

# **PART II**

## **EXISTING CONDITIONS AND CHARACTER OF THE FACILITY**

**Temple Recycling & Disposal Facility**

**Temple, Bell County, Texas**

**TCEQ Permit MSW-692B**

**Owner/Site Operator/Permittee:**



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

**Operator:**



**Waste Management of Texas**  
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Austin, Texas 78781

**INTENDED FOR PERMITTING  
PURPOSES ONLY**

**Submitted By:**

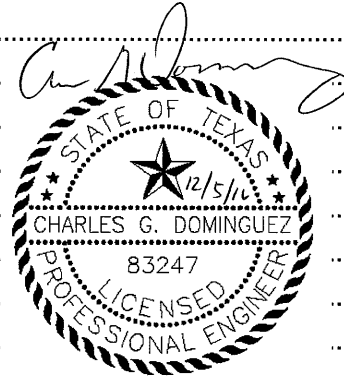
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## **1.0 EXISTING CONDITIONS SUMMARY**

The Temple Recycling and Disposal Facility is an active, 269-acre Type I municipal solid waste (MSW) facility owned by the City of Temple, Texas (City) and operated by Waste Management of Texas, Inc. (WMTX) under Permit No. MSW-692A. The Temple Recycling and Disposal Facility site entrance is located at 706 Landfill Road, approximately 0.25 miles east of the intersection of Loop 363 and Little Flock Road in Bell County, Texas as shown on Figures II-1 and II-2.

The original municipal solid waste facility permit for the site, Permit No. MSW-692, was issued on September 24, 1979. Permit No. MSW-692A, expanding the permitted acreage from approximately 215 to 269 acres, was issued on April 7, 2001.

On August 31, 1993, operation of the facility was transferred to WMTX by a contract to lease and operated the facility.

As part of the contract with WMTX, the City of Temple agreed to complete the closure of the filled portions of Tract 1. Closed Tracts 1A and 1B, encompassing about 75 acres, are west of the MSW-692A and proposed waste footprints. Waste disposal in Tracts 1A and 1B ceased around 1990. Closure of Tracts 1A and 1B were approved by the Texas Natural Resource Conservation Commission (TNRCC) on November 16, 1994. TNRCC required post-closure care for five years for the area. Groundwater monitoring around Tracts 1A and 1B is still being conducted as part of the overall point of compliance monitoring. The locations of Tract 1A and 1B are shown on Figure II-4. Appendix IIE contains the closure documentation of Tracts 1A and 1B.

The existing 269-acre Temple Recycling and Disposal Facility consists of 108 acres of permitted waste disposal footprint and 161 acres of non-waste disposal areas. The waste disposal footprint includes composite-lined Subtitle D cells and one clay-lined pre-Subtitle D cell. With the exception of Tract 1C, Cell 1, the entire permitted waste disposal footprint has been constructed and waste disposal operations have been conducted within the footprint. Approximately 12.1 acres of final cover have been constructed, including final cover drainage features, leaving an active waste disposal area of 95.9 acres.

An active landfill gas collection and control system was installed at the Temple Recycling and Disposal Facility and has been expanded as new cells have been added and as waste placement has progressed.

As intermediate cover is placed over areas within the active landfill disposal area, erosion and sediment control features are constructed.

The area outside the waste disposal footprint is used for buffer and landfill facilities, including the gatehouse and scales, landfill access road, leachate storage ponds, leachate force main, and landfill gas flare. As part of the MSW Permit 692A overall development, two detention ponds have been constructed. All surface water from the disposal area is routed through a pond prior to exiting the site.

The proposed expansion area is immediately adjacent to and east of the existing MSW 692A permit boundary owned by the City of Temple. The proposed expansion will add 191 acres and remove 17 acres from the existing permit boundary, resulting in a total proposed MSW 692B permit boundary of 443 acres.

The expansion area, purchased by the City of Temple, consists of agricultural land with single-family homes. The surface topography generally slopes radially from the center of the expansion area. There are several easements located on the existing permit boundary and the proposed expansion area. One easement will be moved. The easements will not affect landfill operations.

### **1.1 Easements and Buffer Zones**

No solid waste unloading, storage, disposal, or processing operations will occur within any easement, buffer zone, or right-of-way that crosses the site. The existing Temple Recycling and Disposal Facility and proposed expansion is consistent with the provisions of 30 TAC §330.543.

No solid waste disposal shall occur within the easement or within 25 feet of the center line of any utility line or pipeline easement, whichever is greater, 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.

Site easements are shown on Figure II-4, Site Layout Plan. Easements that are shown within the waste footprint of MSW-692A are in the process of being abandoned by the City of Temple. Documentation is provided in Appendix IG. Existing easements within the expansion area will be abandoned prior to cell construction in the area. The area outside the permit boundary is owned by the City of Temple, thus access is available for a width greater than 50 feet from the Citizen Collection Station. The City of Temple is hereby requesting a variance from the buffer zone requirements of 30 TAC §330.543(b).

The buffer zone distances between the permit boundary and waste disposal area are identified on Figure II-4, Site Layout Plan. There is no proposed increase in the waste disposal footprint in the existing waste disposal area, as such, the existing buffer zone distances comply with the requirements of 30 TAC §330.543(b). Buffer zones will remain in a natural condition. Any litter in the buffer zone will be collected as part of routine on-site litter collection, as identified in the Site Operating Plan. The buffer zone distances for the expansion area exceed the minimum buffer zone distance of 125 feet, as shown on Figure II-4, Site Layout Plan.

The buffer zone distances between the permit boundary and storage and processing facilities are identified on Figure II-4, Site Layout Plan. Existing permitted storage and processing facilities include the landfill gas flare facility and leachate storage facility, shown on Figure II-4, Site Layout Plan, and meet the requirements of 30 TAC §330.543(b).

The Citizen Collection Station was constructed in 2005 and has been in operation for over 10 years. Along the western boundary of the Citizen Collection Station, the buffer zone distance is less than 50 feet; however, adequate space for access is provided along the northern, eastern, and southern sides of the Citizen Collection Station. The area outside the permit boundary is owned by the City of Temple, thus access is available for a width greater than 50 feet from the Citizen Collection Station. The City of Temple is hereby requesting a variance from the buffer zone requirements of 30 TAC §330.543(b).

A design drawing of the Citizen Collection Station is included in Appendix IIIH.

## **1.2 Site-Specific Conditions**

Sections 8 through 15 of Part II include detailed discussion of site-specific conditions that potentially require special design considerations, as set forth in 30 TAC §330.61(a), including impact on surrounding area, transportation, geology, soils, groundwater, surface water, abandoned oil 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.

There are two existing leachate storage/evaporation ponds that have been approved by TCEQ:

- Pond A: A modular steel tank constructed of a reinforced steel frame with a geomembrane liner underlain by a clay layer is currently in use. For operating purposes, this tank is called Pond A. Pond A has a capacity of 270,000 gallons, excluding freeboard, and was authorized by a permit modification approved by TCEQ in early 2002.
- Pond B: On November 17, 2004, TCEQ approved a permit modification to the facility's Leachate and Contaminated Water Plan authorizing the construction of up to two additional in-ground ponds labeled Pond A and Pond B. Only one of these in-ground ponds has been constructed to date. For operating purposes, the pond constructed is called Pond B. In accordance with 30 TAC §330.207(b), Pond B was constructed with a two foot thick clay liner overlain by 60-mil HDPE liner and one foot of freeboard for the 25-year, 24-hour rainfall event will be maintained.

