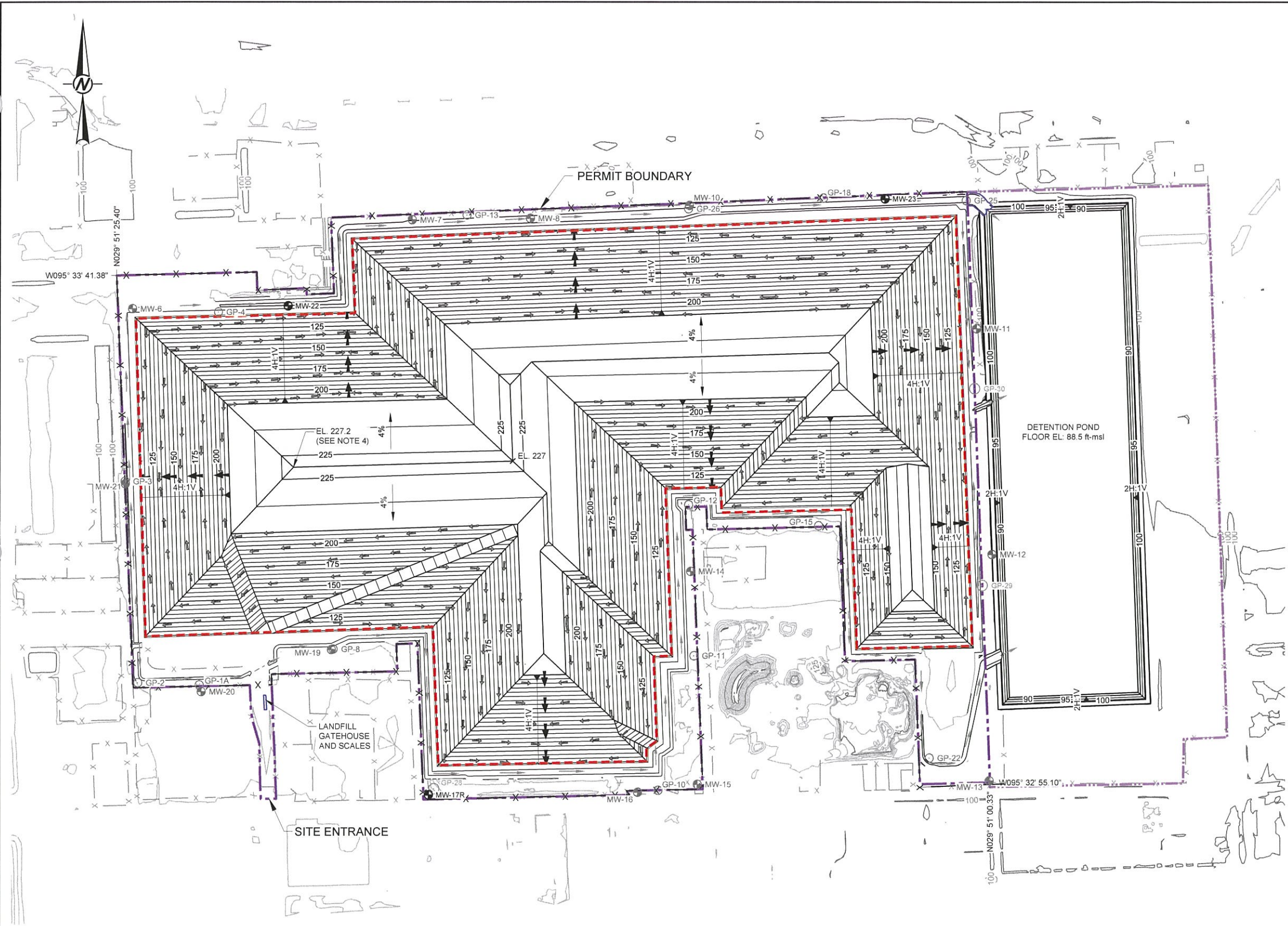


PART III, ATTACHMENT 3
WASTE MANAGEMENT UNIT DESIGN

FIGURES

III-3-1	Basegrades Layout
III-3-2	Final Contour Map
III-3-3.1	Fill Cross Sections Location Map
III-3-3.2	Cross Sections - I
III-3-3.3	Cross-Sections - II
III-3-3.4	Cross-Sections - III
III-3-4	Geotechnical Analyses, Section Locations
III-3-5	Liner Details

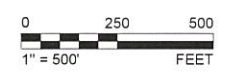


LEGEND

- PERMIT BOUNDARY
- PROPERTY BOUNDARY
- LIMITS OF WASTE PLACEMENT (MSW-2185A)
- FINAL CONTOURS 25 ft CONTOURS
- FINAL CONTOURS 5 ft CONTOURS
- EXISTING GROUND 10 ft CONTOURS
- EXISTING GROUND 2 ft CONTOURS
- PERIMETER CHANNEL FLOW ARROWS
- DOWNCHUTE
- ADD-ON BERM
- PROPOSED MONITORING WELL
- EXISTING MONITORING WELL
- EXISTING GAS PROBE

- NOTE(S)**
1. EXISTING TOPOGRAPHY COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPH DATED MARCH 6, 2019.
 2. TOP OF FINAL COVER GRADES SHOWN ON THIS FIGURE.
 3. SEE PART III, ATTACHMENT 2 FOR DETAILS OF STORMWATER MANAGEMENT FEATURES.
 4. THE MAXIMUM WASTE ELEVATION IS 225.2 FT-MSL. THE MAXIMUM FINAL COVER ELEVATION IS 227.2 FT-MSL.

