

**REPORT OF
STORMWATER MANAGEMENT**

**MCDONALD'S RESTAURANT
NSN45201 (013-1263)**

**7030 NORTHFIELD DRIVE
TOWN OF BROWNSBURG
HENDRICKS COUNTY, INDIANA**

PREPARED FOR:



**MCDONALD'S USA LLC
110 N. CARPENTER STREET
CHICAGO, IL 60607
CONTACT: AMY SWITZER**

PREPARED BY:

**CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
10300 ALLIANCE ROAD, SUITE 300
CINCINNATI, OHIO 45242
CONTACT: TYLER AMICON, P.E.**

CEC PROJECT 355-081

DECEMBER 4, 2025



Civil & Environmental Consultants, Inc.

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1.0 INTRODUCTION

This drainage report was prepared to document the analysis of the pre- and post-developed drainage conditions for the proposed McDonald's drive-through restaurant development to be located in Brownsburg, Hendricks County, Indiana.

Current Owner Information (as of 12/04/2025)

Company: Christian Brothers Automotive Corporation

Address: 17725 Katy Freeway, Suite 200, Houston, TX 77094

Contact: Billy Green Jr, Director of Land Acquisition & Permitting

Email: billy.green@cbac.com

Phone: (281) 675-6192

New Owner Information

Company: McDonald's USA, LLC

Address: 110 N Carpenter Street, Chicago, IL 60607

Contact: Amy Switzer, Area Construction Manager

Email: amy.switzer@us.mcd.com

Phone: (913) 660-2205

The Subject Property consist of a 1.56-acre tract of land that is currently vacant and is part of the West Wynne Farms Planned Development. It is bounded to the north by Northfield Drive and to the west by S. Green Street. To the south exists property zoned commercial, and to the east property that is zoned residential. The Christian Brothers Development to the South of the Subject Property includes a regional detention basin as part of the overall development. This regional basin was designed to treat the storm water quality and quantity for the McDonald's property as outlined in the *Stormwater Narrative For: Christian Brothers Automotive* prepared by Progressive AE dated August 7, 2023, (revised November 2, 2023). See **Figure 3** – Vicinity Map.

The calculations in this report provide an analysis of the pre-developed site conditions, post-developed site conditions, storm sewer drainage areas, and storm sewer calculations for the McDonald's Restaurant development. The post-development stormwater conveyance design shall be in accordance with the *Town of Brownsburg Stormwater Management Ordinance*. For detention storage volume and release rates, refer to *Stormwater Narrative for Christian Brothers Automotive*, prepared by Progressive AE, dated August 7, 2023, (revised November 2, 2023).

2.0 PRE-DEVELOPED CONDITIONS

The subject property is an unoccupied lot consisting of slabs of both asphalt and concrete pavement, a gravel drive, silt fence, and trees. The subject property has minimal topography with a slope averaging ~1%, which slopes from the southeast corner of the property to the northeast and northwest corners. The property does not have an on-site detention system; however, it does have access to the regional detention system located on the Christian Brothers development directly south of the subject property.

The pre-development drainage area used for the stormwater analysis includes 1.563 acres, made up of 0.251 acres of impervious areas and 1.311 acres of pervious open space. See the Pre-Development Drainage Map provided in **Figure 1** for reference.

3.0 POST-DEVELOPED CONDITIONS

The proposed improvements include the demolition of the existing pavement slabs on site and the construction of a new 4,398-square-foot McDonald's restaurant and drive-through, asphalt parking lot and drives, a dumpster pad and enclosure, landscaping, sidewalks, curbs, and gutters. There is a detention system on the property south of the McDonald's site that was designed to encompass the stormwater detention of the subject site as well as the site on which it is located. Based on the *Stormwater Narrative for Christian Brothers Automotive*, prepared by Progressive AE, dated August 7, 2023 (revised November 2, 2023), the existing detention pond on the Christian Brothers Automotive property was designed to treat the McDonald's outparcel for stormwater quality and quantity. The detention basin accounted for the McDonald's outparcel to be 80% impervious, see the *Proposed Stormwater Management Plan* in the *Stormwater Narrative for Christian Brothers Automotive*, prepared by Progressive AE. The proposed McDonald's development has 69.23% impervious area, which is less than the 80% impervious area allocated for the outparcel. Therefore, the proposed McDonald's development meets the allotted detention pond design parameters and will not require any additional stormwater management elements. See the Post-Development Drainage Map provided in **Figure 2** for reference.

