

MUNICIPAL SOLID WASTE PERMIT MAJOR AMENDMENT

PART III-ATTACHMENT D WASTE MANAGEMENT UNIT DESIGN



NAME OF PROJECT: Beck Landfill

MSW PERMIT APPLICATION NO.: 1848A

OWNER: Nido, LTD (CN603075011)

OPERATOR: Beck Landfill (RN102310968)

CITY, COUNTY: Schertz, Guadalupe County

Major Amendment: Revised January 2023

Prepared by:



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1 WASTE MANAGEMENT UNIT DESIGN**30 TAC §330.63(d)**

The Beck Landfill, located at 550 FM 78 in Schertz, Texas Guadalupe County, is an existing Type IV Solid Waste Disposal Facility which accepts brush, construction, or demolition waste, and/or rubbish in accordance with applicable State and Federal regulations. The proposed Beck Landfill facility boundary encompasses about 258 acres. The landfill facility is accessed from FM 78 through an entrance road. A gatehouse and scales are located within the facility boundary along with a wood waste processing area and recyclables collection area.

The landfill footprint will cover approximately 154.6 acres and have a disposal capacity of approximately 26.4 million cubic yards which will provide about 23 years of site life. The landfill method will be below-grade fill with 3H:1V liner sidewall slopes and aerial fill with 4H:1V final cover side slopes, with a maximum six percent final cover top slope. The drainage system will be designed to meet or exceed TCEQ requirements for runoff. The landfill liner, final cover, gas monitoring, and groundwater monitoring systems will be designed to meet the TCEQ requirements.

The following table provides a summary of the proposed permit conditions:

Table D-1	
	Proposed Permit No. 1848A
Permitted Area (acres)	256.9
Waste Disposal Area (acres)	154.6
Total Capacity (cy)	26,417,117
Total Remaining Capacity (cy)	16,259,957*
Remaining Site Life (years)	23
Maximum Elevation of Final Cover (msl)	889
Minimum Elevation of Landfill Excavation (ft-msl)	640 MSL

* Remaining capacity as of June 16, 2021.

2 STORAGE AND TRANSFER UNITS

30 TAC §330.63(d)(1)(A)

The storage and transfer units will be designed for the rapid processing and minimum detention of solid waste at the facility and will be managed to prevent nuisances and fire hazards. The design of the storage and transfer units will be sufficient to control and contain a worst-case spill or release from the units and the unenclosed areas associated with the units, and will account for precipitation from the 25-year, 24-hour rainfall event. The storage and transfer units will include the wood waste processing area and recyclable material recovery area. All storage and processing areas will be located outside of the 100-year floodplain. Material will only be held in these areas for a maximum of 180 days.

2.1 Wood Waste Processing Area

The wood waste processing area will be located within the landfill footprint and will process incoming yard trimmings, clean wood materials and vegetative materials, including trees and brush, into wood chips and mulch. The wood chips and mulch will only be used on-site or taken offsite for further processing or use. The wood chips and mulch will be stored in small piles and will be managed to prevent fire, safety, or health hazards in accordance with 30 TAC§330.209(a). The wood waste processing area will not be larger than approximately 150 feet by 150 feet.

2.2 Recyclable Material Recovery Area

The recyclable material recovery area will be located within the landfill footprint and will process incoming metal, concrete, plastic, and other recyclable materials. The recycled materials will be sent offsite for processing. The materials will be stored in roll-offs or small piles and will be managed to prevent fire, safety, or health hazards in accordance with 30 TAC§330.209(a). The recyclable material area will not be larger than approximately 150 feet by 150 feet. The recyclable material area will be located outside of the 100-year floodplain boundary.

3 LANDFILL UNITS

30 TAC §330.63(d)(4)

The landfill unit design includes all weather operation, landfilling methods, landfill design parameters, site life projection, landfill cross sections, and the liner and final cover quality control plans.

3.1 All Weather Operation (30 TAC §330.63(d)(4)(A))

The landfill access roads will be constructed of crushed stone, gravel, concrete rubble, masonry rubble, wood chips, or other similar materials to provide access to the disposal area during all weather conditions. To enhance operating efficiency during wet weather, a disposal area close to the all weather roads may be reserved for wet weather operations. The wet weather area will move as operations progress.

Site personnel will maintain the access roads for all weather access. Stockpiles of crushed stone, gravel, concrete rubble, masonry rubble, wood chips or other similar material will be available for use in maintaining passable access roads. Grading equipment or other appropriate equipment will be used as necessary to control or remove mud from the access roads and the entrance road.