Both leachate ponds have been approved by the TCEQ and have been in place and in use for over 10 years. Locations of the leachate ponds are shown on Figure II-4. TCEQ approvals of these leachate ponds are provided in Appendix IIF.

## **2.0 WASTE ACCEPTANCE PLAN**

No changes to the types of waste accepted at the Temple Recycling and Disposal Facility (TRDF) are proposed in this permit amendment application.

### **2.1 Properties and Characteristics of Waste**

The facility-specific waste streams that are allowed to be accepted are municipal solid waste (MSW), Class 1 waste only as RACM, Class 2 and Class 3 non-hazardous industrial solid waste (NHISW), special waste, and other waste as approved by the TCEQ Executive Director.

The TRDF is currently operated as a Type I MSW landfill facility. The facility accepts waste for disposal from both public and private entities in and around Bell and surrounding counties. The proposed expansion of the site will not alter the current disposal types. The TRDF waste acceptance plan includes, but is not limited to:

1. Solid waste resulting from or incidental to municipal, community, commercial, institutional, and recreational activities, including garbage, rubbish, ashes, street cleanings, dead animals, and abandoned automobiles, brush, construction/demolition waste, inert material, yard waste, tires (at a minimum split in half or quartered tires only) and treated medical waste;
2. Class 2 NHISW – NHISW or a combination of NHISWs (Class 2 NHISW) that cannot be described as Class 1 NHISW or Class 3 NHISW as defined in 30 TAC §335.506;
3. Class 3 NHISW – Inert and essentially insoluble NHISW (Class 3 NHISW), including materials such as rock, brick, glass, dirt, and certain plastics and rubber, etc., that are not readily decomposable as defined in 30 TAC §335.507; and
4. Waste in bulk liquid form for processing consisting of solidification and bulking by methods described in Part IV, Appendix IVF, Special Waste Acceptance Plan (SWAP) prior to disposal.

The TRDF will accept special wastes, in accordance with the TCEQ requirements, as defined in 30 TAC §330.3. Special wastes, which may be accepted for disposal include:

1. Hazardous waste from conditionally exempt small-quantity generators that may be exempt from full controls under 30 TAC §335.401 – §335.403 and §335.405 – §335.412 (relating to household materials which could be classified as hazardous waste);
2. Class 1 waste only as RACM (i.e. RACM material that are designated Class 1 only because of its asbestos content);
3. Special waste from health-care-related facilities (refers to certain items of medical waste);
4. Municipal wastewater treatment plant sludges, other types of domestic sewage treatment plant sludges, and water-supply treatment plant sludges; Septic tank pumpings;
5. Grease and grit trap wastes;

6. Wastes from commercial or industrial wastewater treatment plants; air pollution control facilities; and tanks, drums, or containers, used for shipping or storing any material that has been listed as a hazardous constituent in Title 40 to the Code of Federal Regulations (40 CFR), Part 261, Appendix VIII but has not been listed as a commercial chemical product in 40 CFR §261.33(e) or (f);
7. Slaughterhouse wastes;
8. Dead animals;
9. Drugs, contaminated foods, or contaminated beverages, other than those contained in normal household waste;
10. Pesticide (insecticide, herbicide, fungicide, or rodenticide) containers;
11. Discarded materials containing asbestos;
12. Incinerator ash;
13. Soil contaminated by petroleum products, crude oils, or chemicals petroleum-contaminated soils having less than 1,500 ppm TPH;
14. Waste from oil, gas, and geothermal activities subject to regulation by the Railroad Commission of Texas (RCT) when those wastes are to be processed, treated, or disposed of at the TRDP;
15. Waste generated outside the boundaries of Texas that contains:
  - a. any industrial waste;
  - b. any waste associated with oil, gas, and geothermal exploration, production, or development activities; or
  - c. any item listed as a special waste in this paragraph;
16. Used-oil filters from internal combustion engines; and
17. Special waste as approved for disposal by the ED.

The TRDF will not accept the following types of waste (unauthorized waste) for disposal:

1. Lead-acid storage batteries;
2. Do-it-yourself used motor oil except for do-it-yourself used motor oil mixed or commingled with solid waste that is incidental to, and the unavoidable result of, the mechanical shredding of motor vehicles, appliances, or other items of scrap, used, or obsolete metals;
3. Used-oil filters from internal combustion engines except as provided in 30 TAC §330.171;
4. Whole used or scrap tires unless the tires have been halved, quartered, chipped, shredded, or otherwise processed;
5. Refrigerators, freezers, air conditioners, and any other items containing chlorinated fluorocarbon (CFC) unless all the CFC contained in that item is captured and sent to an approved CFC disposal site or recycling facility;
6. Liquid waste as defined in 30 TAC §330.3, except liquid waste acceptable for solidification prior to disposal, including:
  - A. Bulk or non-containerized liquid waste shall not be accepted for disposal or disposed of in a municipal solid waste landfill unless:



- i. the waste is household waste other than septic waste; or
  - ii. the waste is leachate or gas condensate derived from the landfill.
- B. Containers holding liquid waste unless:
  - 1. the container is a small container similar in size to that normally found in household waste;
  - 2. the container is designated to hold liquids for use other than storage; or
  - 3. or the waste is household waste;
- 7. Regulated hazardous waste as defined in 30 TAC §330.3;
- 8. Prohibited PCB wastes, which are not authorized for disposal in Subtitle D Landfills, as defined under 40 CFR, Part 761 [waste containing PCB greater than or equal to 50 parts per million (ppm) PCB];
- 9. Class 1 industrial solid waste, except RACM that has been designated Class 1 industrial waste only because of its asbestos content;
- 10. Radioactive waste as defined in 30 TAC §330.3; and
- 11. Wastes incompatible with landfilling activities.

As described in Part IV, Site Operating Plan, Section 4.2, incoming wastes are screened to detect and prevent the receipt of unauthorized wastes including, but not limited to, regulated hazardous wastes and prohibited PCB wastes.

The Special Waste Acceptance Plan (SWAP), included as Appendix IVF to the Site Operating Plan, Part IV of the PAA, outlines the process that will be used to review, evaluate, and determine acceptance of all Texas Commission on Environmental Quality (TCEQ) defined “special wastes” for the TRDF. This preventive program specifically provides for waste pre-acceptance procedures to assure that a particular waste is nonhazardous and to determine the acceptability of a waste (and preventing the acceptance or disposal of unacceptable wastes) pursuant to facility permit conditions, applicable regulations, and operating capabilities to ensure safe and environmentally sound management of the waste.

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.

## **2.2 Volume and Rate of Disposal**

The Temple Recycling and Disposal Facility serves individuals, businesses, and communities in the Central Texas Council of Governments, including Bell, Coryell, Hamilton, Lampasas, Milam, Mills, and San Saba Counties. The landfill received approximately 433,634 tons of incoming waste (approximately 1,550 tons per day) in 2014. In 2015, WMTX anticipates that the landfill will receive approximately 420,000 tons of waste (approximately 1,500 tons per day). Based on projected waste acceptance rates, the estimated waste acceptance rate will reach approximately 740,000 tons per year at the end of the

estimated 58-year period. The waste acceptance rate will vary over the life of the facility depending on market conditions.