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REV	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
0	2021-02	ISSUED FOR PERMITTING PURPOSES	TNB	TNB	CGD	PRM

SEAL

CHARLES G. DOMINGUEZ
83347
LICENSED PROFESSIONAL ENGINEER
2/12/21

CLIENT

CONSULTANT

GOLDER ASSOCIATES INC.
TEXAS REGISTRATION F-2578

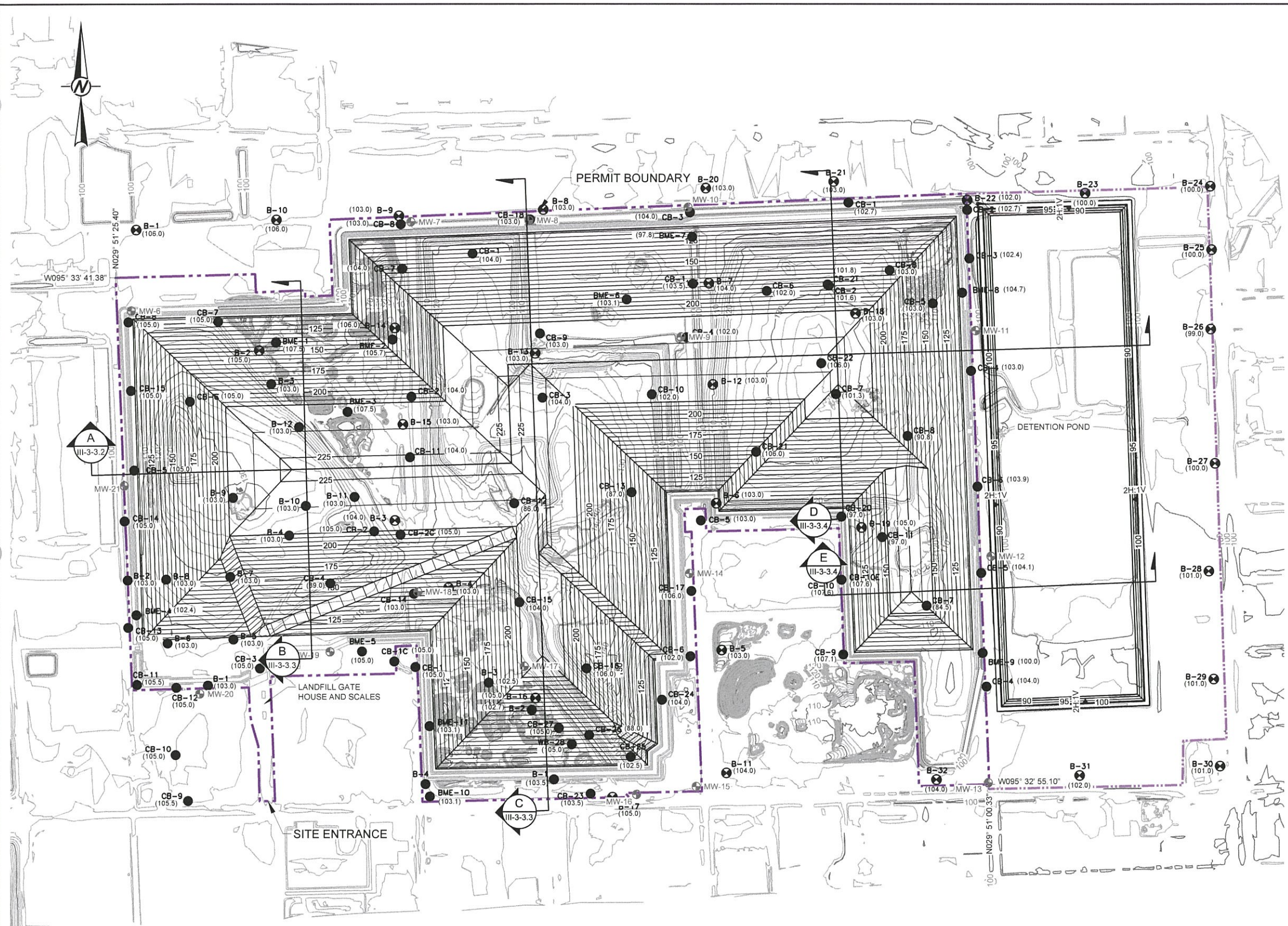
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USA
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PROJECT
HAWTHORN PARK RECYCLING & DISPOSAL FACILITY
PERMIT AMENDMENT APPLICATION
TCEQ PERMIT NO. MSW-2185A

TITLE
FINAL CONTOUR MAP

PROJECT NO. 1894269	APPLICATION SECTION III Attachment 3	REV 0	2 of 8	FIGURE III-3-2
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B



LEGEND

	PERMIT BOUNDARY
	PROPERTY BOUNDARY
	FINAL CONTOURS 25 ft CONTOURS
	FINAL CONTOURS 5 ft CONTOURS
	EXISTING GROUND 10 ft CONTOURS
	EXISTING GROUND 2 ft CONTOURS
	EXISTING MONITORING WELL
	EXISTING GAS PROBE
	EXISTING SOIL BORING
	EXISTING GEOPHYSICAL BORING
	SURFACE ELEVATION

- NOTE(S)**
- EXISTING TOPOGRAPHY COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPH DATED MARCH 6, 2019.
 - TOP OF FINAL COVER GRADES SHOWN ON THIS FIGURE.
 - SEE PART III, ATTACHMENT 2 FOR DETAILS OF STORMWATER MANAGEMENT FEATURES.

