL BONDS
21 RANCHOS LAS TRES MARIAS	51 LIBERTY BAIL BONDS
22 TAQUERIA LOS CASTILLO'S	52 DAVID'S BAIL BONDS
23 NORTH ALAMO WATER SUPPLY	53 A-FAST BAIL BONDS
24 CAMPOS AUTO REPAIR	54 CASTADA'S BAIL BONDS
25 DIAMOND "C" TRANSPORT	55 KEY ENERGY SERVICES
26 TANIS SIGNATURE TRANSPORT	56 CHEVRON
27 LAND COAST LOGISTICS	57 SOUTHERN DISPOSALS
28 MRC TRANSPORT LLC	58 M-I LLC
29 D'NELLY'S RESTAURANT	59 BUTCH'S OILFIELD SERVICES, INC.
30 FAMILY DOLLAR	60 MISWAGO

**NOTE(S)**  
1. NO PONDS AND LAKES, HOSPITALS, OR HISTORIC SITES ARE LOCATED WITHIN 1 MILE.  
2. DRAINAGE, PIPELINE, AND UTILITY EASEMENTS ARE SHOWN ON FIGURE II-6.  
3. LAND USE PRESENTED IS ACTUAL LAND USE BASED ON FIELD INVENTORIES PERFORMED ON OCTOBER 2016 AND REVIEW OF GOOGLE EARTH IMAGERY AND NOT PLANNED LAND USE AS DEPICTED ON FIGURE II-5, ZONING MAP.

**REFERENCE(S)**  
BASE MAP TAKEN FROM NATIONAL AGRICULTURE IMAGERY PROGRAM (NAIP) DIGITAL ORTHO PHOTO IMAGE PUBLISHED BY USDA-FSA-APFO DATED DECEMBER 16, 2014

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REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
1	2017-11-07	RESPONSE TO TCEQ FIRST NOTICE OF DEFICIENCY	CEI	TNB	CGD	CEI
0	2017-07-21	PERMIT AMENDMENT APPLICATION SUBMITTAL	CEI	TDS	JBF	CEI



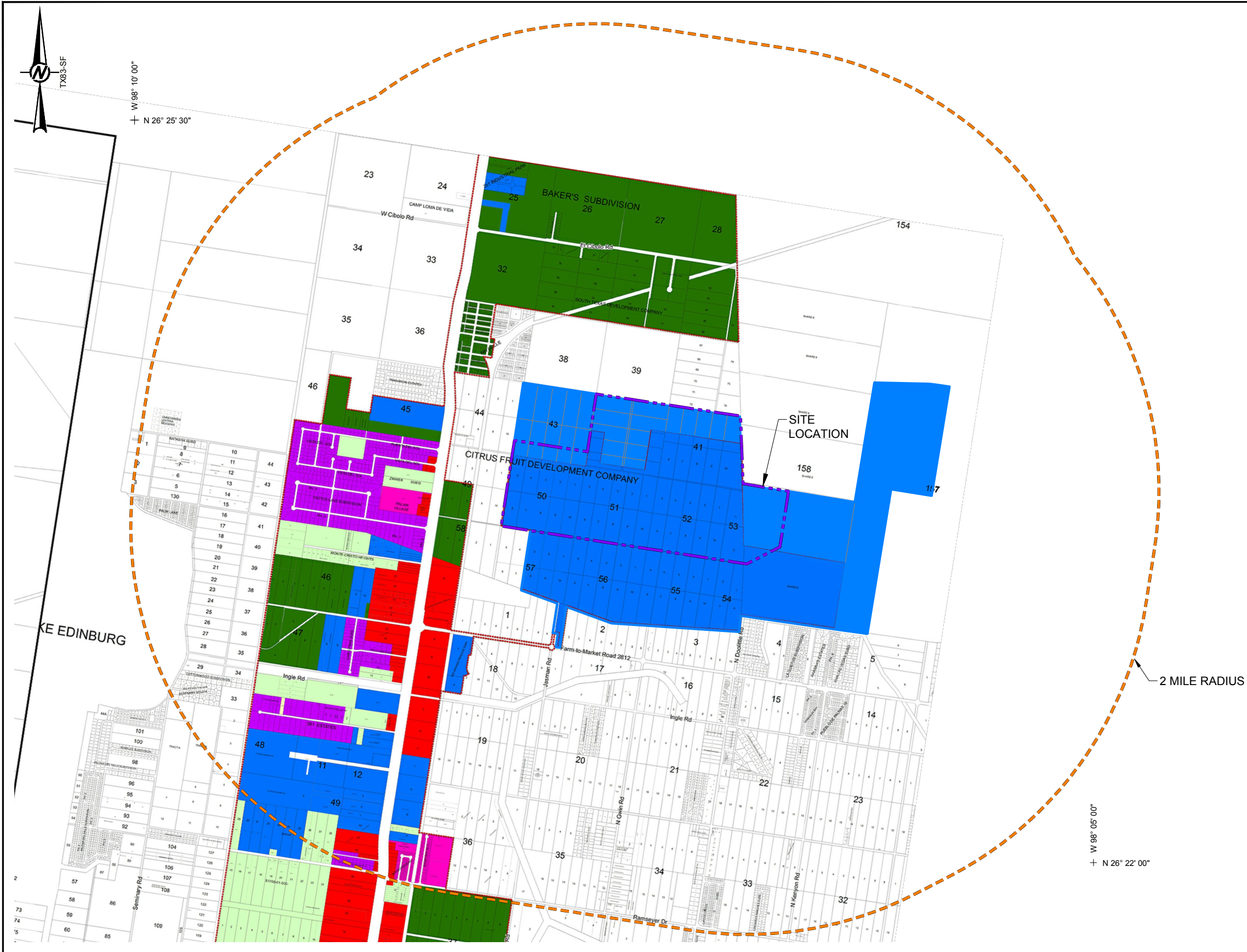
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PROJECT				
EDINBURG REGIONAL DISPOSAL FACILITY				
PERMIT AMENDMENT APPLICATION TCEQ PERMIT MSW-956C				
EDINBURG, HIDALGO COUNTY, TEXAS				
TITLE				
LAND USE MAP				
PROJECT NO.	APPLICATION SECTION	REV.	4 of 30	FIGURE
1401491	II	1		II-4





**LEGEND**

- PERMIT BOUNDARY
- 2 MILE RADIUS
- INDUSTRIAL
- AGRICULTURAL
- SUBURBAN RESIDENTIAL
- COMMERCIAL, GENERAL
- NEIGHBORHOOD CONSERVATION
- NEIGHBORHOOD CONSERVATION

- REFERENCE(S)**
- ZONING MAP TAKEN FROM THE CITY OF EDINBURG, PLANNING & ZONING MAPS, DATED 6/16/2015, DELIVERED FROM <http://www.cityofedinburg.com/pzmaps.php>
  - CITY OWNED PROPERTY ANNEXED PER CITY ORDINANCE 2016-3946 APPROVED OCTOBER 3, 2017.

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1	2017-11-07	RESPONSE TO TCEQ FIRST NOD	CEI	TNB	CGD	CEI
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REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED

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GOLDER ASSOCIATES INC.  
TEXAS REGISTRATION F-2578

CLIENT

CITY OF EDINBURG  
SOLID WASTE  
MANAGEMENT

CONSULTANT

GOLDER ASSOCIATES

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PROJECT  
EDINBURG REGIONAL DISPOSAL FACILITY  
PERMIT AMENDMENT APPLICATION TCEQ PERMIT MSW-956C  
EDINBURG, HIDALGO COUNTY, TEXAS