The estimated annual waste acceptance rate for the Temple Recycling and Disposal Facility projected for five years, starting from 2017, is as follows:

**Table II-1: Estimated Waste Acceptance Rates**

Year	Estimated Annual Waste Acceptance Rate (tons per year)
1	428,442
2	432,726
3	437,054
4	441,424
5	445,838

As population, economic conditions, and available landfill disposal capacity change within the region, the volume of incoming waste could vary considerably. WMTX will maintain quarterly records to document the waste acceptance rate for the facility. If the rate exceeds the estimated rate and is not due to a temporary occurrence, WMTX will file a permit modification application consistent with 30 TAC §330.125(h). As provided by 30 TAC §330.125(h), the estimated waste acceptance rate is not a limiting parameter of the permit.

Once expanded, the landfill will provide a total disposal capacity of 55,540,000 cubic yards and a remaining disposal capacity of approximately 43,000,000 cubic yards of waste and daily cover (approximately 27,950,000 tons), based on the aerial survey flown March 6, 2015. The total and remaining disposal capacity calculations are provided in Appendix III-3A.

The TCEQ defines population equivalent as “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.” Based on this definition, the average population equivalent (PE) is estimated as follows:

At 5 pounds of waste per person per day, and using the average tons/year over the life of the facility, the tons of waste per person generated in one year are:

$$\begin{aligned} &= 5 \text{ pounds/person/day} \times 365 \text{ days/year} \div 2,000 \text{ pounds/ton} \\ &= 0.91 \text{ tons/person/year} \\ \text{PE} &= 565,500 \text{ tons/year} \div 0.91 \text{ tons/person/year} \\ \text{PE} &= 621,428 \text{ persons} \end{aligned}$$

### **3.0 GENERAL LOCATION MAPS**

Consistent with 30 TAC §330.61(c), the general location maps are provided in this document. These general location maps are provided in addition to those maps provided in Part I, Appendix IA. Collectively, these maps accurately show the proximity of the facility to surrounding features and specifically show the items identified in §330.61(c)(1)-(12).

1. Prevailing wind direction – Figure II-12
2. Known water wells within 500 feet – Figure II-10
3. Structures and inhabitable buildings within 500 feet – Figure II-11
4. Schools, licensed daycare facilities, churches, hospitals, cemeteries, ponds, lakes, and residential, commercial, and recreational areas within 1 mile – Drawing 3 in Appendix IIB, Land Use Study
5. Location and surface type of roads within 1 mile – Figure II-2
6. Latitudes and longitudes – various figures
7. Area streams – Figure II-15
8. Airports within 6 miles – Figure II-18
9. Permit boundary – various figures
10. Drainage, pipeline, and utility easements – Figure II-4
11. Facility access control features – Figure II-4 and II-9
12. Archaeological site and historical sites – Appendix IIA-2

#### **4.0 FACILITY LAYOUT MAPS**

Consistent with 30 TAC §330.61(d), the facility layout maps are provided as Figures II-4 through Figure II-9. These facility layout maps show the items identified in 30 TAC §330.61(d)(1)-(9).

## **5.0 GENERAL TOPOGRAPHIC MAP**

The United States Geological Survey (USGS) General Topographic Map is included as Figure II-15. The topographic map consists of the 7-1/2 minute quadrangle sheets for Temple, Texas at a scale of 1 inch equals 2,000 feet, as required by 30 TAC §330.61(e).

## **6.0 AERIAL PHOTOGRAPH**

Consistent with 30 TAC §330.61(f), the aerial photograph of the site and surrounding area is presented as Figure II-3, Aerial Photograph. This aerial photograph represents conditions as flown March, 2015. The aerial photograph shows the area within at least a 1-mile radius of the permit boundary. In addition, the permit boundary and limits of waste are shown.

## **7.0 LAND USE MAP**

Consistent with 30 TAC §330.61(g), a land use map is included in Appendix IIB, Land Use Study, as Drawing 3: Land Use Map. This land use map has been prepared based on the land use analysis conducted by RVi Planning, Inc. The land use features identified and depicted on this drawing, as required by 30 TAC §330.61(g), include: the facility permit boundary, uses within the permit boundary, and existing uses such as agricultural, industrial, and residential use within 1 mile of the permit boundary; and locations of residences, commercial establishments, schools, licensed daycare facilities, churches, cemeteries, ponds or lakes, and recreational areas within 1 mile of the permit boundary.

Figure II-4 shows the drainage, pipeline, and utility easements within the facility. Appendix IIA-3 shows the access roads serving the facility.

## **8.0 IMPACT ON SURROUNDING AREA**

Consistent with 30 TAC §330.61(h), RVi Planning, Inc. conducted an evaluation of the impact on the area surrounding the facility. Refer to Appendix IIB for a detailed land use analysis and discussion regarding impact on the surrounding area. The land use analysis addresses zoning within 2 miles of the facility, character of surrounding land uses within 1 mile of the facility, growth trends within 5 miles of the facility, and proximity to residences and other uses within 1 mile of the facility.

### **8.1 Wells Within 500 Feet**

Consistent with 30 TAC §330.61(h)(5), a description of known wells within 500 feet of the facility has been prepared. The locations of groundwater wells within 1 mile of the property boundary were determined based on a water well database search performed by Banks Information Solutions, Inc. (Banks) of Austin, Texas, and on information supplied by the Clearwater Underground Water Conservation District (CUWCD). Figure II-10 shows the approximate locations of the wells within 1 mile of the property boundary and identifies wells within 500 feet of the facility.

The Banks study did not identify any well records within 500 feet of the site. Five water well records listed with an active status within approximately 500 feet of the site were identified from CUWCD. These water wells are reportedly screened in Alluvium, the Ozan Formation (upper portion of Taylor), or Austin Chalk, and are used as domestic or livestock wells. Two of these well records were plotted within the permitted expansion boundary of the landfill. These wells were field-located by CUWCD and Golder on July 9, 2015. The CUWCD did not have drilling report records pertaining to these two wells, but based on recollection of the previous owner, believe both to have been hand dug around the mid-1960s. Based on other well information in the area, these two wells are likely between 20 and 50 feet deep, unused, and will be proposed for plugging and abandonment prior to excavation for borrow or cell construction in the area.

A search was performed to identify oil and gas wells within a 1-mile radius of the site. Golder enlisted Banks Information Solutions, Inc. to conduct the search and based on their review of available records from the Texas Railroad Commission, there are no oil and gas wells within 500 feet of the site. If abandoned crude oil or natural gas wells or other wells associated with mineral recovery are located during facility development they will be handled as described in Section 12.2.



## **9.0 TRANSPORTATION**

### **9.1 Adequacy of Roads**

Consistent with 30 TAC §330.61(i)(1)-(4), a transportation study prepared by HDR, Inc. is included as Appendix IIA-3. The transportation study provides information on the availability and adequacy of access roads, provides data on the existing and expected vehicular traffic on access roads within 1 mile of the facility during the expected site life of the facility, and projects the volume of traffic expected to be generated by the facility on the access roads within 1 mile of the facility. The traffic expected to be generated by the facility includes "Waste Management branded vehicles" and "other waste hauling vehicles." The "Waste Management branded vehicles" specifically refers to vehicles owned or operated by Waste Management Inc., while "other waste hauling vehicles" refers to waste vehicles of other waste haulers.

