Village of Downers Grove

Report for the Village Council Meeting

Table 1 - Council Agenda item.

Subject	1341 Butterfield Road - Special Use with two (2) Variations
Submitted By	Stan Popovich, AICP, Director of Community Development

Synopsis

The petitioner is requesting approval for a Special Use and two (2) Variations to construct and operate a car wash at 1341 Butterfield Road.

Strategic Plan Alignment

The goals for 2025-2027 include Strong, Diverse Local Economy.

Fiscal Impact

N/A

Recommendation

This item was discussed at the May 19, 2026 Village Council meeting. Per Village Council direction, a condition has been added to the Special Use Ordinance prohibiting the hand drying of vehicles at the exit of the car wash tunnel.

Staff recommends approval on the June 2, 2026 active agenda per the Planning and Zoning Commission's 8:0 positive recommendation. The Planning and Zoning Commission found that the proposal is compatible with the Comprehensive Plan and meets all standards for approval for a Special Use with two (2) Variations found in Sections 28.12.050 and 28.12.090 of the Municipal Code.

Background

Property Information and Zoning Request

The petitioner is proposing to construct a car wash and related parking lot improvements at 1341 Butterfield Road. The 1.10-acre property is located at the southwest corner of the Butterfield Frontage Road and Downers Drive and is zoned B-3, General Services Highway Business. The petitioner is proposing to demolish the existing building on the subject property and construct a new 3,720 square foot car wash and twenty (20) associated vacuum-equipped parking stalls.

The proposed building will be served by the existing parking lot access points on Butterfield Frontage Road and Oak Grove Road to the west. The proposed car wash stacking lane includes twenty-six (26) spaces. Pedestrian access is proposed from the sidewalk along the Butterfield Frontage Road and circulates throughout the site. The site will include bicycle parking accessible from this connection.

Compliance with the Comprehensive Plan

The Guiding DG Comprehensive Plan's Future Land Use Map designates the subject property as Regional Commercial. Regional Commercial uses are defined as commercial uses that provide goods and services that draw patrons from within, and beyond Downers Grove. The proposed development is consistent with the intent of the Guiding DG Comprehensive Plan as noted in the Planning and Zoning Commission report.

Compliance with the Zoning Ordinance

The subject property is zoned B-3, General Services Highway Business. The petitioner is requesting a Special Use and two (2) Variations to construct and operate a car wash at 1341 Butterfield Road. The two requested variations are to allow the car wash stacking lane to encroach into the street setback along the east property line and to provide only one (1) drying space where two (2) are required. The bulk requirements of the proposed building in the B-3 zoning district and descriptions of the requested variations are summarized in the Planning and Zoning Commission Staff Report.

Public Comment

Prior to the Planning and Zoning Commission meeting, staff received one public comment by phone which was general in nature. One resident spoke at the meeting in support of the proposal.

Attachments

- Aerial Map
- Ordinances
- Staff Report with attachments dated May 4, 2026
- Draft Planning and Zoning Commission Minutes dated May 4, 2026

Village of Downers Grove

Council Action Summary

Table 1 - Council Action Summary.

Initiated By	**Village Attorney**
Effective Date	June 2, 2026
Recommendation From	Planning & Zoning Commission
File Reference	26-PZC-0011
Nature of Action	Ordinance

Steps Needed to Implement Action.

Motion to adopt "An Ordinance Authorizing a Special Use for 1341 Butterfield Road to permit the construction and operation of a car wash with variations", as presented.

Summary of Item.

Adoption of this ordinance shall authorize a Special Use for 1341 Butterfield Road to permit the construction and operation of a car wash with variations.

Record of Action Taken.

1341 Butterfield Road - Location Map

Subject Property

Site Location

Ordinance No.

An Ordinance Authorizing a Special Use for 1341 Butterfield Road to Permit the Construction and Operation of a Car Wash with Variations

WHEREAS, the following described property, to wit:

Lot 17 (except the south 83 feet thereof) and lot 18 (except the south 83 feet thereof) in Oak Grove Centre of Commerce unit three, being a subdivision of part of the south east ¼ of section 30, township 39 north, range 11, east of the third principal meridian, according to the plat thereof recorded February 2, 1978 as document R78-09661 and corrected by documents R78-27328, R78-94193 and R78-123102 respectively, in DuPage County, Illinois.

Commonly known as: 1341 Butterfield Road, Downers Grove, IL 60515

PIN: 06-30-409-022

(hereinafter referred to as the "Property") is presently zoned "B-3, General Services and Highway Business District" under the Comprehensive Zoning Ordinance of the Village of Downers Grove; and

WHEREAS, the owner of the Property has filed with the Planning and Zoning Commission, a written petition conforming to the requirements of the Zoning Ordinance, requesting that a Special Use per Section 28.12.050 of the Zoning Ordinance be granted to permit the construction and operation of a car wash including the following variations:

1. Variation per Section 28.12.090, to reduce the car wash lane street setback from 25 feet to 9.6 feet.
2. Variation per Section 28. 12.090, to reduce the number of required drying spaces from two (2) to one (1).

WHEREAS, such petition was referred to the Planning and Zoning Commission of the Village of Downers Grove, and said Planning and Zoning Commission has given the required public notice, has conducted a public hearing for the petition on May 4, 2026 and has made its findings and recommendations, all in accordance with the statutes of the State of Illinois and the ordinances of the Village of Downers Grove; and,

WHEREAS, the Planning and Zoning Commission has recommended approval of the Special Use, subject to certain conditions; and,

WHEREAS, the Village Council finds that the evidence presented in support of said petition, as stated in the aforesaid findings and recommendations of the Planning and Zoning Commission, is such as to establish the following:

(1) that the proposed use is expressly authorized as a special use in the district in which it is to be located;

(2) that the proposed use will not, in the particular case, be detrimental to the health, safety, or general welfare of the community;

(3) that the proposed use will not be injurious to the use and enjoyment of other property in the immediate area for the purposes already permitted, nor substantially diminish or impair property values within the neighborhood;

(4) that the establishment of the special use will not impede the normal and orderly development and improvement of adjacent property for uses permitted in the district.

WHEREAS, the Village Council finds that the evidence presented in support of said petition, as stated in the aforesaid findings and recommendations of the Planning and Zoning Commission, is such as to

establish that the following standards for granting variations per Section 28.12.090.G have been met:

a. the subject property cannot yield a reasonable return if required to comply with the regulations that apply to it;

b. the plight of the owner is due to unique circumstances; and

c. the variation, if granted, will not alter the essential character of the locality.

NOW, THEREFORE, BE IT ORDAINED by the Council of the Village of Downers Grove, in DuPage County, Illinois, as follows:

SECTION 1. That Special Use of the Property is hereby granted to allow the operation and construction of a car wash with variations.

SECTION 2. This approval is subject to the following conditions:

1. The lots commonly known as 1341 Butterfield Road shall be consolidated into one lot of record by the petitioner prior to issuance of any permit.
2. The petitioner shall provide a plat of abrogation and/or modification for private commercial detention basin upon final development of the site and prior to issuance of a certificate of occupancy.
3. A recorded Hold Harmless agreement shall be filed by the applicant to indemnify the Village from enforcement of a private 15-foot building line along the north property line. The recorded agreement shall be provided by the applicant prior to the issuance of any permit.
4. Hand drying of vehicles at the exit of the car wash tunnel is prohibited.

SECTION 3. The above conditions are hereby made part of the terms under which the Special Use with variations is granted. Violation of any or all of such conditions shall be deemed a violation of the Village of Downers Grove Zoning Ordinance, the penalty for which may include, but is not limited to, a fine and/or revocation of the Special Use granted herein.

SECTION 4. It is the Petitioner's obligation to maintain compliance with all applicable Federal, State, County and Village laws, ordinances, regulations, and policies.

SECTION 5. That all ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

_____

By: Mayor

Passed:

Published:

Attest:

_____

By: Village Clerk

Village of Downers Grove

Planning and Zoning Commission - Report

Table 1 - Detailed information on this Planning and Zoning Commission Report.

Meeting Location	Civic Center – Betty Cheever Council Chambers
Meeting Address	850 Curtiss St., Downers Grove, IL 60515
Meeting Date	May 4, 2026 at 7:00 PM
Subject	25-PZC-0034. 1341 Butterfield Road
Type	Special Use and Variations
Submitted by	Carter Moran, Planner

Request.

The petitioner is requesting approval for a Special Use and Variations to construct and operate a car wash at 1341 Butterfield Road.

Notice.

The application has been filed in conformance with applicable procedural and public notice requirements.

General Information.

Table 2 – Details about the applicant's identity and location.

Applicant Name	Applicant Address
Vincenzo Finazzo	555 South Old Woodward Avenue, Suite 12L. Birmingham, Michigan 48009

Table 3 - Property ownership details for primary and additional owner(s).

Owner Name	Owner Address
Butterfield Commercial	32 South La Grange Road, La Grange, Illinois 60525

Property Information.

Table 4 - Detailed subject property summary (parcel identification, size, and zoning)

Existing Zoning	B-3, General Services and Highway Business
Existing Land Use	Regional Commercial
Property Size	47,606 square feet (1.10 acres)
PIN	06-30-409-022

Table 5 - Details regarding the surrounding properties, zoning, and land uses.

Direction	Zoning	Future Land Use
East	B-3, General Services and Highway Business	Regional Commercial
West	B-3, General Services and Highway Business	Regional Commercial
North	B-3, General Services and Highway Business	Regional Commercial
South	B-3, General Services and Highway Business	Regional Commercial

Analysis.

Submittals.

This report is based on the following documents, which are on file with the Department of Community Development:

1. Project Narrative
2. Approval Criteria
3. Plat of Survey
4. Site Plan
5. Engineering Plans
6. Landscape Plans
7. Elevations
8. Traffic Impact Study
9. Photometric Plan

Project Description.

The petitioner is proposing to construct a car wash and related parking lot improvements. The 1.10-acre property is located at the southwest corner of the Butterfield Frontage Road and Downers Drive and is zoned B-3, General Services Highway Business.

The petitioner is requesting the following approvals:

- Special Use for a Car Wash
- Variation to allow the car wash lane to encroach into the street setback
- Variation to allow for a reduction in the number of required drying spaces

The petitioner is proposing to demolish the existing building on the subject property and construct a new 3,720 square foot car wash and twenty (20) associated vacuum-equipped parking stalls. Additional improvements include a freestanding canopy overhanging the two pay stations and proposed canvas attendant hut, as well as a trash enclosure to serve the car wash. The vacuum producer will be located on a central parking lot island with doors opening north towards the main wash building. The car wash building façade will be composed of white and light grey EIFS material, with magenta and blue EIFS accenting the roofline. The proposed building includes two towers at either end of the wash, bringing the overall building height to thirty-five feet.

Landscaping will be provided in and around the site, including along the north side by the proposed building and the south property line, the only side directly abutting another commercial property. Parking lot and site lighting is provided around the proposed development. A photometric plan has been submitted identifying that the proposed lighting complies with the Village requirements.

The proposed building will be served by the existing parking lot access points on Butterfield Frontage Road and Oak Grove Road to the west. The proposed car wash stacking lane includes twenty-six (26) spaces. Pedestrian access is proposed from the sidewalk along the Butterfield Frontage Road and circulates throughout the site. The site will include bicycle parking accessible from this connection.

Compliance with the Comprehensive Plan.

The Guiding DG Comprehensive Plan's Future Land Use Map designates the subject property as Regional Commercial. Regional Commercial uses are defined as commercial uses that provide goods and services that draw patrons from within, and beyond Downers Grove. Retail and service businesses in this area benefit from visibility and access without significantly contributing to traffic along the corridor or impact on nearby residential areas. The petitioner is proposing to redevelop the site with a drive-through car wash. The car wash, being an automotive use, has a

regional draw and will attract commuters driving to, from, and throughout Downers Grove.

Economic Development: Continue Investment in the Butterfield and Finley Road Area.

- Ensure that the Butterfield Road corridor is resilient to changing commercial and office market conditions.
- Continue to require pedestrian connections throughout developments and redevelopments that connect to the public right-of-way.
- Maintain quality of life for the corridor's residents and ensure access to businesses and jobs.
- Leverage the unique location of this corridor adjacent to two highways to attract new retail and office tenants.

Land Use and Development: Land Use Plan.

- Commercial uses should be located in areas with a regional draw of a corridor where they will benefit from access and visibility without significantly contributing to traffic or impact on nearby residential areas.

The proposed request is consistent with the Guiding DG Comprehensive Plan

Compliance with the Zoning Ordinance.

The property is currently zoned B-3, General Services and Highway Business.

Requirements.

Table 6 - Zoning regulations for proposed development.

Zoning Regulation	Required	Proposed
Street Setback: Building North	25 feet	26.2 feet
Street Setback: Building East	25 feet	45.4 feet

Zoning Regulation	Required	Proposed
Street Setback: Building West	25 feet	72.7 feet
Street Setback: Parking North	25 feet	28.7 feet
Street Setback: Car Wash Lane	25 feet	**9.6 feet [1]**
Street Setback: Parking West	25 feet	25 feet
Side Interior Setback: South	0 feet	142 feet
Height: Building Maximum	60 feet	35 feet
Landscape Open Space Minimum	10 %	36.2 %
Floor Area Ratio Maximum	0.75	0.08
Parking Spaces Minimum	1 space	20 spaces
Stacking Spaces Minimum	6 spaces	26 spaces
Drying Spaces Minimum	2 spaces	**1 space [1]**

[1] A variance is required for this zoning regulation as described in the next section.

Variance Requests.

As highlighted in the table above, the petitioner is requesting two (2) variations from the Zoning Ordinance for the car wash lane setback and minimum drying space requirements. The queuing lane for the proposed car wash building will not expand the parking surface farther into the street setback along Downers Drive, so a nonconformity is not being expanded. However, its designation as a drive-through lane for the car wash means that it requires a variation.

As for the single drying space, the petitioner has specified that its standard designs include only one drying space, and that their other locations operate without traffic buildup due to this design feature. If the lanes do back up, the queuing spaces on the south side of the parking area provide adequate space for waiting customers.

Lastly, staff is also supportive of the variation requests noting that the existing lot is at a depth and lot area that is not typical in this corridor, which makes it difficult

place the car wash lane, setback from the right-of-way, that would be afforded on other commercial outlots in the corridor.

The Variations are summarized in the table below:

Table 7 - Zoning Variations Summary

Zoning Regulation	Required	Proposed	Zoning Regulation	Petitioner Reasoning
Street Setback: Parking (East)	25 feet	9.6 feet	28.3.030	Granting the variation preserves the existing spatial relationship between the property and Downers Drive and will not alter the character of the locality in any meaningful way.
Drying Spaces Minimum	2 spaces	1 space	28.7.130(c)	The number of drying spaces is an internal operational detail with no obvious or experiential impact on the surrounding area.

Signage.

Signage is not part of this petition, and any signage proposed for the development shall comply with the Zoning Ordinance requirements through a separate sign permit application.

Engineering and Public Improvements.

The petitioner's proposal complies with the Village's Stormwater and Floodplain Ordinance. The proposal includes the redesign of the existing stormwater management system, whereby the existing parking lot surface stormwater storage basin will be replaced by a new array of drains connected to an underground water storage basin. This catch basin will deposit stormwater into the adjacent storm sewer line along the Butterfield Frontage Road.

Traffic and Parking.

A traffic impact study for the proposed development was completed by the petitioner. The study examined the existing traffic conditions along Butterfield Road, Downers Drive, and Oak Grove Road and the future conditions based on the proposed car wash. Access to the site is provided by access points on Oak Grove Road and Butterfield Frontage Road. Customers will circulate counter-clockwise through the car wash and the vacuum-equipped parking spaces. The quantity of twenty-six stacking spaces in the two proposed lanes more than satisfies the requirement of six stacking spaces as required by the Zoning Ordinance. The traffic study found no significant impacts to the existing road network.

Public Safety Requirements.

