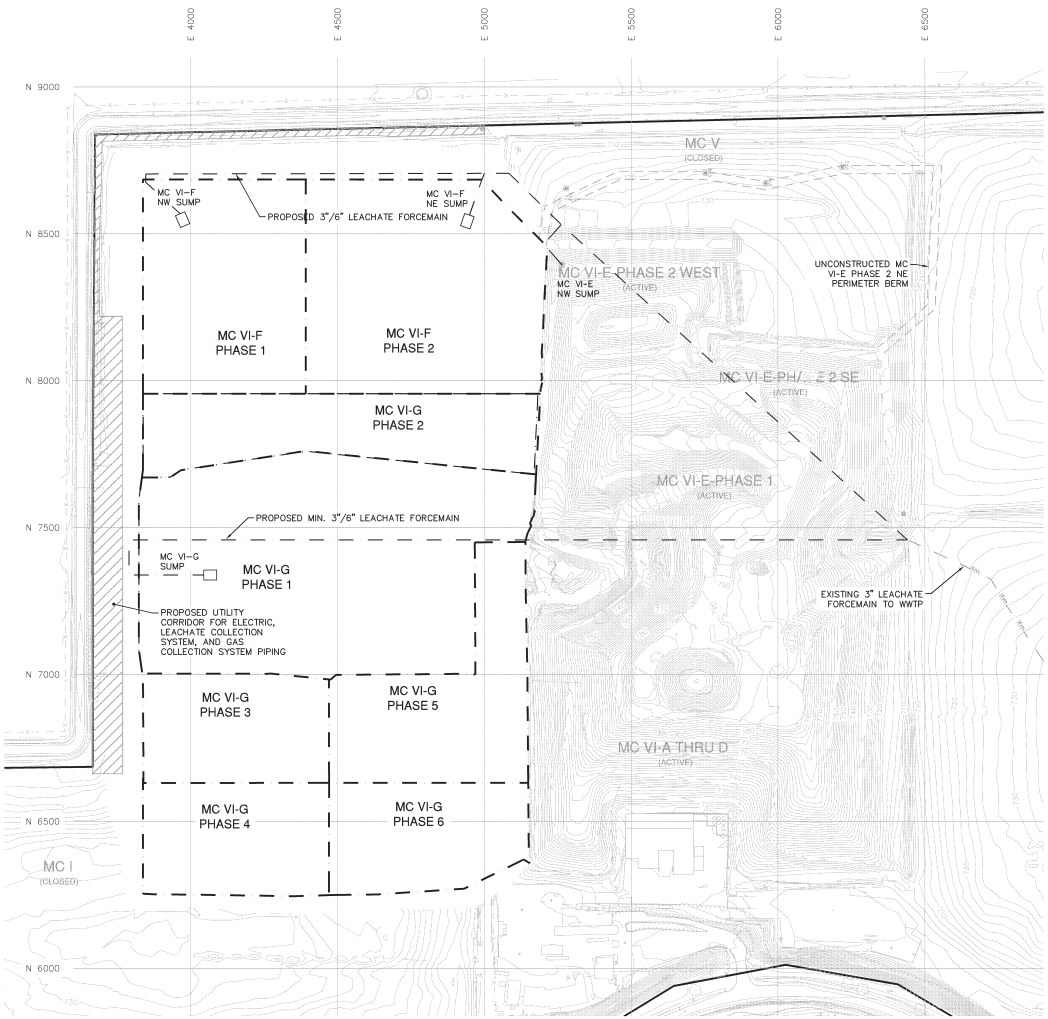
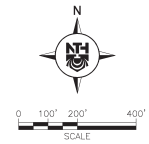




LEGEND

- EXISTING CONTOUR (2 FT INTERVAL)
- EXISTING 3" LEACHATE FORCEMAIN
- PROPERTY BOUNDARY
- PROPOSED PHASE BOUNDARY
- PROPOSED 3"/6" DUAL CONTAINED LEACHATE FORCEMAIN
- PROPOSED UTILITY CORRIDOR

NOTE:

1. THE BASE MAP WAS CREATED USING AN AERIAL SURVEY TAKEN IN 2001 BY AIR-LAND SURVEY AND PROVIDED BY WDI, A SURVEY BY MCLLC IN OCTOBER 2007, AND A GROUND SURVEY BY WDI IN OCTOBER 2008.

NTH Consultants, Ltd.
Infrastructure Engineering and Environmental Services

Northville, MI	248.553.6300
Detroit, MI	313.237.3900
Lansing, MI	517.484.6900
Grand Rapids, MI	616.957.3690
Exton, PA	610.524.2300
Lehigh Valley, PA	484.893.1440
Cleveland, OH	216.334.4040
Indianapolis, IN	317.735.7649