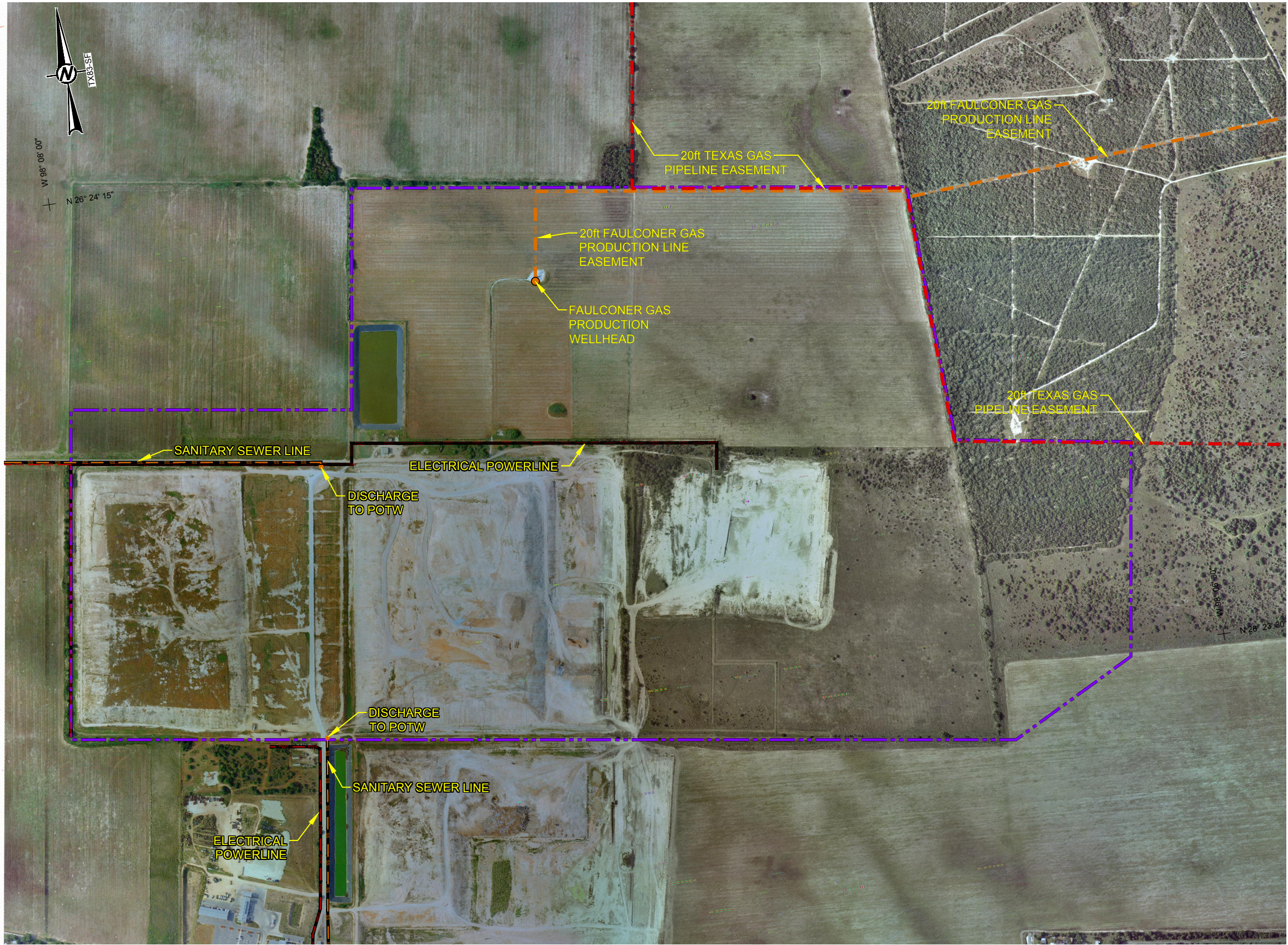
TITLE  
**ZONING MAP**

PROJECT NO. 1401491	APPLICATION SECTION II	REV. 1	5 of 30	FIGURE II-5
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1 in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B



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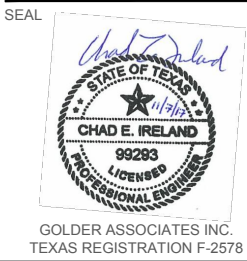


- LEGEND**
- PERMIT BOUNDARY
  - GAS TEXAS GAS DEDICATED PIPELINE EASEMENT
  - GAS FAULKNER DEDICATED PIPELINE EASEMENT
  - PWR ELECTRICAL POWERLINE
  - SS SANITARY SEWER LINE
- REFERENCE(S)**
- POWERLINE LOCATION TAKEN FROM MAGIC VALLEY ELECTRIC COOPERATIVE, DATED 02/10/16 DELIVERED FROM <http://www.magicvalley.coop/map/outage>
  - PIPELINE EASEMENT DEED RECORDS CAN BE FOUND IN PART IC OF THIS APPLICATION.
  - CITY OWNED SANITARY SEWER LINE LOCATIONS PROVIDED BY THE CITY OF EDINBURG.

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0	2017-07-21	PERMIT AMENDMENT APPLICATION SUBMITTAL	CEI	TDS	JBF	CEI
REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED



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 CITY OF EDINBURG  
SOLID WASTE  
MANAGEMENT

CONSULTANT

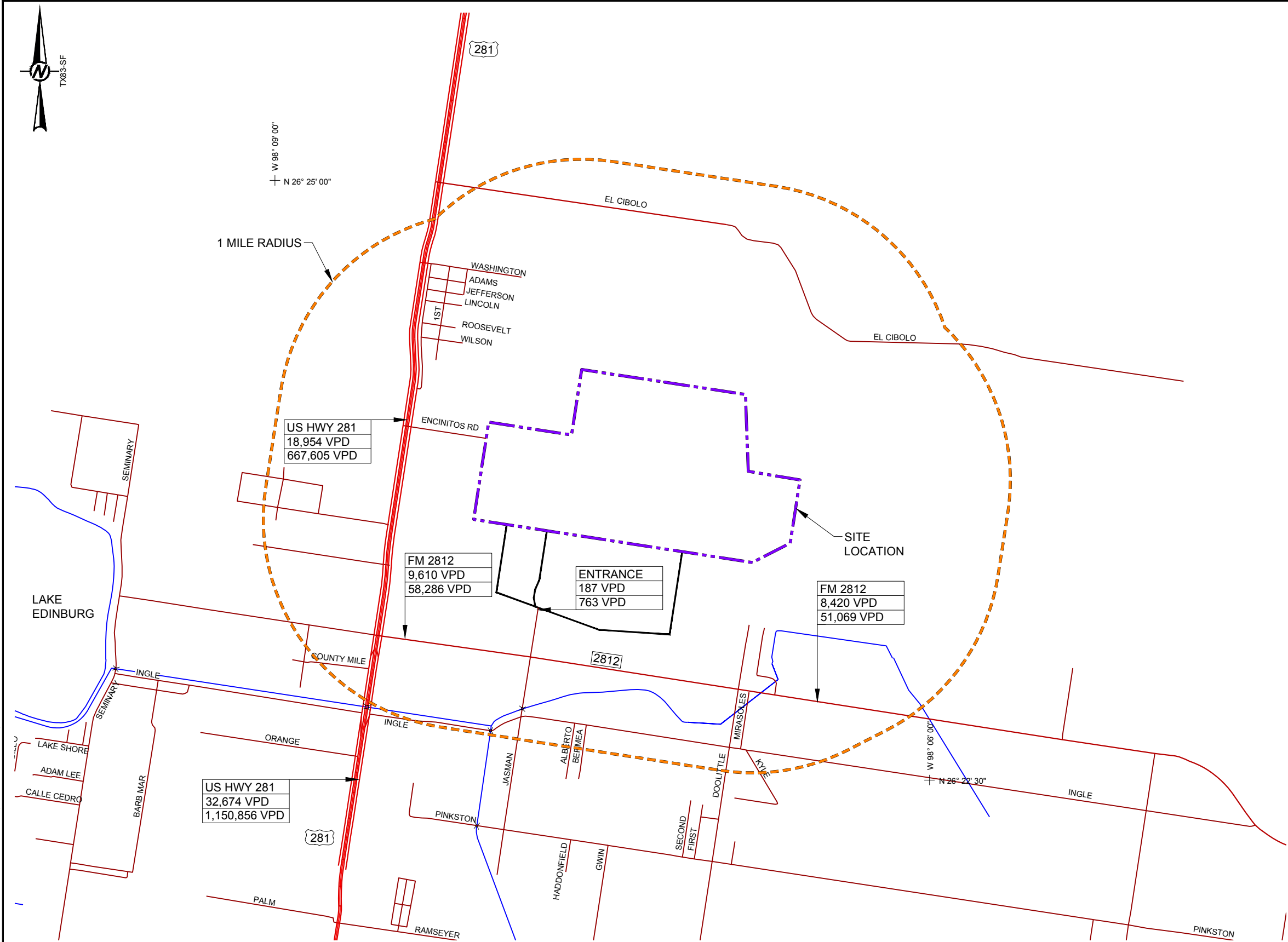
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PROJECT	EDINBURG REGIONAL DISPOSAL FACILITY
PERMIT AMENDMENT APPLICATION TCEQ PERMIT MSW-956C	
EDINBURG, HIDALGO COUNTY, TEXAS	
TITLE	DRAINAGE, PIPELINE, AND UTILITY EASEMENT LOCATION MAP
PROJECT NO.	1401491
APPLICATION SECTION	II
REV.	1
6 of 30	
FIGURE	II-6

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**LEGEND**

PERMIT BOUNDARY  
1 MILE RADIUS

ENTRANCE	ROADWAY
187 VPD	EXISTING ANNUAL AVERAGE DAILY TRAFFIC (2013)
763 VPD	FUTURE ANNUAL AVERAGE DAILY TRAFFIC (2086)

**SURFACE TYPES**

US 281	ASPHALTIC CONCRETE PAVEMENT
FM 2812	CONCRETE AND ASPHALTIC CONCRETE PAVEMENT

**NOTE(S)**

1. 2013 ANNUAL AVERAGE DAILY TRAFFIC COUNTS PROVIDED BY TXDOT.  
2. THE EXISTING TOTAL TRAFFIC GENERATED BY THE TYPE I LANDFILL IS BASED ON THE 2015 LANDFILL DATA.