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 0 2021-02 ISSUED FOR PERMITTING PURPOSES

REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
0	2021-02	ISSUED FOR PERMITTING PURPOSES	TNB	TNB	CGD	PRM

SEAL

CHARLES G. DOMINGUEZ
 LICENSED PROFESSIONAL ENGINEER
 2/12/21
 GOLDER ASSOCIATES INC.
 TEXAS REGISTRATION F-2578

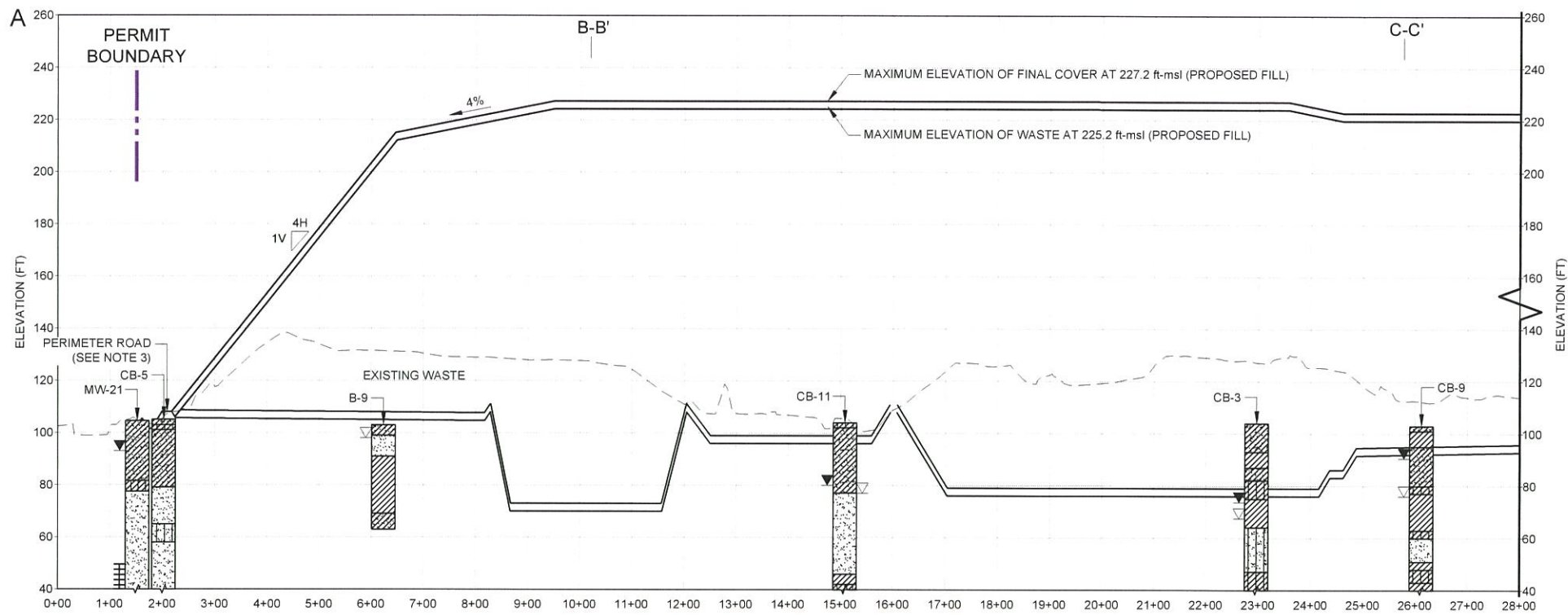
CLIENT

CONSULTANT

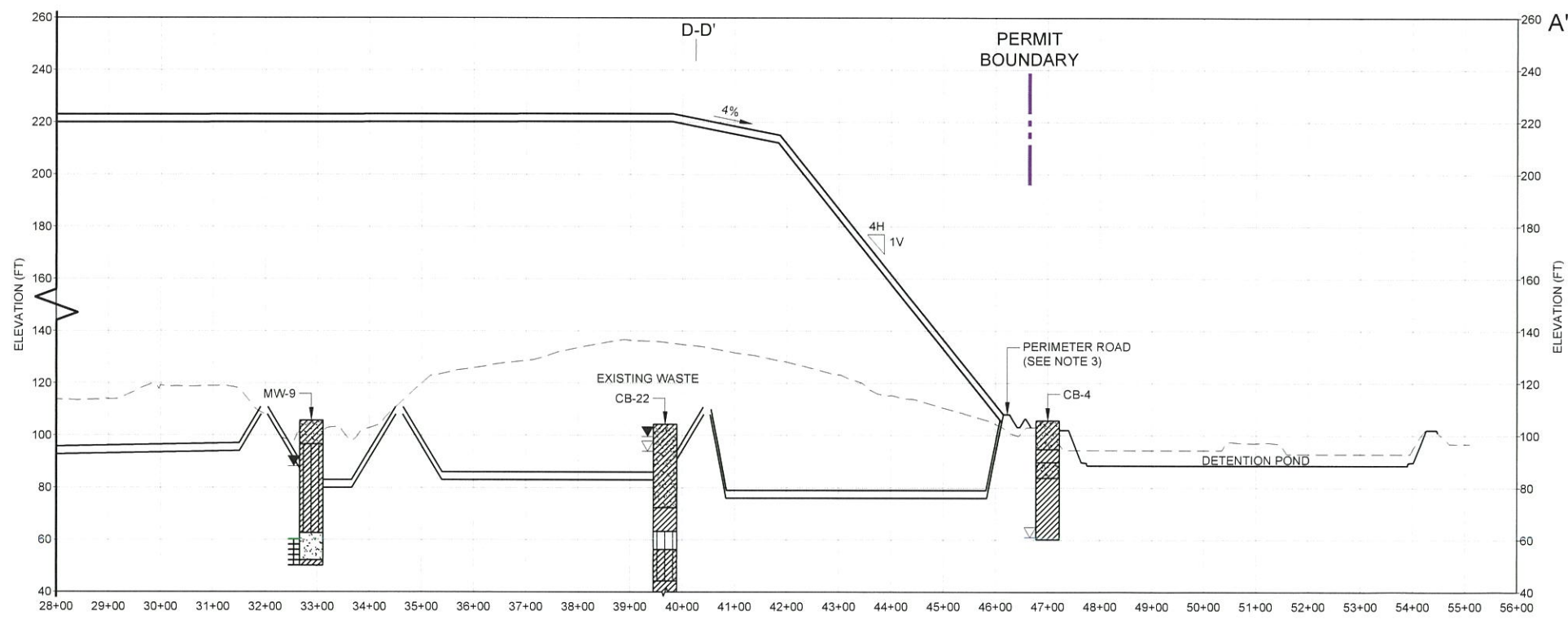
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PROJECT	HAWTHORN PARK RECYCLING & DISPOSAL FACILITY		
	PERMIT AMENDMENT APPLICATION		
	TCEQ PERMIT NO. MSW-2185A		
TITLE	FILL CROSS-SECTION LOCATION MAP		
PROJECT NO.	APPLICATION SECTION	REV	3 of 8
1894269	III Attachment 3	0	FIGURE III-3-3.1