The Fire Prevention Division has reviewed the proposed development and determined that sufficient access to and around the site is provided for emergency vehicles. The current proposal will be reviewed for compliance with the Fire Prevention Ordinance during the building permit review.

Neighborhood Comment.

Notice was provided to all property owners 250 feet or less from the property in addition to posting public hearing notice signs and publishing the legal notice in the Daily Herald. Staff received one inquiry by phone which was general in nature.

Standards of Approval.

The petitioner has submitted a narrative that attempts to address all the standards of approval. The Planning and Zoning Commission should consider the petitioner's documentation, the staff report and the discussion at the Planning and Zoning Commission meeting in determining whether the standards for approval have been met.

The petitioner is requesting a Special Use and Variations to construct and operate a car wash at 1341 Butterfield Road. The review and approval criteria for each request are listed below.

Special Uses, Sec 28.12.050(h) Review and Approval Criteria.

(1) that the proposed use is expressly authorized as a special use in the district in which it is to be located;

(2) that the proposed use will not, in the particular case, be detrimental to the health, safety, or general welfare of the community;

(3) that the proposed use will not be injurious to the use and enjoyment of other property in the immediate area for the purposes already permitted, nor substantially diminish or impair property values within the neighborhood;

(4) that the establishment of the special use will not impede the normal and orderly development and improvement of adjacent property for uses permitted in the district.

Variations, Sec 28.12.090(g)(2) Review and Approval Criteria.

a. the subject property cannot yield a reasonable return if required to comply with the regulations that apply to it;

b. the plight of the owner is due to unique circumstances; and

c. the variation, if granted, will not alter the essential character of the locality.

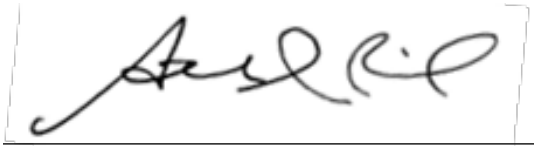
Draft Motion.

Staff will provide a recommendation at the May 4th, 2026 meeting. Should the Planning and Zoning Commission find that the request is consistent with the Comprehensive Plan and meets the requirements of the Zoning Ordinance, staff has prepared a draft motion that the Planning and Zoning Commission may make for a recommendation of approval of 26-PZC-0011:

Based on the petitioner's submittal, the staff report, and the testimony presented, I find that the petitioner has met the standards of approval for a Special Use and two (2) variations to construct and operate a car wash as required by the Village of Downers Grove Zoning Ordinance and is in the public interest and therefore, I move that the Planning and Zoning Commission recommend to the Village Council approval of 26-PZC-0011, subject to the following conditions:

1. The lots commonly known as 1341 Butterfield Road shall be consolidated into one lot of record by the petition.
2. The petitioner shall provide a plat of abrogation and/or modification for private commercial detention basin upon final development of the site.
3. A recorded Hold Harmless agreement shall be filed by the applicant to indemnify the Village from enforcement of a private 15-foot building line along the north property line. The recorded agreement shall be provided by the applicant prior to the issuance of any permit.

Staff Report Approved By:



Stanley J. Popovich, AICP
Director of Community Development

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210 105 0 210 Feet

1341 Butterfield Road - Location Map

Subject Property

Site Location

STONEFIELD

February 27, 2026

Stan Popovich
Director of Community Development
850 Curtiss Street
Village of Downers Grove, IL 60515

RE: 1341 Butterfield Road
Proposed Auto Wash
1341 Butterfield Road
Village of Downers Grove,
DuPage County, IL 60515

Stan:

Our office is submitting a Project Narrative on behalf of the Applicant to submit plans for site plan & special use review.

The proposed development introduces a modern 120-foot automated car wash facility designed to provide efficient vehicle processing while expanding customer service options on site. The primary wash tunnel is engineered for high-throughput exterior cleaning and is supported by high efficiency blow dryers within the tunnel exit, drying vehicles prior to exiting the wash, removing the need for a post wash drying lane. This operational configuration reduces on-site queuing, improves circulation efficiency, and enhances the overall customer experience.

The site layout incorporates 20 vacuum parking stalls, each equipped for self-service interior / exterior cleaning. These stalls are arranged to promote two-way circulation, and ensure smooth transitions between the wash tunnel, and vacuum stations.

A new domestic water service connection will be installed to supply the wash equipment, restroom facilities, and general building needs. The sanitary system will connect to the existing municipal sewer network and includes a three-stage reverse osmosis water reclamation tank system capable of reusing up to 90% of the water from wash to wash. This significantly reduces potable water demand and limits discharge volumes to the public sewer system. New electrical and natural gas services will be extended to the building to support wash tunnel equipment, mechanical systems, lighting, and overall site operations. All utility routes will be coordinated with local providers to avoid conflicts with existing infrastructure.

The development will also include all required stormwater management facilities in accordance with Municipal Code. These improvements are designed to ensure the proposed project does not overburden the existing stormwater system and that runoff is properly managed, treated, and conveyed.

The proposed car wash facility has been thoughtfully designed to balance operational efficiency, customer convenience, and responsible site engineering. The combination of self-service vacuum stalls, post wash dryers, and two-way circulation supports safe and orderly circulation throughout the site. The planned utility improvements and stormwater infrastructure ensure compliance with all applicable municipal standards while minimizing environmental impacts. Overall, the project will provide a well-organized, high-quality service amenity for the community.

STONEFIELD

Project Narrative
Proposed Auto Wash
1341 Butterfield Road
Downers Grove, IL 60515
February 27, 2026

Should you have any questions regarding the submission items or responses above please do not hesitate to contact our office.

Regards,

Mitchell Harvey, PE
Stonefield Engineering and Design, LLC

Vincenzo Finazzo
Stonefield Engineering and Design, LLC

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Special Uses

Form #PZC2

Review and Approval Criteria

Address of Project Site: 1341 Butterfield Road

A detailed response to all of the standards shall be provided, specifying how each standard is or is not met.

Section 28.12.050.H. Approval Criteria (Special Uses)
No special use may be recommended for approval or approved unless the respective review or decision-making body determines that the proposed special use is consistent with and in substantial compliance with all Village Council policies and plans, including, but not limited to, the Comprehensive Plan and the Downtown Design Guidelines and that the applicant has presented evidence to support each of the following conclusions:

1. That the proposed use is expressly authorized as a Special Use in the district in which it is to be located.

   The proposed car wash meets this standard. Pursuant to Table 5-1 of the Zoning Code, a car wash is a special use in the B-3 District. Pursuant to Section 28.5.050 of the Zoning Code, a car wash falls under the definition of •Personal Vehicle Repair and Maintenance,Žwhich is defined as •[u]ses engaged in repairing, installing or maintaining the mechanical components of autos, small trucks or vans, motorcycles, motor homes or recreational vehicles including recreational boats. Also includes uses that wash, clean or otherwise protect the exterior or interior surfaces of these vehicles. Does not include vehicle body or paint finishing shops.Ž

2. That the proposed use will not, in the particular case, be detrimental to the health, safety, or general welfare of the community.

   The proposed car wash meets this standard. The proposed car wash has been designed to minimize operational impacts on surrounding properties and the environment. The facility uses biodegradable cleaning products and a comprehensive on-site waste management process that removes solids before directing remaining liquids to the sanitary sewer system for proper treatment in accordance with Village regulations. A PurWater Reclaim System recycles nearly 90% of water used during operations, significantly reducing consumption and preventing contaminated runoff from entering the storm sewer, consistent with local sustainability goals and environmental protection standards.
   All washing equipment is enclosed within the tunnel structure, and vacuum stations are canopied to limit noise. Hours of operation are confined to daytime and early evening, and on-site circulation is designed to prevent vehicle stacking onto adjacent roadways. The facility is professionally managed and continuously supervised. Notably, the El Car Wash corporate headquarters is located above an active car wash in Doral, Florida, a reflection of our confidence in the clean, quiet, and non-nuisance nature of the use.

3. That the proposed use will not be injurious to the use and enjoyment of other property in the immediate area for the purposes already permitted, nor substantially diminish or impair property values within the neighborhood.

   The proposed car wash meets this standard. The proposed car wash will not generate odors, smoke, noise, or other nuisances at levels that would interfere with the use or enjoyment of neighboring properties. Car wash equipment is housed within an enclosed tunnel structure, which contains and attenuates any operational noise at the source. Vehicle traffic associated with the car wash is contained within the site's internal drive aisles and stacking lanes, and the site's access via Frontage Road and Oak Grove Drive channels customers away from Butterfield Road in a manner that minimizes any impact on the broader circulation network. The use does not generate the kind of sustained or late-night activity that may affect nearby properties. The proposed car wash will draw brief, transactional visits rather than extended congregating.
   The aesthetic and professionally operated car wash will serve as a stabilizing commercial use within the Butterfield Road corridor. It will activate an underutilized commercial parcel and provide a service that benefits surrounding businesses and residents alike. The proposed car wash includes architectural improvements and site enhancements that will upgrade the appearance of the subject property relative to its current condition, which supports surrounding property values. The proposed car wash will not impair the enjoyment of neighboring properties or diminish values within the neighborhood.

4. That the establishment of the special use will not impede the normal and orderly development and improvement of adjacent property for uses permitted in the district.

   The proposed car wash meets this standard. The establishment of a car wash at this location will not impede the normal and orderly development or improvement of any adjacent property. The car wash is a self-contained use, with all activity occurring within the site. Traffic is internalized through on-site circulation and stacking.
   The Butterfield Road corridor is already developed with a variety of commercial uses that are consistent with their respective zoning district, and the introduction of a car wash does not foreclose or discourage any permitted use on neighboring properties. If anything, the redevelopment of this parcel with an active, professionally operated commercial use supports the continued vitality of the Butterfield Road corridor and is more likely to encourage investment in adjacent properties than to impede it.

Variations

Review and Approval Criteria

Form #PZC6
Page 1 of 2

Address of Project Site: 1341 Butterfield Road

A detailed response to all of the standards shall be provided, specifying how each standard is or is not met.

Section 28.12.090.G. Approval Criteria (Variations)
Variations require evaluation per Section 28.12.090 of the Municipal Code, *Standards and Review Criteria*: "No variation may be approved unless the variation to be approved is consistent with the spirit and intent of this zoning ordinance and that strict compliance with the subject provisions would result in practical difficulties or particular hardships for the subject property owner. The consideration of whether a variation request has met the standards of practical difficulties or particular hardships must include all of the following findings from the evidence presented:"

1. The subject property cannot yield a reasonable return if required to comply with the regulations that apply to it.

Drying space: The proposed car wash meets this standard. A car wash•s financial viability depends directly on vehicle throughput. The drying area is critical to maintain operational flow: if vehicles cannot clear the exit efficiently, the entire operation slows or stops. On this parcel, accommodating two drying spaces would compromise internal circulation, creating conflicts that would undermine the operation. A car wash that cannot achieve functional throughput cannot generate the return necessary to justify the investment required to construct and operate the facility. One properly dimensioned drying space allows the facility to operate efficiently within the physical limits of the site and yield a reasonable return without any adverse impacts on any of the surrounding properties and without creating any adverse impacts on traffic, parking, or other circulation issues. Further, the car wash does not need a second drying space as there are no employees physically drying vehicles, vehicles are dried as they exit with the high efficiency blow dryers.
Stacking lane: The proposed car wash meets this standard. The stacking lane at the tunnel entrance on the east side of the subject property is proposed at a setback of 9.6 feet from the eastern property line, matching the existing curb location already established along the site's frontage. The 25-foot setback requirement, if strictly enforced, would push the tunnel entrance and associated stacking lane so far into the interior of the site that the car wash tunnel itself could not be accommodated at a viable length or orientation. Compliance with the 25-foot stacking setback would make it impossible to construct a functionally adequate car wash on the subject property, effectively eliminating any reasonable economic return from the proposed car wash.

2. The plight of the owner is due to unique circumstances.

Drying space: The proposed car wash meets this standard. The unique circumstance here is the location of the existing ingress/egress point on Frontage Road that will remain in place. The proposed car wash tunnel must be positioned in a way that considers the traffic pattern of the subject property. A second drying space is not feasible due to the compact size of the subject property.
Stacking lane: The proposed car wash meets this standard. The unique circumstance here is the location of the existing curb line at 9.6 feet from the eastern property line, a condition that predates the current ownership and the development proposal. The curb was established as part of the existing parking lot and drive aisle within the subject property. This is not a circumstance of the owner or applicant•s making, nor is it a condition shared generally by other properties in the B-3 zoning district.

3. The variation, if granted, will not alter the essential character of the locality.

Drying space: The proposed car wash meets this standard. The essential character of the Butterfield Road corridor is defined by commercially developed properties serving retail and service uses. A car wash is entirely consistent with this character regardless of whether it operates with one or two drying spaces. The number of drying spaces is an internal operational detail with no obvious or experiential impact on the surrounding area. It is imperceptible to adjacent property owners, neighboring businesses, or the traveling public. Granting this variation will not change what the facility looks like or how it relates to the broader commercial character of the area.
Stacking lane: The proposed car wash meets this standard. The stacking lane setback variation relates to the tunnel entrance along the site's interior frontage on Downers Drive. The proposed 9.6-foot setback does not introduce a new or incompatible condition; it simply aligns the stacking lane with the existing curb line that was established prior to the proposed development of the site. The proposed development does nothing to push any element closer to the road than what already exists. Granting the variation preserves the existing spatial relationship between the property and Downers Drive and will not alter the character of the locality in any meaningful way.

"In addition, the hearing body must also take into consideration the extent to which the following facts, favorable to the property owner, have been established by the evidence:"

1. That the particular physical surroundings, shape, or topographical conditions of the subject property would result in a particular hardship upon the owner, as distinguished from a mere inconvenience, if the strict letter of the regulations were carried out.

Drying space: The evidence establishes that the physical characteristics of the subject property impose a hardship on the owner. The request to reduce the required end-of-lane drying spaces from two to one is driven by the parcel•s limited buildable area and the need to safely accommodate internal circulation, stacking, and access drives. Strict compliance would require a relocation of the access points to the subject property and reallocation of circulation space, which would affect traffic within the greater commercial area and inefficient vehicle maneuvering about the subject property.
Stacking lane: The evidence establishes that the physical characteristics of the subject property impose a hardship on the owner. The proposed stacking lane at the tunnel entrance is set back 9.6 feet, consistent with the existing curb line along Downers Drive. The required 25-foot setback cannot reasonably be achieved due to the parcel•s buildable area. Pushing the stacking lane further into the site to meet the 25-foot requirement would materially reduce internal circulation space, compromise safe vehicle maneuvering, and potentially reduce the stacking capacity necessary to prevent vehicles from backing up toward Oak Grove Road or Frontage Road.

2. That the conditions leading to the need of the requested variation are not applicable, generally, to other properties within the same zoning classification.

Drying space: The evidence establishes that the conditions necessitating the requested variation are not applicable to other properties within the B-3 zoning district. The requested reduction from two to one end-of-lane drying spaces is tied directly to the parcel•s size and the necessary alignment of the wash tunnel and internal drive aisles. Many other properties within the B-3 zoning district are either larger or have alternative access points that would allow strict compliance without impairing circulation. The need for relief here is specific to how this particular lot must accommodate stacking, tunnel orientation, and interior drives within a confined footprint.
Stacking lane: The evidence establishes that the conditions necessitating the requested variation are not applicable to other properties within the B-3 zoning district. The stacking lane setback variation results from the relationship between the required stacking length, the tunnel entrance location, and the parcel•s limited depth. Shifting the stacking lane to achieve the full 25-foot setback would materially reduce on-site maneuvering space and compromise safe vehicle circulation. Not all properties in the B-3 zoning district are constrained by the same combination of shallow lot depth and limited ability to accommodate internal site circulation.