Documentation of coordination with the Texas Department of Transportation (TxDOT) is also included in Appendix IIA-3.

### **9.2 Airport Impact**

Consistent with 30 TAC §330.61(i)(5), an evaluation of the facility impact on surrounding airports was conducted in accordance with 30 TAC §330.545. Refer to Figure II-18, FAA Location Restriction, for the location of the facility in relationship to area airports. The airport map uses the FAA Sectional Aeronautical Chart, San Antonio, 91<sup>st</sup> Edition, dated November 13, 2014 as the base drawing. The map depicts the location of the facility, a 5,000-foot radius, a 10,000-foot radius, and a 6-mile radius from the facility permit boundary. There is no existing or planned public-use airport located within a 6-mile radius.

Refer to Appendix IIC-1 for the airport safety location restrictions statement and certification and for documentation of coordination with FAA regarding location of the facility in relation to airports in the designated areas, as required by 30 TAC §330.61(i) and §330.545.

## **10.0 GENERAL GEOLOGY AND SOILS STATEMENT**

Consistent with 30 TAC §330.61(j)(1)-(4), a general discussion of the geology and soils of the site has been prepared. Detailed discussion of the geology of the site can be found in Part III, Attachment 4 of this application.

### **10.1 Geology**

The site is underlain by the Upper Cretaceous age Taylor Group, and is comprised of the Ozan Formation, Wolfe City, and Pecan Gap Chalk. These units are generally considered together as the "Taylor Marl". The Ozan Formation is comprised of a weathered montmorillonitic clay with high shrink/swell potential. The clay is generally hard and occasionally contains shell fragments. Underlying the weathered material is the unweathered Taylor Group, which in the site area consists of a calcareous claystone. The top of this unit is most often encountered between 40 and 50 feet below ground surface (ft-bgs). Below the claystone is an unweathered marl layer. Based on regional data, the base of the Taylor Group in the site area is at a depth of approximately 400 ft-bgs. The Stratum II/III (weathered-unweathered) interface serves as a demarcation for the uppermost water bearing unit in the area, which is located within the weathered portions of the Taylor Group. A regional stratigraphic cross-section depicting the distribution of geologic units in the vicinity of the site is included as Figure II-13. A geologic map of the area is included as Figure II-14.

A detailed discussion of the regional and site geology is included in Part III, Attachment 4, the Geology Report.

### **10.2 Topography and Soils**

The site is located in east-central Bell County, Texas. The topographic elevation of Bell County decreases from west to east, within the Blackland Prairie physiographic province. The Balcones Fault Zone (BFZ) (or Balcones Escarpment) passes through the center of Bell County, and trends from the northeast to southwest approximately parallel to the strike of geological units in the area. The BFZ divides Bell County into two physiographic provinces: the Inner (Tertiary) Gulf Coastal Plain to the east and the Great Rio Grande Plain to the west. The Inner Gulf Coastal Plain physiographic province is further divided into two physiographic regions. These regions are the Rolling Prairie physiographic region to the west and the Blackland Prairie physiographic region to the east. The Blackland Prairie physiographic region is further divided by the BFZ into the White Rock Prairie sub-province to the west and the Taylor Black Prairie sub-province to the east. The site is located in the Taylor Black sub-province. The Taylor Black Prairie is characterized by undulating topography with several series of perennial streams.

The site is located within the Little Elm Creek Watershed of the Brazos River Basin. The natural surface drainage in the site area is towards two tributaries of Little Elm Creek: the Williamson Branch towards

the northeast and Unnamed Tributary No. 1 to the south. Drainage features of the site are depressions that generally transport surface water toward the southern and eastern portions of the site. Figure II-15 shows site topography based on the 2012 USGS Temple 7.5 minute quadrangle map.

Based on data from the US Department of Agriculture Web Soil Survey, the shallow soils on-site consist predominantly of Houston Black Clay and Austin Silty Clay, with lesser amounts of McLennan Clay Loam and Tinn Clay.

The Houston Black series consists of deep, moderately well-drained soils. These soils have developed in calcareous marls, alluvial clays, and chalk under prairie grasses. The Austin series consists of moderately deep, well-drained silty clay soils. A soils map is included as Figure II-16.

### **10.3 Fault Areas**

Consistent with 30 TAC §330.61(j)(2) and §330.555, fault areas documentation was prepared as part of this application to demonstrate that the Temple Recycling and Disposal Facility meets the location restriction for fault areas.

A fault evaluation was previously prepared for the Temple Recycling and Disposal Facility (which included the area under assessment for the expansion) in 1994 by Rust Environment & Infrastructure (Rust), as documented in the previous permit dated January 1999. That evaluation included a review of the following existing documentation:

- Published information on the structural and seismic history of the Temple area
- Documented locations of seismic epicenters recorded in recent times
- Evidence of displacement in surficial deposits
- Evaluation of lineaments in aerial photographs

It was concluded that the nearest known fault to the site is located approximately 2 miles to the northwest of the facility, in the BFZ. There are no known faults or surface expression of faults within a 3,000 foot radius of Temple Recycling and Disposal Facility.

The site, including the expansion area, was re-examined for the presence of faulting for this permit amendment. Aerial photographs were examined and available geologic literature and geologic maps were reviewed.

The results of the faulting studies indicated that the site is not located within 200 feet of a fault that has experienced displacement during the Holocene Epoch extending from the end of the Pleistocene Epoch to the present (representing the most recent 10,000 years).

As depicted on Figure II-19, the nearest mapped inactive fault is located approximately 2 miles northwest of the site.

Because the site is situated in a bedrock terrain, subsidence in the site area is not expected.

#### **10.4 Seismic Impact Zones**

The location restriction criteria in 30 TAC §330.557 require that new disposal units and lateral expansions not be located in seismic impact zones unless the owner or operator can demonstrate that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the facility. 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. If the maximum horizontal acceleration is less than or equal to 0.10 g, then the design of the unit will not need to incorporate an evaluation of seismic effects.

The 2014 USGS Seismic Hazard Map for maximum (peak) horizontal acceleration in lithified material with 10 percent probability of exceedance in 250 years is shown on Figure II-20. As indicated on this figure, the Temple Recycling and Disposal Facility is not located within an area with a 10 percent or greater probability that the maximum horizontal acceleration in lithified earth material will exceed 0.10 g in 250 years. Therefore, the site is not located within a seismic impact zone.

#### **10.5 Unstable Areas**

The location restriction criteria in 30 TAC §330.559 require engineering measures to be incorporated into the design of a disposal unit located in an unstable area to ensure that the integrity of the structural components of the disposal unit will not be disrupted. Unstable areas, by definition, are areas susceptible to natural or human-induced events or forces that are capable of impairing the integrity of some or all structural components (i.e., liners, leachate collection systems, final covers, etc.) of a disposal unit. Unstable areas can include poor foundation conditions, areas susceptible to mass movement, salt domes, or karst terrain.