4.0 STORMWATER CONVEYANCE ANALYSIS

The methods used for the design and analysis of the proposed stormwater conveyance and management system follow the Town of Brownsburg Stormwater Management Ordinance. The design for the storm sewer conveyance system was modeled using Hydraflow Storm Sewers Extension for AutoCAD Civil 3D Version 2020 (by Autodesk Inc.). The analysis of the storm sewer is provided below in **Section 4.1**. CEC is not proposing any new stormwater management facilities because the subject site does not exceed the design limits of the existing detention basin. For the stormwater quality and quantity analysis of the detention basin on the site south of the subject property, see the *Stormwater Narrative for Christian Brothers Automotive* prepared by Progressive AE, dated August 7, 2023, (revised November 2, 2023).

4.1 STORMWATER CONVEYANCE DESIGN

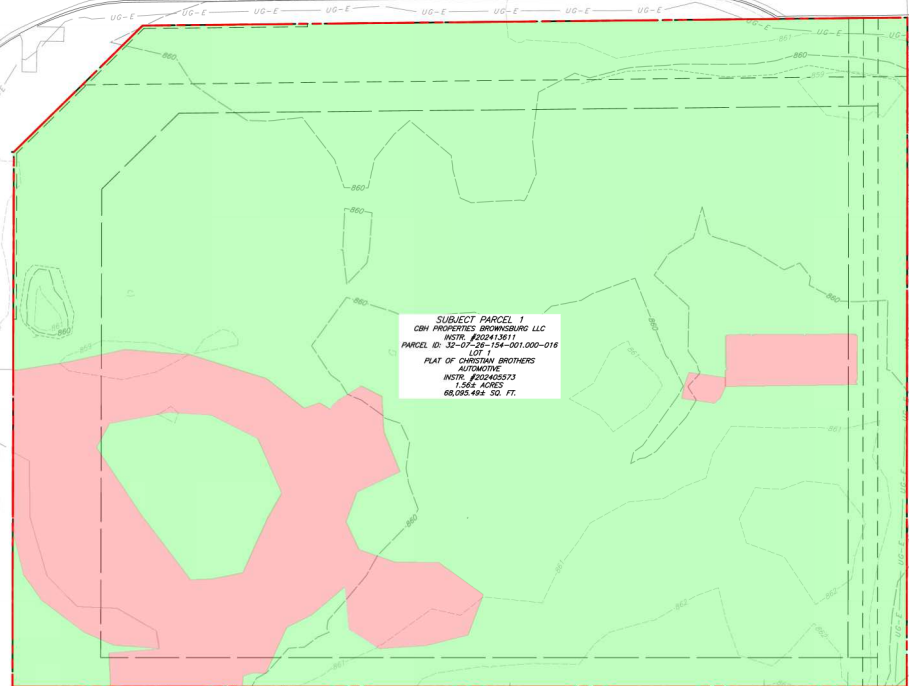
The proposed stormwater conveyance system for the subject site was designed to meet the *Town of Brownsburg Stormwater Management Ordinance* and the *Hendricks County Stormwater Technical Standards Manual*. The system was designed to convey the 10-year storm so that the Hydraulic Grade Line is below the crowns of the pipe system and to contain up to the 100-year storm within the system. The system will be connected to an existing system on the property to the south, upstream of the outlet control structure for the existing detention basin. The time of concentration (Tc) used for the design was 10 minutes, which is based on an industry standard for developed land. The sewer pipes were assigned a Manning's "n" value of 0.012 as per the minimum value stated in the *Town of Brownsburg Stormwater Management Ordinance*. See the Storm Sewer Calculations provided in **Appendices 1 and 2**.