REVISIONS

REV	DESCRIPTION	DATE	BY
A	PHASING DESIGNATIONS	6/10/11	DRL

PROJECT NAME:
MASTER CELL VI F&G

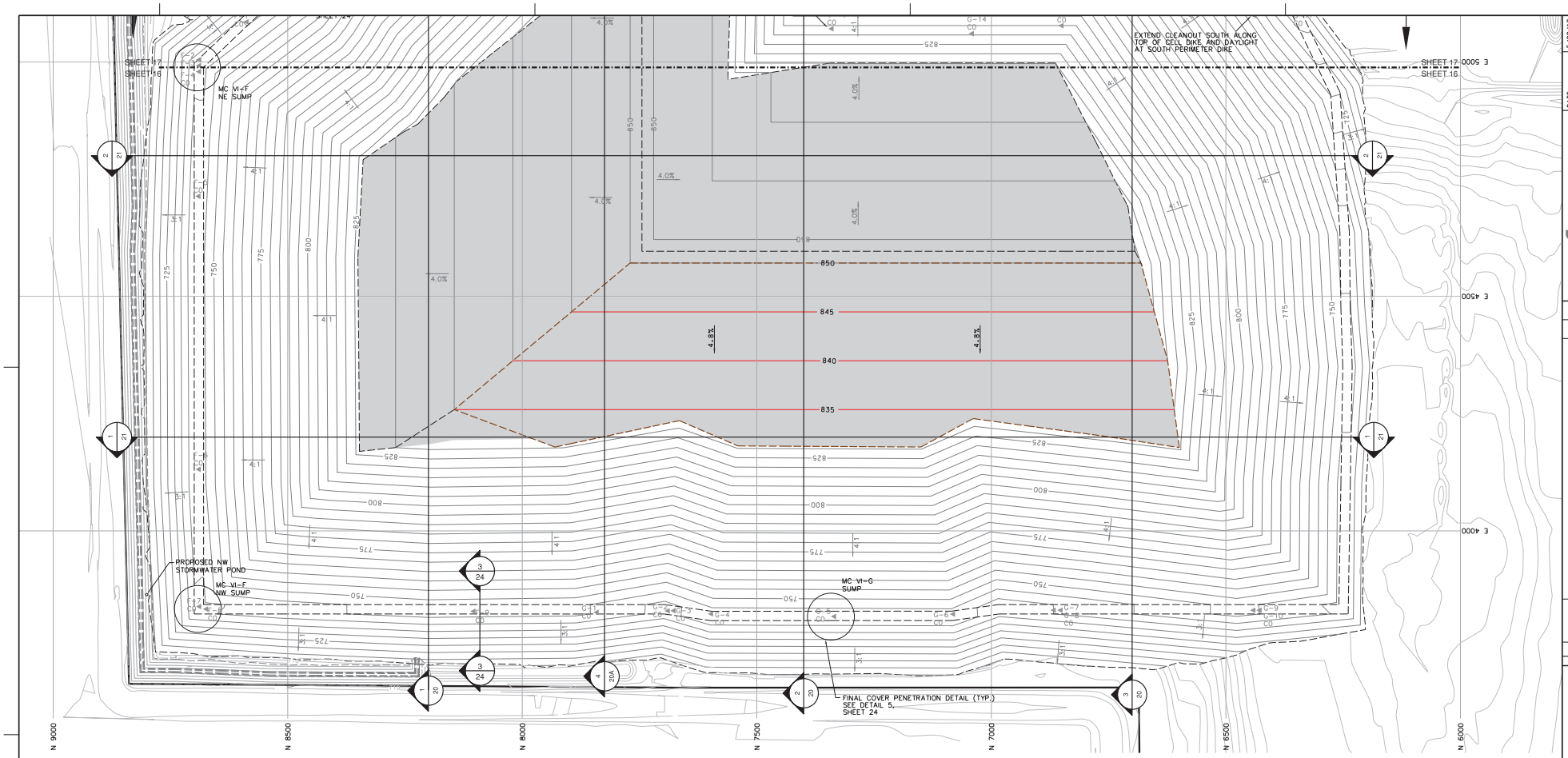
PROJECT LOCATION:
WAYNE DISPOSAL, INC.
SITE NO. 2
BELLEVILLE, MICHIGAN

NTH PROJECT NO.: 13-060921-03	CAD FILE NAME: UTILITY MODIFICATION PLAN
DESIGNED BY: DRL	INCEP DATE: 11/12/08
DRAWN BY: DRL	DRAWING SCALE: AS SHOWN
CHECKED BY: RBM	SUBMITTED DATE: 2/28/11

SHEET TITLE:
LEACHATE MANAGEMENT PLAN

SHEET REFERENCE NUMBER:
15

J:\13\13060921\Production Sets\Civil\6F-G Permit Drawings\UTILITY MODIFICATION PLAN.dwg Plotted: 6/9/2011 2:16 PM by Dlutz



LEGEND

- 710 — EXISTING CONTOUR (2 FT INTERVAL)
- PROPERTY BOUNDARY
- PROPOSED LIMIT OF REGRADING AREA BY CTI
- 710 — PROPOSED TOP OF FINAL COVER CONTOUR BY CTI (5 FT INTERVAL)
- PROPOSED GRADE BREAK
- 710 — PERMITTED TOP OF FINAL COVER CONTOUR BY NTH, DATED SEPTEMBER 2011 (5 FT INTERVAL)
- 710 — PROPOSED NW STORMWATER POND CONTOUR (2 FT INTERVAL)
- 3:1 — PROPOSED SLOPE
- PROPOSED PASSIVE GAS VENT/TRENCH
- F-1 CO — PROPOSED LEACHATE COLLECTION SYSTEM CLEANOUTS
- PROPOSED SUMP LOCATION AND COVER PENETRATION
- PROPOSED GEOCOMPOSITE WITH TRANSMISSIVITY 5.0 X 10^{-4} M^2/S (REMAINING COVER GEOCOMPOSITE TRANSMISSIVITY $\geq 7.0 \times 10^{-9}$ M3/S)

N

0 50' 100' 200'
SCALE

NOTE:

1. THE BASE MAP WAS CREATED USING AN AERIAL SURVEY TAKEN IN 2001 BY -AIR-LAND AND PROVIDED BY WDI, A SURVEY BY MCLLC IN OCTOBER 2007, AND A GROUND SURVEY BY WDI IN OCTOBER 2008.
2. GRADES DEPICTED IN COLOR REPRESENT REDESIGN FINAL GRADES BY CTI. GRADES SHOWN SCREENED WITHIN LANDFILL FOOTPRINT REPRESENT 2013 PERMITTED FINAL GRADES BY NTH, DATED 2013.
3. INSTALL GAS MANAGEMENT SYSTEM IN ACCORDANCE WITH THE APPROVED CLOSURE PLAN.

CTI and Associates, Inc.
28001 Cabot Drive, Ste. 250
Novi, Michigan 48377
248.486.5100 (fax)248.486.5060
www.ctiengineers.com

DATE:	5/02/18
DESIGNED BY:	XZ
DRAWN BY:	PAA
CHECKED BY:	TYS
APPROVED BY:	XZ

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REV	DATE	REVISION DESCRIPTION	DRN	APP
C	5/02/18	SUBCELLS G2 AND G3 REVISIONS	PAA	XZ

WAYNE DISPOSAL, INC. SITE NO. 2
BELLEVILLE, MICHIGAN

FINAL COVER GRADING PLAN (1 OF 2)