Tracking of mud onto public roads will be minimized by the all weather surfaces of the access roads and the entrance road. A minimum of 900 feet of paved entrance and access road will be maintained between the entrance and the closest waste disposal area to provide mud control for waste hauling vehicles prior to exiting the site and returning to public roads. Additional mud control will be provided by speed bumps along the access route. A street sweeper will also be used, as necessary, to clean internal paved roads. The street sweeper will not normally be used on public roads. In the event the sweeper is required to clean the public road, a traffic control plan approved by TxDOT will be developed and the approved traffic controls will be maintained during the entire period when the sweeper is active on the roadway.

3.2 Landfilling Methods (30 TAC §330.63(d)(4)(B))

The development method for the landfill will be a combination of area-excavation fill followed by aerial fill to the proposed landfill completion height. Final cover placement will occur after areas have been taken to final grade and no further waste placement is planned for that area. Completed areas will be closed according to the closure plan provided in Part III, Attachment H - Closure Plan.

3.3 Landfill Design Parameters (30 TAC §330.63(d)(4)(C))

The 256.9 permitted acres will include 154.6 acres for waste disposal and 110.5 acres of buffer and other non-fill areas. The elevation of deepest excavation will be approximately 640 feet msl and the maximum elevation of final cover will be 889 feet msl. The maximum elevation of disposed waste will be 887 feet msl

Excavation sideslopes will not exceed 3H:1V and waste sideslopes will not exceed 4H:1V. Final cover top slopes will have a six percent slope, Excavation and final completion plans are presented in Attachment D1.

3.4 Site Life Projection (30 TAC §330.63(d)(4)(D))

The total volume available for waste disposal calculations and assumptions for the waste volume and site life estimate are included in Attachment D4 - Site Life.

3.5 Landfill Cross Sections (30 TAC §330.63(d)(4)(E) and (F))

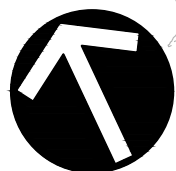
Cross sections of the landfill unit are provided in Attachment D2 - Cross Sections. The section locations were selected to represent the conditions across the entire site. These sections show the top of the levee, top of the proposed fill (top of the final cover), maximum elevation of the proposed fill, top of waste, existing ground, bottom of the excavation, side slopes of excavations, gas probes, groundwater monitoring wells, and the initial and static levels of any water encountered, Soil borings, monitoring wells, and gas monitoring probes near the sections have been projected onto the sections.

3.6 Liner Quality Control Plan (30 TAC §330.63(d)(4)(G))

The quality control plan for the liner system is provided in Attachment D7 - Liner Quality Control Plan. The Beck landfill utilizes an in-situ clay liner, but can construct a compacted clay liner system if the encountered native soils are not satisfactory. Details of the liner system are provided in Attachment D7 – Liner Quality Control Plan.