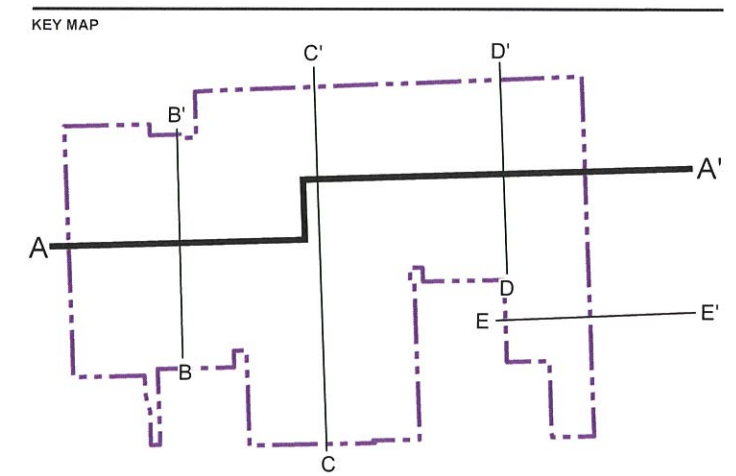
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN INCREASED FROM A3 TO A4



HORZ. SCALE 1" = 300'
VERT. SCALE 1" = 60'
A FILL CROSS SECTION A-A'
III-3-3.2



HORZ. SCALE 1" = 300'
VERT. SCALE 1" = 60'
A FILL CROSS SECTION A-A'
III-3-3.2



LEGEND

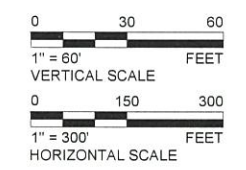
- FINAL COVER
- - - EXISTING TOPOGRAPHY
- - - EXCAVATION
- ▽ STATIC WATER LEVEL
- ▽ INITIAL WATER LEVEL
- ▨ SCREENED INTERVAL

SOIL CLASSIFICATIONS

	SILT		SANDY CLAY
	SAND		CLAYEY SAND
	CLAY		CLAYEY SILT
	SILTY SAND		SANDY SILTY CLAY
	SILTY CLAY		SILTY CLAYEY SAND
	SANDY SILT		

- NOTE(S)**
- EXISTING TOPOGRAPHY COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPH DATED MARCH 8, 2019.
 - THE INITIAL WATER LEVEL IS THAT LEVEL AT THE TIME OF DRILLING AS REPORTED ON THE BORING LOG. THE STATIC WATER LEVEL IS THAT LEVEL SOMETIME AFTER DRILLING AS REPORTED ON THE BORING LOG. WHERE WATER LEVELS ARE NOT INDICATED ON THE BORINGS THERE WAS NO OBSERVATION MADE.
 - THE PERIMETER ROAD WILL BE LOCATED ON THE COMPACTED PERIMETER BERM AT THE PERIMETER OF THE WASTE DISPOSAL UNIT. THE BERM WILL BE CONSTRUCTED WITH GENERAL FILL OR SOIL LINER MATERIAL PLACED IN 12-INCH LOOSE LIFTS AND COMPACTED.

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0	2021-02	ISSUED FOR PERMITTING PURPOSES	TNB	TNB	CGD	PRM
REV	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED

SEAL: *Charles G. Dominguez*
 CLIENT: **WM**
 CONSULTANT: **GOLDER**
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 14950 HEATHROW FOREST PKWY, STE 280
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 www.golder.com