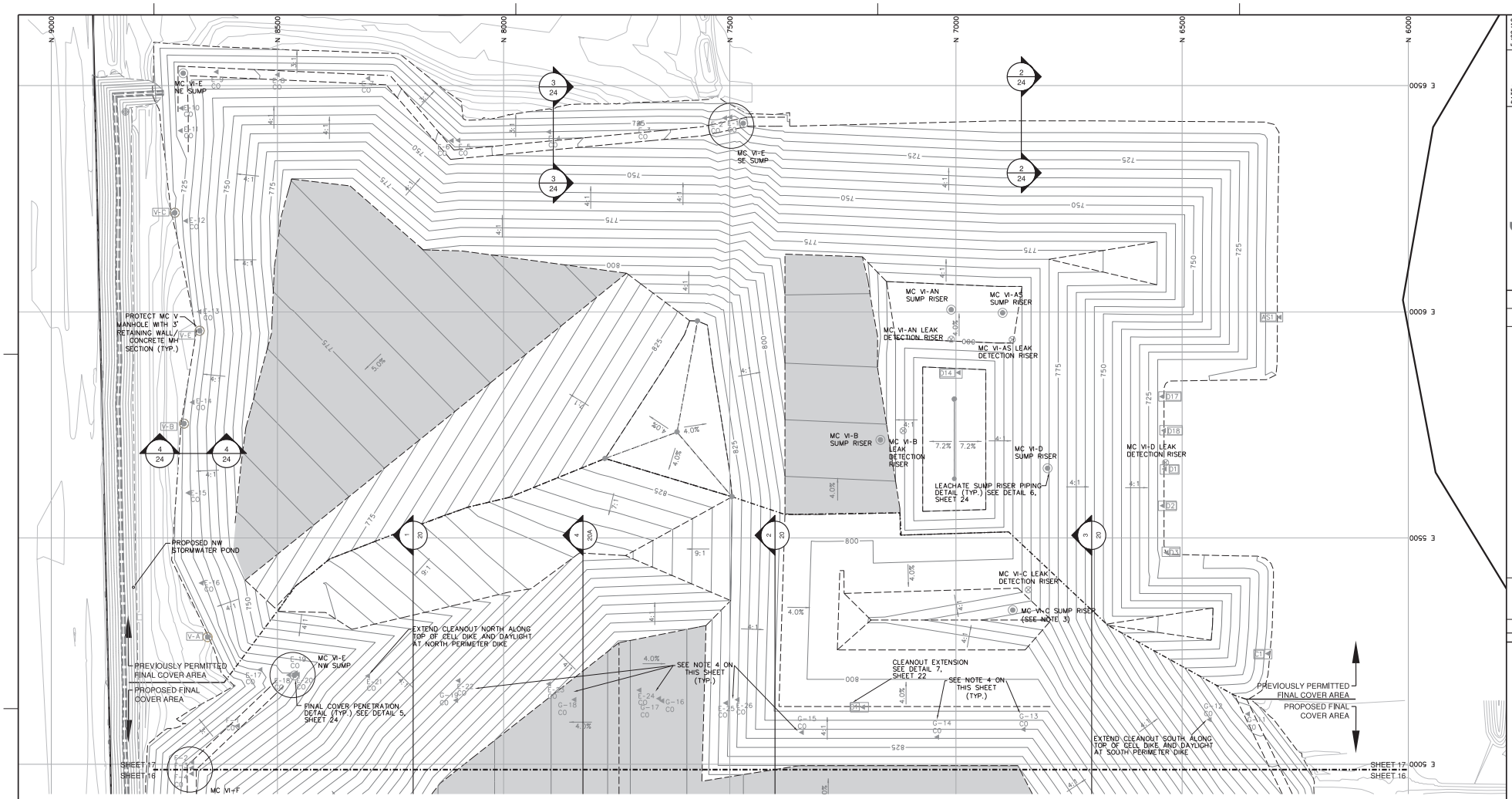
PROJECT NUMBER
118070010

SCALE
1" = 100'

DRAWING NO
16

DRAWING SIZE: 24" x 36"

016-017 FINAL GRADE PLAN.dgn 5/2/2018 12:29:08 PM C:\Users\pat\Documents\EIL 2014 PROJECTS\CTI\WAYNE LF CELLS CONST PLANS\016-017 FINAL GRADE PLAN.dgn



LEGEND

- 710 — EXISTING CONTOUR (2 FT INTERVAL)
- PROPERTY BOUNDARY
- PROPOSED GRADE BREAK
- 710 — PERMITTED TOP OF FINAL COVER CONTOUR BY NTH, DATED SEPTEMBER 2011 (5 FT INTERVAL)
- 710 — PROPOSED NW STORMWATER POND CONTOUR (2 FT INTERVAL)
- 3:1 — PROPOSED SLOPE
- PROPOSED PASSIVE GAS VENT/TRENCH
- F-1 CO — PROPOSED LEACHATE COLLECTION SYSTEM CLEANOUTS
- PROPOSED SUMP LOCATION AND COVER PENETRATION
- PROPOSED GEOCOMPOSITE WITH TRANSMISSIVITY 5.0 X 10^{-4} M^2/S (REMAINING COVER GEOCOMPOSITE TRANSMISSIVITY $\geq 7.0 \times 10^{-5}$ M^2/S)
- EXISTING/PREVIOUSLY PERMITTED LEACHATE SUMP AND COVER PENETRATION
- E-1 CO — EXISTING/PREVIOUSLY PERMITTED LEACHATE COLLECTION SYSTEM CLEANOUTS
- EXISTING LEAK DETECTION, COLLECTION, AND REMOVAL SYSTEM RISERS
- EXISTING APPROXIMATE LOCATION OF COVER DRAIN OUTLETS

N

0 50' 100' 200'
SCALE

NOTE:

1. THE BASE MAP WAS CREATED USING AN AERIAL SURVEY TAKEN IN 2001 BY –AIR–LAND AND PROVIDED BY WDI, A SURVEY BY MCLLC IN OCTOBER 2007, AND A GROUND SURVEY BY WDI IN OCTOBER 2008.
2. GRADES DEPICTED IN COLOR REPRESENT REDESIGN FINAL GRADES BY CTI. GRADES SHOWN SCREENED WITHIN LANDFILL FOOTPRINT REPRESENT 2013 PERMITTED FINAL GRADES BY NTH, DATED 2013.
3. INSTALL GAS MANAGEMENT SYSTEM IN ACCORDANCE WITH THE APPROVED CLOSURE PLAN.
4. CLEANOUTS IN MC VI–AN, AS, B, C, AND D ARE TO BE ABANDONED, EXCEPT B1, C1, D1 THROUGH D3, D14, D17, D18 AND AS1.
5. BEFORE PLACING WASTE AROUND MC VI–C SUMP RISER, A MONITORING PROGRAM SHOULD BE IMPLEMENTED TO MONITOR ITS FUNCTIONALITY.
6. PRIOR TO PLACING WASTE AROUND CLEANOUTS E–22 THROUGH E–26 AND CLEANOUTS G–13 THROUGH G–19, THE CLEANOUTS SHOULD BE EVALUATED TO DETERMINE IF THE LEACHATE COLLECTION LINE CAN BE CLEANED BY A SINGLE ACCESS POINT. IF NOT, THE CLEANOUT SHOULD TO BE EXTENDED IN ACCORDANCE WITH DETAIL 7 ON SHEET 22 OR ALONG INTERIOR DIKE TO PERIMETER DIKE.