**REFERENCE(S)**

BASE MAP TAKEN FROM TEXAS DEPARTMENT OF TRANSPORTATION, TXDOT URBAN FILE 2003 FOR HIDALGO COUNTY, DOWNLOADED FROM TNRIS.ORG

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0	2017-07-21	PERMIT AMENDMENT APPLICATION SUBMITTAL	CEI	TDS	JBF	CEI
REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED

SEAL

CHAD E. IRELAND  
99283  
LICENSED PROFESSIONAL ENGINEER

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TEXAS REGISTRATION F-2578

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PROJECT

EDINBURG REGIONAL DISPOSAL FACILITY  
PERMIT AMENDMENT APPLICATION TCEQ PERMIT MSW-956C  
EDINBURG, HIDALGO COUNTY, TEXAS

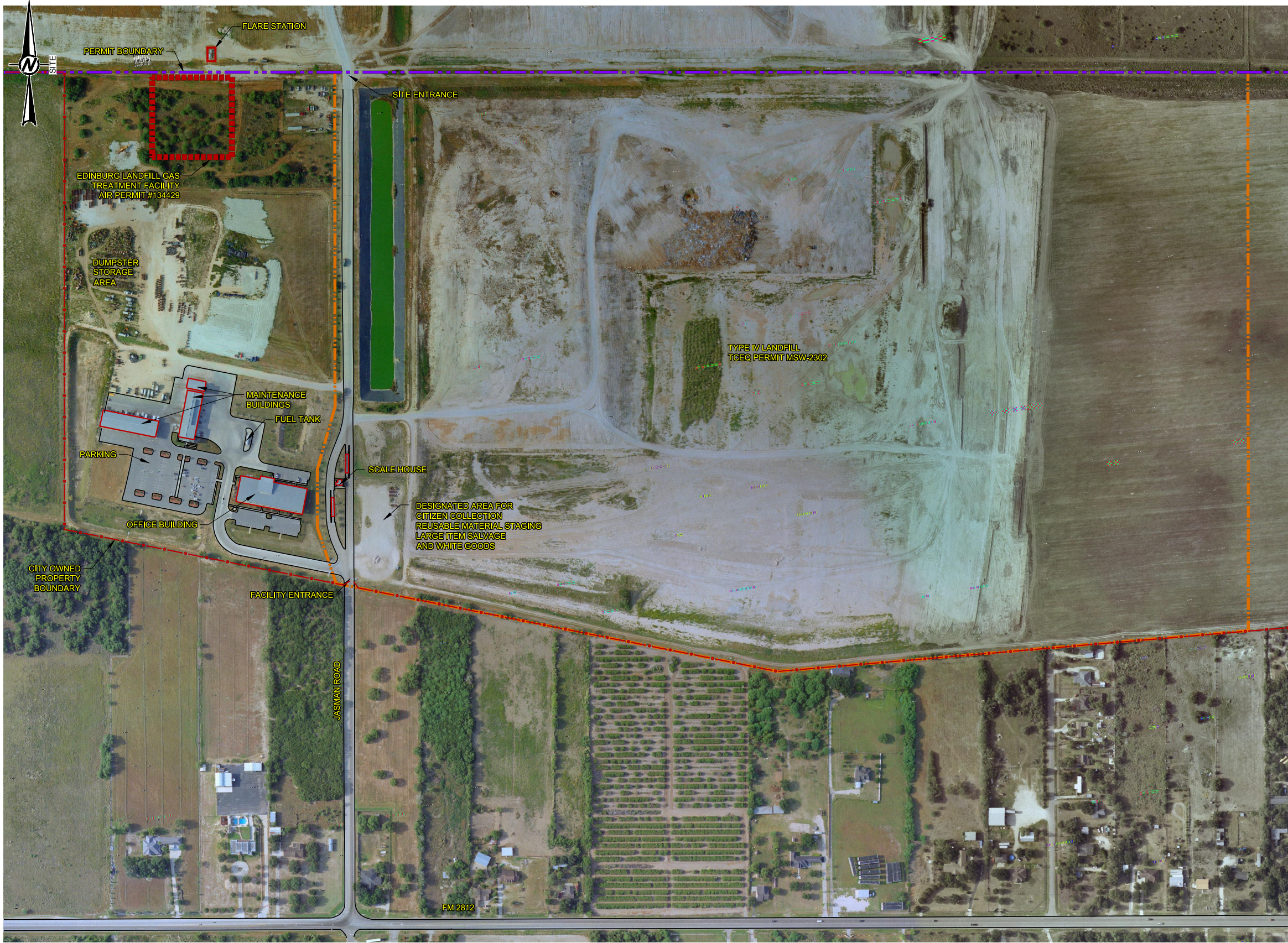
TITLE

TRAFFIC VOLUMES

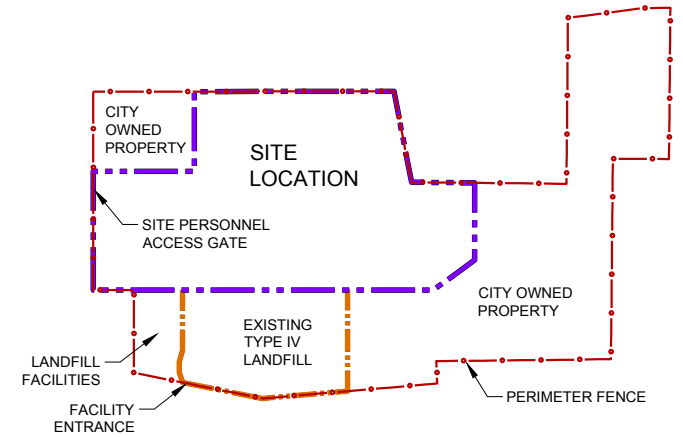
PROJECT NO.	APPLICATION SECTION	REV.	15 of 30	FIGURE
1401491	II	1		II-11



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KEY MAP



LEGEND

- PERMIT BOUNDARY
- TYPE IV LANDFILL TCEQ PERMIT MSW-2302 PERMIT BOUNDARY
- PERIMETER FENCE
- EXISTING STRUCTURES

NOTE(S)

- SITE ENTRANCE IS LOCATED ON SOUTHWESTERN CORNER OF TYPE IV LANDFILL TCEQ PERMIT MSW-2302 ACCESSIBLE VIA JASMAN ROAD.
- SCALE HOUSE SERVES BOTH TYPE I AND TYPE IV LANDFILLS.
- ROADS TO FACILITY ARE ASPHALT.
- ACCESS TO FACILITY IS CONTROLLED BY A PERIMETER FENCE CURRENTLY INSTALLED AROUND CONTIGUOUS PROPERTIES OWNED BY THE CITY.

REFERENCE(S)

AERIAL PHOTOGRAPH PROVIDED BY DALLAS AERIAL SURVEYS INC. DATED 07/24/14.

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1	2017-11-07	RESPONSE TO TCEQ FIRST NOTICE OF DEFICIENCY	CEI	TNB	JBF	CEI
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PROJECT

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PERMIT AMENDMENT APPLICATION TCEQ PERMIT MSW-956C  
EDINBURG, HIDALGO COUNTY, TEXAS

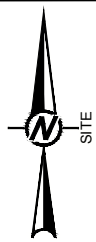
TITLE

**FACILITY ENTRANCE PLAN**

PROJECT NO.	APPLICATION SECTION	REV.	20 of 30	FIGURE
1401491	II	1		II-16

1 in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B





LEGEND

PERMIT BOUNDARY

UNIT BOUNDARY

1A

- NOTE(S)
1.

UNITS 1 THROUGH 4 ARE PRE-SUBTITLE D CELLS PERMITTED UNDER TCEQ PERMIT MSW-956A.
2.

UNIT5 AND UNIT 6 ARE SUBTITLE D CELLS PERMITTED UNDER TCEQ PERMIT MSW-956B.
3.

WASTE WITHIN PRE-SUBTITLE D UNITS 1 THROUGH 4 WILL EITHER BE RELOCATED FOR DEVELOPMENT OF UNIT 8 OR AN OVERLINER WILL BE CONSTRUCTED FOR VERTICAL EXPANSION.
4.

CELLS WITHIN LATERAL EXPANSION UNIT 7 AND UNIT 8 / OVERLINER MAY BE DIVIDED INTO SMALLER AREAS FOR DEVELOPMENT. RESULTING DIVISIONS WILL BE LABELED WITH PARENT CELL DESIGNATION APPENDED WITH AN INCREMENTAL LETTER.
5.