The determination of potential unstable areas at the landfill site is based on site observation and a review of existing documentation for the site by a licensed professional engineer. Site observations included:

- Observation of the sides and bottom of the excavations and liner subgrade during construction of Cells 2A, 2B, and 3A in Tract 4
- Observations of the excavation of ponds
- Observations of the existing structures

- Observations of the samples from the recent subsurface investigation

Review of documentation included:

- Temple Recycling and Disposal Facility Permit Amendment Application MSW No. 692A
- Boring logs from past and current subsurface investigations
- Aerial surveys and photographs of the property

Based on this review, the foundation conditions and the local geologic and geomorphologic formations are stable. In addition, there is no evidence to suspect mass movement of natural formations of earthen material on or in the vicinity of this site. No foundation problems exist at the site. The proposed landfill components were evaluated with respect to differential settlement, heave, and slope stability. The detailed analysis is included in Part III, Attachment 3. Based on the results of these analyses, the existing and proposed human-made features have been predicted to have adequate factors of safety with respect to stability.

Based on site observations, a review of existing geological data, and geotechnical analysis of the structural components of the landfill development, the site is not located in an unstable area and the integrity of the landfill is not expected to become impaired by natural, surface, or subsurface human-made features or events.

## **11.0 GROUND AND SURFACE WATER STATEMENT**

### **11.1 Groundwater Conditions**

Consistent with 30 TAC §330.61(k)(1) and 330.549, a discussion of groundwater conditions at or near the facility has been prepared.

The Taylor Group, which directly underlies the site, produces only a small amount of the total groundwater used in Bell County. In the site area, the Taylor Group is mainly a clay, calcareous claystone, and marl unit which crops out east of the BFZ. The site itself is located on an outcrop of the Taylor Marl. Groundwater occurs primarily within the weathered portions of the clay unit, sometimes perched on top of the unweathered claystone. The clays are montmorillonitic and have high shrink/swell potential. Recharge to the shallow groundwater unit in the saturated zone above the Stratum II/Stratum III interface occurs when rainwater falls on the hills and then flows downslope into the valleys and streams, and from infiltration from farm ponds, lakes, and streams. Recharge may also occur through desiccation cracks when precipitation follows a dry period.

A detailed discussion of the groundwater conditions is included in Part III, Attachment 4. The groundwater monitoring system proposed for the site is discussed in Part III, Attachment 5.

The Temple Recycling and Disposal Facility is not located over the recharge zone of the Edwards Aquifer.

Groundwater conditions at the site were determined using data from a combination of piezometers and monitoring wells that are a part of the approved site groundwater monitoring system. Details and logs of the borings, monitoring wells, and piezometers are provided in Appendix III-4B.

### **11.2 Surface Water Features**

Consistent with 30 TAC §330.61 (k)(2), a discussion of surface water at and near the site has been developed.

Drainage features of the site are depressions that generally transport surface water toward the southern and eastern portions of the site. Figure II-15 shows topography, surface water bodies, and drainage features in the vicinity of the site based on the USGS Temple 7.5 minute quadrangle map.

The nearest drainages to the project area are Williamson Creek to the north and Unnamed Tributary No. 1 to the south, both of which are tributaries of Little Elm Creek, a tributary of Big Elm Creek which flows into the Little River.

Surface water drainage facilities have been constructed as part of the development of MSW Permit No. 692A. All surface water from the landfill footprint is routed through the two detention ponds before

exiting the site to either the Williamson Branch of the Little Elm Creek or the Unnamed Tributary No. 1 of Little Elm Creek.

The surface water drainage evaluation and design is included in Part III, Attachment 2, Facility Surface Water Drainage Report. The surface water drainage design for the Temple Recycling and Disposal Facility addresses requirements for surface water run-on and run-off and consists of drainage swales, downchutes, perimeter channels, detention ponds, outlet structures, and erosion and sediment controls.

#### ***11.2.1 Texas Pollution Discharge Elimination System***

The facility has been 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. In compliance with the Texas Pollution Discharge Elimination System (TPDES) requirements for industrial activities with stormwater discharges, a Notice of Intent (NOI) has been filed with the TCEQ. The facility's TPDES multi-sector general permit number is TXR05AK37.

A copy of the permit is included in Appendix IID, TPDES Permit.

The Temple Recycling and Disposal Facility will comply with all applicable conditions in the TPDES Permit.

## **12.0 ABANDONED OIL, GAS, AND WATER WELLS**

### **12.1 Water Wells**

Consistent with 30 TAC §330.61(l), a discussion of abandoned oil and water wells has been developed.

As described in Section 8.1 of this narrative, and as shown on Figure II-10, Water Well Location Map, there are two known water wells within the permit boundary of the Temple Recycling and Disposal Facility.

Should any unknown abandoned water wells be discovered during facility development, the Temple Recycling and Disposal Facility will provide written notification to the TCEQ executive director of their location. The known water wells and any others discovered during facility development will be plugged in accordance with applicable rules and regulations of the TCEQ or other state agency and a copy of the well plugging report for any found well will be submitted to the appropriate state agency and executive director within 30 days prior to construction.

### **12.2 Oil and Gas Wells**

As described in Section 8.1 of this narrative, there are no known oil or gas wells within the permit boundary of the Temple Recycling and Disposal Facility.

If any abandoned crude oil or natural gas wells or other wells associated with mineral recovery are located during site development, the landfill will provide the executive director of the TCEQ with written certification that all such wells have been properly capped, plugged, and closed in accordance with all applicable rules and regulations of the Railroad Commission of Texas. A copy of the well plugging report to be submitted to the appropriate state agency will also be submitted to the executive director of the TCEQ within 30 days after the well has been plugged.



### **13.0 FLOODPLAINS**

Consistent with 30 TAC §330.61(m)(1), §330.63(c)(2), and §330.547, an evaluation of the 100-year floodplain has been prepared. The existing Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) that includes the site area (Bell County, Texas, Map No. 48027C0375E, Effective Date: September 26, 2008) was reviewed. The FIRM indicates that, with the exception of the area adjacent to the southern permit boundary and an area along the east portion of the northern permit boundary, the site is outside of the 100-year floodplain. The southern floodplain is associated with Little Elm Creek Tributary No. 1 and the floodplain north of the site is associated with Williamson Creek, which is also a tributary to Little Elm Creek.

Further evaluation of the FIRM indicates that the floodway and floodplain along the south boundary of the site depicted by FEMA are not aligned with the physical location of the Little Elm Tributary No. 1 (See Figure II-17.2). Based on this determination and as allowed by 30 TAC 330.63(c)(2)(B), Golder has performed a Flood Study of Little Elm Tributary No. 1. Details of this Flood Study are provided in Appendix III-2F of Attachment 2.

Figure II-17.1 presents the 100-year floodplains for the site. Based on the FIRM mapping for the north side of the site (Williams Creek Floodplain 100-year flood plain) and the Flood Study for the south side of the site (Little Elm Tributary No. 1), no portion of the existing waste disposal footprint or the proposed expanded waste footprint is located within the 100-year floodplain. Further, in accordance with 30 TAC §330.547:

- No solid waste disposal operations will be conducted in areas that are located in a 100-year floodway;
- The facility 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; and
- All waste storage and processing facilities will be located outside of the 100-year floodplain.