CTI and Associates, Inc.
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www.cti-group.com

DATE:	5/02/18
DESIGNED BY:	XZ
DRAWN BY:	PAA
CHECKED BY:	TYS
APPROVED BY:	XZ

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REV	DATE	REVISION DESCRIPTION	DRN	APP
C	5/02/18	SUBCELLS G2 AND G3 REVISIONS	PAA	XZ

WAYNE DISPOSAL INC. SITE NO. 2
BELLEVILLE, MICHIGAN

FINAL COVER GRADING PLAN (2 OF 2)

PROJECT NUMBER 118070010

SCALE 1" = 100'

DRAWING NO 17

DRAWING SIZE: 24" x 36"

TIME PLOTTED: 8:34AS
DATE PLOTTED: 5/2/2018
PLOTTED BY: XZ

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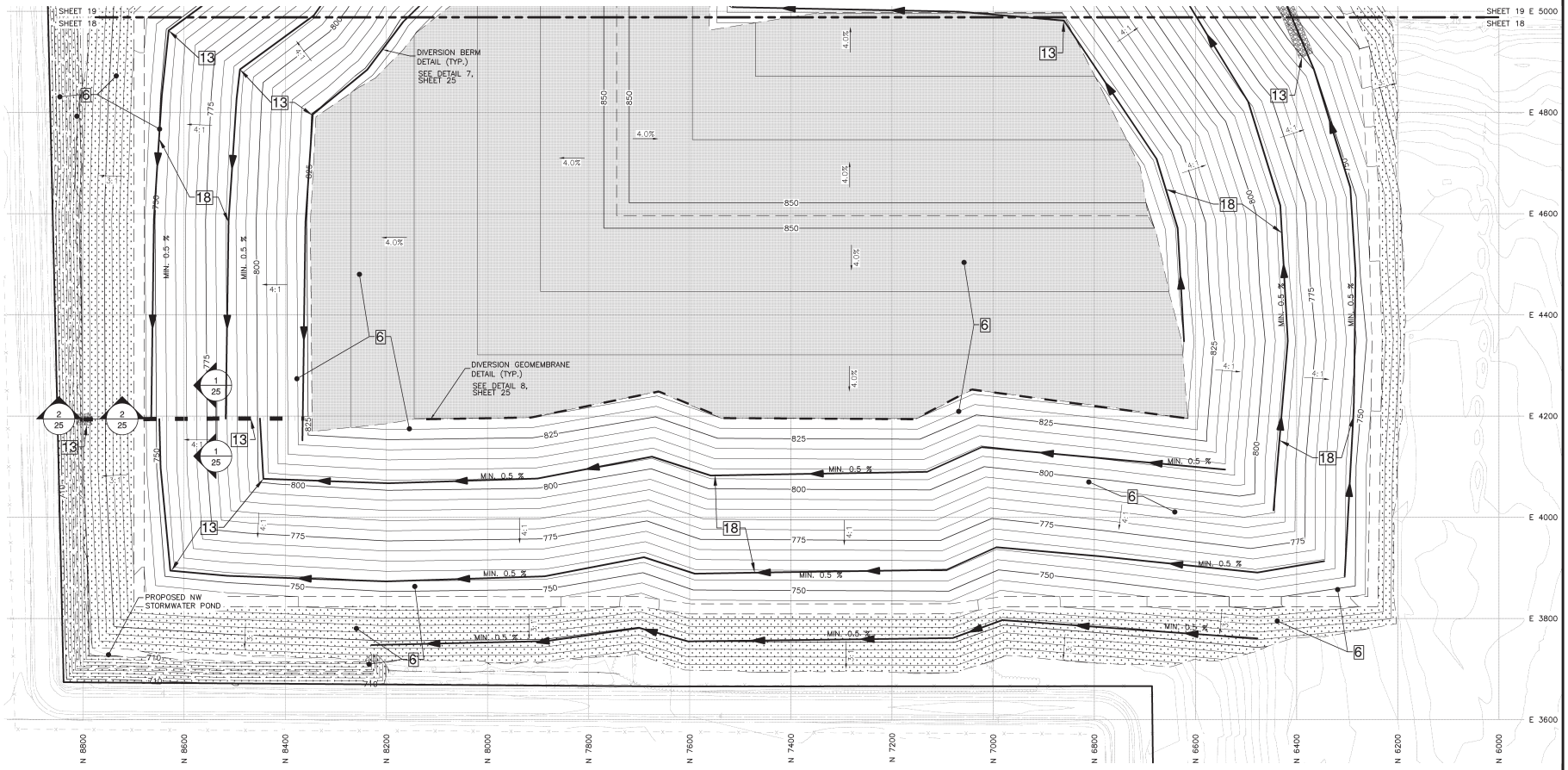

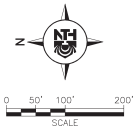

LEGEND

- 710 — EXISTING CONTOUR (2 FT INTERVAL)
- PROPERTY BOUNDARY
- PROPOSED GRADE BREAK
- 825 — PROPOSED TOP OF FINAL COVER CONTOUR (5 FT INTERVAL)
- 710 — PROPOSED NW STORMWATER POND CONTOUR (2 FT INTERVAL)
- 3:1 — PROPOSED SLOPE
- PROPOSED DIVERSION GEOMEMBRANE
- PROPOSED DIVERSION BERM
- PROPOSED DOWNSLOPE SPILLWAY
- PROPOSED OUTLET SWALE
- PROPOSED RIP-RAP
- PROPOSED PERMANENT SEEDING—AT TIME OF DIKE CONSTRUCTION
- PROPOSED GEOCOMPOSITE WITH TRANSMISSIVITY $\geq 5.0 \times 10^{-4}$ M^2/S (REMAINING COVER GEOCOMPOSITE TRANSMISSIVITY $\geq 7.0 \times 10^{-5}$ M^2/S)