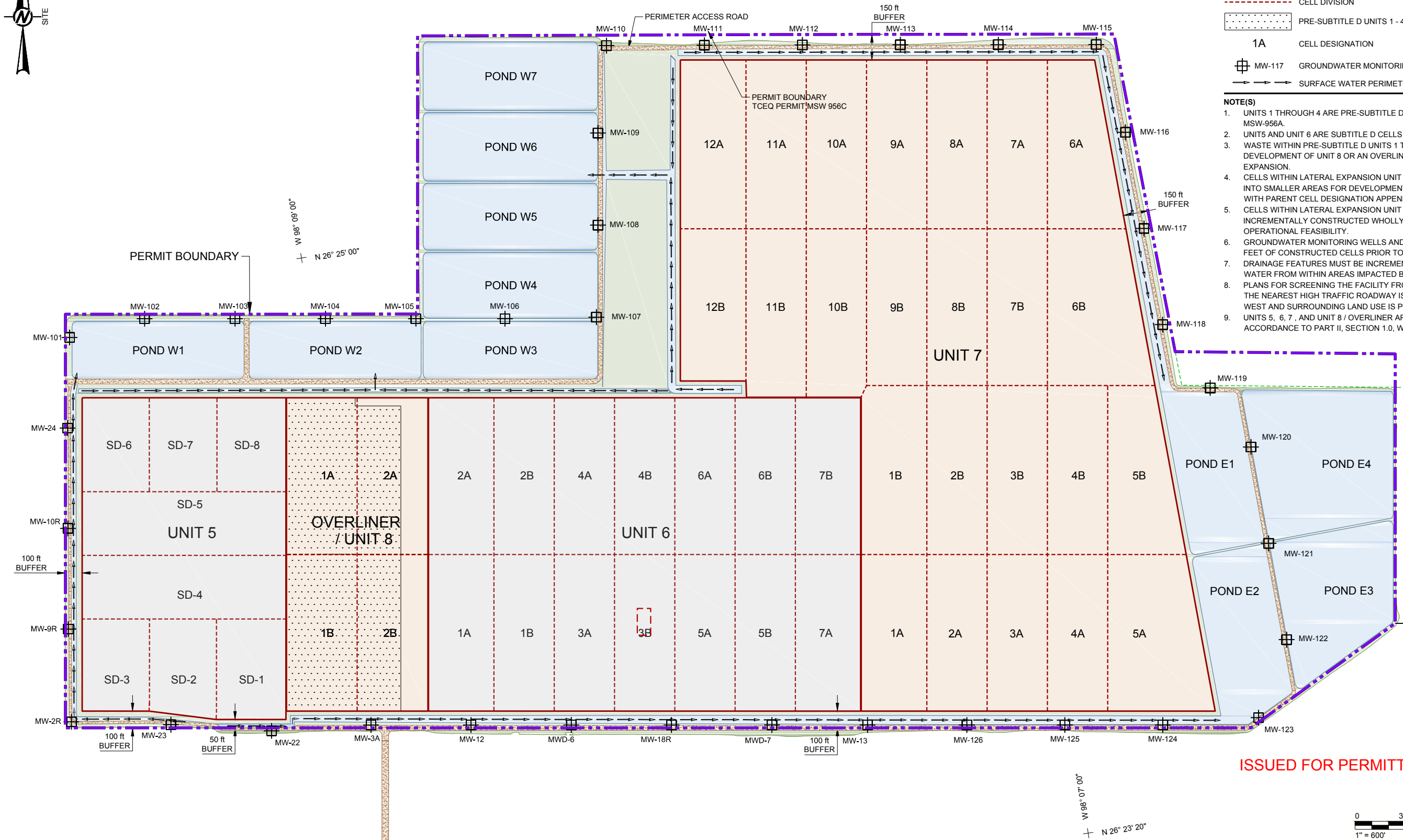
CELLS WITHIN LATERAL EXPANSION UNIT 7 AND UNIT 8 / OVERLINER MAY BE INCREMENTALLY CONSTRUCTED WHOLLY OR PARTIALLY IN ANY SEQUENCE FOR OPERATIONAL FEASIBILITY.
6.

GROUNDWATER MONITORING WELLS AND GAS PROBES MUST BE INSTALLED WITHIN 500 FEET OF CONSTRUCTED CELLS PRIOR TO WASTE ACCEPTANCE.
7.

DRAINAGE FEATURES MUST BE INCREMENTALLY CONSTRUCTED TO MANAGE SURFACE WATER FROM WITHIN AREAS IMPACTED BY CELL DEVELOPMENT.
8.

PLANS FOR SCREENING THE FACILITY FROM PUBLIC VIEW IS NOT REQUIRED BECAUSE THE NEAREST HIGH TRAFFIC ROADWAY IS LOCATED APPROXIMATELY 1900 FT TO THE WEST AND SURROUNDING LAND USE IS PRIMARILY AGRICULTURAL AND INDUSTRIAL.
9.

UNITS 5, 6, 7, AND UNIT 8 / OVERLINER ARE DESIGNED TO ACCEPT WASTE IN ACCORDANCE TO PART II, SECTION 1.0, WASTE ACCEPTANCE PLAN.



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REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED

SEAL

CHAD E. IRELAND

99283

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PROJECT

EDINBURG REGIONAL DISPOSAL FACILITY  
PERMIT AMENDMENT APPLICATION TCEQ PERMIT MSW-956C  
EDINBURG, HIDALGO COUNTY, TEXAS

TITLE

FACILITY LAYOUT PLAN

PROJECT NO.  
1401491

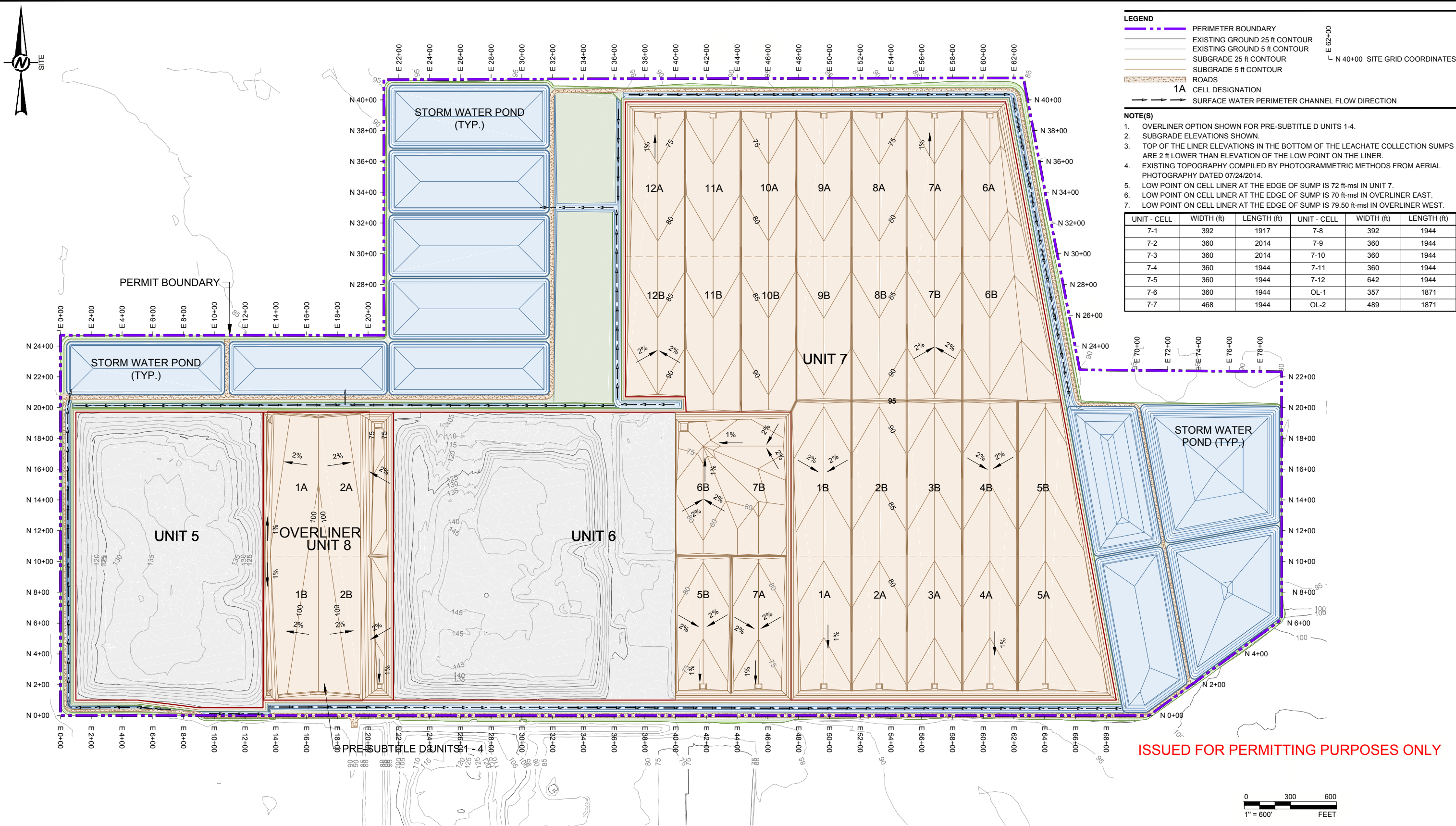
APPLICATION SECTION  
II

REV.  
1

21 of 30

FIGURE  
II-17

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**LEGEND**

- PERIMETER BOUNDARY
- EXISTING GROUND 25 ft CONTOUR
- EXISTING GROUND 5 ft CONTOUR
- SUBGRADE 25 ft CONTOUR
- SUBGRADE 5 ft CONTOUR
- ROADS
- 1A CELL DESIGNATION
- SURFACE WATER PERIMETER CHANNEL FLOW DIRECTION

**NOTE(S)**

- OVERLINER OPTION SHOWN FOR PRE-SUBTITLE D UNITS 1-4.
- SUBGRADE ELEVATIONS SHOWN.
- TOP OF THE LINER ELEVATIONS IN THE BOTTOM OF THE LEACHATE COLLECTION SUMPS ARE 2 ft LOWER THAN ELEVATION OF THE LOW POINT ON THE LINER.
- EXISTING TOPOGRAPHY COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 07/24/2014.
- LOW POINT ON CELL LINER AT THE EDGE OF SUMP IS 72 ft-msl IN UNIT 7.
- LOW POINT ON CELL LINER AT THE EDGE OF SUMP IS 70 ft-msl IN OVERLINER EAST.
- LOW POINT ON CELL LINER AT THE EDGE OF SUMP IS 79.50 ft-msl IN OVERLINER WEST.