3. That the alleged difficulty or hardship was not created by the current property owner.

Drying space: The hardship was not created by the property owner or applicant. The need to reduce the end-of-lane drying spaces from two to one arises from the parcel•s size and required internal circulation, not from any action of the applicant. Strict compliance would impair safe maneuvering and stacking within the confines of the lot. The hardship results from the subject property•s physical configuration and the application of the ordinance standards, rather than any self-created condition.
Stacking lane: The hardship was not created by the property owner or applicant. The requested reduction of the stacking lane setback from 25 feet to 9.6 feet is driven by fixed site conditions, including the existing curb line, right-of-way, and lot size. Relocating the stacking lane to meet the full setback would compromise internal circulation and stacking capacity. The hardship stems from inherent site constraints, not from any action of the applicant.

4. That the proposed variation will not impair an adequate supply of air to adjacent property, or substantially increase the danger of fire, or otherwise endanger the public safety, or substantially diminish or impair property values within the neighborhood.

Drying space: The proposed variation will not impair the above qualities. The reduction from two to one end-of-lane drying spaces will not affect building height or lot coverage and therefore will not impair light or air to adjacent properties. The drying area will not alter fire access, building separation, or emergency vehicle maneuvering. Operations will be fully contained on-site, with modern drying equipment that minimizes congestion and time spent on the subject property. As such, the variation will not endanger public safety or negatively impact surrounding property values.
Stacking lane: The proposed variation will not impair the above qualities. The reduced stacking lane setback from 25 feet to 9.6 feet does not involve any change to building height or intensity and will not affect air circulation or fire safety. The stacking lane is designed to safely accommodate anticipated vehicle volumes without spillback onto adjacent streets. The configuration maintains adequate access for emergency vehicles and preserves orderly site circulation. Because the overall scale and appearance of the development remain consistent with surrounding commercial uses, the variation will not diminish or impair neighborhood property values.

5. That the proposed variation will not alter the essential character of the area.

Drying space: The proposed variation will not alter the essential character of the area. The proposed car wash, including a single drying space, maintains the commercial character by providing a service-oriented use that complements surrounding businesses. The reduction does not change intensity, scale, or design compatibility and therefore is consistent with the existing development pattern.
Stacking lane: The requested stacking lane setback variation will not alter the essential character of the area because the existing parking and interior drive area on the subject property are set back the same distance as proposed for the car wash.

6. That the granting of the variation will not confer on the subject property owner any special privilege that is not available to other properties or structures in the same district.

Drying space: The granting of the variation will not confer a special privilege onto the owner or applicant. The requested reduction from two to one end-of-lane drying spaces applies only to car wash operations and does not otherwise confer a special privilege, but rather allows reasonable operational functionality given the site•s physical constraints.
Stacking lane: The granting of the variation will not confer a special privilege onto the owner or applicant. The requested reduction of the stacking lane setback does not provide a unique benefit unavailable to similarly situated properties. The relief is limited and site-specific, addressing the parcel•s depth and internal circulation needs without expanding development rights or increasing operational intensity.

ALTA/NSPS LAND TITLE AND TOPOGRAPHIC SURVEY

VICINITY MAP
NO SCALE

LEGAL DESCRIPTION:

LOT 17 (EXCEPT THE SOUTH 83 FEET THEREOF) AND LOT 18 (EXCEPT THE SOUTH 83 FEET THEREOF) IN OAK GROVE CENTRE OF COMMERCE UNIT THREE, BEING A SUBDIVISION OF PART OF THE SOUTH EAST 1/4 OF SECTION 30, TOWNSHIP 38 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED FEBRUARY 1, 1978 AS DOCUMENT R78-09661 AND CORRECTED BY DOCUMENTS R78-27328, R78-94193 AND R78-123102 RESPECTIVELY, IN DUPAGE COUNTY, ILLINOIS.

SCHEDULE B EXCEPTIONS:

28. BUILDING SETBACK LINE(S) AS SHOWN ON THE PLAT OF SUBDIVISION RECORDED AS DOCUMENT NO. R78-09661.

(AFFECTS THE WEST 8 FEET OF LOT 17, AND THE NORTH 15 FEET OF LOTS 17 AND 18)

29. EASEMENTS FOR SIDEWALK AND SEWER, AS SHOWN ON THE PLAT OF SUBDIVISION RECORED AS DOCUMENT NO. R78-09661.

(AFFECTS THE WEST 8 FEET OF LOT 17)

30. EASEMENTS FOR SEWER AND WATER, AS SHOWN ON THE PLAT OF SUBDIVISION RECORDED AS DOCUMENT NO. R78- 09661.

(AFFECTS THE NORTH 15 FEET OF LOTS 17 AND 18)

31. EASEMENTS FOR PUBLIC UTILITIES, AS SHOWN ON THE PLAT OF SUBDIVISION RECORDED AS DOCUMENT NO. R78- 09661.

(AFFECTS THE EAST 10 FEET OF LOT 18)

32. EASEMENTS FOR PUBLIC UTILITIES, AS SHOWN ON THE GRANT OF EASEMENT RECORDED FEBRUARY 06, 1979 AS DOCUMENT NO. R79-011244.

(AFFECTS THE NORTH 10 FEET OF THE SOUTH 88 FEET OF LOTS 17 AND 18)

33. TERMS AND CONDITIONS OF THE EASEMENT PROVISIONS NOTED ON THE PLAT OF SUBDIVISON.

34. TERMS, PROVISIONS AND CONDITIONS OF THE DECLARATION OF RESTRICTIVE COVENANTS AS SET FORTH ON THE PLAT OF OAK GROVE CENTRE OF COMMERCE UNIT THREE, RECORDED FEBRUARY 02, 1978 AS DOCUMENT R78-09661.

35. TERMS, PROVISIONS AND CONDITIONS OF THE DRAINAGE COVENANTS AS SHOWN ON THE PLAT OF OAK GROVE CENTRE OF COMMERCE UNIT THREE, RECORDED FEBRUARY 02, 1978 AS DOCUMENT R78-09661.

36. COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINED IN THE PLAT OF SUBDIVISION RECORDED FEBRUARY 02, 1978 AS DOCUMENT NO. R78-09661 RELATING TO AMONG OTHER THINGS: USE OF THE PREMISES, LOADING DOCKS, PARKING, LANDSCAPING, STORAGE FACILITIES, AND STORM WATER DETENTION.

NOTES:

REGARDING SCHEDULE A:

LOT 17 (EXCEPT THE SOUTH 83 FEET THEREOF) AND LOT 18 (EXCEPT THE SOUTH 83 FEET THEREOF) IN OAK GROVE CENTRE OF COMMERCE UNIT THREE, PER DOCUMENT R78-09661, SHOWN HEREON.

REGARDING SCHEDULE B:
SCHEDULE B EXCEPTIONS 1 THROUGH 27, 37, 38, 39, 40 AND 41 ARE NOT SURVEY RELATED AND THEREFORE NOT SHOWN.

28. BUILDING SETBACK LINES ON THE SURVEYED PROPERTY PER PLAT OF SUBDIVISION DOCUMENT NO. R78-09661, SHOWN HEREON.

29. EASEMENTS FOR SIDEWALK AND SEWER ON THE SURVEYED PROPERTY, PER PLAT OF SUBMISSION DOCUMENT NO. R78-09661, SHOWN HEREON.

30. EASEMENTS FOR SEWER AND WATER ON THE SURVEYED PROPERTY, PER PLAT OF SUBDIVISION DOCUMENT NO. R78-09661, SHOWN HEREON.

31. EASEMENTS FOR PUBLIC UTILITIES ON THE SURVEYED PROPERTY, PER PLAT OF SUBDIVISION DOCUMENT NO. R78-09661, SHOWN HEREON.

32. EASEMENTS FOR PUBLIC UTILITIES ON THE SURVEYED PROPERTY, ON THE NORTH 10 FEET OF THE SOUTH 88 FEET OF LOTS 17 AND 18, PER GRANT DOCUMENT NO. R79-011244. SHOWN HEREON

33. TERMS AND CONDITIONS OF THE EASEMENT PROVISIONS NOTED ON THE PLAT OF SUBDIVISON. SEE DOCUMENT FOR DETAILS. NOT PLOTTABLE.

34. TERMS, PROVISIONS AND CONDITIONS OF THE DECLARATION OF RESTRICTIVE COVENANTS AS SET FORTH ON THE PLAT OF OAK GROVE CENTRE OF COMMERCE UNIT THREE, RECORDED FEBRUARY 02, 1978 AS DOCUMENT R78-09661. SEE DOCUMENT FOR TERMS, PROVISIONS, AND CONDITIONS. BLANKET IN NATURE, NOT SHOWN.

35. TERMS, PROVISIONS AND CONDITIONS OF THE DRAINAGE COVENANTS AS SHOWN ON THE PLAT OF OAK GROVE CENTRE OF COMMERCE UNIT THREE, RECORDED FEBRUARY 02, 1978 AS DOCUMENT R78-09661. SEE DOCUMENT FOR TERMS, PROVISIONS, AND CONDITIONS. BLANKET IN NATURE, NOT SHOWN.

36. COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINED IN THE PLAT OF SUBDIVISION REORDED FEBRUARY 02, 1978 AS DOCUMENT NO. R78-09661 RELATING TO AMONG OTHER THINGS: USE OF THE PREMISES, LOADING DOCKS, PARKING, LANDSCAPING, STORAGE FACILITIES, AND STORM WATER DETENTION. SEE DOCUMENT FOR TERMS, PROVISIONS, AND CONDITIONS. BLANKET IN NATURE, NOT SHOWN.

UTILIY CONTACTS

Design Dig #X253390230 / Locate Dig #X253390237

Cable
Comcast (Xfinity) Martha Gieras
224-229-5862
Martha_gieras@cable.comcast.com

Electric
ComEd
Design - Privately Funded
Prt.f@uscllc.com
Design - Publicly Funded
PlanSubmittalsandMapRequests@exeloncorp.com

Gas
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630-388-2362
gasmaps@nicor.com

Communications
AT&T / Distribution
gj1629@att.com

Level 3 (Lumen) - Network Relocations
877-366-83445x2
nationalrelo@centurylink.com

MCI-Verizon
investigations@verizon.com

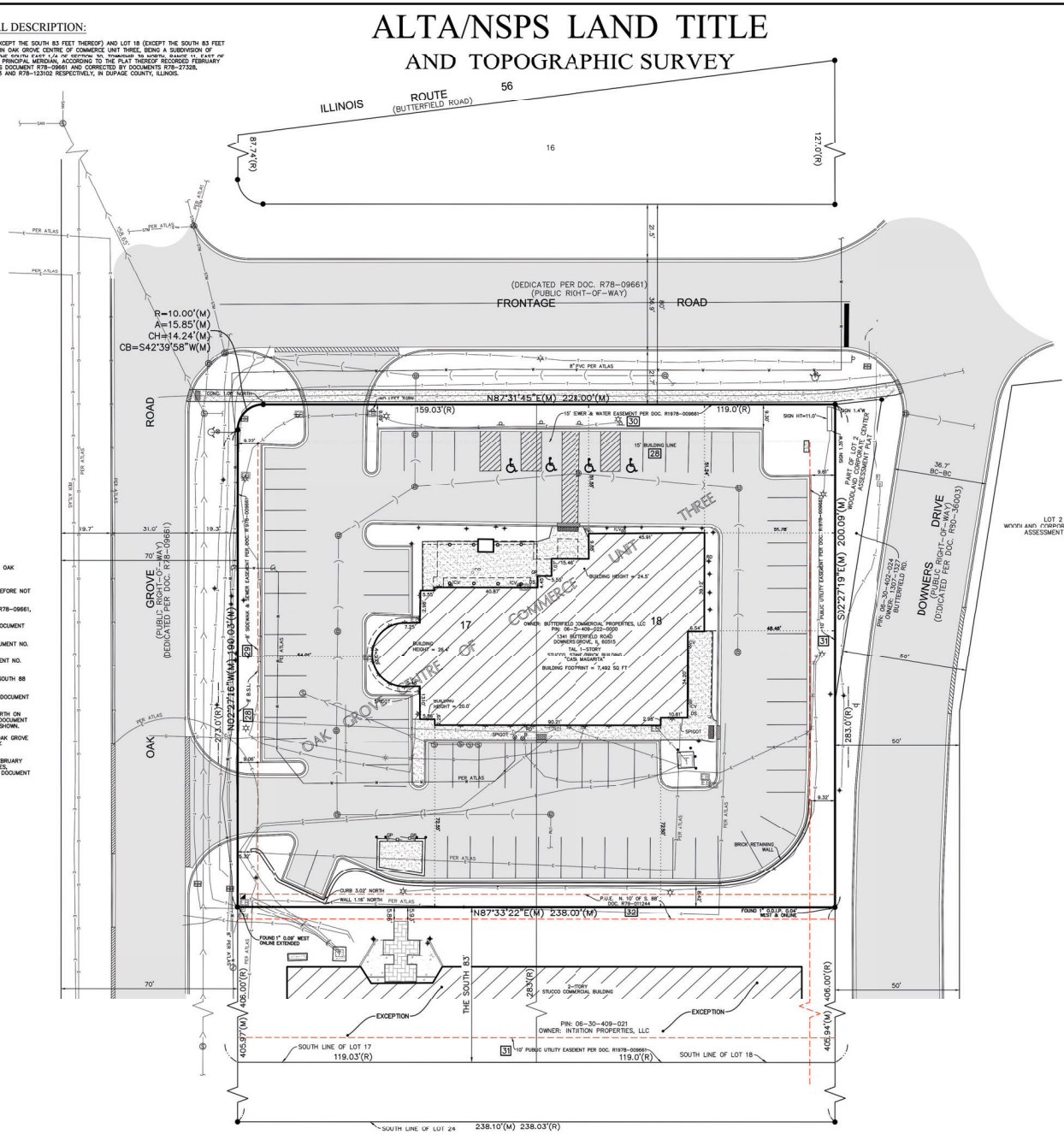
Zayo Fiber Solutions - John Ferraresi
847-417-9609
John.ferraresi@zayo.com

Vinakom Communications - Issam M.
847-592-5785
Issam.M@vinakom.com

Water / Sanitary / Storm
Downers Grove Sanitary District - Keith Shaffner
630-353-3610
kshaffner@dgsd.org

DuPage Water Commission - Jeff Loster
630-516-1912
pipeline@dpwc.org

Village of Downers Grove - Scott Vasko
630-434-5804
630 878 7498
svasko@downers.us



GRAPHIC SCALE

20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

STRPED PARKING DATA
REGULAR SPACES = 72
ACCESSIBLE SPACES = 4
TOTAL SPACES = 76

AREA SUMMARY
(TO HEAVY LINES)
47,606 SQUARE FEET
OR
1.093 ACRES
(BASED ON MEASURED VALUES)

ABBREVIATIONS

O.D.I.P. = OUTSIDE DIAMETER IRON PIPE
TF = TOP OF FOUNDATION
FF = FINISHED FLOOR
FES = FLARED END SECTION
VCP = VITRIFIED CLAY PIPE
DIP = DUCTILE IRON PIPE
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CMP = CORRUGATED METAL PIPE
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(M) = MEASURED BEARING OR DISTANCE
(C) = CALCULATED BEARING OR DISTANCE
(V) = VIEED BEARING OR DISTANCE
A = ARC LENGTH
R = RADIUS
CH = CHORD
CB = CHORD BEARING
B.S.L. = BUILDING SETBACK LINE
U.E. = UTILITY EASEMENT
D.E. = DRAINAGE EASEMENT
P.U.E. = PUBLIC UTILITY EASEMENT
P.O.C. = POINT OF COMMENCEMENT
P.O.B. = POINT OF BEGINNING
P.U. & D.E. = PUBLIC UTILITY AND DRAINAGE EASEMENT
L.E. & F.E. = LOW EMITTING AND FUEL EFFICIENT VEHICULAR PARKING ONLY

LINE LEGEND

- LIMITS OF LAND PER LEGAL DESCRIPTION
- ADJACENT LAND
- PARCEL LINE
- EASEMENT LINE
- CENTERLINE
- BUILDING SETBACK LINE
- SECTION LINE

LEGEND

- ● FOUND 1" O.D.I.P. AT CORNER UNLESS OTHERWISE NOTED (FIELD LOCATION)
- ▲ SET MAG NAIL
- ■ CONCRETE MONUMENT
- + CUT CROSS