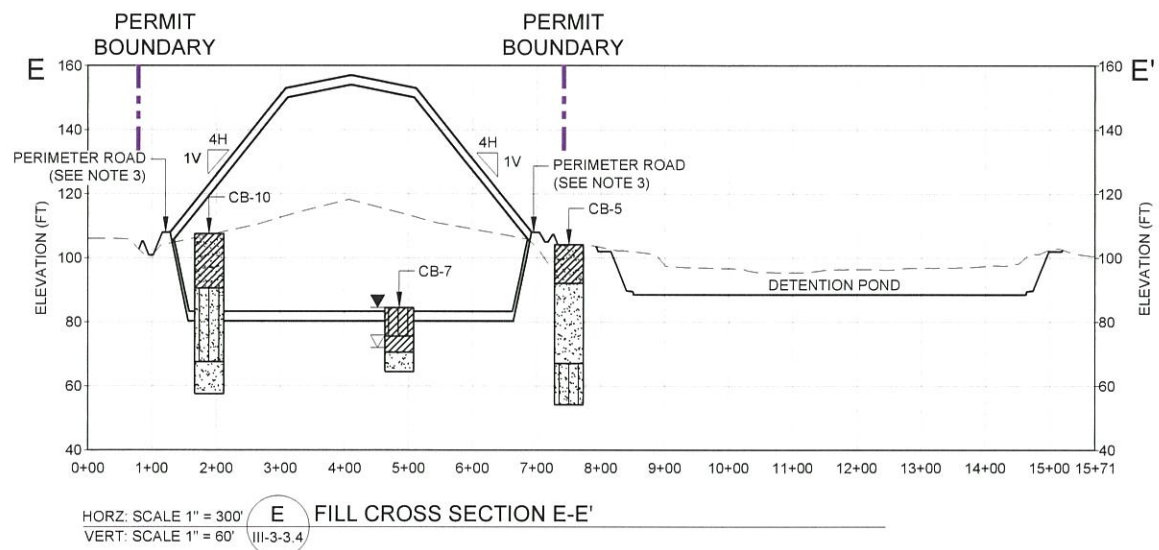
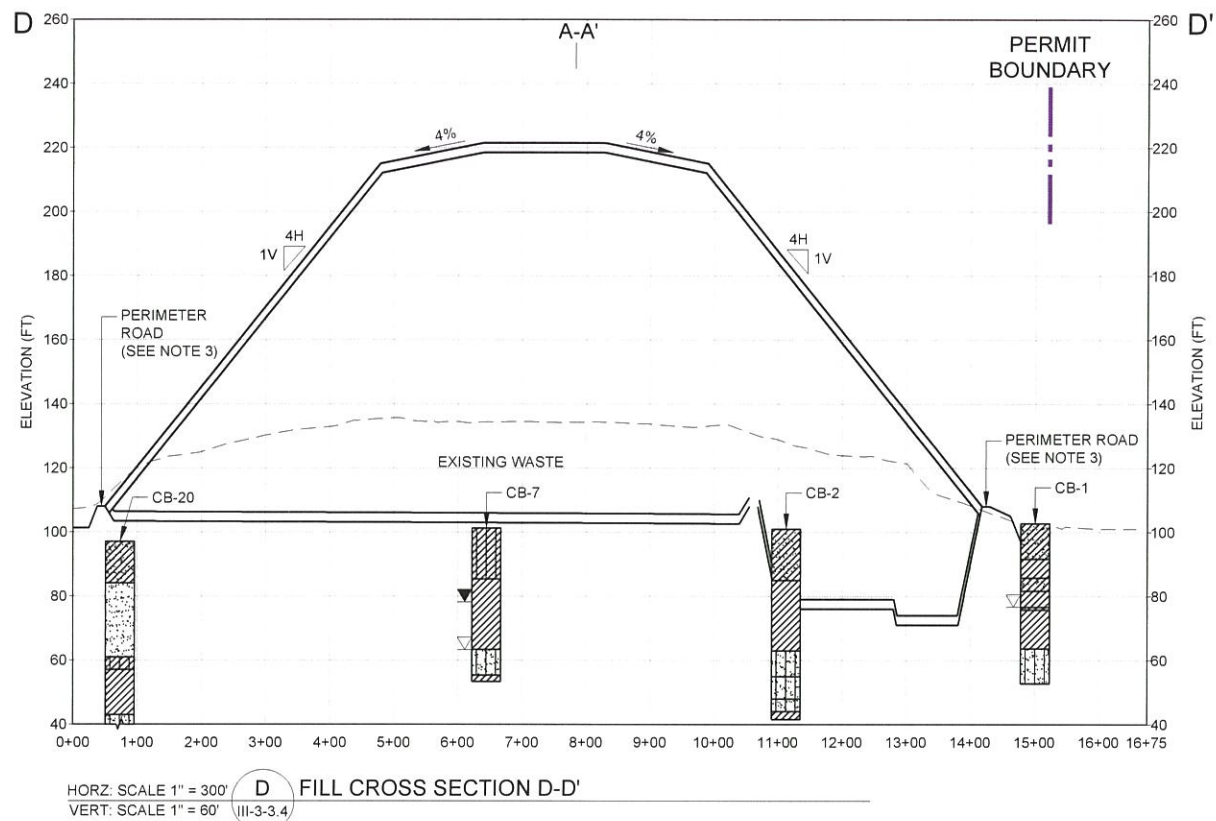
PROJECT: HAWTHORN PARK RECYCLING & DISPOSAL FACILITY PERMIT AMENDMENT APPLICATION TCEQ PERMIT NO. MSW-2185A

TITLE: **FILL CROSS-SECTION I**

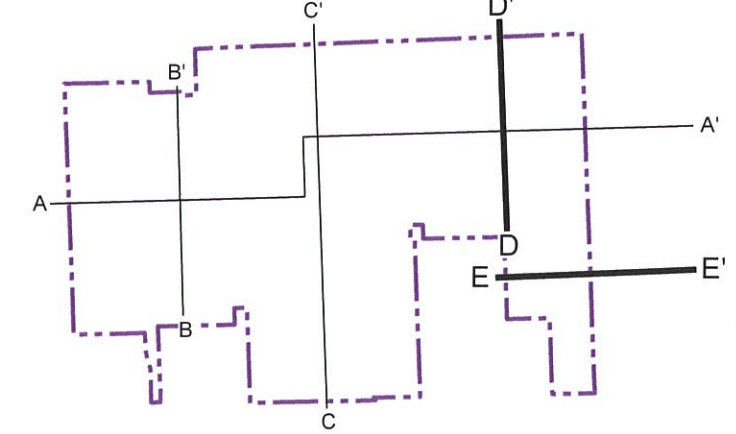
PROJECT NO	APPLICATION SECTION	REV	4 of 8	FIGURE
1894269	III Attachment 3	0		III-3-3.2

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



KEY MAP



LEGEND

- FINAL COVER
- - - EXISTING TOPOGRAPHY
- - - EXCAVATION
- ▽ STATIC WATER LEVEL
- ▽ INITIAL WATER LEVEL
- ▤ SCREENED INTERVAL

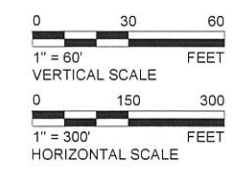
SOIL CLASSIFICATIONS

	SILT		SANDY CLAY
	SAND		CLAYEY SAND
	CLAY		CLAYEY SILT
	SILTY SAND		SANDY SILTY CLAY
	SILTY CLAY		SILTY CLAYEY SAND
	SANDY SILT		

NOTE(S)

1. EXISTING TOPOGRAPHY COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPH DATED MARCH 6, 2019.
2. THE INITIAL WATER LEVEL IS THAT LEVEL AT THE TIME OF DRILLING AS REPORTED ON THE BORING LOG. THE STATIC WATER LEVEL IS THAT LEVEL SOMETIME AFTER DRILLING AS REPORTED ON THE BORING LOG. WHERE WATER LEVELS ARE NOT INDICATED ON THE BORINGS THERE WAS NO OBSERVATION MADE.
3. THE PERIMETER ROAD WILL BE LOCATED ON THE COMPACTED PERIMETER BERM AT THE PERIMETER OF THE WASTE DISPOSAL UNIT. THE BERM WILL BE CONSTRUCTED WITH GENERAL FILL OR SOIL LINER MATERIAL PLACED IN 12-INCH LOOSE LIFTS AND COMPACTED.