SOIL EROSION AND SEDIMENTATION CONTROL LEGEND

6 — SEEDING WITH MULCH AND/OR MATTING

13 — RIPRAP, RUBBLE, GABIONS

18 — DIVERSION BERM

NOTES:

1. THE BASE MAP WAS CREATED USING AN AERIAL SURVEY TAKEN IN 2001 BY AIR-LAND SURVEY AND PROVIDED BY WDI, A SURVEY BY MCLLC IN OCTOBER 2007, AND A GROUND SURVEY BY WDI IN OCTOBER 2008.
2. SILT FENCE PLACED AT TIME OF CONSTRUCTION AND MAINTAINED UNTIL VEGETATION ON OUTSIDE SLOPE OF DIKE IS ESTABLISHED. SEE STORM WATER MANAGEMENT SYSTEM DETAILS SHEET FOR DETAIL.

NTH Consultants, Ltd.
Infrastructure Engineering and Environmental Services

Northville, MI	248.553.6300
Detroit, MI	313.237.3900
Lansing, MI	517.484.8900
Grand Rapids, MI	616.957.3690
Exton, PA	610.524.2300
Lehigh Valley, PA	484.893.1440
Cleveland, OH	216.334.4040
Indianapolis, IN	317.735.7649

REVISIONS

REV	DESCRIPTION	DATE	BY

PROJECT NAME:
MASTER CELL VI F&G

PROJECT LOCATION:
WAYNE DISPOSAL, INC.
SITE NO. 2
BELLEVILLE, MICHIGAN

NTH PROJECT NO.: 13-060921-03	CAD FILE NAME: STORMWATER MANAGEMENT AND SEDIMENTATION PLAN (2 OF 2)
DESIGNED BY: DRL	INCEP DATE: 11/12/08
DRAWN BY: DRL	DRAWING SCALE: AS SHOWN
CHECKED BY: RBM	SUBMITTED DATE: 2/28/11

SHEET TITLE:
STORMWATER MANAGEMENT AND SEDIMENTATION PLAN (1 OF 2)

SHEET REFERENCE NUMBER:
18

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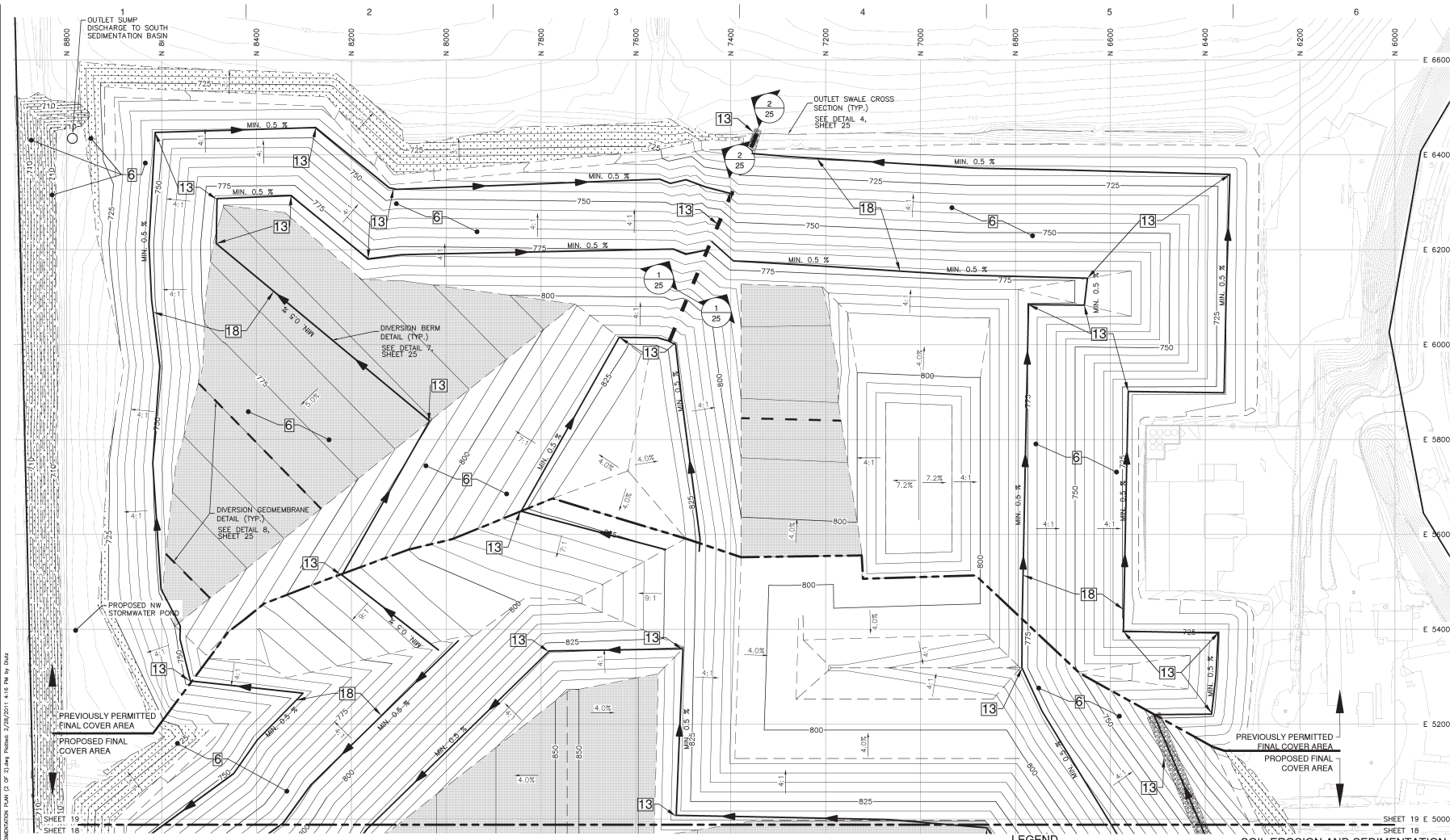