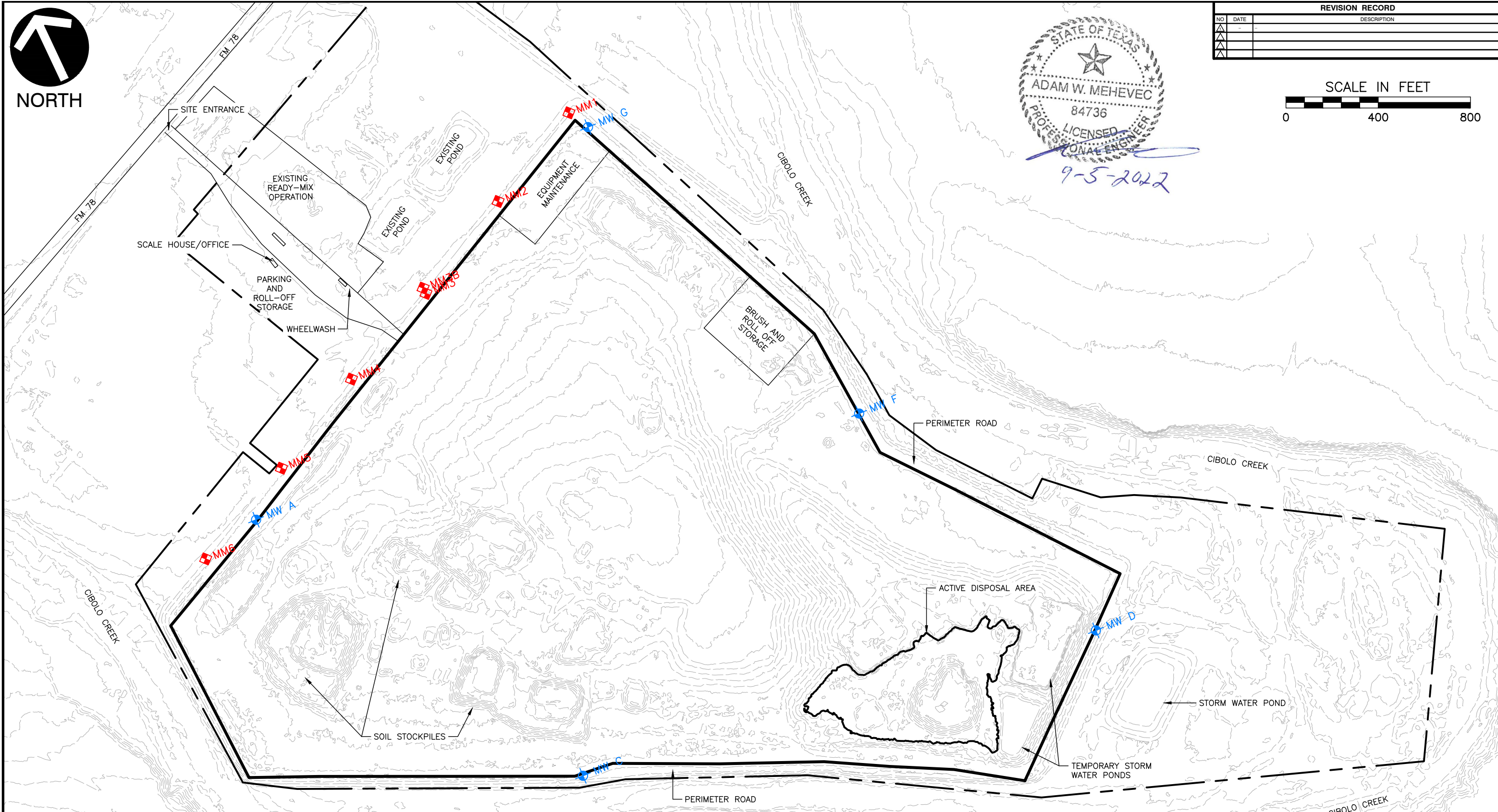
3.7 Final Cover Quality Control Plan (30 TAC §330.457)

The quality control plan for the final cover system is provided in Attachment D8 - Final Cover Quality Control Plan. Details of the final cover system are provided in Attachment D3.



NORTH

REVISION RECORD		
NO	DATE	DESCRIPTION



REFERENCE

TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY BY FIRMATEK: (SEPTEMBER 15, 2021) AUGMENTED WITH A PORTION OF THE EXISTING GROUND SURFACE PREPARED BY CEC.

- NOTES**
1. ALL AREAS WITHIN THE LANDFILL FOOTPRINT THAT DO NOT HAVE FINAL COVER MAY BE USED FOR SOIL STOCKPILES, BRUSH STORAGE AND GRINDING, OR VEHICLE PARKING AND MAINTENANCE.
 2. ALL MONITOR WELLS AND GAS PROBES HAVE BEEN PREVIOUSLY INSTALLED.
 3. INTERIOR ACCESS AND PERIMETER ROADS SHALL BE SURFACED WITH CRUSHED STONE, GRAVEL, RECYCLED CONCRETE, OR EQUIVALENT ALL-WEATHER SURFACE.
 4. SITE PERIMETER FENCING OR NATURAL BARRIERS WILL BE USED ALONG THE ENTIRE PERMIT BOUNDARY.
 5. SOLID WASTE STORAGE AND PROCESSING AREAS WILL BE PLACED OUTSIDE OF THE 100-YEAR FLOODPLAIN OR WILL BE PROTECTED WITH A LEVEE THAT EXTENDS A MINIMUM OF ONE FOOT ABOVE THE FLOODPLAIN ELEVATION.
 6. THE ENTIRE LANDFILL FOOTPRINT HAS BEEN CONSTRUCTED AND HAS WASTE IN PLACE.