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REV	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED

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2/12/21

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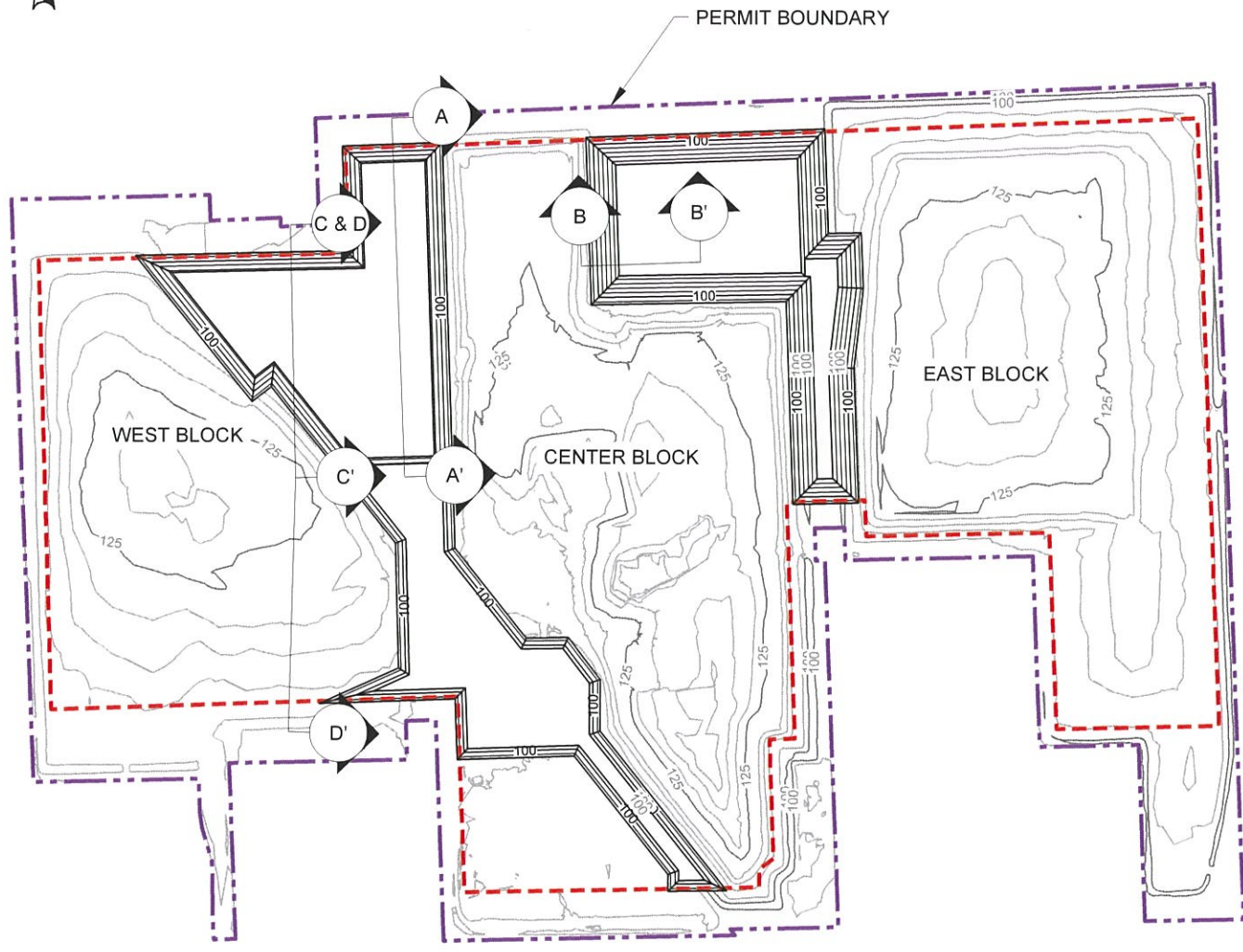
PROJECT
 HAWTHORN PARK RECYCLING & DISPOSAL FACILITY
 PERMIT AMENDMENT APPLICATION
 TCEQ PERMIT NO. MSW-2185A