LEGEND

- EXISTING CONTOUR (2 FT INTERVAL)
- PROPERTY BOUNDARY
- PROPOSED GRADE BREAK
- PROPOSED TOP OF FINAL COVER CONTOUR (5 FT INTERVAL)
- PROPOSED NORTH POND CONTOUR (2 FT INTERVAL)
- PROPOSED SLOPE
- PROPOSED DIVERSION GEOMEMBRANE
- PROPOSED DIVERSION BERM
- PROPOSED DOWNSLOPE SPILLWAY
- PROPOSED OUTLET SWALE
- PROPOSED RIP-RAP
- PROPOSED PERMANENT SEEDING-AT TIME OF DIKE CONSTRUCTION
- PROPOSED GEOCOMPOSITE WITH TRANSMISSIVITY ≥ 5.0 X 10^{-4} M^2/S (REMAINING COVER GEOCOMPOSITE TRANSMISSIVITY ≥ 7.0 X 10^{-5} M^2/S)

0 50' 100' 200'
SCALE

SOIL EROSION AND SEDIMENTATION CONTROL LEGEND

6 — SEEDING WITH MULCH AND/OR MATTING

13 — RIPRAP, RUBBLE, GABIONS

18 — DIVERSION BERM

NOTES:

1. THE BASE MAP WAS CREATED USING AN AERIAL SURVEY TAKEN IN 2001 BY AIR-LAND SURVEY AND PROVIDED BY WDI, A SURVEY BY MCLLC IN OCTOBER 2007, AND A GROUND SURVEY BY WDI IN OCTOBER 2008.
2. SILT FENCE PLACED AT TIME OF CONSTRUCTION AND MAINTAINED UNTIL VEGETATION ON OUTSIDE SLOPE OF DIKE IS ESTABLISHED. SEE STORM WATER MANAGEMENT SYSTEM DETAILS SHEET FOR DETAIL.

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Infrastructure Engineering and Environmental Services

Northville, MI	248.553.6300
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Lansing, MI	517.484.6900
Grand Rapids, MI	616.957.3690
Exton, PA	610.524.2300
Lehigh Valley, PA	484.893.1440
Cleveland, OH	216.334.4040
Indianapolis, IN	317.735.7649

REVISIONS

REV	DESCRIPTION	DATE	BY

PROJECT NAME:
MASTER CELL VI F&G

PROJECT LOCATION:
WAYNE DISPOSAL, INC.
SITE NO. 2
BELLEVILLE, MICHIGAN

NTH PROJECT NO.: 13-060921-03	CAD FILE NAME: STORMWATER MANAGEMENT AND SEDIMENTATION PLAN (2 OF 2)
DESIGNED BY: DRL	INCEP DATE: 11/12/08
DRAWN BY: DRL	DRAWING SCALE: AS SHOWN
CHECKED BY: RBM	SUBMITTED DATE: 2/28/11

SHEET TITLE:
STORMWATER MANAGEMENT AND SEDIMENTATION PLAN (2 OF 2)

SHEET REFERENCE NUMBER:
19

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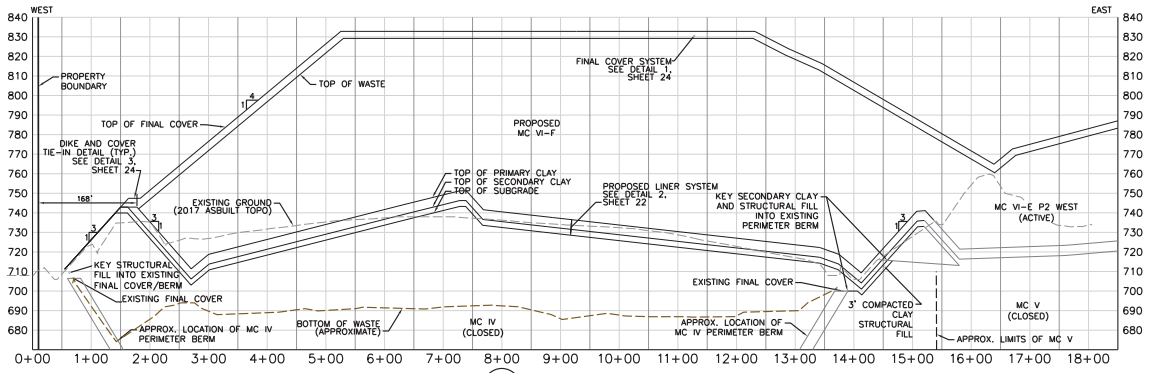

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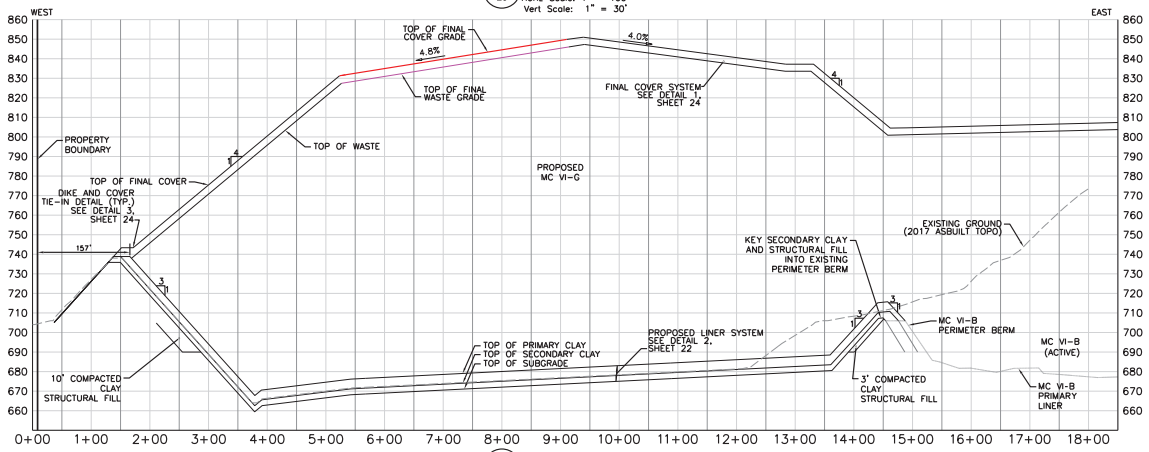
Vert Scale: 1" = 30'