FIGURE 1
PRE-DEVELOPMENT DRAINAGE MAP



NORTHFIELD DRIVE
(PUBLIC RIGHT-OF-WAY)

S. GREEN STREET
(PUBLIC RIGHT-OF-WAY)
(LOT 20)



SUBJECT PARCEL 1
CBH PROPERTIES BROWNSBURG LLC
INSTR. #202413611
PARCEL ID: 32-07-26-151-001,000-016
LOT 1
PLAT OF CHRISTIAN BROTHERS
AUTOMOTIVE
INSTR. #201404722
1.56 ACRES
68,095.494 SQ. FT.

SITE SOLUTIONS
PROPERTY GROUP LLC
PARCEL ID:
32-07-26-151-001,000-016
WEST WYNN FARM
SECTION 2
INSTR. #201404722
LOT 7

CBH PROPERTIES BROWNSBURG LLC
INSTR. #202413611
PARCEL ID: 32-07-26-154-002,000-016
LOT 2
BUILDING
(UNDER CONSTRUCTION)

- NOTES**
- SEE SHEET 0501 FOR GENERAL NOTES.
 - CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THE PROJECT.
 - EXISTING SITE INFORMATION/TOPOGRAPHY PREPARED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC., DATED SEPTEMBER 23, 2023.

- LEGEND**
- — — — — EXISTING PROPERTY LINE
 - — — — — EXISTING ADJACENT PROPERTY LINE
 - — — — — EXISTING EXISTMENT
 - — — — — EXISTING RIGHT-OF-WAY
 - 860 EXISTING INDEX (MAJOR) CONTOUR
 - 861 EXISTING INTERMEDIATE (MINOR) CONTOUR
 - — — — — EXISTING SETBACK
 - ST EXISTING STORM PIPE
 - W EXISTING WATER LINE
 - SAN EXISTING SANITARY SEWER LINE
 - G EXISTING GAS LINE
 - OH-E EXISTING OVERHEAD WIRE
 - UG-E EXISTING UNDERGROUND ELECTRIC LINE
 - FO EXISTING FIBER OPTIC LINE
 - C EXISTING UNDERGROUND CABLE LINE
 - EXISTING ELECTRIC UTILITIES
 - ⊕ EXISTING WATER UTILITIES
 - ⊗ EXISTING TRAFFIC UTILITIES
 - ⊙ EXISTING STORM STRUCTURES
 - ⊚ EXISTING SANITARY STRUCTURES
 - (Green) EXISTING PERVIOUS
 - (Red) EXISTING IMPERVIOUS

TOTAL PRE-DEVELOPMENT AREA
1.56 AC.
COMPOSITE CN =
TIME OF CONCENTRATION = 10 MINS

SCALE IN FEET
0 20 40

DRAFT

NO.	DATE	REVISION RECORD

10300 Alliance Road
Suite 300
Cincinnati, OH 45242
Ph: 513.985.0226
www.cectinc.com



MCDONALD'S RESTAURANT
NSN 45201 (013-1263)
7030 NORTHFIELD DRIVE
BROWNSBURG, IN



PRE-DEVELOPMENT
DRAINAGE MAP
DATE: DECEMBER 4, 2023
DRAWN BY: AWM
CHECKED BY: TJA
PROJECT NO: 350-001
PROPOSED BY: 1-2-23

DRAWING NO.
DM-1
SHEET 1 OF 2

Indiana 811
811 OR 800-382-5544
https://indiana811.org

NOTE TO CONTRACTOR: PRIOR TO ANY EXCAVATION FOR UNDERGROUND UTILITIES, CONTRACTOR SHALL EXPOSE AND VERIFY LOCATIONS (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO GAS, WATER, BROADBAND, PHONE, SANITARY AND STORM SEWERS. ANY CONFLICT SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND APPROPRIATE AUTHORITIES.