UNIT - CELL	WIDTH (ft)	LENGTH (ft)	UNIT - CELL	WIDTH (ft)	LENGTH (ft)
7-1	392	1917	7-8	392	1944
7-2	360	2014	7-9	360	1944
7-3	360	2014	7-10	360	1944
7-4	360	1944	7-11	360	1944
7-5	360	1944	7-12	642	1944
7-6	360	1944	OL-1	357	1871
7-7	468	1944	OL-2	489	1871

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REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED

SEAL

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PROJECT

EDINBURG REGIONAL DISPOSAL FACILITY  
PERMIT AMENDMENT APPLICATION TCEQ PERMIT MSW-956C  
EDINBURG, HIDALGO COUNTY, TEXAS

TITLE

SUBGRADE LAYOUT PLAN  
OVERLINER OPTION

PROJECT NO. 1401491

APPLICATION SECTION II

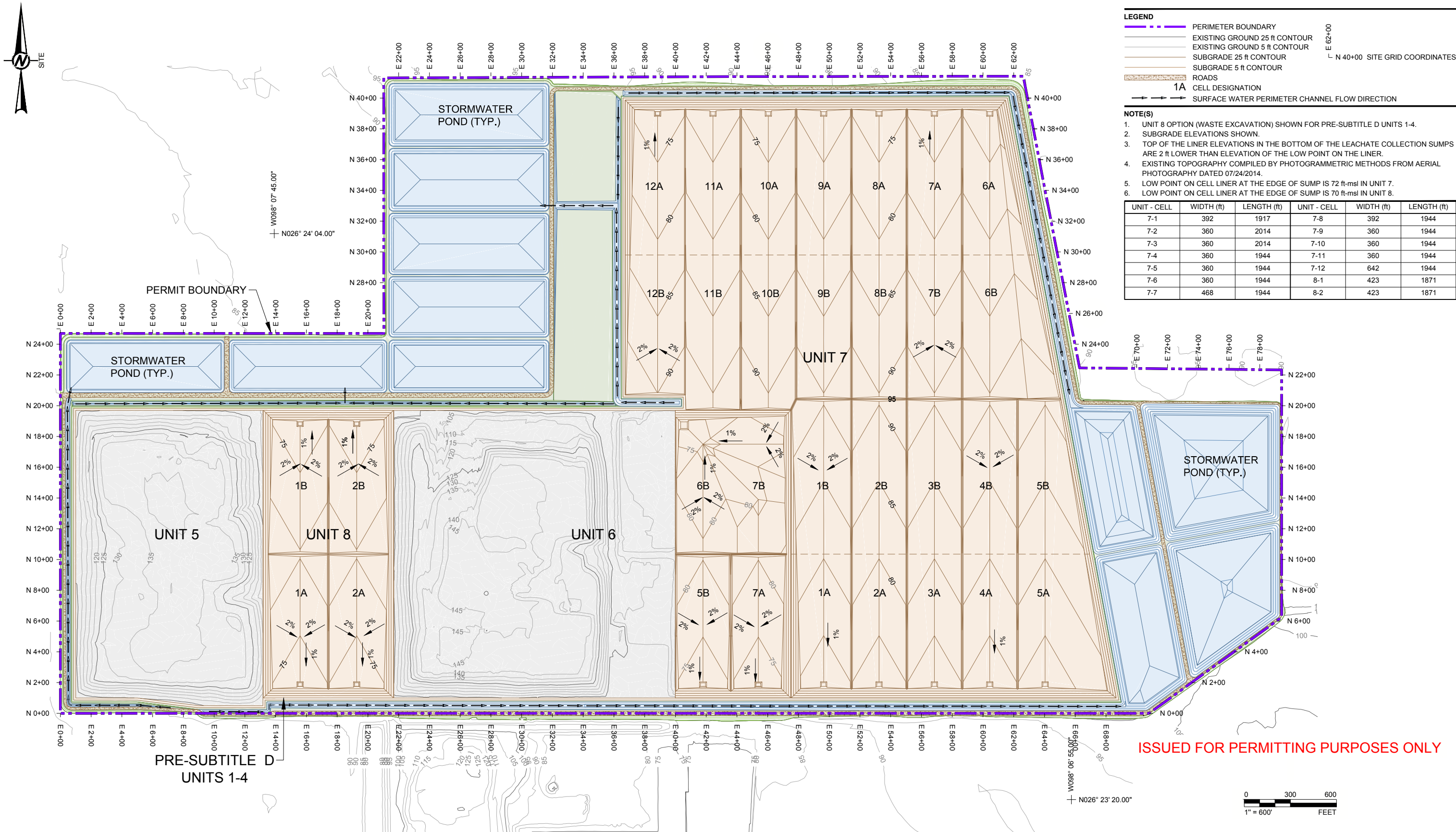
REV. 1

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FIGURE II-18A



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REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED

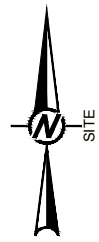


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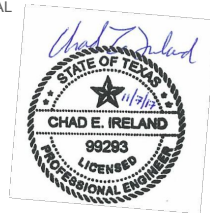
PROJECT	EDINBURG REGIONAL DISPOSAL FACILITY
PERMIT AMENDMENT APPLICATION TCEQ PERMIT MSW-956C	
EDINBURG, HIDALGO COUNTY, TEXAS	
TITLE	SUBGRADE LAYOUT PLAN
UNIT 8 OPTION	
PROJECT NO.	1401491
APPLICATION SECTION	II
REV.	1
23 of 30	
FIGURE	II-18B



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PROJECT

EDINBURG REGIONAL DISPOSAL FACILITY  
PERMIT AMENDMENT APPLICATION TCEQ PERMIT MSW-956C  
EDINBURG, HIDALGO COUNTY, TEXAS

TITLE

**FINAL CONTOUR MAP**

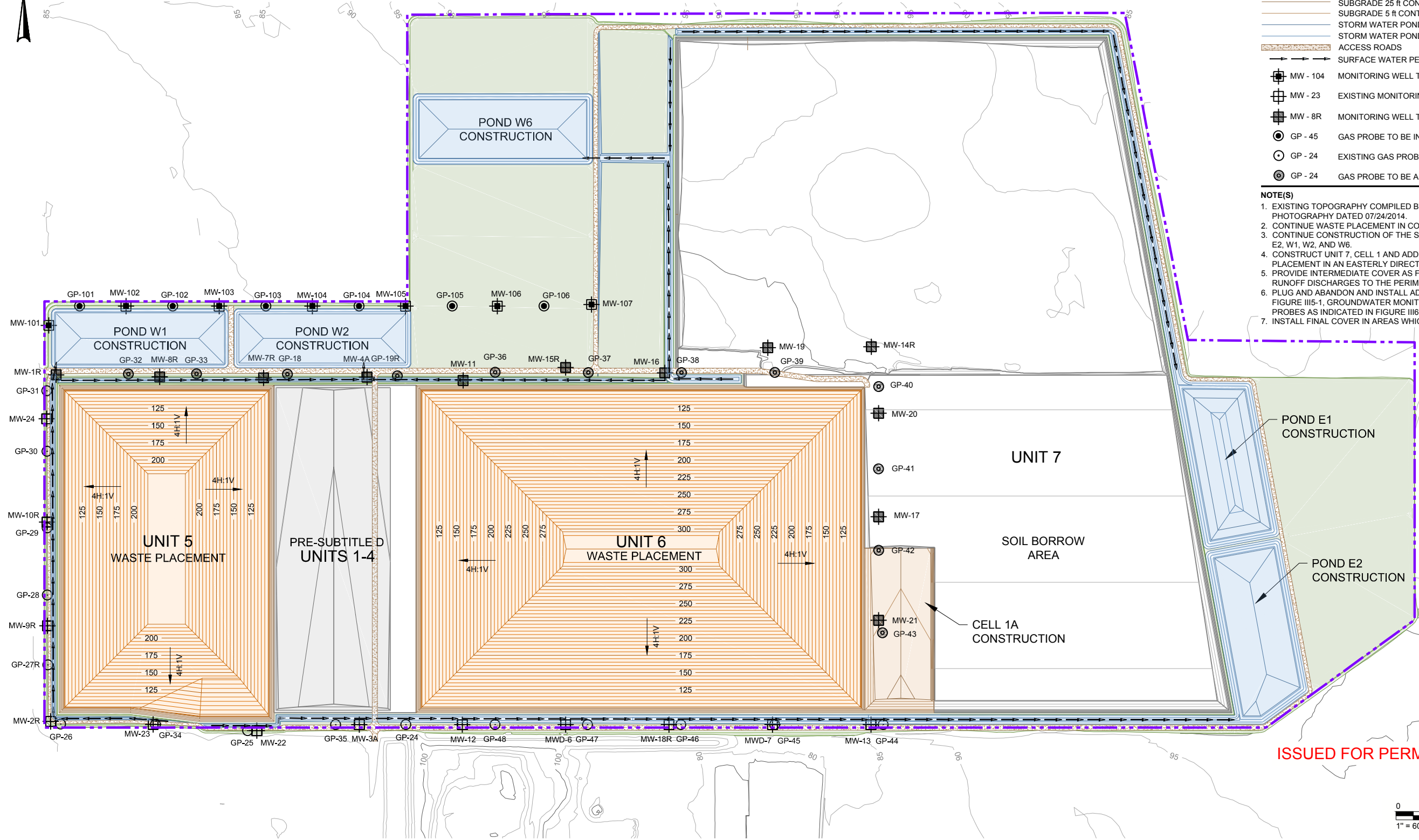
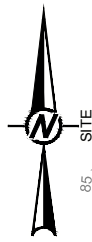
PROJECT NO.  
1401491

APPLICATION SECTION  
II

REV. 1  
24 of 30

FIGURE  
II-19

	2017-11-07	RESPONSE TO TCEQ FIRST NOTICE OF DEFICIENCY	CEI	TNB	JBF	CEI
0	2017-07-21	PERMIT AMENDMENT APPLICATION SUBMITTAL	CEI	AA	JBF	CEI
REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED



- LEGEND**
- PERMIT BOUNDARY
  - EXISTING GROUND 25 ft CONTOUR
  - EXISTING GROUND 5 ft CONTOUR
  - TOP OF WASTE 25 ft CONTOUR
  - TOP OF WASTE 5 ft CONTOUR
  - SUBGRADE 25 ft CONTOUR
  - SUBGRADE 5 ft CONTOUR
  - STORM WATER POND 25 ft CONTOUR
  - STORM WATER POND 5 ft CONTOUR
  - ACCESS ROADS
  - SURFACE WATER PERIMETER CHANNEL FLOW DIRECTION
  - MW - 104 MONITORING WELL TO BE INSTALLED
  - MW - 23 EXISTING MONITORING WELL
  - MW - 8R MONITORING WELL TO BE ABANDONED
  - GP - 45 GAS PROBE TO BE INSTALLED
  - GP - 24 EXISTING GAS PROBE
  - GP - 24 GAS PROBE TO BE ABANDONED

- NOTE(S)**
- EXISTING TOPOGRAPHY COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 07/24/2014.
  - CONTINUE WASTE PLACEMENT IN CONSTRUCTED LANDFILL CELLS OF UNITS 5 AND 6.
  - CONTINUE CONSTRUCTION OF THE STORMWATER/SEDIMENTATION DETENTION PONDS E1, E2, W1, W2, AND W6.
  - CONSTRUCT UNIT 7, CELL 1 AND ADDITIONAL LANDFILL CELLS AS REQUIRED FOR WASTE PLACEMENT IN AN EASTERLY DIRECTION ALONG SOUTHERN PORTION OF UNIT 7.
  - PROVIDE INTERMEDIATE COVER AS FINAL GRADE IS REACHED AND IN AREAS WHERE RUNOFF DISCHARGES TO THE PERIMETER DITCH SYSTEM.
  - PLUG AND ABANDON AND INSTALL ADDITIONAL MONITORING WELLS AS INDICATED IN FIGURE III5-1, GROUNDWATER MONITORING SYSTEM AND ADDITIONAL GAS MONITORING PROBES AS INDICATED IN FIGURE III6-1, LANDFILL GAS MONITORING NETWORK.
  - INSTALL FINAL COVER IN AREAS WHICH WILL NOT RECEIVE ADDITIONAL WASTE.

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GOLDER ASSOCIATES INC.  
TEXAS REGISTRATION F-2578

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PROJECT

EDINBURG REGIONAL DISPOSAL FACILITY  
PERMIT AMENDMENT APPLICATION TCEQ PERMIT MSW-956C  
EDINBURG, HIDALGO COUNTY, TEXAS

TITLE

OPERATIONAL SEQUENCE I

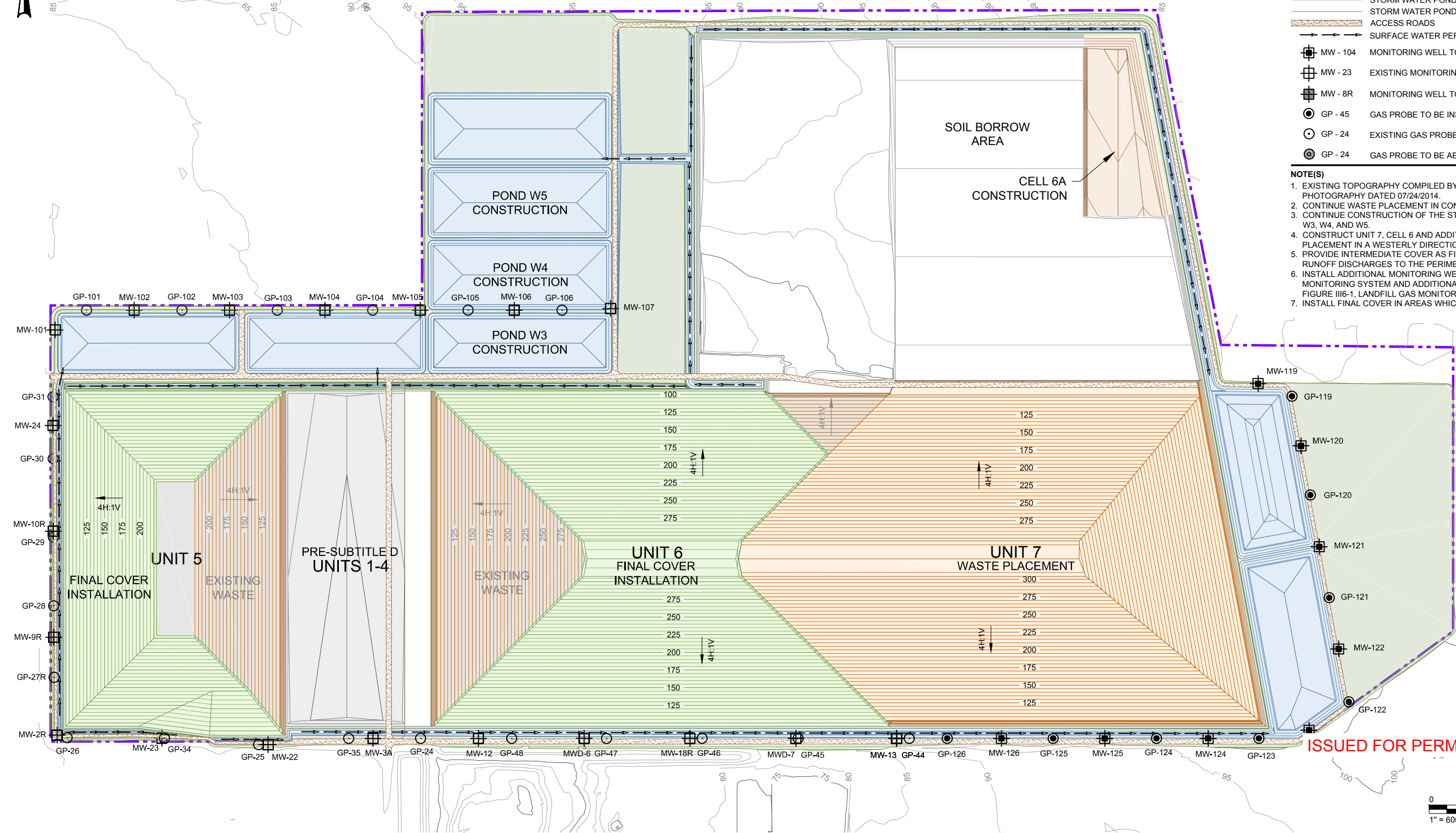
PROJECT NO.  
1401491

APPLICATION SECTION  
II

REV. 1  
25 of 30

FIGURE  
II-20A

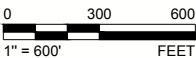




- LEGEND**
- PERMIT BOUNDARY
  - EXISTING GROUND 25 ft CONTOUR
  - EXISTING GROUND 5 ft CONTOUR
  - TOP OF WASTE 25 ft CONTOUR
  - TOP OF WASTE 5 ft CONTOUR
  - SUBGRADE 25 ft CONTOUR
  - SUBGRADE 5 ft CONTOUR
  - STORM WATER POND 25 ft CONTOUR
  - STORM WATER POND 5 ft CONTOUR
  - ACCESS ROADS
  - SURFACE WATER PERIMETER CHANNEL FLOW DIRECTION
  - MW - 104 MONITORING WELL TO BE INSTALLED
  - MW - 23 EXISTING MONITORING WELL
  - MW - 8R MONITORING WELL TO BE ABANDONED
  - GP - 45 GAS PROBE TO BE INSTALLED
  - GP - 24 EXISTING GAS PROBE
  - GP - 24 GAS PROBE TO BE ABANDONED

- NOTE(S)**
- EXISTING TOPOGRAPHY COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 07/24/2014.
  - CONTINUE WASTE PLACEMENT IN CONSTRUCTED LANDFILL CELLS.
  - CONTINUE CONSTRUCTION OF THE STORMWATER/SEDIMENTATION DETENTION PONDS W3, W4, AND W5.
  - CONSTRUCT UNIT 7, CELL 6 AND ADDITIONAL LANDFILL CELLS AS REQUIRED FOR WASTE PLACEMENT IN A WESTERLY DIRECTION ALONG THE NORTHERN PORTION OF UNIT 7.
  - PROVIDE INTERMEDIATE COVER AS FINAL GRADE IS REACHED AND IN AREAS WHERE RUNOFF DISCHARGES TO THE PERIMETER DITCH SYSTEM.
  - INSTALL ADDITIONAL MONITORING WELLS AS INDICATED IN FIGURE III5-1, GROUNDWATER MONITORING SYSTEM AND ADDITIONAL GAS MONITORING PROBES AS INDICATED IN FIGURE III6-1, LANDFILL GAS MONITORING NETWORK.
  - INSTALL FINAL COVER IN AREAS WHICH WILL NOT RECEIVE ADDITIONAL WASTE.