## **14.0 WETLANDS**

In accordance with §330.61(m)(2) and (3) and §330.553, a wetlands assessment for the proposed Temple Recycling and Disposal Facility expansion was conducted under applicable federal, state, and local laws. The assessment was conducted to determine if existing water features within the proposed expansion area meet federal (33 CFR §328.3(c)(4)) and/or state (30 TAC §307.3(84)) criteria for wetlands, and whether there are any jurisdictional “waters of the U.S.” within the expansion area. Under the federal Clean Water Act §404 (CWA § 404), the U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged and fill material into “waters of the U.S.” The phrase “waters of the United States” 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 for the proposed Temple Recycling and Disposal Facility expansion area was conducted by JBS Engineering & Environmental, LLC. (JBS) and JBS’s findings are included in Appendix IIC-2. The assessment identified federal, CWA § 404 jurisdictional “waters of the U.S.,” including wetlands. No jurisdictional wetlands, and no wetlands meeting the state criteria for wetlands, will be impacted by the proposed expansion, but 0.016 acres of a jurisdictional ephemeral stream will be impacted. Accordingly, a Nationwide Permit (NWP) Pre-Construction Notification (PCN) was submitted to the USACE, Ft. Worth District (USACE SWF) to authorize the ephemeral stream impacts. A copy of the PCN, as submitted to the USACE SWF, is provided in Appendix IIC-2a. A letter documenting JBS’s findings regarding the assessment of state criteria for wetlands is included in Appendix IIC-2b. Correspondence regarding the USACE SWF’s determination that Project Number SWF-2015-00107 is authorized by NWP 39 as well as the credit transaction report are included in Appendices IIC-2c through IIC-2e.

For the currently permitted area under MSW-692A, a previous wetland study concluded that waters of the United States, including wetlands are limited to between the ordinary high water marks of Williamson Branch, along the northern boundary of the landfill property, and the unnamed tributary of Little Elm Creek, along the southern boundary of the landfill property. Neither of the tributaries affected the waste disposal areas under MSW-692A. Note that the permit boundary has been adjusted as part of this PAA along the northern and southern boundaries so that the two tributaries are completely offsite except for a small portion. A copy of the previous wetland study and USACE letter is included in Appendix IIG-1.

### **14.1 Wetlands and “Waters of the U.S.” Assessment**

The wetlands and “waters of the U.S.” assessment for the proposed Temple Recycling and Disposal Facility expansion area was conducted in June 2015 by Mr. W.R. Cullen, a Professional Engineer (#65215), and Mr. Stephen Swetish, a Professional Geoscientist (Soil Science #6639).

A total of ten open water ponds, designated as Ponds A through J, were identified and evaluated during the assessment to determine if these waterbodies meet the federal and/or state criteria for wetlands. The assessment determined that Ponds A through I are within the proposed expansion fill area and are classified as man-made, agricultural stock ponds (i.e., open water ponds) that have individual areas of less than one (1) acre. Therefore, Ponds A through I are not considered state wetlands; as provided in 30 TAC §307.3(84), the term wetland does not include a man-made wetland of less than one acre. In addition, Ponds A through I lack connectivity to any jurisdictional “waters of the U.S.” and are not situated within the 100-year floodplain. Under the applicable federal CWA § 404 regulations, Ponds A through I are classified as non-jurisdictional, isolated, open water wetlands. Therefore, Ponds A through I are not “waters of the U.S.” within the USACE’s regulatory jurisdiction under the § 404 of the CWA.

The assessment determined that Pond J is not within the proposed expansion fill area and is classified as a man-made, agricultural stock pond (i.e., open water pond) that has an area of less than one (1) acre. Therefore, Pond J is not considered a state wetland. However, Pond J is located within the 100-year floodplain of Little Elm Creek Tributary 1 and is therefore considered to have connectivity to jurisdictional “waters of the U.S.” In accordance with federal regulations under CWA § 404, Pond J is classified as a jurisdictional open water wetland. Pond J meets the definition of “waters of the U.S.” and is within the USACE’s regulatory jurisdiction under the § 404 of the CWA. However, Pond J has been avoided as part of the design process and will not be impacted by the expansion activities.

The small unnamed tributary to Williams Branch located near the northern boundary of the proposed expansion area was evaluated during the assessment. Based on observations made during the site visit and field indicators, the unnamed tributary to Williamson Branch can be classified as an ephemeral stream (E-1) with an ordinary high water mark (OHWM) of approximately 2.0 feet. In accordance with federal regulations under CWA § 404, E-1 is classified as a jurisdictional ephemeral stream. E-1 meets the definition of “waters of the U.S.” and is considered jurisdictional under the federal CWA § 404.

As a result of the assessment, it was determined that there will be no impacts to state or federal CWA § 404 wetlands/open waters from the proposed expansion of the Temple Recycling and Disposal Facility. The only impacts resulting from the proposed expansion will be limited to “waters of the U.S.” identified as the ephemeral, unnamed tributary of Williamson Branch (E-1). Approximately 344 linear feet will be impacted by the proposed expansion area.

Quantification of the impacts to “waters of the U.S.” was determined by measuring the total cumulative impacts for the proposed expansion of the Temple Recycling and Disposal Facility. The cumulative impacts were calculated based upon the width of the ephemeral stream at the elevation corresponding to OHWM along the bottom of the stream channel multiplied by the length of “filling” along the stream channel. Specifically, the anticipated cumulative impacts to “waters of the U.S.” for the proposed project

have been estimated to be 0.016 acres (344 feet of ephemeral channel x 2.0 feet OHWM) of permanent impact.

To the extent practicable, the proposed landfill expansion has been designed to avoid waters of the U.S., including wetlands. The following table details proposed impacts to waters of the U.S., including wetlands.

**Table II-2 “Waters of the U.S.” and Wetlands Identified within the Temple Recycling and Disposal Facility Expansion Area, Temple (Bell County), Texas**

Water Body Designation	Water Type/Class	Wetland/Open Water (acres)	Length (linear feet)	State Wetland under 30 TAC §307.3(84)	Jurisdictional under CWA § 404	Jurisdictional Impacts
Pond A	Non-Jurisdictional Open Water	0.41	-	No	No	No
Pond B	Non-Jurisdictional Open Water	0.50	-	No	No	No
Pond C	Non-Jurisdictional Open Water	0.33	-	No	No	No
Pond D	Non-Jurisdictional Open Water	0.24	-	No	No	No
Pond E	Non-Jurisdictional Open Water	0.08	-	No	No	No
Pond F	Non-Jurisdictional Open Water	0.28	-	No	No	No
Pond G	Non-Jurisdictional Open Water	0.07	-	No	No	No
Pond H	Non-Jurisdictional Open Water	0.11	-	No	No	No
Pond I	Non-Jurisdictional Open Water	0.39	-	No	No	No
Pond J	Jurisdictional Open Water	0.14	-	No	Yes	No
E-1	Ephemeral Tributary	-	344	-	Yes	Yes
Avoided Jurisdictional Features	Pond J - Jurisdictional Open Water	0.14	-			
<b>Total Avoidances</b>		<b>0.14</b>				
Impacted Jurisdictional Features		-	344			
<b>Total Impacts</b>			<b>344</b>			

## 14.2 Permits Required

The proposed Temple Recycling and Disposal Facility expansion may be pursued in accordance with the requirements of NWP-39 for Commercial and Institutional Development since the estimated impacts (0.016 acres) are below the maximum threshold limit of 0.5 acres set forth in NWP-39.

As noted above, the PCN for NWP-39 was submitted to the USACE SWF for anticipated discharges of dredge or fill material to the ephemeral, unnamed tributary of Williamson Branch (E-1) associated with the Temple Recycling and Disposal Facility expansion area. The PCN was submitted to the USACE SWF in October 2015 and is currently under review by the USACE SWF. A copy of the PCN, as submitted to the USACE SWF, is provided in Appendix IIC-2.