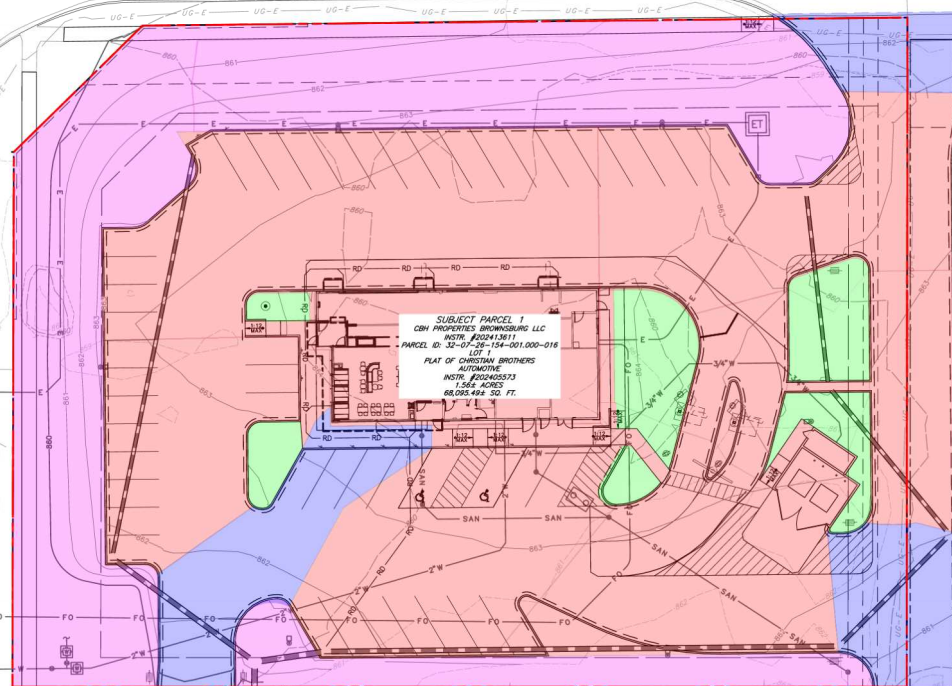
FIGURE 2

POST-DEVELOPMENT DRAINAGE MAP



NORTHFIELD DRIVE
(PUBLIC RIGHT-OF-WAY)

S. GREEN STREET
(PUBLIC RIGHT-OF-WAY)



SUBJECT PARCEL 1
CBH PROPERTIES BROWNSBURG LLC
INSTR. #202413611
PARCEL ID: 32-07-26-154-001,000-016
LOT 1
PART OF CHRISTIAN BROTHERS
AUTOMOTIVE
INSTR. #201404722
1.566 ACRES
68,095-493 SQ. FT.

SITE SOLUTIONS
PROPERTY GROUP LLC
PARCEL ID:
32-07-26-151-001,000-016
WEST WYNNIE FARMS
SECTION 2
INSTR. #201404722
LOT 7

CBH PROPERTIES BROWNSBURG LLC
INSTR. #202413611
PARCEL ID: 32-07-26-154-002,000-016
LOT 2
BUILDING
(UNDER CONSTRUCTION)

NOTES

1. EXISTING SITE INFORMATION/TOPOGRAPHY PREPARED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. DATED SEPTEMBER 23, 2025.