LEGEND

	EXISTING MONITOR WELL
	EXISTING GAS PROBE
	LANDFILL PERMIT BOUNDARY
	LANDFILL FOOTPRINT BOUNDARY

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BECK COMPANIES

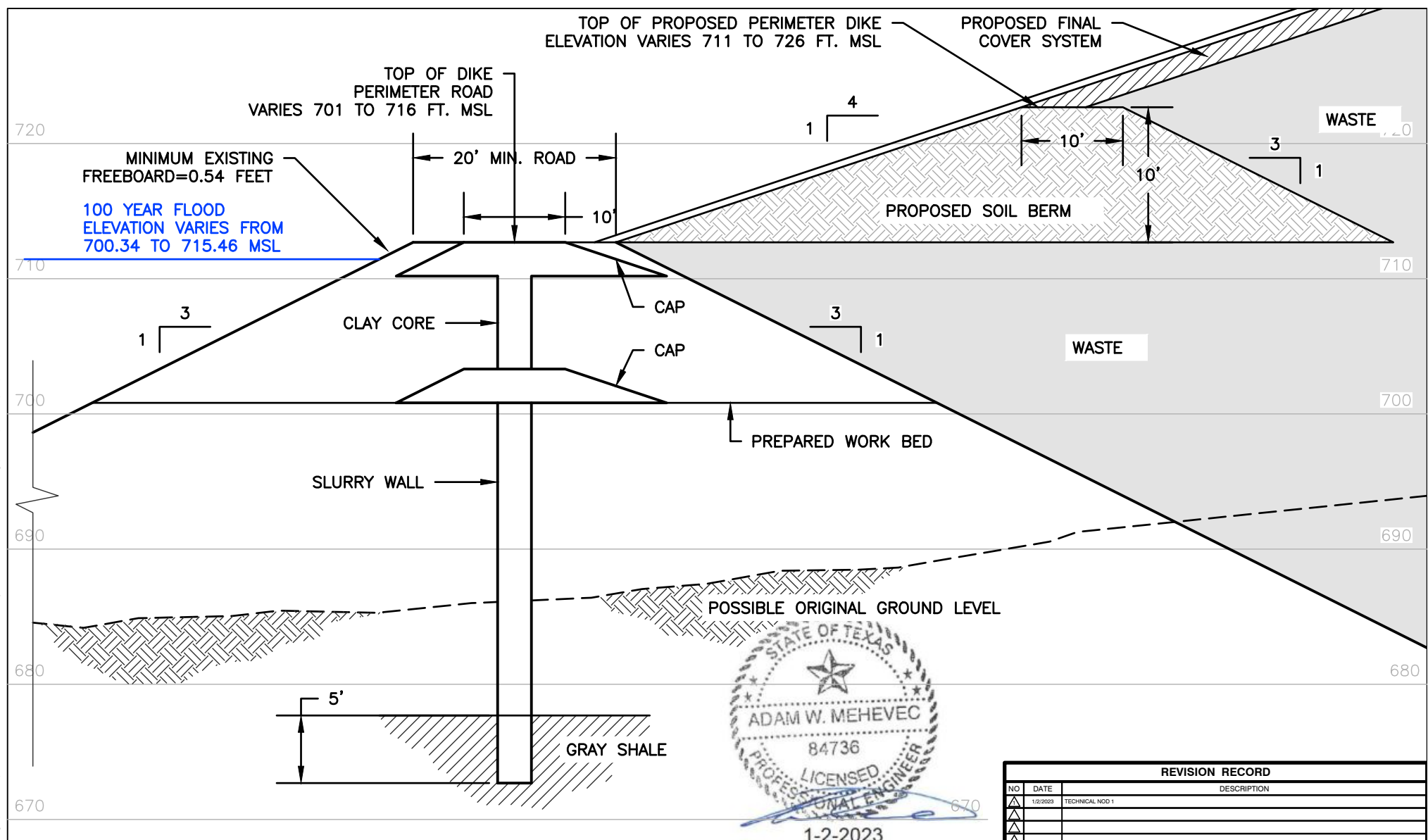
NIDO, LTD
 BECK LANDFILL
 GUADALUPE COUNTY, TEXAS

CURRENT CONDITIONS PLAN

DRAWN BY: MFV	CHECKED BY: AWM	APPROVED BY: AWM	FIGURE NO.: D-1
DATE: 03/07/2022	DWG SCALE: 1" = 400'	PROJECT NO: 311-653	

P:\310-000\311-653-CADD\Draw\SW0\311653-BECK LANDFILL Existing Conditions.dwg[0-1] LS:(8/28/2022 - amehvec) - LP: 8/30/2022 8:23 AM

P:\310-000\311-653\CADD\DWG\SW01\311653-BECK LANDFILL Slurry Trench - Dike.dwg[D-2] LS:(12/23/2022 - amehevec) - LP: 12/23/2022 4:27 PM



NOTE: MONITOR WELLS ARE INSTALLED OUTSIDE OF THE SLURRY WALL AT THE SHOWN LOCATIONS AND A PIEZOMETER IS INSTALLED INSIDE THE SLURRY WALL AT THESE SAME LOCATIONS.



REVISION RECORD		
NO	DATE	DESCRIPTION
1	1/2/2023	TECHNICAL MOD 1


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TYPICAL EXISTING PERIMETER DIKE DETAIL

DRAWN BY: MFV	CHECKED BY: AWM	APPROVED BY: AWM	FIGURE NO.:
DATE: 08/2022	DWG SCALE: 1" = 500'	PROJECT NO: 311-653	D-2