GENERAL NOTES

1. THIS SURVEY IS BASED ON THE LEGAL DESCRIPTION AND EASEMENTS OF RECORD AS IDENTIFIED IN TITLE COMMITMENT NUMBER AF1056823 ISSUED BY FIRST AMERICAN TITLE INSURANCE COMPANY HAVING AN EFFECTIVE DATE OF NOVEMBER 19, 2025.
2. THE BASIS OF BEARINGS FOR THIS SURVEY IS THE ILLINOIS STATE PLANE COORDINATE SYSTEM, NAD 83 (2011), ZONE 1201 (ILLINOIS EAST)
3. THIS SITE FALLS WITHIN "OTHER AREAS: ZONE X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS DEFINED BY THE FLOOD INSURANCE RATE MAP, MAP NUMBER 17043C0067J, HAVING AN EFFECTIVE DATE OF AUGUST 1, 2019.
4. THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR TOPOGRAPHIC SURVEYS, AND IS BASED ON FIELD WORK PERFORMED ON 12/11/2025.
5. THE SURVEYOR CONTACTED J.U.L.I.E. (JOINT UTILITY LOCATING INFORMATION FOR EXCAVATORS) FOR AN ON-SITE LOCATE, WHICH WAS ASSIGNED A DIG NUMBER OF X253390237. THE UTILITIES AS MARKED ON-SITE AT THE TIME OF THE SURVEY ARE SHOWN HEREON. ADDITIONALLY, THE SURVEYOR CONTACTED J.U.L.I.E. FOR A DESIGN STAGE REQUEST FOR THIS SITE WHICH WAS ASSIGNED A DIG NUMBER OF X253390230. INQUIRIES WERE SENT OUT TO THE VARIOUS UTILITY COMPANIES REQUESTING MAPS AND/OR ATLASES OF THEIR RESPECTIVE FACILITIES. THE INFORMATION RECEIVED TO DATE IS SHOWN HEREON. ALSO, PRIOR TO FIELD WORK ON THIS SITE, THE UNDERGROUND DETECTIVE PROVIDED UTILITY LOCATING SERVICES ON SITE AND THE INFORMATION OBTAINED BY THE SURVEYOR FROM THESE MARKS ARE SHOWN HEREON.
6. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM OBSERVED FIELD EVIDENCE AND EXISTING DRAWINGS, MAPS AND RECORDS SUPPLIED TO SURVEYOR AND MARKINGS PROVIDED BY A THIRD-PARTY. DUE TO THE UNCERTAINTY AND LIMITATIONS INHERENT TO LOCATING UNDERGROUND UTILITY FACILITIES FOR NON-CONSTRUCTION PURPOSES, INCLUDING THOSE THAT ARE PLASTIC, NON-CONDUCTIVE, OR OTHERWISE UNABLE TO BE LOCATED, THERE MAY BE BURIED UTILITIES WITHIN THE SURVEY AREA THAT ARE NOT SHOWN. THE SURVEYOR THEREFORE INDICATES THAT THE LOCATIONS BASED ON THIRD-PARTY UTILITY RECORDS, SURVEYED MARKINGS, OR ANY OTHER UNDERGROUND UTILITIES SHOWN HEREON ARE SUCH AS CAN BE INFERRED FROM EITHER THE SURFACE OF ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH THEY ARE LOCATE AS ACCURATELY AS POSSIBLE FROM AVAILABLE INFORMATION. THE SURVEYOR HAS PHYSICALLY LOCATED OBSERVED STRUCTURES AND MARKINGS; HOWEVER, HE HAS NOT PHYSICALLY LOCATED THE UNDERGROUND LINES.
7. THE SURVEYOR LOCATED THE OBSERVED IMPROVEMENTS ON THIS SITE, HOWEVER, DUE TO HEAVY SNOW COVERAGE AT THE TIME OF THE SURVEY, SOME IMPROVEMENTS MAY NOT HAVE BEEN VISIBLE. THEREFORE, THE IMPROVEMENTS SHOWN HEREON MAY OR MAY NOT COMPRISE ALL SUCH IMPROVEMENTS FOR THIS SITE. ADDITIONALLY, SOME HIGH POINTS OR LOW POINTS MAY NOT HAVE BEEN VISIBLE DUE TO DRIFTED SNOW.
8. IN REFERENCE TO TABLE A ITEMS 6(A) AND 6(B), A ZONING REPORT OR LETTER WAS NOT PROVIDED TO THE SURVEYOR.
9. ADJOINING OWNER INFORMATION SHOWN HEREON IS FROM AVAILABLE TAX RECORDS.
10. NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS OBSERVED IN THE PROCESS OF CONDUCTING THE FIELD WORK.
11. NO PROPOSED CHANGES IN STREET RIGHT OF WAY LINES BASED ON INFORMATION RECEIVED FROM THE CONTROLING JURISDICTION AT THE TIME OF THE SURVEY. NO OBSERVED EVIDENCE OF RECEIT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS.
12. IN REFERENCE TO TABLE A ITM 18, NO PLOTTABLE OFFSITE APPURTENANT EASEMENTS WERE DISCLOSED IN SCHEDULE A OF THE TITLE COMMITMENT.
13. THE SURVEYED SITE IS ONE PARCEL THAT CLOSES WITHOUT GAPS, GORES OR OVERLAPS.
14. THE PROPERTY HAS DIRECT PYSICAL VEHICULAR ACCESS TO OAK GROVE ROAD AND FRONTAGE ROAD, BOTH PUBLIC ROADWAYS.

SURVEYOR'S CERTIFICATION

SURVEYOR'S CERTIFICATION

TO: FIRST AMERICAN TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 5, 6(A), 6(B), 7(A), 7(B1), 7(C), 8, 9, 11(A), 11(B), 13, 14, 16, 17, 18 AND 19 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON 12/11/2025.

COMPASS SURVEYING LTD
PROFESIONAL DESIGN FIRM
LAND SURVEYOR CORPORATION NO. 184-002778
ICENSE EXPIRES 4/30/2027

DATE OF PLAT OR MAP: 12/19/2025

BY: _____
DAVID P. FILIPSKI
IL PROFESSIONAL LAND SURVEYOR NO. 3352
LICENSE EXPIRES 11/30/26

DAVID P. FILIPSKI 35-3352 AURORA, ILLINOIS

2/19/2026 3:15 PM – J:\PSDATA\2025 PROJECTS\25.0324\25.0324_LTS.DWG

NO.	DATE	REVISIONS	DRAWN BY	CHECKED BY	BOOK 717 PG 64
1	12/19/25	PC TK/JC	DN	DW	
		PER EMAIL DATED 2-10-26			DATE 2/17/26 BY DN

CLIENT
National Express Wash II, LLC
2753 NW 87th Avenue
Doral, FL 33172

PROJECT
CASA MARGARITA
1341 BUTTERFIELD ROAD
DOWNERS GROVE, IL 60515

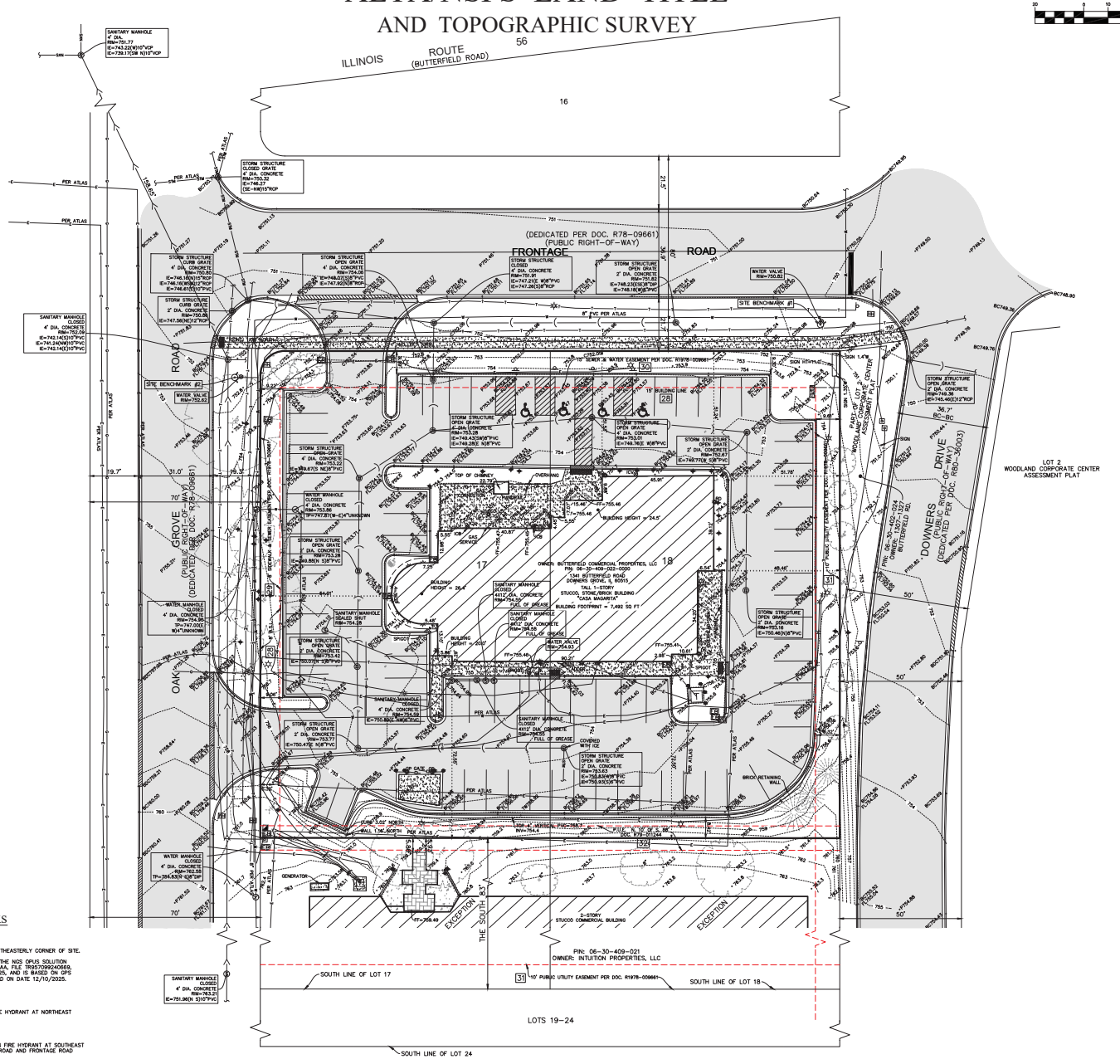
COMPASS SURVEYING LTD
ALTA, SURVEYS ● TOPOGRAPHY ● CONSTRUCTION STAKING
2631 GINGER WOODS PARKWAY, STE. 100
AURORA, IL 60502
PHONE: (630)820-9100 FAX: (630) 820-7030 EMAIL: ADMIN@CLSURVEYING.COM

SCALE: 1" = 20'

1 OF 2

PROJ. NO.: 25.0324

ALTA/NSPS LAND TITLE
AND TOPOGRAPHIC SURVEY



ABBREVIATIONS

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FES = FLARED END SECTION
VCP = VITRIFIED CLAY PIPE
DIP. = DUCTILE IRON PIPE
PVC = POLYVINYL CHLORIDE
RCP = REINFORCED CONCRETE PIPE
CMP = CORRUGATED METAL PIPE
HDPE = HIGH-DENSITY POLYETHYLENE PIPE
(R) = RECORD BEARING OR DISTANCE
(M) = MEASURED BEARING OR DISTANCE
(C) = CALCULATED BEARING OR DISTANCE
(D) = DEED BEARING OR DISTANCE
N = NORTH
S = SOUTH
E = EAST
W = WEST
A = ARC LENGTH
R = RADIUS
CH = CHORD
CB = CHORD BEARING
ICB = IRRIGATION CONTROL BOX
B.S.L. = BUILDING SETBACK LINE
U.E. = UTILITY EASEMENT
D.E. = DRAINAGE EASEMENT
P.U.E. = PUBLIC UTILITY EASEMENT
P.O.C. = POINT OF COMMENCEMENT
P.O.B. = POINT OF BEGINNING
P.U. & D.E. = PUBLIC UTILITY AND DRAINAGE EASEMENT
BC = BACK OF CURB
BDC = BACK OF DEPRESSED
FL = FLOW LINE
C = CONCRETE
P = PAVEMENT
G = GRAVEL
EW = EDGE OF WALK
TW = TOP OF WALL
TP = TOP OF PIPE
IE = INVERT ELEVATION
PL = PROPERTY LINE
SQ = SQUARE FEET
S.F. = SQUARE FEET
OHL = OVERHEAD LINE
TSF = TRANSFORMER
B = PAVERS
MS = MULTI-STEM TREE

LINE LEGEND

- LIMITS OF LAND PER LEGAL DESCRIPTION
- ADJACENT LAND PARCEL LINE
- EASEMENT LINE
- CENTERLINE
- BUILDING SETBACK LINE
- SECTION LINE
- EXISTING CONTOUR
- FLOOD ZONE DIVISION LINE

LEGEND

- FOUND 1" O.D.I.P. AT CORNER UNLESS OTHERWISE NOTED (HELD LOCATION)
- SET MAG NAIL
- CONCRETE MONUMENT
- CROSS IN CONCRETE
- MANHOLE
- STORM STRUCTURE
- SANITARY MANHOLE
- CLEANOUT
- FLARED END SECTION
- TRANSFORMER PAD
- ELECTRIC MANHOLE
- ELECTRIC BOX
- ELECTRIC PEDESTAL
- ELECTRIC MARKER
- ELECTRIC METER
- UTILITY POLE
- UTILITY POLE W/LIGHT
- UTILITY POLE W/TSF
- GUY POLE
- OVERHEAD TRAFFIC SIGNAL
- TRAFFIC SIGNAL MANHOLE
- LIGHT
- LIGHT POLE
- HAND HOLE
- VALVE VAULT
- FIRE HYDRANT
- IRRIGATION CONTROL VALVE
- POST INDICATOR VALVE
- SIAMESE WATER CONNECTION
- WATER MARKER
- WATER METER
- VALVE BOX
- B/BOX
- TELEPHONE MANHOLE
- TELEPHONE NETWORK INTERFACE
- TELEPHONE MARKER
- TELEPHONE PEDESTAL
- CABLE TELEVISION PEDESTAL
- GAS METER
- GAS VALVE
- GAS MARKER
- DOWN SPOUT
- BORING HOLE
- MONITORING WELL
- GATE POST
- BOLLARD POLE
- SIGN
- FLAG POLE
- MAILBOX
- SANITARY SEWER
- STORM SEWER
- WATER MAIN
- GAS MAIN
- ELECTRIC LINE
- OVERHEAD WIRES
- TELEPHONE LINE
- CONIFEROUS TREE W/APPROX. DIAMETER
- DECIDUOUS TREE W/APPROX. DIAMETER MS=MULTI-STEM (DRIP LINE SHOWN IS APPROXIMATE)
- ELEVATION

- BITUMINOUS PAVEMENT
- CONCRETE SURFACE
- DEPRESSED CURB
- GRAVEL SURFACE
- LANDSCAPE AREA
- STONE SURFACE
- DETECTABLE TACTILE WARNING SURFACE
- BRICK PAVERS
- WOOD FENCE
- CHAIN LINK FENCE
- METAL FENCE
- METAL GUARDRAIL
- OVERHEAD TRAFFIC ARM

BENCHMARKS

REFERENCE BENCHMARK

DESCRIPTION/LOCATION.
IRON PIPE WITH CAP NORTHEASTERLY CORNER OF SITE.

THE ELEVATION IS FROM THE NOS OPUS SOLUTION REPORT PROVIDED BY NOAA, FILE 19357099240069, DATED DECEMBER 12, 2025, AND IS BASED ON GPS OBSERVATIONS PERFORMED ON DATE 12/10/2025.