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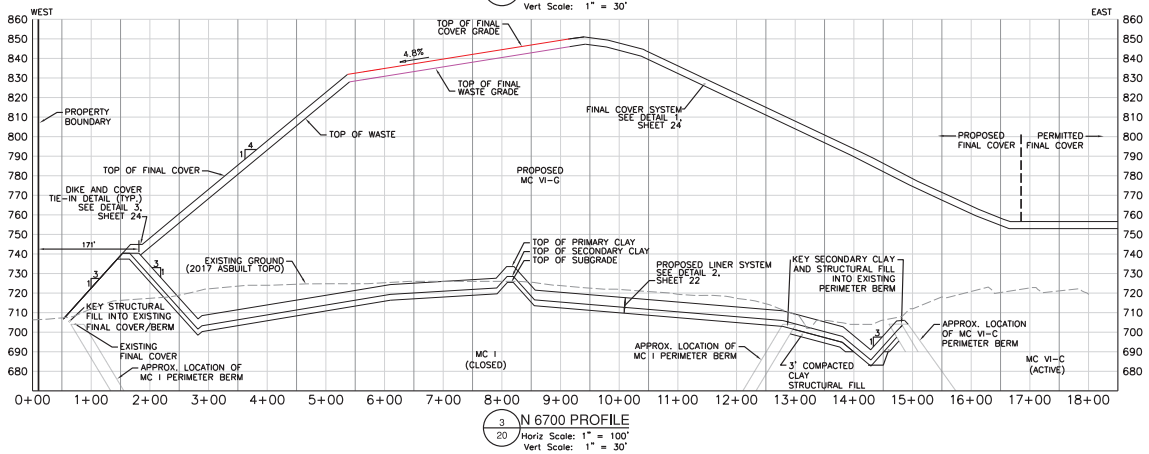

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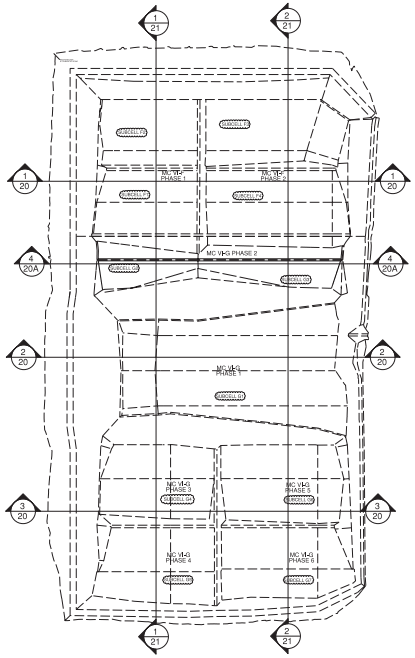

OVERVIEW OF CROSS SECTIONS

CTI and Associates, Inc.
28001 Cabot Drive, Ste. 250
Novi, Michigan 48377
248.486.5100 (fax)248.486.5050
www.cti-and-associates.com

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DATE:	5/02/18
DESIGNED BY:	XZ
DRAWN BY:	PAA
CHECKED BY:	TYS
APPROVED BY:	XZ
APPROVED BY:	JEC

REV	DATE	REVISION DESCRIPTION	DRN	APP
C	5/02/18	SUBSELLS C2 AND C3 REVISIONS	PAA	XZ

WAYNE DISPOSAL INC. SITE NO. 2
BELLEVILLE, MICHIGAN

CROSS SECTIONS (1 OF 3)

PROJECT NUMBER 118070010

SCALE 1" = 100'

DRAWING NO **20**

TIME PLOTTED: 9:19AM
DATE PLOTTED: 5/02/18
PLOTTED BY: Paul Anderson

DRAWING SIZE: 34" x 46"
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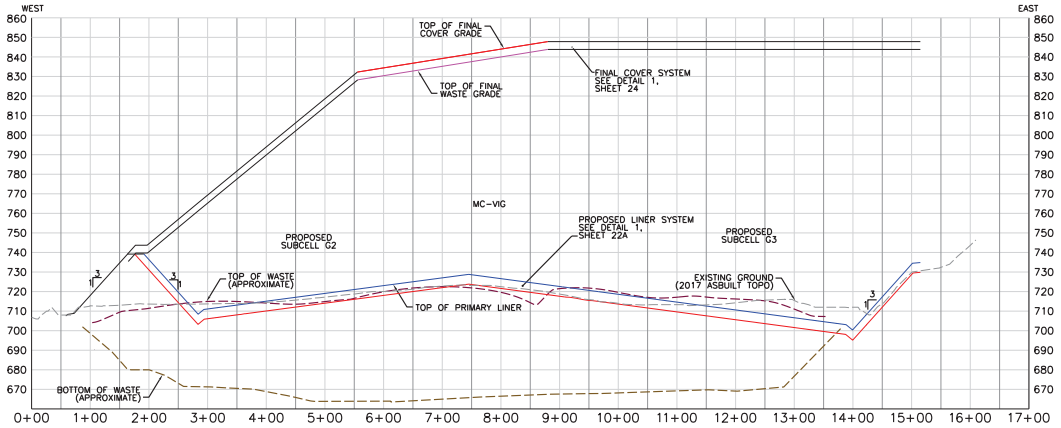

4 / 20A N 7825 PROFILE
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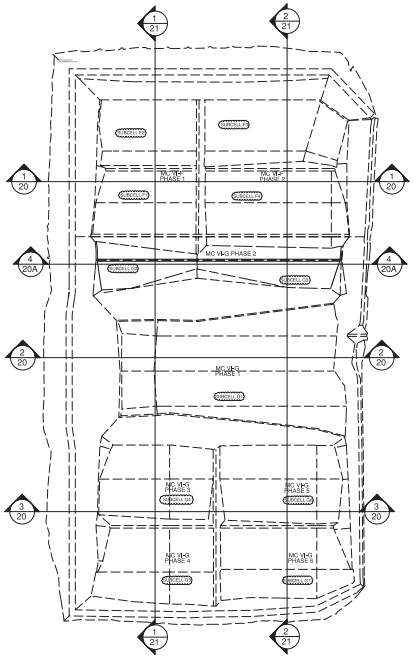

OVERVIEW OF CROSS SECTIONS

N

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Novi, Michigan 48377
248.486.5100 (fax)248.486.5050
www.ctiengineers.com