LEGEND

- EXISTING PROPERTY LINE
- EXISTING ADJACENT PROPERTY LINE
- EXISTING EASEMENT
- EXISTING RIGHT-OF-WAY
- 860 EXISTING INDEX (MAJOR) CONTOUR
- 861 EXISTING INTERMEDIATE (MINOR) CONTOUR
- EXISTING SETBACK
- ST EXISTING STORM PIPE
- W EXISTING WATER LINE
- SAN EXISTING SANITARY SEWER LINE
- G EXISTING GAS LINE
- OH-E EXISTING OVERHEAD WIRE
- UG-E EXISTING UNDERGROUND ELECTRIC LINE
- FO EXISTING FIBER OPTIC LINE
- C EXISTING UNDERGROUND CABLE LINE
- EXISTING ELECTRIC UTILITIES
- EXISTING WATER UTILITIES
- EXISTING TRAFFIC UTILITIES
- EXISTING STORM STRUCTURES
- EXISTING SANITARY STRUCTURES
- EXISTING SANITARY STRUCTURES
- PROPOSED STORM PIPE
- RD PROPOSED ROOF DRAIN
- 3/4" W PROPOSED 3/4" WATER LINE
- 2" W PROPOSED 2" WATER LINE
- SAN PROPOSED SANITARY SEWER LINE
- E PROPOSED UNDERGROUND ELECTRIC LINE
- FO PROPOSED FIBER OPTIC LINE
- PROPOSED STORM STRUCTURES
- PROPOSED WATER UTILITIES
- PROPOSED SANITARY CLEANOUT
- PROPOSED GREASE TRAP
- PROPOSED LIGHT POLE
- PROPOSED TRANSFORMER
- 860 PROPOSED INDEX (MAJOR) CONTOUR
- 861 PROPOSED INTERMEDIATE (MINOR) CONTOUR
- 0.09 ACRES DETAINED PERVIOUS
- 0.98 ACRES DETAINED IMPERVIOUS
- 0.48 ACRES UNDETAILED PERVIOUS
- 0.16 ACRES UNDETAILED IMPERVIOUS

DETAILED POST-DEVELOPMENT AREA
1.04 AC
COMPOSITE CN = 0.82
TIME OF CONCENTRATION = 10 MINS

UNDETAILED POST-DEVELOPMENT AREA
0.62 AC
COMPOSITE CN = XX
TIME OF CONCENTRATION = 10 MINS

SCALE IN FEET
0 20 40

DRAFT

NO.	DATE	REVISION RECORD

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7030 NORTHFIELD DRIVE
BROWNSBURG, IN