DATUM: NAVD88
ELEVATION = 751.42

SITE BENCHMARK #1
SOUTHWEST BOLT ON FIRE HYDRANT AT NORTHEAST CORNER OF SITE

ELEVATION = 752.01

SITE BENCHMARK #2
NORTHEAST TAG BOLT ON FIRE HYDRANT AT SOUTHEAST CORNER OF OAK GROVE ROAD AND FRONTAGE ROAD

ELEVATION = 754.00

NO.	DATE: 12/19/25	PC TK/JC	DRAWN BY DN	CHECKED BY DW	BOOK 717 PG 64
	REVISIONS			DATE	BY
1	PER EMAIL DATED 2-10-26			2/17/26	DN

CLIENT
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2753 NW 87th Avenue
Doral, FL 33172

PROJECT
CASA MARGARITA
1341 BUTTERFIELD ROAD
DOWNERS GROVE, IL 60515

COMPASS SURVEYING LTD
ALTA SURVEYS ● TOPOGRAPHY ● CONSTRUCTION STAKING
2631 GINGER WOODS PARKWAY, STE. 100
AURORA, IL 60502
PHONE: (630) 820-9100 FAX: (630) 820-7030 EMAIL: ADMIN@CLSURVEYING.COM

SCALE: 1" = 20'

2 OF 2

PROJ. NO.: 25.0324

2/19/2026 3:15 PM – J:\PSDATA\2025 PROJECTS\25.0324\25.0324_LTS.DWG

SITE DEVELOPMENT PLANS

FOR

1341 BUTTERFIELD ROAD

PROPOSED AUTO WASH

SOURCE: USGS ONLINE MAPS

LOCATION MAP

SCALE: 1" = 2,000'±

ENGINEER'S CERTIFICATION

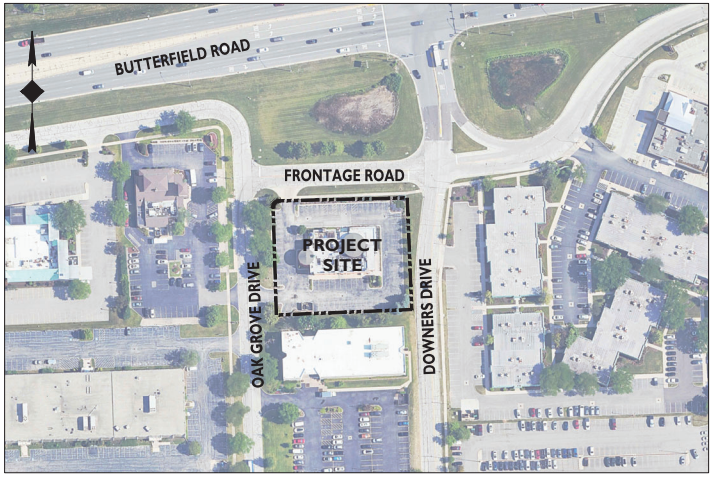
"I HEREBY PRESENT THIS STATEMENT OF OPINION DENYING THE PRESENCE OF LOCALIZED POOR DRAINAGE AREA (LPDA), FLOODPLAIN, WETLANDS AND/OR BUFFERS"

MITCHELL HARVEY , P.E.
LICENSE No. 062077753 - Expiration Date: 11/30/2027

APPLICANT

EL CARWASH MID-WEST, LLC
2753 NW 87THY AVENUE
DORAL, FL 33172
413-464-2267
SBURGNER@ELCARWASH.COM

PARCEL ID: 06-30-409-022-0000
1341 BUTTERFIELD ROAD
VILLAGE OF DOWNERS GROVE, DUPAGE COUNTY, IL 60515



SOURCE: GOOGLE EARTH PRO

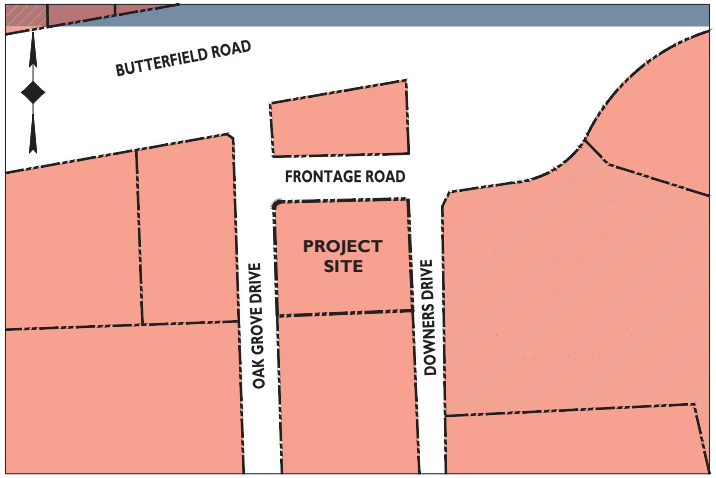
AERIAL MAP

SCALE: 1" = 100'±

ZONING KEY

B-2, GENERAL BUSINESS

PD, PLANNED DEVELOPMENT OVERLAY



SOURCE: DUPAGE COUNTY GIS AND VILLAGE OF DOWNERS GROVE ZONING MAP

ZONING MAP

SCALE: 1" = 100'±

PLANS PREPARED BY:

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555 S. Old Woodward Avenue, Suite 12L, Birmingham, MI 48009
Phone 248.247.1115

BENCHMARKS

REFERENCE BENCHMARK

DESCRIPTION/LOCATION.
IRON PIPE WITH CAP NORTHEASTERLY CORNER OF SITE.

THE ELEVATION IS FROM THE NGS OPUS SOLUTION REPORT PROVIDED BY NOAA, FILE TR957099240669, DATED DECEMBER 12, 2025, AND IS BASED ON GPS OBSERVATIONS PERFORMED ON DATE 12/10/2025.

DATUM: NAVD88
ELEVATION = 751.42

SITE BENCHMARK #1
SOUTHWEST BOLT ON FIRE HYDRANT AT NORTHEAST CORNER OF SITE

ELEVATION = 752.01

SITE BENCHMARK #2
NORTHEAST TAG BOLT ON FIRE HYDRANT AT SOUTHEAST CORNER OF OAK GROVE ROAD AND FRONTAGE ROAD

ELEVATION = 754.00

811 Know what's **below** **Call** before you dig.

PLAN REFERENCE MATERIALS:

1. THIS PLAN SET REFERENCES THE FOLLOWING DOCUMENTS INCLUDING, BUT NOT LIMITED TO:
   - ALTA/TOPOGRAPHIC SURVEY BY COMPASS SURVEYING LTD DATED 12/19/2025
   - ARCHITECTURAL PLANS BY KREIGER KLATT ARCHITECTS DATED 03/24/2026
   - AERIAL MAP PER GOOGLE EARTH PRO
   - LOCATION MAP OBTAINED FROM USGS ONLINE MAPS
2. ALL REFERENCE MATERIAL LISTED ABOVE SHALL BE CONSIDERED A PART OF THIS PLAN SET AND ALL INFORMATION CONTAINED WITHIN THESE MATERIALS SHALL BE UTILIZED IN CONJUNCTION WITH THIS PLAN SET. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN A COPY OF EACH REFERENCE AND REVIEW IT THOROUGHLY PRIOR TO THE START OF CONSTRUCTION.

SHEET INDEX

DRAWING TITLE	SHEET #
COVER SHEET	C-1
DEMOLITION PLAN	C-2
SITE PLAN	C-3
GRADING PLAN	C-4
STORMWATER MANAGEMENT PLAN	C-5 & C-5.1
UTILITY PLAN	C-6
LIGHTING PLAN	C-7
LANDSCAPING PLAN	C-8 & C-8.1
SOIL EROSION & SEDIMENT CONTROL PLAN	C-9
CONSTRUCTION DETAILS	C-10 & C-10.3
VEHICLE STACKING EXHIBIT	EX-1

ADDITIONAL SHEET INDEX

DRAWING TITLE	SHEET #
ALTA/TOPOGRAPHIC SURVEY	1 OF 1

ISSUE	DATE	BY	DESCRIPTION
2	04/01/2026	VF	REVISED PER PLANNING AND ZONING COMMENTS
1	03/24/2026	VF	FOR PLANNING AND ZONING SUBMISSION

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SITE DEVELOPMENT PLANS

1341 BUTTERFIELD RD.

PROPOSED AUTO WASH

PARCEL ID: 06-30-409-022-0000
1341 BUTTERFIELD ROAD
VILLAGE OF DOWNERS GROVE
DUPAGE COUNTY, IL 60515

STONEFIELD engineering & design

SCALE: AS SHOWN | PROJECT ID: DET-250340

TITLE: COVER SHEET

DRAWING: C-1

LAND USE AND ZONING

PID: 0630409022

GENERAL SERVICES AND HIGHWAY BUSINESS (B-3) DISTRICT

PROPOSED USE

AUTO WASH — SPECIAL USE

ZONING REQUIREMENT	REQUIRED	PROPOSED
MINIMUM B-3 OVERALL DISTRICT AREA	174,240 SF (4.0 AC)	EXISTING
MINIMUM LOT AREA	N/A	47,606 SF (1.09 AC)
MINIMUM LOT WIDTH	N/A	238.1 FT
MINIMUM FLOOR AREA RATIO	0.75 (35,468 SF)	0.08 (3,720 SF)
MAXIMUM BUILDING HEIGHT	60 FT	<60 FT
MINIMUM STREET SETBACK(1)	25.0 FT	23.0 FT
MINIMUM PARKING SETBACK (NORTH)	25.0 FT	29.5 FT
MINIMUM PARKING SETBACK (EAST)	25.0 FT	9.6 FT (V)
MINIMUM PARKING SETBACK (WEST)	25.0 FT	25.0 FT
MINIMUM CORNER VISIBILITY TRIANGLE	10 FT X 10 FT	1.0 (EN)
MINIMUM ACCESSORY BUILDING FROM PRINCIPAL	10.0 FT	52.5 FT
MINIMUM ACCESSORY BUILDING STREET SETBACK	25.0 FT	25.0 FT
MINIMUM BICYCLE PARKING SETBACK (ALL LOT LINES)	6.0 FT	62.0 FT
MINIMUM RETAINING WALL SETBACK (ALL LOT LINES)	1.0 FT	1.2 FT
MINIMUM FLAGPOLE SETBACK	35 FT(3)	35.0 FT
MINIMUM LANDSCAPE OPEN SPACE	10% (4,729 SF)	36.2% (17,250 SF)
MINIMUM STREET YARD LANDSCAPE(2)	50% (2,365 SF)(2)	12,196 SF

(V) VARIANCE
(1) TABLE 14-1 - AWNINGS IN NONRESIDENTIAL DISTRICTS ALLOWED 2.5 FT OF ENCROACHMENT INTO STREET SETBACK
(2) § 28.3.030.10 - AT LEAST 50% OF THE REQUIRED LANDSCAPED OPEN SPACE MUST BE LOCATED IN THE STREET YARD
(3) § 28.6.010.H - FLAG POLES MUST BE SETBACK FROM LOT LINES A MINIMUM DISTANCE EQUAL TO THE HEIGHT OF THE POLE AND SITED SO THE FLAG WILL NOT EXTEND BEYOND ANY LOT LINE

OFF-STREET PARKING REQUIREMENTS

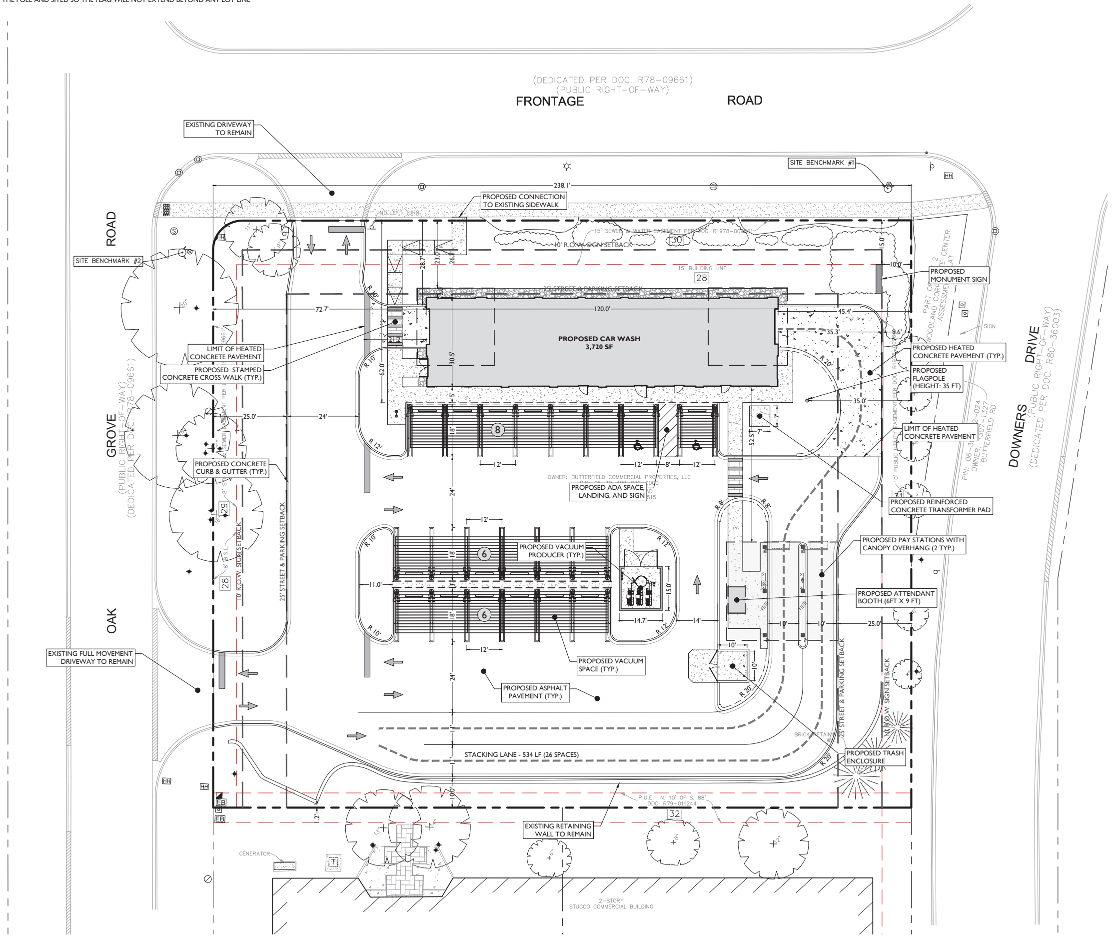
CODE SECTION	REQUIRED	PROPOSED
TABLE 7-1	**CAR WASH:** 1 SPACE PER WASH BAY (1 BAY)(1 SPACE/1 BAY) = 1 SPACE	20 SPACES
TABLE 7-4	**90° PARKING:** 9 FT X 18 FT W/ 24 FT AISLE	12 FT X 18 FT W/ 24 FT AISLE
TABLE 7-5	**STACKING:** 2 SPACES PER APPROACH LANE (3 LANES)(2 SPACES/1 LANE) = 6 SPACES 2 END OF BAY DRYING SPACES	26 SPACES 1 DRYING SPACE (V)
§ 28.7.130.D.1	**MINIMUM STACKING WIDTH:** 10 FT	11 FT
TABLE 7-3	**BICYCLE PARKING:** NONE FOR THE FIRST 19 SPACES THEN 10% OR 2 SPACES (GREATER GOVERNS) (20 SPACES)(0.10) = 2 SPACES	2 SPACES
§ 28.8.030(b)(2)	**LANDSCAPE ISLANDS:** MINIMUM 7 FT WIDTH: MINIMUM 150 SF AREA	11.0 FT 377 SF
§ 28.8.030(b)(1)	**MAXIMUM PARKING SPACES IN A ROW:** 20	8 SPACES

(V) VARIANCE

SIGNAGE REQUIREMENTS(1)

CODE SECTION	REQUIRED	PROPOSED
§ 28.9.050(b)(1).b	MINIMUM R.O.W. MONUMENT SIGN SETBACK: 10 FT (1)	10.0 FT

(1) § 28.9.050(b)(1).b - TABLE APPLIES TO MONUMENT SIGNS THAT ARE 10 FT IN HEIGHT OR LESS. REQUIREMENTS DIFFER FOR SIGNS GREATER THAN 10 FT.