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	2017-11-07	RESPONSE TO TCEQ FIRST NOTICE OF DEFICIENCY	CEI	TNB	JBF	CEI
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REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED

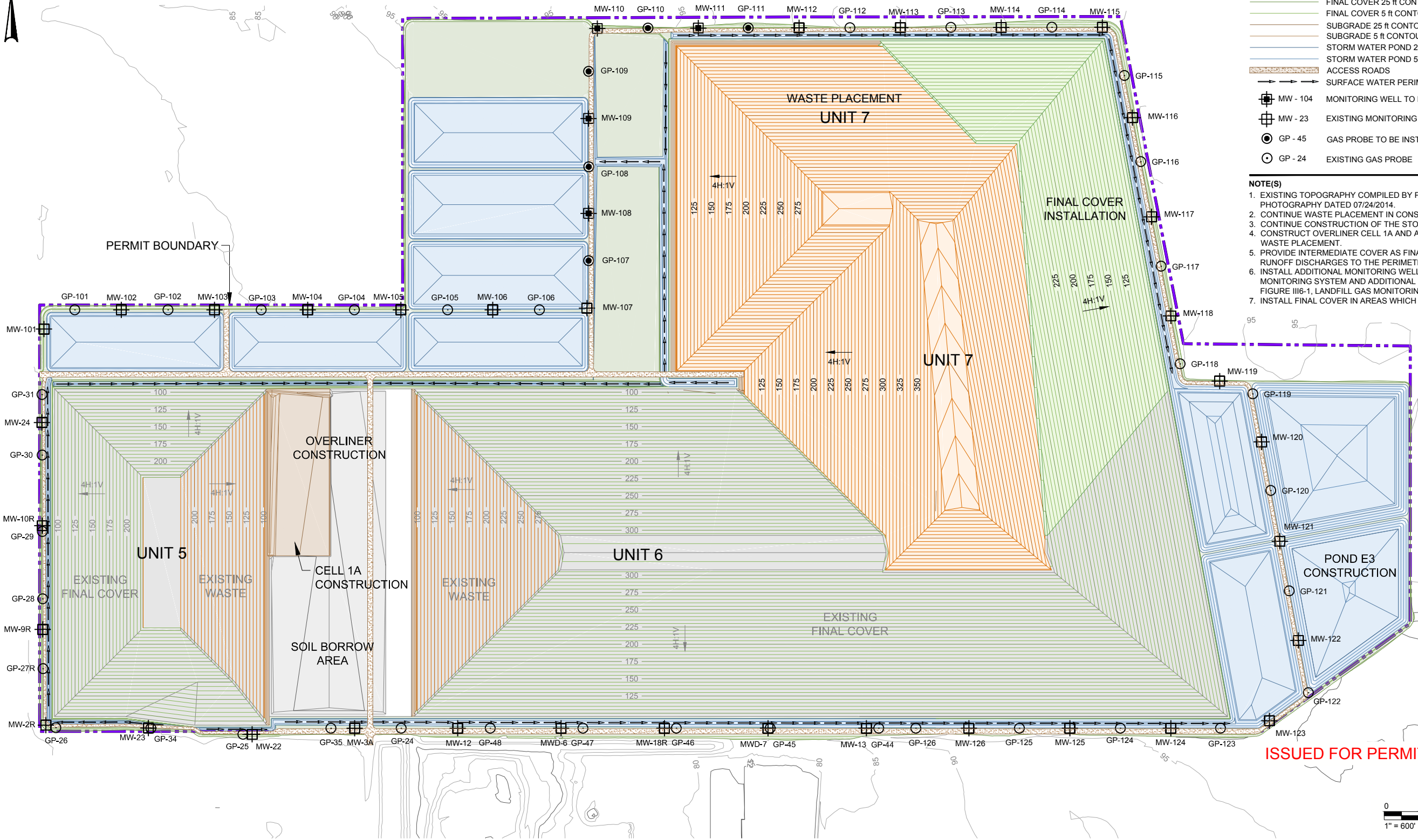
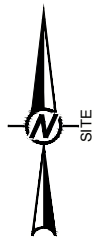


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PROJECT	EDINBURG REGIONAL DISPOSAL FACILITY
PERMIT AMENDMENT APPLICATION TCEQ PERMIT MSW-956C	
EDINBURG, HIDALGO COUNTY, TEXAS	
TITLE	OPERATIONAL SEQUENCE II
PROJECT NO.	1401491
APPLICATION SECTION	II
REV.	1
26 of 30	
FIGURE	II-20B



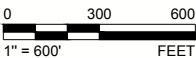




- LEGEND**
- PERMIT BOUNDARY
  - EXISTING GROUND 25 ft CONTOUR
  - EXISTING GROUND 5 ft CONTOUR
  - TOP OF WASTE 25 ft CONTOUR
  - TOP OF WASTE 5 ft CONTOUR
  - FINAL COVER 25 ft CONTOUR
  - FINAL COVER 5 ft CONTOUR
  - SUBGRADE 25 ft CONTOUR
  - SUBGRADE 5 ft CONTOUR
  - STORM WATER POND 25 ft CONTOUR
  - STORM WATER POND 5 ft CONTOUR
  - ACCESS ROADS
  - SURFACE WATER PERIMETER CHANNEL FLOW DIRECTION
  - MW - 104 MONITORING WELL TO BE INSTALLED
  - MW - 23 EXISTING MONITORING WELL
  - GP - 45 GAS PROBE TO BE INSTALLED
  - GP - 24 EXISTING GAS PROBE

- NOTE(S)**
- EXISTING TOPOGRAPHY COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 07/24/2014.
  - CONTINUE WASTE PLACEMENT IN CONSTRUCTED LANDFILL CELLS.
  - CONTINUE CONSTRUCTION OF THE STORMWATER/SEDIMENTATION DETENTION POND E3.
  - CONSTRUCT OVERLINER CELL 1A AND ADDITIONAL LANDFILL CELLS AS REQUIRED FOR WASTE PLACEMENT.
  - PROVIDE INTERMEDIATE COVER AS FINAL GRADE IS REACHED AND IN AREAS WHERE RUNOFF DISCHARGES TO THE PERIMETER DITCH SYSTEM.
  - INSTALL ADDITIONAL MONITORING WELLS AS INDICATED IN FIGURE III-5-1, GROUNDWATER MONITORING SYSTEM AND ADDITIONAL GAS MONITORING PROBES AS INDICATED IN FIGURE III-6-1, LANDFILL GAS MONITORING NETWORK.
  - INSTALL FINAL COVER IN AREAS WHICH WILL NOT RECEIVE ADDITIONAL WASTE.

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REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED

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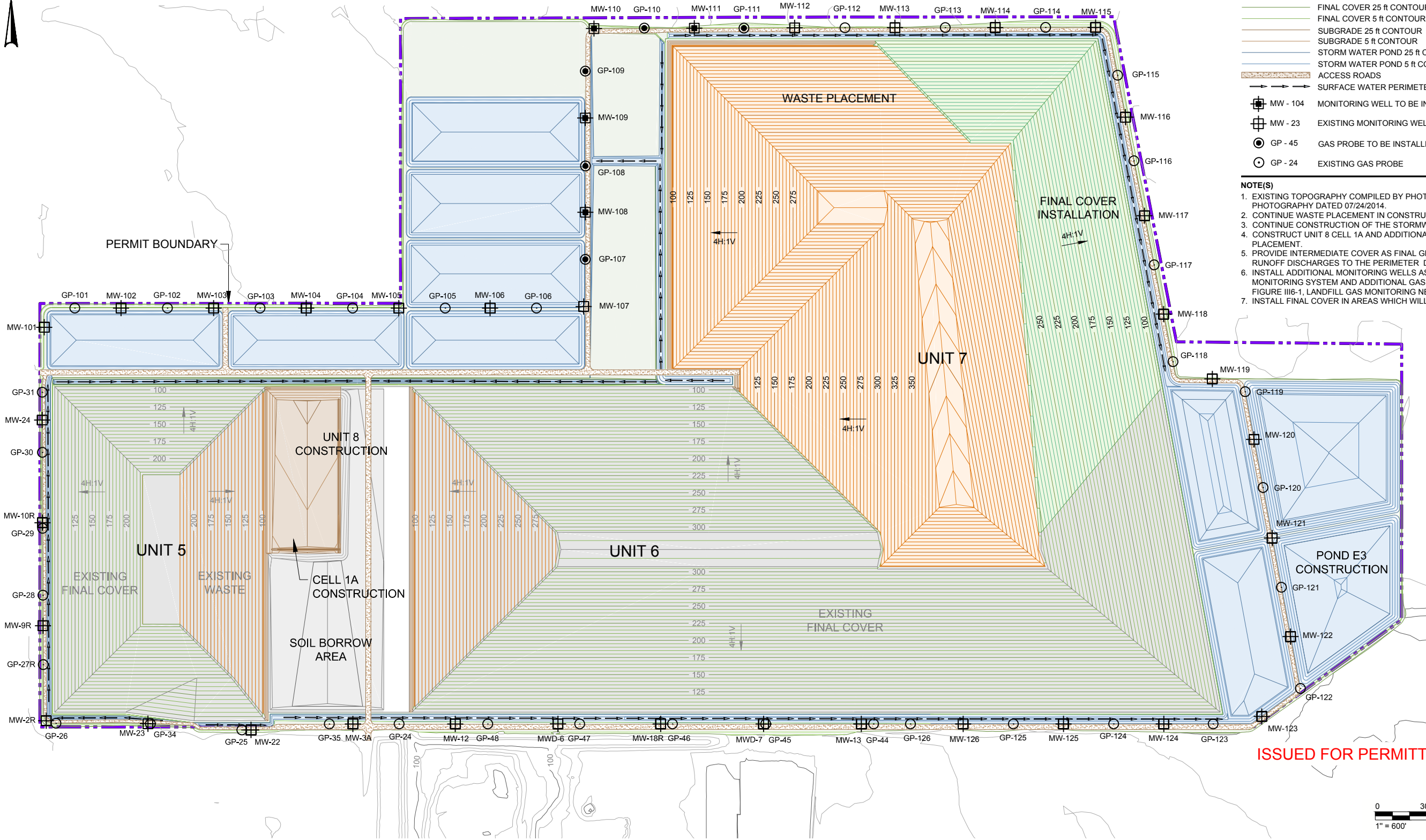
PROJECT  
EDINBURG REGIONAL DISPOSAL FACILITY  
PERMIT AMENDMENT APPLICATION TCEQ PERMIT MSW-956C  
EDINBURG, HIDALGO COUNTY, TEXAS