DATE	SCALE	AWR	THA
DECEMBER 4, 2025	1"=20'		350-001

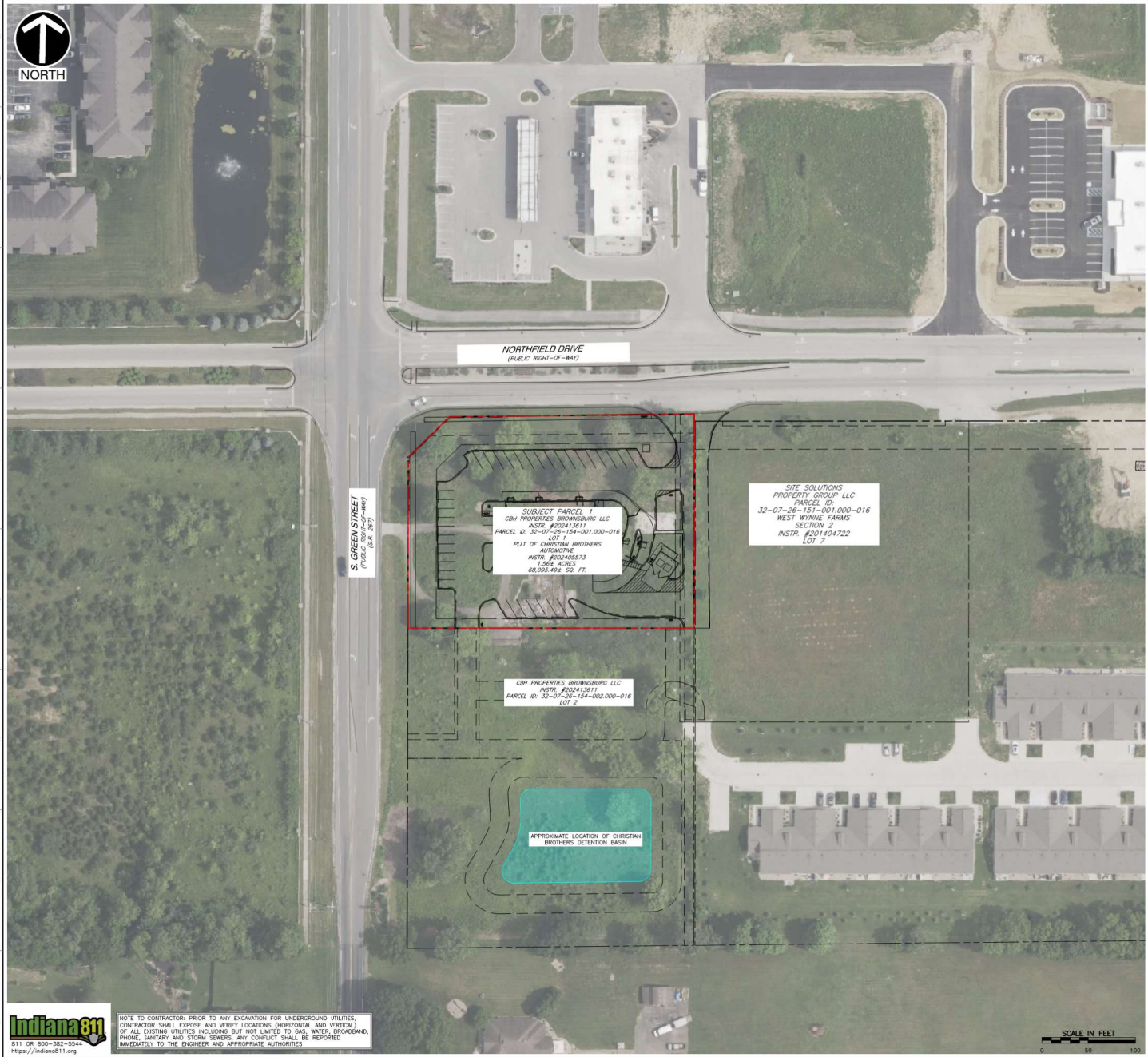
POST-DEVELOPMENT
DRAINAGE MAP
DRAWING NO.
DM-2
SHEET 2 OF 4

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NOTE TO CONTRACTOR: PRIOR TO ANY EXCAVATION FOR UNDERGROUND UTILITIES, CONTRACTOR SHALL EXPOSE AND VERIFY LOCATIONS (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO GAS, WATER, BROADBAND, PHONE, SANITARY AND STORM SEWERS. ANY CONFLICT SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND APPROPRIATE AUTHORITIES.

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FIGURE 3
VICINITY MAP



1. EXISTING SITE INFORMATION/TOPOGRAPHY PREPARED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC., DATED SEPTEMBER 23, 2025.

LEGEND

--- EXISTING PROPERTY LINE

--- DETENTION BASIN

NO.	DATE	DESCRIPTION

10300 Alliance Road
Suite 300
Cincinnati, OH 45242
Ph: 513.985.0226
www.ceecinc.com



MCDONALD'S RESTAURANT
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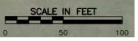
VICINITY MAP	AWM	THA	DRAFT
DATE: DECEMBER 4, 2025	DRAWN BY:	358-081	
DWG SCALE: 1"=50'	CHECKED BY:		
PROJECT NO:	APPROVED BY:		

SHEET 1 OF 1
VM-1

DRAFT



NOTE TO CONTRACTOR: PRIOR TO ANY EXCAVATION FOR UNDERGROUND UTILITIES, CONTRACTOR SHALL EXPOSE AND VERIFY LOCATIONS (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO GAS, WATER, BROADBAND, PHONE, LANDFILL AND STORM SEWERS. ANY CONFLICT SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND APPROPRIATE AUTHORITIES.