SYMBOL	DESCRIPTION
	PROPERTY LINE
	SETBACK LINE
	PROPOSED CURB
	PROPOSED FLUSH CURB
	PROPOSED MOUNTABLE CURB
	PROPOSED SIGNS / BOLLARDS
	PROPOSED BUILDING
	PROPOSED CONCRETE
	PROPOSED HEATED CONCRETE
	PROPOSED BUILDING DOORS

GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY AND FAMILIARIZE THEMSELVES WITH THE EXISTING SITE CONDITIONS AND THE PROPOSED SCOPE OF WORK (INCLUDING DIMENSIONS, LAYOUT, ETC.) PRIOR TO INITIATING THE IMPROVEMENTS IDENTIFIED WITHIN THESE DOCUMENTS. SHOULD ANY DISCREPANCY BE FOUND BETWEEN THE EXISTING SITE CONDITIONS AND THE PROPOSED WORK THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. PRIOR TO THE START OF CONSTRUCTION.
2. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND ENSURE THAT ALL REQUIRED APPROVALS HAVE BEEN OBTAINED PRIOR TO THE START OF CONSTRUCTION. COPIES OF ALL REQUIRED PERMITS AND APPROVALS SHALL BE KEPT ON SITE AT ALL TIMES DURING CONSTRUCTION.
3. ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED BY LAW, INDEMNIFY AND HOLD HARMLESS STONEFIELD ENGINEERING & DESIGN, LLC. AND IT'S SUB-CONSULTANTS FROM AND AGAINST ANY DAMAGES AND LIABILITIES INCLUDING ATTORNEY'S FEES ARISING OUT OF CLAIMS BY EMPLOYEES OF THE CONTRACTOR IN ADDITION TO CLAIMS CONNECTED TO THE PROJECT AS A RESULT OF NOT CARRYING THE PROPER INSURANCE FOR WORKERS COMPENSATION, LIABILITY INSURANCE, AND LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE.
4. THE CONTRACTOR SHALL NOT DEVIATE FROM THE PROPOSED IMPROVEMENTS IDENTIFIED WITHIN THIS PLAN SET UNLESS APPROVAL IS PROVIDED IN WRITING BY STONEFIELD ENGINEERING & DESIGN, LLC.
5. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE MEANS AND METHODS OF CONSTRUCTION.
6. THE CONTRACTOR SHALL NOT PERFORM ANY WORK OR CAUSE DISTURBANCE ON A PRIVATE PROPERTY NOT CONTROLLED BY THE PERSON OR ENTITY WHO HAS AUTHORIZED THE WORK WITHOUT PRIOR WRITTEN CONSENT FROM THE OWNER OF THE PRIVATE PROPERTY.
7. THE CONTRACTOR IS RESPONSIBLE TO RESTORE ANY DAMAGED OR UNDERMINED STRUCTURE OR SITE FEATURE THAT IS IDENTIFIED TO REMAIN ON THE PLAN SET. ALL REPAIRS SHALL USE NEW MATERIALS TO RESTORE THE FEATURE TO ITS EXISTING CONDITION AT THE CONTRACTORS EXPENSE.
8. CONTRACTOR IS RESPONSIBLE TO PROVIDE THE APPROPRIATE SHOP DRAWINGS, PRODUCT DATA, AND OTHER REQUIRED SUBMITTALS FOR REVIEW. STONEFIELD ENGINEERING & DESIGN, LLC. WILL REVIEW THE SUBMITTALS IN ACCORDANCE WITH THE DESIGN INTENT AS REFLECTED WITHIN THE PLAN SET.
9. THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
10. THE CONTRACTOR IS REQUIRED TO PERFORM ALL WORK IN THE PUBLIC RIGHT-OF-WAY IN ACCORDANCE WITH THE APPROPRIATE GOVERNING AUTHORITY AND SHALL BE RESPONSIBLE FOR THE PROCUREMENT OF STREET OPENING PERMITS.
11. THE CONTRACTOR IS REQUIRED TO RETAIN AN OSHA CERTIFIED SAFETY INSPECTOR TO BE PRESENT ON SITE AT ALL TIMES DURING CONSTRUCTION & DEMOLITION ACTIVITIES.
12. SHOULD AN EMPLOYEE OF STONEFIELD ENGINEERING & DESIGN, LLC. BE PRESENT ON SITE AT ANY TIME DURING CONSTRUCTION, IT DOES NOT RELIEVE THE CONTRACTOR OF ANY OF THE RESPONSIBILITIES AND REQUIREMENTS LISTED IN THE NOTES WITHIN THIS PLAN SET.

GRAPHIC SCALE IN FEET
1" = 20'

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PROPOSED AUTO WASH

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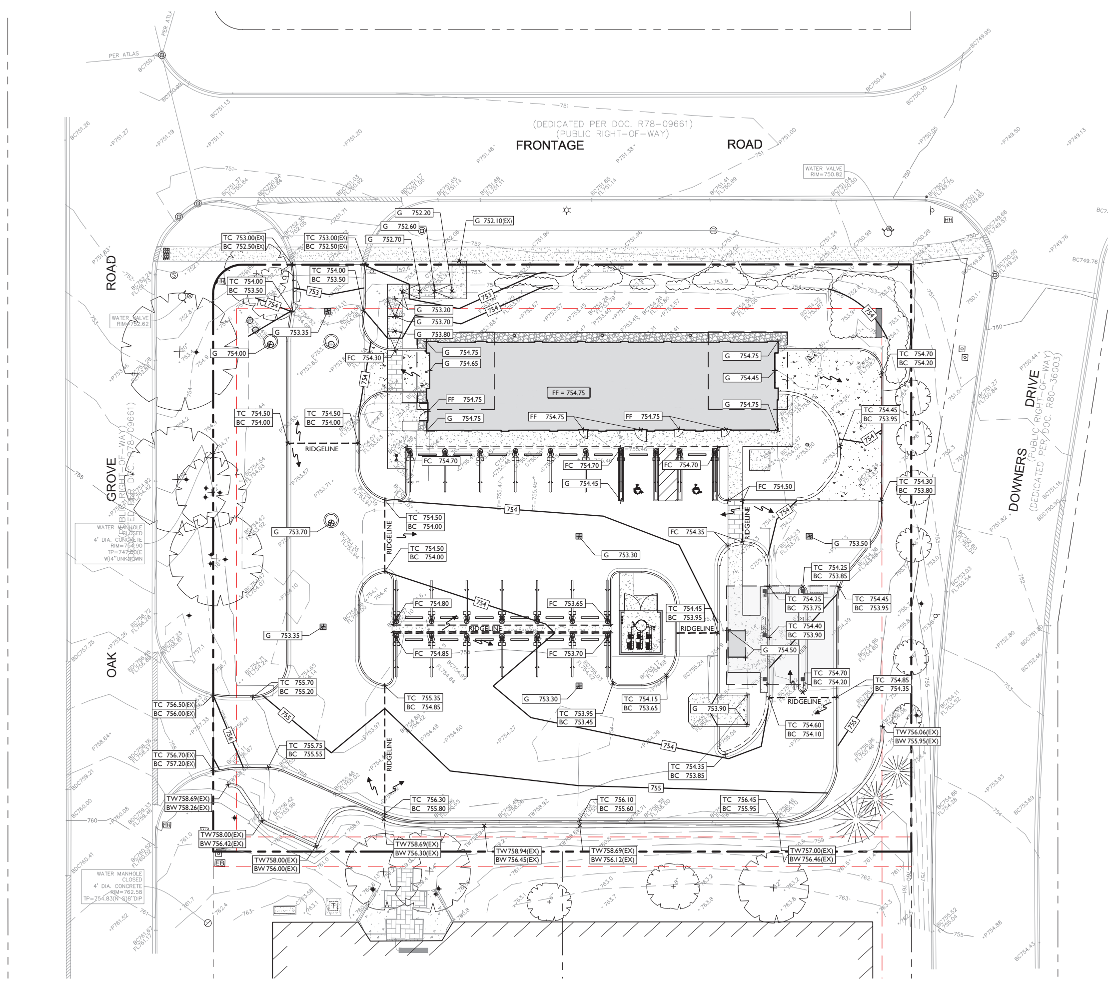
VILLAGE OF DOWNERS GROVE
DUPAGE COUNTY, IL 60515

STONEFIELD engineering & design

SCALE: 1" = 20' | PROJECT ID: DET-250340

TITLE: SITE PLAN

DRAWING: C-3



SYMBOL	DESCRIPTION
	PROPERTY LINE
100	PROPOSED GRADING CONTOUR
RIDGELINE	PROPOSED GRADING RIDGELINE
	PROPOSED DIRECTION OF DRAINAGE FLOW
G 100.00	PROPOSED GRADE SPOT SHOT
TC 100.50 / BC 100.00	PROPOSED TOP OF CURB / BOTTOM OF CURB SPOT SHOT
FC 100.00	PROPOSED FLUSH CURB SPOT SHOT
FF 100.00	PROPOSED FINISHED FLOOR SPOT SHOT

GRADING NOTES

1. ALL SOIL AND MATERIAL REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS. ANY GROUNDWATER DE-WATERING PRACTICES SHALL BE PERFORMED UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL. THE CONTRACTOR IS REQUIRED TO OBTAIN ALL NECESSARY PERMITS FOR THE DISCHARGE OF DE-WATERED GROUNDWATER. ALL SOIL IMPORTED TO THE SITE SHALL BE CERTIFIED CLEAN FILL. CONTRACTOR SHALL MAINTAIN RECORDS OF ALL FILL MATERIALS BROUGHT TO THE SITE.
2. THE CONTRACTOR IS REQUIRED TO PROVIDE TEMPORARY AND/OR PERMANENT SHORING WHERE REQUIRED DURING EXCAVATION ACTIVITIES, INCLUDING BUT NOT LIMITED TO UTILITY TRENCHES, TO ENSURE THE STRUCTURAL INTEGRITY OF NEARBY STRUCTURES AND STABILITY OF THE SURROUNDING SOILS.
3. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 4 INCHES TO 7 INCHES ABOVE EXISTING GRADES UNLESS OTHERWISE NOTED. THE CONTRACTOR WILL SUPPLY ALL STAKEOUT CURB GRADE SHEETS TO STONEFIELD ENGINEERING & DESIGN, LLC. FOR REVIEW AND APPROVAL PRIOR TO POURING CURBS.
4. THE CONTRACTOR IS RESPONSIBLE TO SET ALL PROPOSED UTILITY COVERS AND RESET ALL EXISTING UTILITY COVERS WITHIN THE PROJECT LIMITS TO PROPOSED GRADE IN ACCORDANCE WITH ANY APPLICABLE MUNICIPAL, COUNTY, STATE AND/OR UTILITY AUTHORITY REGULATIONS.
5. MINIMUM SLOPE REQUIREMENTS TO PREVENT PONDING SHALL BE AS FOLLOWS:
   - CURB GUTTER: 0.50%
   - CONCRETE SURFACES: 1.00%
   - ASPHALT SURFACES: 1.00%
6. A MINIMUM SLOPE OF 1.00% SHALL BE PROVIDED AWAY FROM ALL BUILDINGS. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE FROM THE BUILDING IS ACHIEVED AND SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IF THIS CONDITION CANNOT BE MET.
7. FOR PROJECTS WHERE BASEMENTS ARE PROPOSED, THE DEVELOPER IS RESPONSIBLE TO DETERMINE THE DEPTH TO GROUNDWATER AT THE LOCATION OF THE PROPOSED STRUCTURE. IF GROUNDWATER IS ENCOUNTERED WITHIN THE BASEMENT AREA, SPECIAL CONSTRUCTION METHODS SHALL BE UTILIZED AND REVIEWED/APPROVED BY THE CONSTRUCTION CODE OFFICIAL. IF SUMP PUMPS ARE UTILIZED, ALL DISCHARGES SHALL BE CONNECTED DIRECTLY TO THE PUBLIC STORM SEWER SYSTEM WITH APPROVAL FROM THE GOVERNING STORM SEWER SYSTEM AUTHORITY.

ADA NOTES

1. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION WITHIN THE ADA PARKING SPACES AND ACCESS AISLES.
2. THE CONTRACTOR SHALL PROVIDE COMPLIANT SIGNAGE AT ALL ADA PARKING AREAS IN ACCORDANCE WITH STATE GUIDELINES.
3. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 5.00% RUNNING SLOPE AND A MAXIMUM OF 2.00% CROSS SLOPE ALONG WALKWAYS WITHIN THE ACCESSIBLE PATH OF TRAVEL (SEE THE SITE PLAN FOR THE LOCATION OF THE ACCESSIBLE PATH). THE CONTRACTOR IS RESPONSIBLE TO ENSURE THE ACCESSIBLE PATH OF TRAVEL IS 36 INCHES WIDE OR GREATER UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
4. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION AT ALL LANDINGS. LANDINGS INCLUDE, BUT ARE NOT LIMITED TO, THE TOP AND BOTTOM OF AN ACCESSIBLE RAMP, AT ACCESSIBLE BUILDING ENTRANCES, AT AN AREA IN FRONT OF A WALK-UP ATM, AND AT TURNING SPACES ALONG THE ACCESSIBLE PATH OF TRAVEL. THE LANDING AREA SHALL HAVE A MINIMUM CLEAR AREA OF 60 INCHES BY 60 INCHES UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
5. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 8.33% RUNNING SLOPE AND A MAXIMUM 2.00% CROSS SLOPE ON ANY CURB RAMPS ALONG THE ACCESSIBLE PATH OF TRAVEL. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 10.00% IF A LANDING AREA IS PROVIDED AT THE TOP OF THE RAMP. FOR ALTERATIONS, A CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 8.33% IF A LANDING AREA IS NOT PROVIDED AT THE TOP OF THE RAMP. CURBS RAMPS SHALL NOT RISE MORE THAN 6 INCHES IN ELEVATION WITHOUT A HANDRAIL. THE CLEAR WIDTH OF A CURB RAMP SHALL BE NO LESS THAN 36 INCHES WIDE.
6. ACCESSIBLE RAMPS WITH A RISE GREATER THAN 6 INCHES SHALL CONTAIN COMPLIANT HANDRAILS ON BOTH SIDES OF THE RAMP AND SHALL NOT RISE MORE THAN 30" IN ELEVATION WITHOUT A LANDING AREA IN BETWEEN RAMP RUNS. LANDING AREAS SHALL ALSO BE PROVIDED AT THE TOP AND BOTTOM OF THE RAMP.
7. A SLIP RESISTANT SURFACE SHALL BE CONSTRUCTED ALONG THE ACCESSIBLE PATH AND WITHIN ADA PARKING AREAS.
8. THE CONTRACTOR SHALL ENSURE A MAXIMUM OF ¼ INCHES VERTICAL CHANGE IN LEVEL ALONG THE ACCESSIBLE PATH. WHERE A CHANGE IN LEVEL BETWEEN ¼ INCHES AND ½ INCHES EXISTS, CONTRACTOR SHALL ENSURE THAT THE TOP ¼ INCH CHANGE IN LEVEL IS BEVELED WITH A SLOPE NOT STEEPER THAN 1 UNIT VERTICAL AND 2 UNITS HORIZONTAL (2:1 SLOPE).
9. THE CONTRACTOR SHALL ENSURE THAT ANY OPENINGS (GAPS OR HORIZONTAL SEPARATION) ALONG THE ACCESSIBLE PATH SHALL NOT ALLOW PASSAGE OF A SPHERE GREATER THAN ½ INCH.