TITLE
FILL CROSS-SECTION III

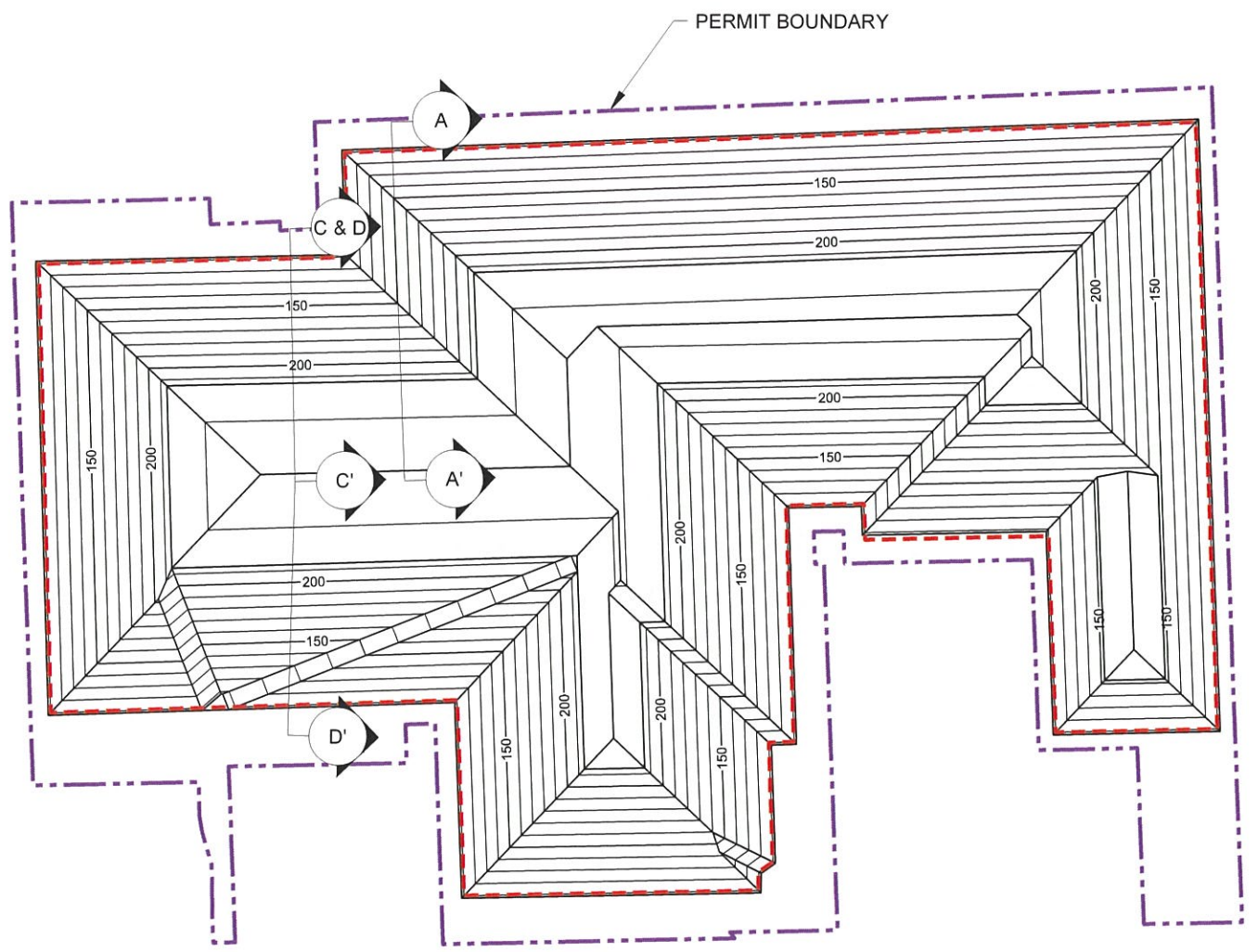
PROJECT NO. 1894269 APPLICATION SECTION III Attachment 3 REV. 0 6 of 8 FIGURE III-3-3.4



- LEGEND**
- PERMIT BOUNDARY
 - PROPERTY BOUNDARY
 - LIMITS OF WASTE PLACEMENT (MSW-2185A)
 - PROPOSED DESIGN CONTOURS 50 ft CONTOURS
 - PROPOSED DESIGN CONTOURS 10 ft CONTOURS
 - EXISTING GROUND 10 ft CONTOURS
 - EXISTING GROUND 2 ft CONTOURS

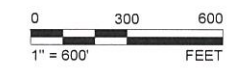


EXCAVATION PLAN
SCALE 1" = 600'



FINAL COVER PLAN
SCALE 1" = 600'

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

SEAL

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TEXAS REGISTRATION F-2578

CLIENT

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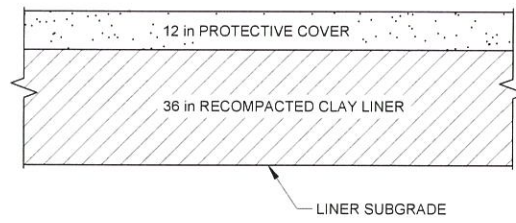
PROJECT
HAWTHORN PARK RECYCLING & DISPOSAL FACILITY
PERMIT AMENDMENT APPLICATION
TCEQ PERMIT NO. MSW-2185A

TITLE
GEOTECHNICAL ANALYSIS, SECTION LOCATIONS

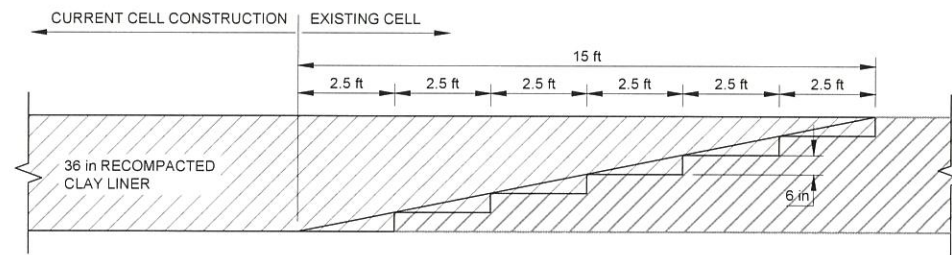
PROJECT NO	APPLICATION SECTION	REV.	7 of 8	FIGURE
1894269	III Attachment 3	0		III-3-4

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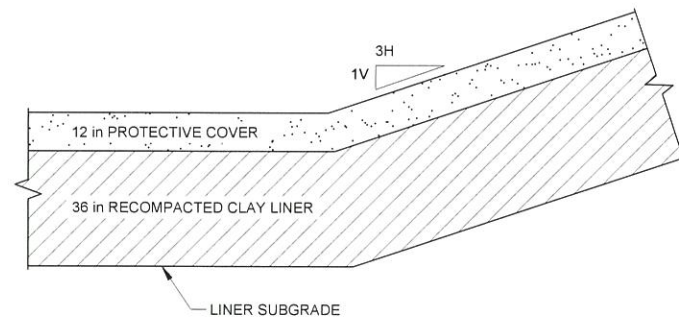
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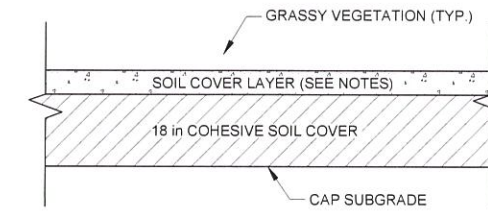
SCALE NTS 1
III-3-5
BOTTOM LINER