Unavoidable impacts to jurisdictional “waters of the U.S.,” including those that cannot be avoided by facility design, will be mitigated through a USACE SWF-approved mitigation bank. WMTX will provide compensatory mitigation to a USACE SWF-approved mitigation bank for construction impacts to approximately 0.016 acres of ephemeral tributary. Receipt of the NWP-39 will be obtained prior to disturbance or development within the ephemeral tributary area.

### **14.3 Demonstration of Compliance with Location Restrictions**

New MSWLF units and lateral expansions shall not be located in wetlands unless the owner or operator submits each of the demonstrations identified in §330.553(b)(1)-(5) to the executive director. Accordingly, the remainder of this section provides the required demonstrations by listing each paragraph of §330.553(b)(1)-(5), followed by information on how the facility will comply with each of these requirements to meet the wetlands location restrictions.

1. Where applicable under the Clean Water Act, §404 or applicable State wetlands laws, the presumption that a practicable alternative to the proposed landfill is available that does not involve wetlands shall be clearly rebutted.

Not applicable. As detailed above, there will be no impacts to state or federal CWA § 404 wetlands/open waters from the proposed expansion of the Temple Recycling and Disposal Facility. The only impacts resulting from the proposed expansion will be limited to non-wetland “waters of the U.S.,” identified as the ephemeral, unnamed tributary of Williamson Branch (E-1). Approximately 344 linear feet of jurisdictional ephemeral stream that cannot practicably be avoided will be filled and/or excavated. Approximately 0.14 acres of jurisdictional open water wetland will be avoided as a result of reducing the proposed landfill expansion footprint.

Project design has exercised environmental sequencing (avoidance, minimization, compensation) with respect to potential impacts to waters of the U.S., including wetlands. Methods of development, while avoiding jurisdictional wetlands, were analyzed. As a result, all wetland/open water areas within the 100-year floodplain will be avoided during this expansion. The facility can meet the project goals while avoiding these jurisdictional areas.

A comprehensive evaluation of “waters of the U.S.,” including wetlands, was completed as part of the design to analyze and minimize impacts to jurisdictional waters. The layout and drainage controls required for the landfill expansion could not feasibly be achieved without impacting, to some degree, an ephemeral tributary. Given the location of ephemeral tributary in the expansion area, the landfill could not be sized or shifted in a manner that could practicably avoid this and continue to meet the expansion goals for this facility.

WMTX will provide compensatory mitigation to a USACE SWF-approved mitigation bank for construction impacts to approximately 0.016 acres of ephemeral tributary.

2. The construction and operation of the MSWLF unit shall not:

- C. cause or contribute to violations of any applicable State water quality standard;

During all phases of construction activities, WMTX will incorporate Best Management Practices (BMPs) to assist in the control of erosion, sedimentation, and post-construction total suspended solids. BMP devices to be used singularly or in combination will include avoidance, minimization, and/or the construction of barricade fences, silt fences, filter socks, straw bales and similar materials. The

Facility Surface Water Drainage Report is presented in Part III, Attachment 2. The Report includes an Erosion and Sediment Control Plan for all phases of landfill operation. Also, the Site Operating Plan (SOP), Part IV, Section 4.22 addresses operational requirements to provide adequate cover over the waste, and to inspect, maintain, and repair erosion at the site.

- D. violate any applicable toxic effluent standard or prohibition under of the Clean Water §307;

Waste placement will be limited to appropriately lined landfill areas, and will be covered to minimize the generation of contaminated water. Additionally, run-on and run-off controls for active disposal areas will be utilized to minimize the potential for stormwater contamination. Such control measures are for compliance with Clean Water Act §307. No effluent violations are anticipated at this facility.

- E. jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973; and

An Endangered/Threatened Species Assessment for the proposed Temple Recycling and Disposal Facility expansion area was conducted by JBS Engineering & Environmental, LLC. (JBS) and is included as Appendix IIA-4. The assessment was conducted by Mr. W.R. Cullen, a Professional Engineer (#65215) and Mr. Stephen Swetish, a Professional Geoscientist (Soil Science #6639) with the botanical knowledge and experience qualified to conduct the assessment.

As part of the assessment, field surveys were conducted to determine if environmental features necessary for supporting the list of federal and state threatened and endangered species existed within the boundaries of the proposed expansion area. These field surveys were performed in October 2014, January 2015, and June 2015 to evaluate the presence/absence of threatened and endangered species and their habitat. The field assessments included a walking survey of the project area that focused on the identification of listed species and associated habitat. Emphasis was directed to relatively undisturbed areas along Williams Creek, which is located on the northern boundary of the proposed expansion area and would be more likely to contain suitable habitat for threatened and endangered species (if present). However, observations were also made throughout the entire proposed area of expansion.

The Temple Recycling and Disposal Facility development and operation will not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species.

- F. violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary.

The Temple Recycling and Disposal Facility is not located within, adjacent or near a marine sanctuary, therefore it will not violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary.

3. The municipal solid waste landfill unit or recovery operation shall not cause or contribute to significant degradation of wetlands. The owner/operator shall demonstrate the integrity of the landfill unit and its ability to protect ecological resources by addressing the following factors:

- A. erosion, stability, and migration potential of native wetland soils, muds, and deposits used to support the landfill unit;

Erosion and sediment control BMP devices will be implemented throughout each phase of site development activities and during landfill operation as indicated in Part III, Attachment 2. The facility is designed with adequate calculated factors of safety for slope stability (see Part III, Attachment 3) and with surface water drainage design and erosional stability (see Part III, Attachment 2). The BMP devices and engineering controls will be used to manage stormwater runoff, maintain stability, and minimize erosion/sedimentation.

- B. erosion, stability, and migration potential of dredged and fill materials used to support the landfill unit;

Native soils will be excavated from the expansion area to provide for the construction and operation of the site. Based on the engineering design provided in the application, the potential for erosion, stability, and migration of fill materials should be minimal. No soils from outside the facility permit boundary are expected to be used for landfill liner or cover system construction. Liner Quality Control Plans provide specific requirements for construction to maintain stability of site features, and as previously indicated BMP devices will be used to prevent erosion and sedimentation impacts from the site.

- C. the volume and chemical nature of the waste managed in the landfill unit;

All waste disposed of at the Temple Recycling and Disposal Facility will be placed in composite-lined areas and covered with a composite cover system. Composite liners and cover systems will consist of clay layers and geomembrane layers installed in accordance with Liner Quality Control Plans included in the application.

The major classifications of solid waste to be accepted at the Temple Recycling and Disposal Facility include municipal solid waste, special waste, and Class 2 and 3 industrial wastes. Special wastes to be accepted at the facility are authorized by §330.171 and the facility Special Waste Acceptance Plan included in Part IV - Site Operating Plan. The facility is authorized to accept liquid wastes for solidification. The waste classifications are defined in §330.3.

Consistent with §330.15, the facility will not accept for disposal Class 1 nonhazardous industrial waste; lead acid storage batteries; used motor vehicle oil; used oil filters; whole used or scrap tires; refrigerators, freezers, air conditioners or other items containing chlorinated fluorocarbons (CFC); bulk or noncontainerized liquid waste from nonhousehold sources; regulated hazardous waste; polychlorinated biphenyls (PCB) waste; radioactive materials; or other wastes prohibited by TCEQ regulations. Refer to Part II, Section 2 - Waste Acceptance Plan for a detailed discussion of the properties and characteristics of waste and the volume and rate of disposal.