20' 0' 20' 40'

GRAPHIC SCALE IN FEET
1" = 20'

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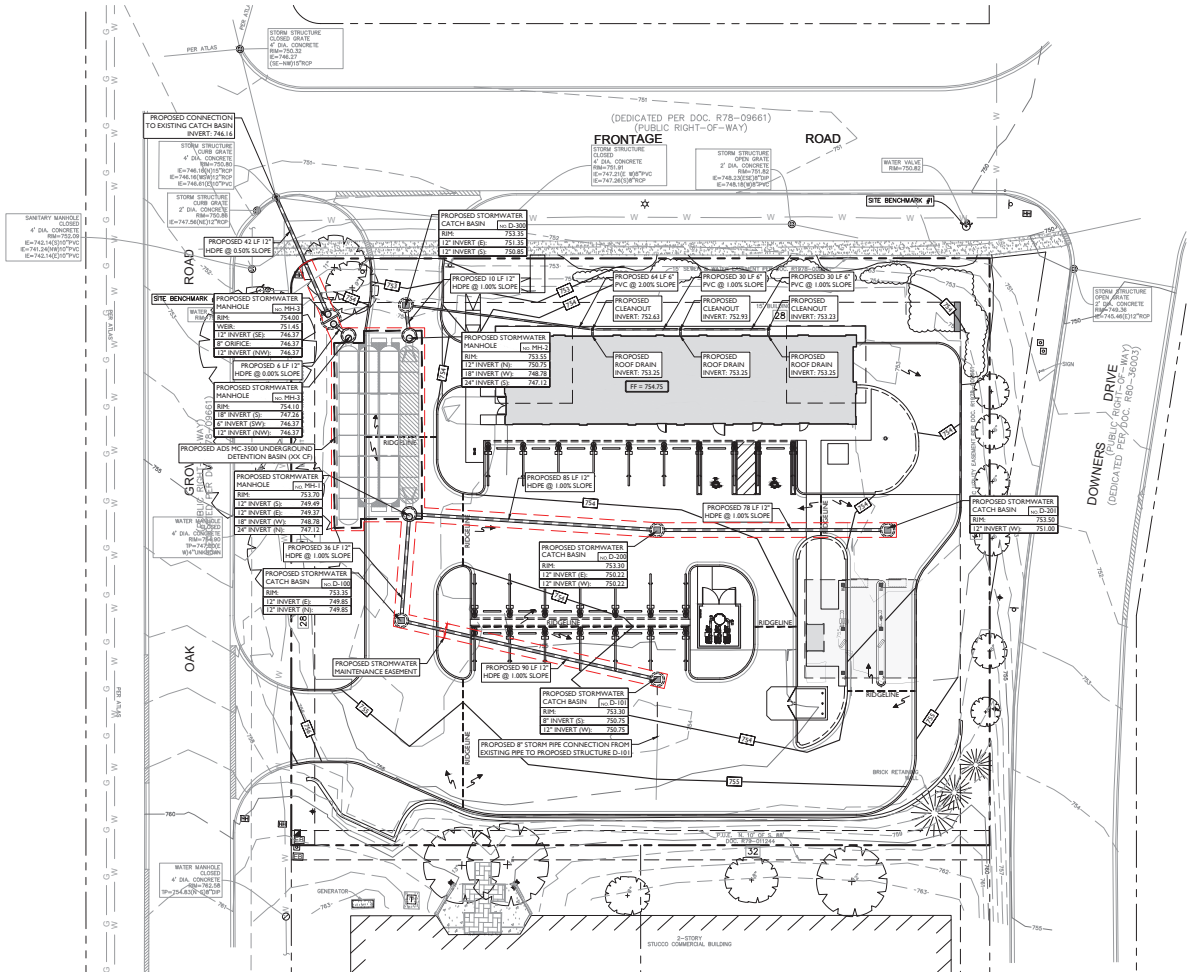
STONEFIELD engineering & design

SCALE: 1" = 20' PROJECT ID: DET-250340

TITLE: GRADING PLAN

DRAWING: C-4



SYMBOL / DESCRIPTION

- PROPERTY LINE
- PROPOSED GRADING CONTOUR
- PROPOSED GRADING RIDGELINE
- PROPOSED STORMWATER STRUCTURES
- PROPOSED STORMWATER PIPING
- PROPOSED UNDERGROUND OUTLET STRUCTURE

DRAINAGE AND UTILITY NOTES

1. THE CONTRACTOR TO PERFORM A TEST PIT PRIOR TO CONSTRUCTION (RECOMMEND 30 DAYS PRIOR) AT LOCATIONS OF EXISTING UTILITY CROSSINGS FOR STORMWATER IMPROVEMENTS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IN WRITING.
2. CONTRACTOR SHALL START CONSTRUCTION OF STORM LINES AT THE LOWEST INVERT AND WORK UP-GRADIENT.
3. THE CONTRACTOR IS REQUIRED TO CALL THE APPROPRIATE AUTHORITY FOR NOTICE OF CONSTRUCTION/EXCAVATION AND UTILITY MARK OUT PRIOR TO THE START OF CONSTRUCTION IN ACCORDANCE WITH STATE LAW. CONTRACTOR IS REQUIRED TO CONFIRM THE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES IN THE FIELD. SHOULD A DISCREPANCY EXIST BETWEEN THE FIELD LOCATION OF A UTILITY AND THE LOCATION SHOWN ON THE PLAN SET OR SURVEY, THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IMMEDIATELY IN WRITING.
4. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD OF THE AS-BUILT LOCATIONS OF ALL PROPOSED UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR SHALL NOTE ANY DISCREPANCIES BETWEEN THE AS-BUILT LOCATIONS AND THE LOCATIONS DEPICTED WITHIN THE PLAN SET. THIS RECORD SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.

EXCAVATION, SOIL PREPARATION, AND DEWATERING NOTES

1. THE CONTRACTOR IS REQUIRED TO REVIEW THE REFERENCED GEOTECHNICAL DOCUMENTS PRIOR TO CONSTRUCTION. THESE DOCUMENTS SHALL BE CONSIDERED A PART OF THE PLAN SET.
2. THE CONTRACTOR IS REQUIRED TO PREPARE SUBGRADE SOILS BENEATH ALL PROPOSED IMPROVEMENTS AND BACKFILL ALL EXCAVATIONS IN ACCORDANCE WITH RECOMMENDATIONS BY THE GEOTECHNICAL ENGINEER OF RECORD.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING SHORING FOR ALL EXCAVATIONS AS REQUIRED. CONTRACTOR SHALL HAVE THE SHORING DESIGN PREPARED BY A QUALIFIED PROFESSIONAL. SHORING DESIGNS SHALL BE SUBMITTED TO STONEFIELD ENGINEERING & DESIGN, LLC. AND THE OWNER PRIOR TO THE START OF CONSTRUCTION.
4. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL OPEN EXCAVATIONS ARE PERFORMED AND PROTECTED IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS.
5. THE CONTRACTOR IS RESPONSIBLE FOR ANY DEWATERING DESIGN AND OPERATIONS, AS REQUIRED, TO CONSTRUCT THE PROPOSED IMPROVEMENTS. THE CONTRACTOR SHALL OBTAIN ANY REQUIRED PERMITS FOR DEWATERING OPERATIONS AND GROUNDWATER DISPOSAL.

STORMWATER INFILTRATION BMP CONSTRUCTION NOTES

1. PRIOR TO THE START OF CONSTRUCTION, ANY AREA DESIGNATED TO BE USED FOR AN INFILTRATION BMP (E.G. BASIN, BIORETENTION AREA, ETC.) SHALL BE FENCED OFF AND SHALL NOT BE UTILIZED AS STORAGE FOR CONSTRUCTION EQUIPMENT OR AS A STOCKPILE AREA FOR CONSTRUCTION MATERIALS. NO ACTIVITY SHALL BE PERMITTED WITHIN THE INFILTRATION BASIN AREA UNLESS RELATED TO THE CONSTRUCTION OF THE INFILTRATION BASIN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY ALL SUBCONTRACTORS OF BASIN AREA RESTRICTIONS.
2. THE CONTRACTOR SHALL MAKE EVERY EFFORT, WHERE PRACTICAL, TO AVOID SUBGRADE SOIL COMPACTION IN THE AREAS DESIGNATED TO BE USED FOR AN INFILTRATION BMP.
3. ALL EXCAVATION WITHIN THE LIMITS OF ANY INFILTRATION BMP SHALL BE PERFORMED WITH THE LIGHTEST PRACTICAL EXCAVATION EQUIPMENT. ALL EXCAVATION EQUIPMENT SHALL BE PLACED OUTSIDE THE LIMITS OF THE BASIN WHERE FEASIBLE. THE USE OF LIGHT-WEIGHT, RUBBER-TIRED EQUIPMENT (LESS THAN 8 PSI APPLIED TO THE GROUND SURFACE) IS RECOMMENDED WITHIN THE BASIN LIMITS.
4. THE SEQUENCE OF SITE CONSTRUCTION SHALL BE COORDINATED WITH BASIN CONSTRUCTION TO ADHERE TO SEQUENCING LIMITATIONS.
5. DURING THE FINAL GRADING OF AN INFILTRATION BASIN, THE BOTTOM OF THE BASIN SHALL BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW AND THEN SMOOTHED OUT WITH A LEVELING DRAW OR EQUIVALENT GRADING EQUIPMENT. ALL GRADING EQUIPMENT SHALL BE LOCATED OUTSIDE OF THE BASIN BOTTOM WHERE FEASIBLE.
6. FOLLOWING CONSTRUCTION OF AN INFILTRATION BASIN, SOIL INFILTRATION TESTING BY A LICENSED GEOTECHNICAL ENGINEER IS REQUIRED TO CERTIFY COMPLIANCE WITH THE DESIGN INFILTRATION RATES IN ACCORDANCE WITH APPENDIX E OF THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION'S BEST MANAGEMENT PRACTICES MANUAL, LATEST EDITION. IF THE FIELD INFILTRATION RATES ARE LOWER THAN THE RATE USED DURING DESIGN, THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IN WRITING IMMEDIATELY TO DETERMINE THE APPROPRIATE COURSE OF ACTION.
7. THE CONTRACTOR SHALL NOTIFY THE MUNICIPALITY TO DETERMINE IF WITNESS TESTING IS REQUIRED DURING INFILTRATION BASIN EXCAVATION AND/OR SOIL INFILTRATION TESTING.

STORMWATER UNDERGROUND BMP CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL INSTALL AND BACKFILL THE UNDERGROUND BMP IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
2. UNDERGROUND BASINS SHALL UTILIZE A STONE BACKFILL WITH A MINIMUM VOID RATIO OF 40%.
3. NO CONSTRUCTION LOADING OVER UNDERGROUND BASINS IS PERMITTED UNTIL BACKFILL IS COMPLETE PER THE MANUFACTURER'S SPECIFICATIONS. NO VEHICLES SHALL BE STAGED OR OPERATE FROM A FIXED POSITION OVER THE BASIN.

20' 0' 20' 40'
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SITE DEVELOPMENT PLANS

1341 BUTTERFIELD RD.

PROPOSED AUTO WASH

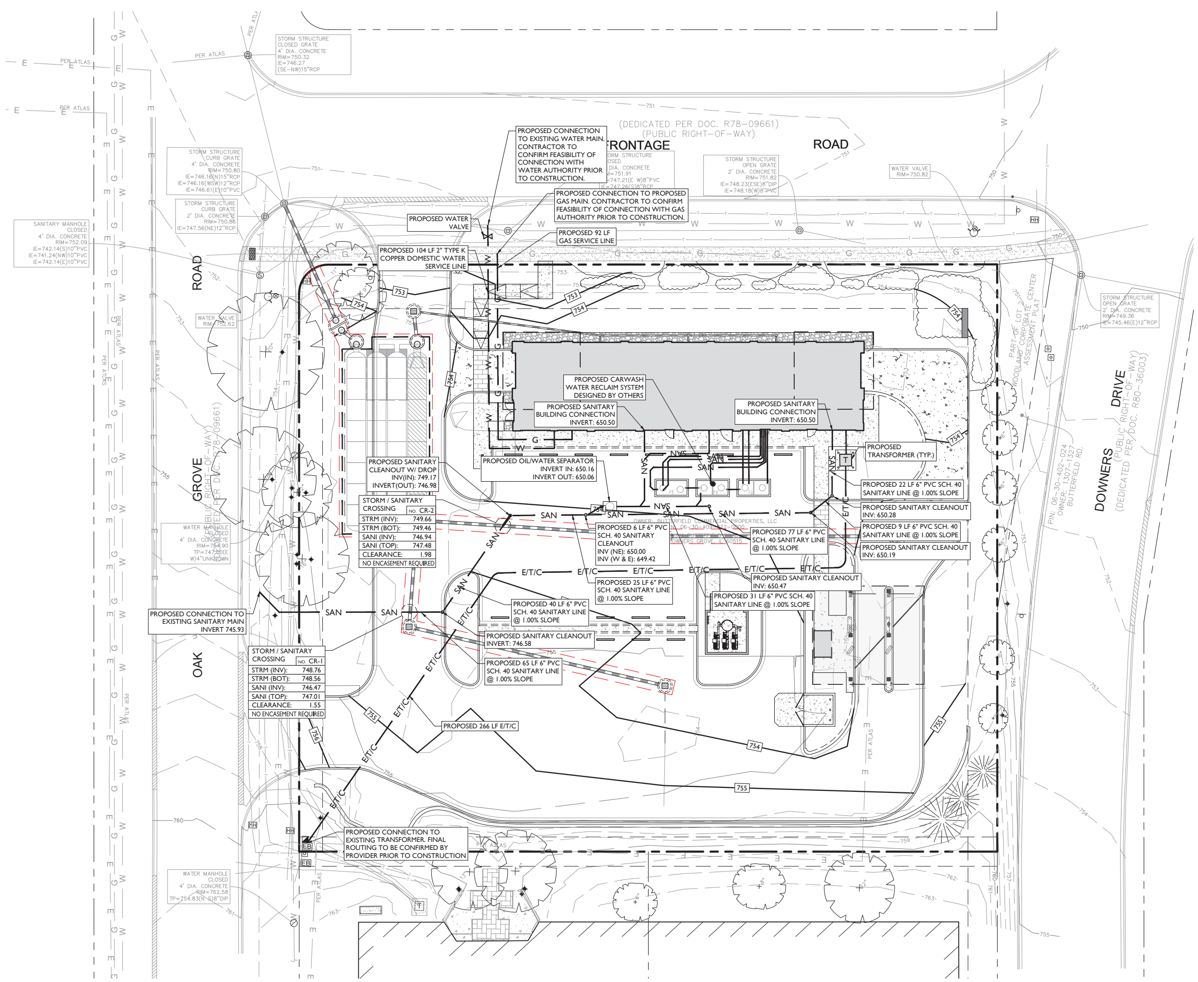
PARCEL ID: 06-30-409-022-0000
LOCATION OF PROPERTY:
VILLAGE OF DOWNERS GROVE
DUPAGE COUNTY, IL 60515

STONEFIELD engineering & design

SCALE: 1" = 20' | PROJECT ID: DET-250340

TITLE: STORMWATER MANAGEMENT PLAN

DRAWING: C-5



SYMBOL	DESCRIPTION
— — —	PROPERTY LINE
— SAN —	PROPOSED SANITARY LATERAL
— W —	PROPOSED DOMESTIC WATER SERVICE
— E/T/C —	PROPOSED ELECTRICAL/DATA CONDUITS
— G —	PROPOSED GAS LINE
∘	PROPOSED SANITARY CLEANOUT
T	PROPOSED TRANSFORMER ON CONCRETE PAD WITH BOLLARDS