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FIGURE 4
STORM INLET DRAINAGE AREAS

APPENDIX 1

10-YEAR DESIGN STORM CALCULATIONS

10-Year Storm Sewer Summary Table

Structure (Upstream)	Structure (Downstream)	Runoff Coefficient, C	Intensity (in/hr)	Drainage Area (AC)	Time of Concentration (min)	Peak Flow, Q (cfs)	Cumulative Peak Flow (cfs)	Pipe Material	Roughness Coefficient, n	Pipe Slope (ft/ft)	Pipe Size (in)	Pipe Velocity, V (ft/s)	Pipe Length (ft)	Invert Elevation Upstream (ft)	Invert Elevation Downstream (ft)	Rim Elevation Upstream (ft)	Hydraulic Grade Elevation Upstream (ft)	Rim Elevation Downstream (ft)	Hydraulic Grade Eleavtion Downstream (ft)
200	100	0.79	4.90	0.11	11.90	0.43	1.39	RCP	0.012	0.0025	15	1.57	60	858.73	858.58	861.84	859.49	861.25	859.47
201	200	0.84	5.20	0.22	10.00	0.96	0.96	HDPE	0.012	0.0025	12	1.75	142	859.09	858.73	862.26	859.66	861.84	859.54
101	100	0.85	4.50	0.24	15.00	0.92	2.61	RCP	0.012	0.0024	18	1.84	25	858.39	858.33	861.96	859.43	861.25	859.42
102	101	0.80	4.80	0.15	13.00	0.58	1.69	RCP	0.012	0.0025	15	1.84	175	858.83	858.39	861.77	859.56	861.96	859.44
103	102	0.79	4.90	0.06	12.30	0.23	1.12	RCP	0.012	0.0024	12	1.73	54	858.96	858.83	862.01	859.66	861.77	859.62
104	103	0.49	5.00	0.10	11.40	0.25	0.88	RCP	0.012	0.0024	12	1.52	65	859.12	858.96	862.45	859.75	862.01	859.71
105	104	0.82	5.20	0.15	10.00	0.64	0.64	HDPE	0.012	0.0025	12	1.38	67	859.29	859.12	862.47	859.81	862.45	859.77

APPENDIX 2

100-YEAR DESIGN STORM CALCULATIONS

100-Year Storm Sewer Summary Table

Structure (Upstream)	Structure (Downstream)	Runoff Coefficient, C	Intensity (in/hr)	Drainage Area (AC)	Time of Concentration (min)	Peak Flow, Q (cfs)	Cumulative Peak Flow (cfs)	Pipe Material	Roughness Coefficient, n	Pipe Slope (ft/ft)	Pipe Size (in)	Pipe Velocity, V (ft/s)	Pipe Length (ft)	Invert Elevation Upstream (ft)	Invert Elevation Downstream (ft)	Rim Elevation Upstream (ft)	Hydraulic Grade Elevation Upstream (ft)	Rim Elevation Downstream (ft)	Hydraulic Grade Elevation Downstream (ft)
200	100	0.79	7.50	0.11	11.30	0.65	2.09	RCP	0.012	0.0025	15	2.32	60	858.73	858.58	861.84	859.53	861.25	859.47
201	200	0.84	7.80	0.22	10.00	1.44	1.44	HDPE	0.012	0.0025	12	2.17	142	859.09	858.73	862.26	859.81	861.84	859.62
101	100	0.85	7.10	0.24	13.40	1.45	4.02	RCP	0.012	0.0024	18	2.83	25	858.39	858.33	861.96	859.45	861.25	859.42
102	101	0.8	7.40	0.15	12.00	0.89	2.57	RCP	0.012	0.0025	15	2.48	175	858.83	858.39	861.77	859.7	861.96	859.47
103	102	0.79	7.40	0.06	11.60	0.35	1.68	RCP	0.012	0.0024	12	2.15	54	858.96	858.83	862.01	859.86	861.77	859.78
104	103	0.49	7.60	0.10	10.90	0.37	1.33	RCP	0.012	0.0024	12	1.73	65	859.12	858.96	862.45	860	862.01	859.94
105	104	0.82	7.80	0.15	10.00	0.96	0.96	HDPE	0.012	0.0025	12	1.38	67	859.29	859.12	862.47	860.06	862.45	860.03