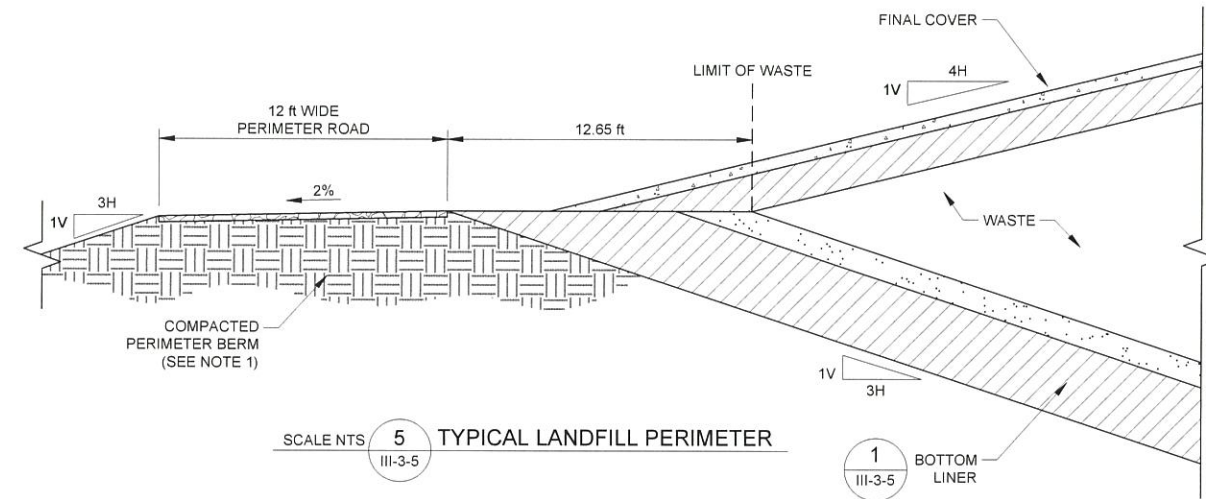
SCALE NTS 2
III-3-5
SOIL LINER TIE-IN



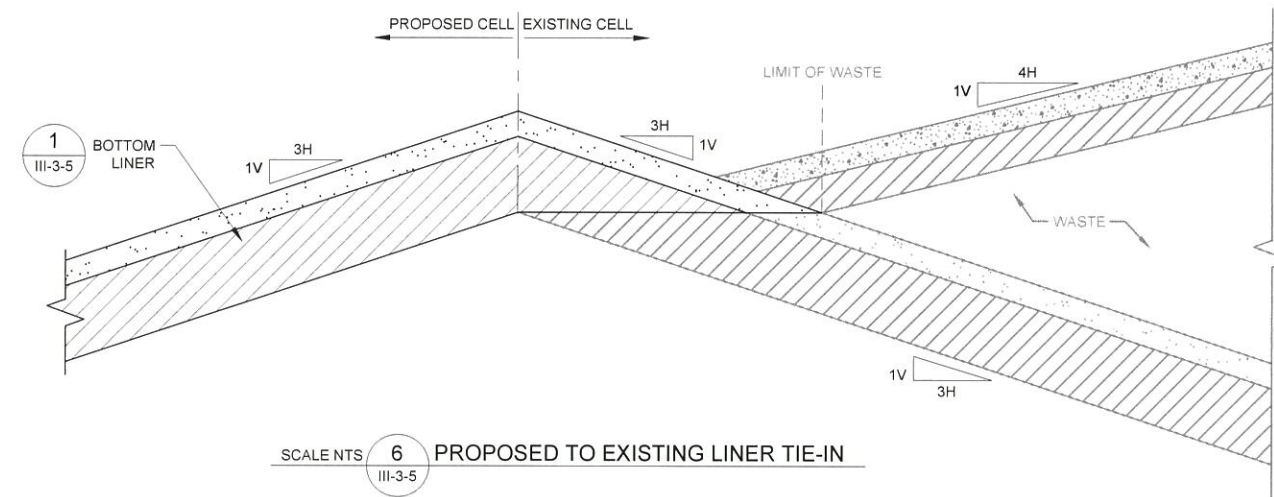
SCALE NTS 3
III-3-5
SIDEWALL LINER



SCALE NTS 4
III-3-5
PROPOSED FINAL COVER



SCALE NTS 5
III-3-5
TYPICAL LANDFILL PERIMETER



SCALE NTS 6
III-3-5
PROPOSED TO EXISTING LINER TIE-IN

NOTE(S)

1. THE PERIMETER ROAD WILL BE LOCATED ON THE COMPACTED PERIMETER BERM AT THE PERIMETER OF THE WASTE DISPOSAL UNIT. THE BERM WILL BE CONSTRUCTED WITH GENERAL FILL OR SOIL LINER MATERIAL PLACED IN 12-INCH LOOSE LIFTS AND COMPACTED.

ISSUED FOR PERMITTING PURPOSES ONLY

0	2021-02	ISSUED FOR PERMITTING PURPOSES	TNB	TNB	CGD	PRM
REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED

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PROJECT
HAWTHORN PARK RECYCLING & DISPOSAL FACILITY
PERMIT AMENDMENT APPLICATION
TCEQ PERMIT NO. MSW-2185A

TITLE
LINER DETAILS

PROJECT NO.	APPLICATION SECTION	REV.	8 of 8	FIGURE
1894269	III Attachment 3	0		III-3-5

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