- D. impacts on fish, wildlife, and other aquatic resources and their habitat from release of the solid waste;

All waste disposed of at the Temple Recycling and Disposal Facility will be placed in composite-lined areas and covered with a composite cover system to minimize potential impacts on fish, wildlife, and other aquatic resources and their habitat. Composite liners and cover systems will consist of clay layers and geomembrane layers installed in accordance with Liner Quality Control Plans included in the application. Additionally the Site Operating Plan, included in Part IV of the application, provides for inspections and maintenance to minimize any impacts.

- E. the potential effects of catastrophic release of waste to the wetland and the resulting impacts on the environment; and

Construction and the operation of the landfill in accordance with this application will minimize the potential for a catastrophic release of waste and potential impacts

to the environment. Therefore, any catastrophic release potential should be minimal.

- F. any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected.

In addition to the features identified in this application, a Stormwater Pollution Prevention and Protection Plan and a Spill Prevention and Control Plan will be developed to further enhance protection of the ecological resources.

4. To the extent required under Clean Water Act, §404 or applicable state wetlands laws, steps have been taken to attempt to achieve no net loss of wetlands (as defined by acreage and function) by first avoiding impacts to wetlands to the maximum extent practicable as required by paragraph (1) of this subsection, then minimizing unavoidable impacts to the maximum extent practicable, and finally offsetting remaining unavoidable wetland impacts through all appropriate and practicable compensatory mitigation actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands).

Not applicable. As detailed above, within the Temple Recycling and Disposal Facility expansion area there are no state designated wetlands nor will there be any impacts to wetlands as defined by the CWA § 404. The only impacts from the proposed Temple Recycling and Disposal Facility expansion area will be limited to the "waters of the U.S" identified as the ephemeral, unnamed tributary of Williamson Branch (E-1). Specifically, the cumulative permanent impacts have been estimated to be 0.016 acres (344 feet of ephemeral channel x 2.0 feet OHWM). See the PCN for NWP-39 included in Appendix IIC-2 for additional details.

5. Sufficient information shall be made available to the executive director to make a reasonable determination with respect to these demonstrations.

A copy of the PCN for NWP-39 was submitted for anticipated discharges of dredge or fill material to "waters of the U.S." and is included in this application. Other additional information as may be requested will be provided to the TCEQ. COE approval of the activities is included in Appendix IIC-2D and the credit purchase required for these activities is also included in Appendix IIC-2E.



## 15.0 PROTECTION OF ENDANGERED OR THREATENED SPECIES

An Endangered/Threatened Species Assessment for the proposed Temple Recycling and Disposal Facility expansion area was conducted by JBS Engineering & Environmental, LLC. (JBS) and is included as Appendix IIA-4, Endangered Species Assessment Report for Proposed Temple Recycling and Disposal Facility Expansion in Temple, Texas. The assessment was conducted by Mr. W.R. Cullen, a Professional Engineer (#65215) and Mr. Stephen Swetish Professional Geoscientist (Soil Science #6639) with the botanical knowledge and experience qualified to conduct the assessment.

As part of the assessment, field surveys were conducted to determine if environmental features necessary for supporting the list of Federal and State threatened and endangered species existed within the boundaries of the proposed expansion area. This field survey was performed in October 2014, January 2015, and June 2015 to evaluate the presence/absence of threatened and endangered species and their habitat. The field assessment included a walking survey of the project area that focused on the identification of listed species and associated habitat. Emphasis was directed to relatively undisturbed areas along Williams Creek which is located on the northern boundary of the proposed expansion area and would be more likely to contain suitable habitat for threatened and endangered species (if present). However, observations were also made throughout the proposed area of expansion.

For the currently permitted area under MSW-692A, there was correspondence regarding the potential impact on endangered and threatened species for the MSW-692A PAA. Previous correspondence indicated that landfill development proposed at TRDF would result in no anticipated negative impacts to rare species or natural communities. Subsequently, the facility was developed in accordance with the MSW-692A site development plan and areas were filled as approved. A copy of the prior correspondence and the TPWD and US Fish and Wildlife Service letters is included in Appendix IIG-2.

The Temple Recycling and Disposal Facility development and operation will not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species.

## **16.0 TEXAS HISTORICAL COMMISSION REVIEW**

Consistent with 30 TAC §330.61(0), a review letter was submitted to the THC documenting compliance with the Natural Resources Code, Chapter 191, Texas Antiquities Code.

An archaeological assessment of the Area of Potential Effect (APE) was required by the THC, Archeology Division. Since the City of Temple is a public entity, a permit from the THC was required. Antiquities Permit 7143 was issued to Ed Baxter, Consulting and is included, along with a cover letter from THC in Appendix IIA-2.

The archaeological survey found no previously recorded cultural resource sites, National Register Properties, or State Archaeological Landmarks within the confines of the project area of the proposed landfill expansion.

As part of this Permit Amendment Application, the Citizen's Collection Station has been added to the permit boundary. The Citizen's collection station was constructed in 2005 and has been in service ever since. The area had been disturbed during construction 11 years ago, therefore, expanding the permit boundary to include the Citizen's Collection Station would not affect any historical properties.

For the currently permitted area under MSW-692A, there was correspondence regarding the potential cultural resources (i.e. archaeological and historical resources) which may exist in the MSW-692A permit boundary. THC's final response was that "No Survey Required; Project May Proceed." A copy of the correspondence and the THC stamped letter is included in Appendix IIG-3.

The state Historic Preservation Officer determined that no historic properties are affected and the project may proceed. Documentation of the coordination with the Texas Historical Commission is provided in Appendix IIA-2.

## **17.0 COUNCIL OF GOVERNMENTS AND LOCAL GOVERNMENT REVIEW REQUEST**

Consistent with §330.61(p), the Central Texas Council of Governments (CTCOG) was informed of the proposed permit amendment to the Temple Recycling and Disposal Facility. City of Temple and WMTX personnel submitted a Regional Solid Waste Management Plan Conformance Checklist and attended meetings on June 15, 2015 and July 21, 2015 to present information to the CTCOG.

Parts I and II of the application are being submitted for review to the CTCOG at the time of submittal of this Permit Amendment Application. Documentation of the coordination with the CTCOG is provided in Appendix IIA-1.

## 18.0 LOCATION RESTRICTION SUMMARY

A list of the location restrictions, as established by Subchapter M of Chapter 330 of the TCEQ Regulations, and the location of supporting information is presented below:

Location Restriction	Regulation Citation	Supporting Information Location
Easement and Buffer Zones	§330.543	Part II, Sec. 1.1; Figure II-4
Airport Safety	§330.545	Part II, Sec. 9.2, Figure II-18; App. IIC-1
Floodplains	§330.547	Part II, Sec. 13.1; Figure II-17
Groundwater	§330.549	Part II, Sec. 11.1, Part III, Att. 4 & 5
Endangered or Threatened Species	§330.551	Part II, Sec. 14.0; App. IIA-4
Wetlands	§330.553	Part II, Sec. 13.2; App. IIC-2
Fault Areas	§330.555	Part II, Sec. 10.3; Figure II-19
Seismic Impact Zones	§330.557	Part II, Sec. 10.4; Figure II-20
Unstable Areas	§330.559	Part II, Sec. 10.5; Part III, Attachment 3