TITLE  
**OPERATIONAL SEQUENCE IV OVERLINER OPTION**

PROJECT NO. 1401491	APPLICATION SECTION II	REV. 1	28 of 30	FIGURE II-20D1
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1 in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B





- LEGEND**
- PERMIT BOUNDARY
  - EXISTING GROUND 25 ft CONTOUR
  - EXISTING GROUND 5 ft CONTOUR
  - TOP OF WASTE 25 ft CONTOUR
  - TOP OF WASTE 5 ft CONTOUR
  - FINAL COVER 25 ft CONTOUR
  - FINAL COVER 5 ft CONTOUR
  - SUBGRADE 25 ft CONTOUR
  - SUBGRADE 5 ft CONTOUR
  - STORM WATER POND 25 ft CONTOUR
  - STORM WATER POND 5 ft CONTOUR
  - ACCESS ROADS
  - SURFACE WATER PERIMETER CHANNEL FLOW DIRECTION
  - MW - 104 MONITORING WELL TO BE INSTALLED
  - MW - 23 EXISTING MONITORING WELL
  - GP - 45 GAS PROBE TO BE INSTALLED
  - GP - 24 EXISTING GAS PROBE

- NOTE(S)**
- EXISTING TOPOGRAPHY COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 07/24/2014.
  - CONTINUE WASTE PLACEMENT IN CONSTRUCTED LANDFILL CELLS.
  - CONTINUE CONSTRUCTION OF THE STORMWATER/SEDIMENTATION DETENTION POND E3.
  - CONSTRUCT UNIT 8 CELL 1A AND ADDITIONAL LANDFILL CELLS AS REQUIRED FOR WASTE PLACEMENT.
  - PROVIDE INTERMEDIATE COVER AS FINAL GRADE IS REACHED AND IN AREAS WHERE RUNOFF DISCHARGES TO THE PERIMETER DITCH SYSTEM.
  - INSTALL ADDITIONAL MONITORING WELLS AS INDICATED IN FIGURE III-5-1, GROUNDWATER MONITORING SYSTEM AND ADDITIONAL GAS MONITORING PROBES AS INDICATED IN FIGURE III-6-1, LANDFILL GAS MONITORING NETWORK.
  - INSTALL FINAL COVER IN AREAS WHICH WILL NOT RECEIVE ADDITIONAL WASTE.

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REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED

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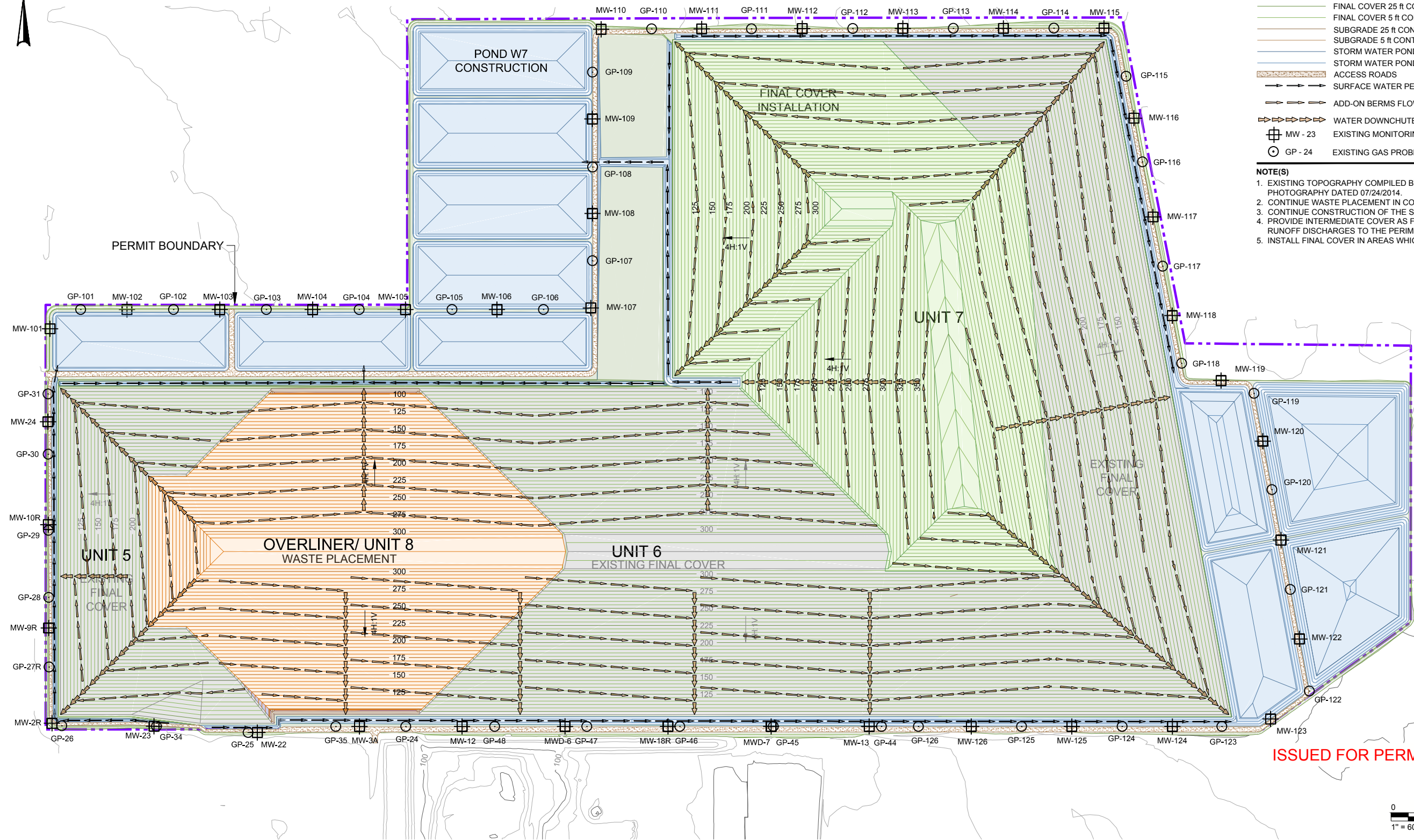
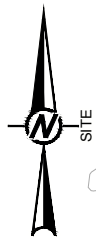
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PROJECT  
EDINBURG REGIONAL DISPOSAL FACILITY  
PERMIT AMENDMENT APPLICATION TCEQ PERMIT MSW-956C  
EDINBURG, HIDALGO COUNTY, TEXAS

TITLE  
**OPERATIONAL SEQUENCE IV UNIT 8 OPTION**

PROJECT NO. 1401491	APPLICATION SECTION II	REV. 1	29 of 30	FIGURE II-20D2
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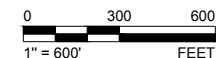
1 in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B



- LEGEND**
- PERMIT BOUNDARY
  - EXISTING GROUND 25 ft CONTOUR
  - EXISTING GROUND 5 ft CONTOUR
  - TOP OF WASTE 25 ft CONTOUR
  - TOP OF WASTE 5 ft CONTOUR
  - FINAL COVER 25 ft CONTOUR
  - FINAL COVER 5 ft CONTOUR
  - SUBGRADE 25 ft CONTOUR
  - SUBGRADE 5 ft CONTOUR
  - STORM WATER POND 25 ft CONTOUR
  - STORM WATER POND 5 ft CONTOUR
  - ACCESS ROADS
  - SURFACE WATER PERIMETER CHANNEL FLOW DIRECTION
  - ADD-ON BERMS FLOW DIRECTION
  - WATER DOWNCHUTE FLOW DIRECTION
  - EXISTING MONITORING WELL
  - EXISTING GAS PROBE

- NOTE(S)**
- EXISTING TOPOGRAPHY COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 07/24/2014.
  - CONTINUE WASTE PLACEMENT IN CONSTRUCTED LANDFILL CELLS.
  - CONTINUE CONSTRUCTION OF THE STORMWATER/SEDIMENTATION DETENTION POND W7.
  - PROVIDE INTERMEDIATE COVER AS FINAL GRADE IS REACHED AND IN AREAS WHERE RUNOFF DISCHARGES TO THE PERIMETER DITCH SYSTEM.
  - INSTALL FINAL COVER IN AREAS WHICH WILL NOT RECEIVE ADDITIONAL WASTE.

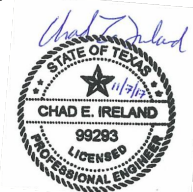
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PROJECT  
EDINBURG REGIONAL DISPOSAL FACILITY  
PERMIT AMENDMENT APPLICATION TCEQ PERMIT MSW-956C  
EDINBURG, HIDALGO COUNTY, TEXAS

TITLE  
**OPERATIONAL SEQUENCE V**

PROJECT NO. 1401491	APPLICATION SECTION II	REV. 1	30 of 30	FIGURE II-20E
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B