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DATE:	5/02/18
DESIGNED BY:	XZ
DRAWN BY:	PAA
CHECKED BY:	TYS
APPROVED BY:	XZ

REV	DATE	REVISION DESCRIPTION	DRN	APP
C	5/02/18	SUBCELLS G2 AND G3 REVISIONS	PAA	XZ

WAYNE DISPOSAL, INC. SITE NO. 2
BELLEVILLE, MICHIGAN

CROSS SECTIONS (2 OF 3)

PROJECT NUMBER
118070010

SCALE
1" = 100'

DRAWING NO
20A

DRAWING SIZE: 24" x 36"

TIME PLOTTED: 01:14:43
DATE PLOTTED: 05/02/18
PLOTTED BY: PAUL PAUL

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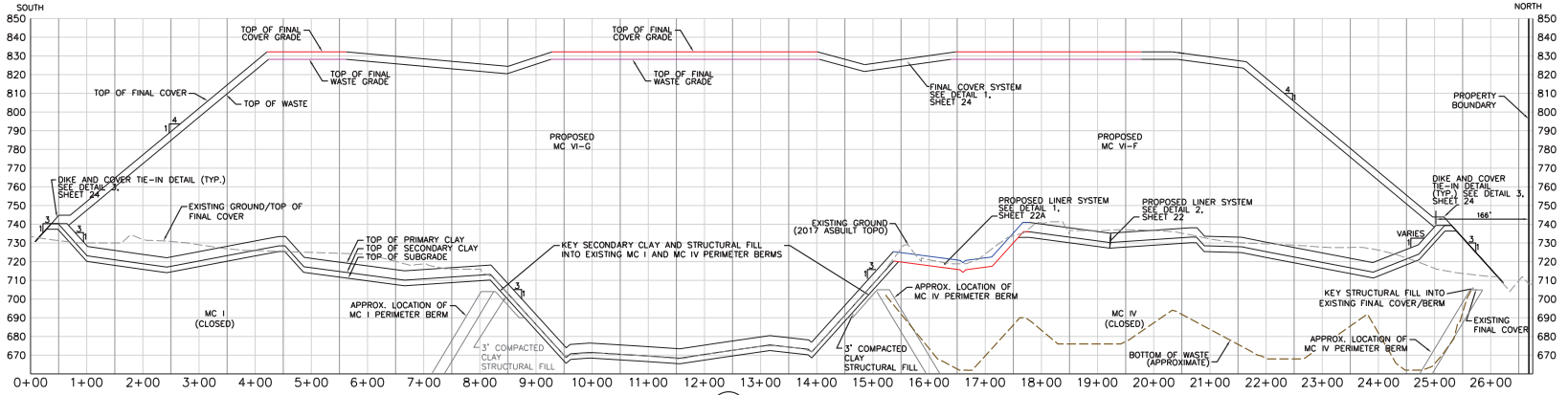

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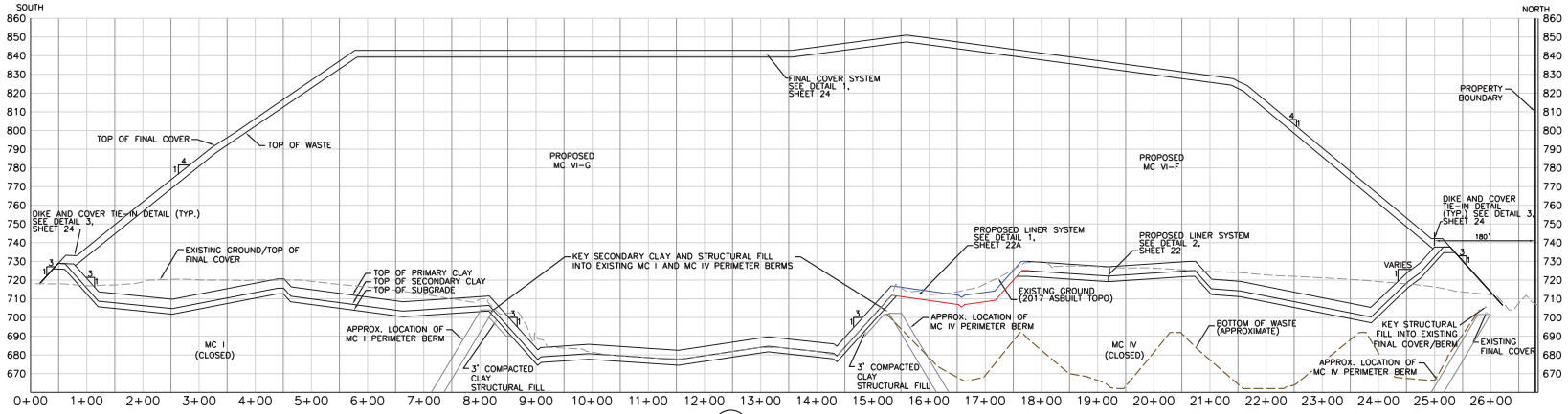

2 / 21 E 4800 PROFILE
Horiz Scale: 1" = 100'
Vert Scale: 1" = 30'

NOTE:

THE BASE MAP WAS CREATED USING AN AERIAL SURVEY TAKEN IN 2001 BY -AIR-LAND AND PROVIDED BY WDI. A SURVEY BY MCLLC IN OCTOBER 2007, AND A GROUND SURVEY BY WDI IN OCTOBER 2008.

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DATE:	5/02/18
DESIGNED BY:	XZ
DRAWN BY:	PAA
CHECKED BY:	TYS
APPROVED BY:	XZ

REV	DATE	REVISION DESCRIPTION	DRN	APP
A	6/10/11	PHASING DESIGNATIONS	DRL	
B	9/23/11	PER MDEQ COMMENTS	DRL	
C	5/02/18	SUBCELLS G2 AND G3 REVISIONS	PAA	XZ

WAYNE DISPOSAL INC. SITE NO. 2
BELLEVILLE, MICHIGAN

CROSS SECTIONS (3 OF 3)

PROJECT NUMBER
118070010

SCALE
1" = 100'

DRAWING NO
21

DRAWING SIZE: 24" x 36"

TIME PLOTTED: 8:14AM
DATE PLOTTED: 5/02/18
PLOTTED BY: TYS

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