DRAINAGE AND UTILITY NOTES

1. THE CONTRACTOR IS REQUIRED TO CALL THE APPROPRIATE AUTHORITY FOR NOTICE OF CONSTRUCTION/EXCAVATION AND UTILITY MARK OUT PRIOR TO THE START OF CONSTRUCTION IN ACCORDANCE WITH STATE LAW. CONTRACTOR IS REQUIRED TO CONFIRM THE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES IN THE FIELD. SHOULD A DISCREPANCY EXIST BETWEEN THE FIELD LOCATION OF A UTILITY AND THE LOCATION SHOWN ON THE PLAN SET OR SURVEY, THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IMMEDIATELY IN WRITING.
2. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN IN OPERATION ALL UTILITIES NOT DESIGNATED TO BE REMOVED.
3. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO ANY EXISTING UTILITY IDENTIFIED TO REMAIN WITHIN THE LIMITS OF THE PROPOSED WORK DURING CONSTRUCTION.
4. A MINIMUM HORIZONTAL SEPARATION OF 10 FEET IS REQUIRED BETWEEN ANY SANITARY SEWER SERVICE AND ANY WATER LINES. IF THIS SEPARATION CANNOT BE PROVIDED, A CONCRETE ENCASEMENT SHALL BE UTILIZED FOR THE SANITARY SEWER SERVICE AS APPROVED BY STONEFIELD ENGINEERING & DESIGN, LLC.
5. ALL WATER LINES SHALL BE VERTICALLY SEPARATED ABOVE SANITARY SEWER LINES BY A MINIMUM DISTANCE OF 18 INCHES. IF THIS SEPARATION CANNOT BE PROVIDED, A CONCRETE ENCASEMENT SHALL BE UTILIZED FOR THE SANITARY SEWER SERVICE AS APPROVED BY STONEFIELD ENGINEERING & DESIGN, LLC.
6. THE CONTRACTOR TO PERFORM A TEST PIT PRIOR TO CONSTRUCTION (RECOMMEND 30 DAYS PRIOR) AT LOCATIONS OF EXISTING UTILITY CROSSINGS FOR WATER AND SANITARY SEWER CONNECTION IMPROVEMENTS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IN WRITING.
7. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING GAS, ELECTRIC AND TELECOMMUNICATION CONNECTIONS WITH THE APPROPRIATE GOVERNING AUTHORITY.
8. CONTRACTOR SHALL START CONSTRUCTION OF ANY GRAVITY SEWER AT THE LOWEST INVERT AND WORK UP-GRADIENT.
9. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD SET OF PLANS REFLECTING THE LOCATION OF EXISTING UTILITIES THAT HAVE BEEN CAPPED, ABANDONED, OR RELOCATED BASED ON THE DEMOLITION/REMOVAL ACTIVITIES REQUIRED IN THIS PLAN SET. THIS DOCUMENT SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.
10. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD OF THE AS-BUILT LOCATIONS OF ALL PROPOSED UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR SHALL NOTE ANY DISCREPANCIES BETWEEN THE AS-BUILT LOCATIONS AND THE LOCATIONS DEPICTED WITHIN THE PLAN SET. THIS RECORD SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.

20' 0' 20' 40'

GRAPHIC SCALE IN FEET
1" = 20'

ISSUE	DATE	BY	DESCRIPTION
2	04/01/2026	VF	REVISED PER PLANNING AND ZONING COMMENTS
1	02/26/2026	VF	FOR PLANNING AND ZONING SUBMISSION

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www.stonefieldeng.com
555 S. Old Woodward Avenue, Suite 12L, Birmingham, MI 48009
Phone 248.247.1115

SITE DEVELOPMENT PLANS

1341 BUTTERFIELD RD.

PROPOSED AUTO WASH

PARCEL ID: 06-30-409-022-0000
1341 BUTTERFIELD ROAD
VILLAGE OF DOWNERS GROVE
DUPAGE COUNTY, IL 60515

STONEFIELD engineering & design

SCALE: 1" = 20' PROJECT ID: DET-250340

TITLE: UTILITY PLAN

DRAWING: C-6

LIGHTING REQUIREMENTS

CODE SECTION	REQUIRED	PROPOSED
TABLE 10-1	**MAXIMUM AVERAGE FC AT LOT LINES:** 2.00 FC	**0.76 FC**
§ 428.10.030.H	**MAXIMUM LIGHT FIXTURE HEIGHT:** 30 FT	**25 FT**

§ 28.10.030.G - ALL OUTDOOR LIGHTING MUST BE DESIGNED, INSTALLED AND MAINTAINED TO AVOID THE ADVERSE IMPACTS OF GLARE AND LIGHT TRESPASS ASSOCIATED WITH POORLY SHIELDED OR INAPPROPIATELY DIRECTED LIGHTING FIXTURES.

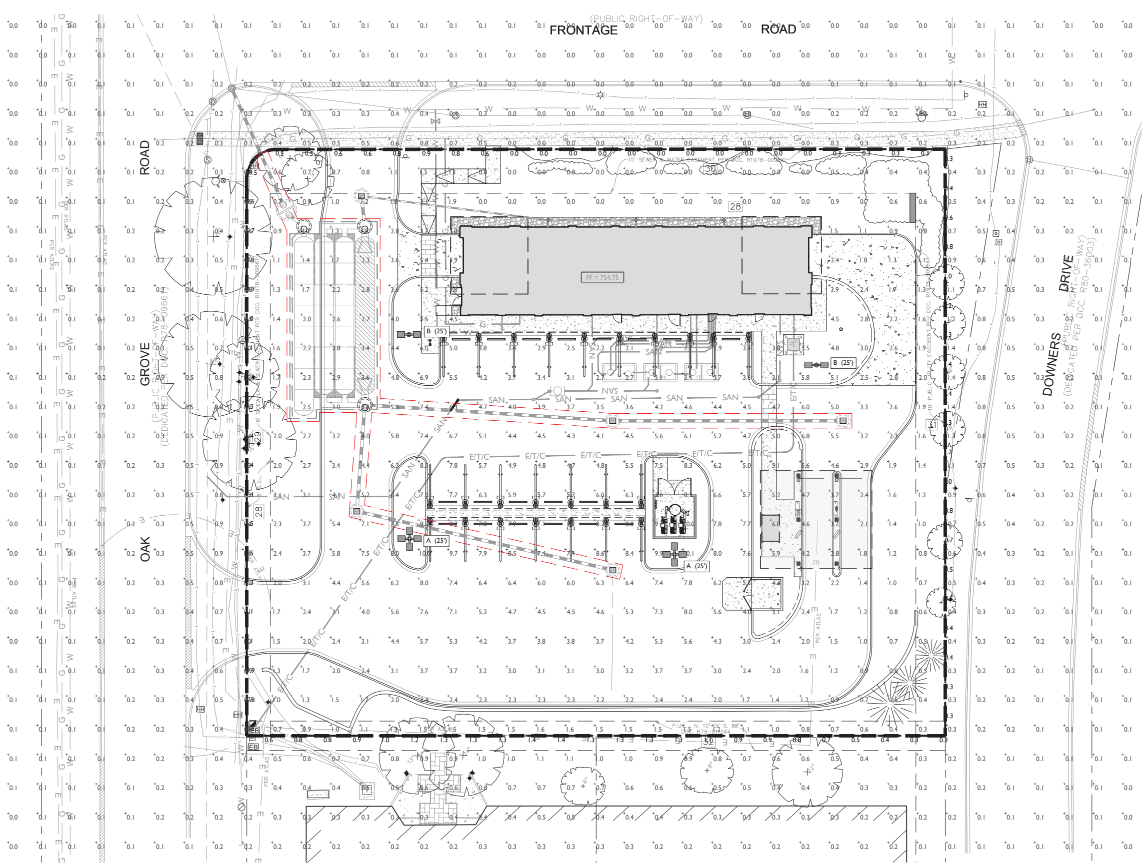
LIGHTING STATISTICS

DESCRIPTION	AVERAGE	MINIMUM	MAXIMUM	(AVERAGE/MINIMUM) UNIFORMITY RATIO
OVERALL PARCEL	3.1 FC	0.0 FC	10.1 FC	12.1 FC
PROPERTY LINE	0.7 FC	0.0 FC	1.5 FC	7.6 FC
5 FT OUTSIDE PARCEL	0.7 FC	0.0 FC	1.4 FC	7.3 FC

(1) § 28.10.030.D - LIGHTING PLANS MUST INCLUDE A SUMMARY CALCULATION TABLE SHOWING AVERAGE FOOT-CANDLES, MINIMUM FOOT-CANDLES, MAXIMUM FOOT-CANDLES, AVERAGE-MINIMUM UNIFORMITY RATIO, AND FOOTCANDLES AT PROPERTY LINES AND AT LEAST 5 FT BEYOND

PROPOSED LUMINAIRE SCHEDULE

SYMBOL	LABEL	QUANTITY	SECURITY LIGHTING	DISTRIBUTION	LLF	MANUFACTURER	IES FILE
	A	2	EATON LUMARK PREVAIL AND FIXTURE COMBO AREA LIGHT - QUAD @ 90°	IV	0.9	EATON	PRV-C40-D-UNV-T4-BZ-7030.ies
	B	2	EATON LUMARK PREVAIL AND FIXTURE COMBO AREA LIGHT - DOUBLE @180°	IV	0.9	EATON	PRV-C40-D-UNV-T4-BZ-7030.ies



SYMBOL	DESCRIPTION
— — —	PROPERTY LINE
A (XX')	PROPOSED LIGHTING FIXTURE (MOUNTING HEIGHT)

GENERAL LIGHTING NOTES

1. THE LIGHTING LEVELS DEPICTED WITHIN THE PLAN SET ARE CALCULATED UTILIZING DATA OBTAINED FROM THE LISTED MANUFACTURER. ACTUAL ILLUMINATION LEVELS AND PERFORMANCE OF ANY PROPOSED LIGHTING FIXTURE MAY VARY DUE TO UNCONTROLLABLE VARIABLES SUCH ARE WEATHER, VOLTAGE SUPPLY, LAMP TOLERANCE, EQUIPMENT SERVICE LIFE AND OTHER VARIABLE FIELD CONDITIONS.
2. WHERE APPLICABLE, THE EXISTING LIGHT LEVELS DEPICTED WITHIN THE PLAN SET SHALL BE CONSIDERED APPROXIMATE. THE EXISTING LIGHT LEVELS ARE BASED ON FIELD OBSERVATIONS AND THE MANUFACTURER'S DATA OF THE ASSUMED OR MOST SIMILAR LIGHTING FIXTURE MODEL.
3. UNLESS NOTED ELSEWHERE WITHIN THIS PLAN SET, THE LIGHT LOSS FACTORS USED IN THE LIGHTING ANALYSIS ARE AS FOLLOWS:
   - LIGHT EMITTING DIODES (LED): 0.90
   - HIGH PRESSURE SODIUM: 0.72
   - METAL HALIDE: 0.72
4. THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IN WRITING, PRIOR TO THE START OF CONSTRUCTION, OF ANY PROPOSED LIGHTING LOCATIONS THAT CONFLICT WITH EXISTING/ PROPOSED DRAINAGE, UTILITY, OR OTHER IMPROVEMENTS.
5. THE CONTRACTOR IS RESPONSIBLE TO PREPARE A WIRING PLAN AND PROVIDE ELECTRIC SERVICE TO ALL PROPOSED LIGHTING FIXTURES. THE CONTRACTOR IS REQUIRED TO PREPARE AN AS-BUILT PLAN OF WIRING AND PROVIDE COPIES TO THE OWNER AND STONEFIELD ENGINEERING & DESIGN, LLC.

GRAPHIC SCALE IN FEET
1" = 20'

ISSUE	DATE	BY	DESCRIPTION
2	04/01/2026	VF	REVISED PER PLANNING AND ZONING COMMENTS
1	02/26/2026	VF	FOR PLANNING AND ZONING SUBMISSION

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SITE DEVELOPMENT PLANS

1341 BUTTERFIELD RD.

PROPOSED AUTO WASH

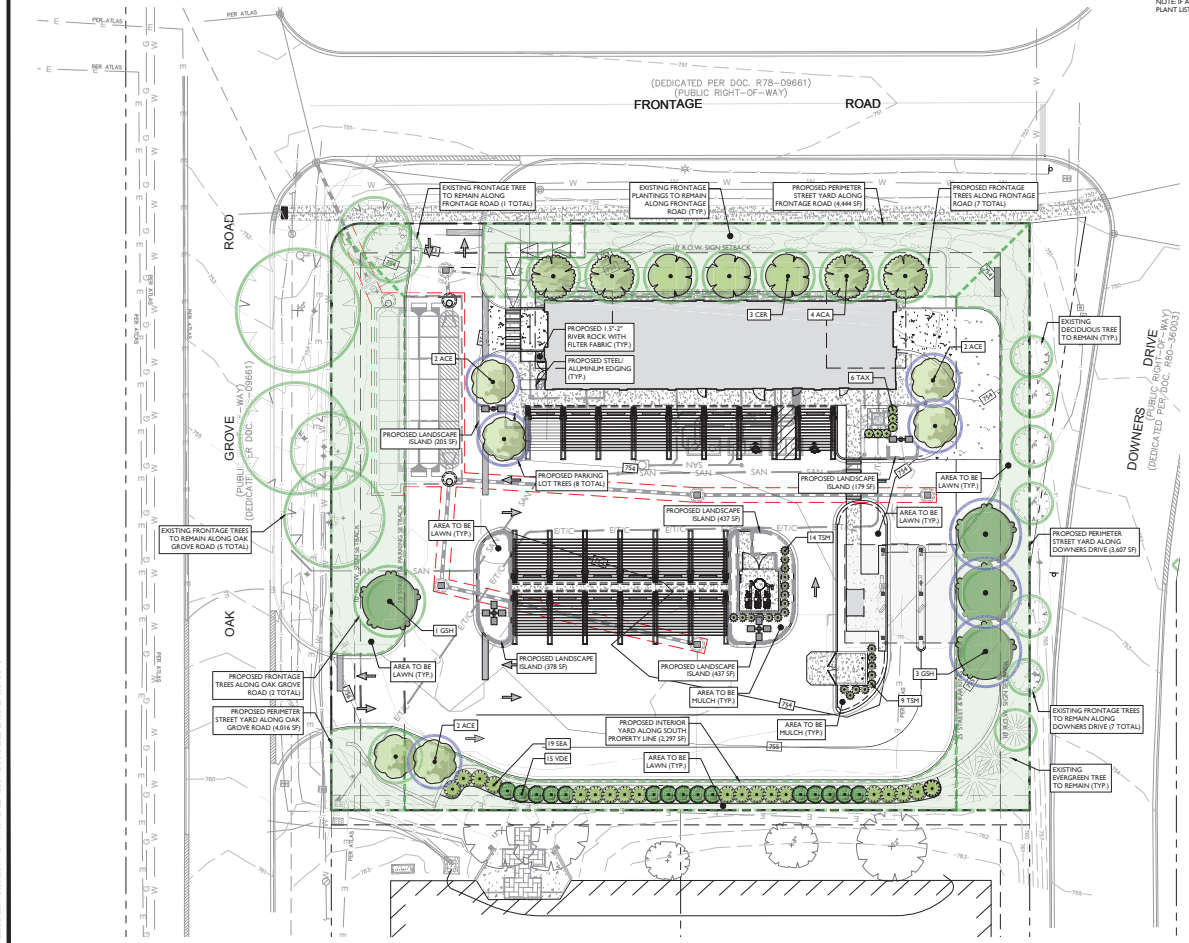
PARCEL ID: 06-30-409-022-0000
1341 BUTTERFIELD ROAD
VILLAGE OF DOWNERS GROVE
DUPAGE COUNTY, IL 60515

STONEFIELD engineering & design

SCALE: 1" = 20' PROJECT ID: DET-250340

TITLE: LIGHTING PLAN

DRAWING: C-7



PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
DECIDUOUS TREES						
	ACE	5	ACER X FREEMANII	FREEMAN MAPLE	2.5" - 3" CAL	B&B
	GSH	4	GLEDITSIA TRIACANTHOS INERMIS 'SHADEMASTER'	SHADEMASTER HONEY LOCUST	2.5" - 3" CAL	B&B
EVERGREEN TREES						
	TSM	23	THUJA OCCIDENTALIS 'SMARAGD'	EMERALD GREEN ARBORVITAE	6' - 8' HT	B&B
ORNAMENTAL TREES (SINGLE-STEM)						
	ACA	4	AMELANCHIER CANADENSIS	CANADIAN SERVICEBERRY	4' - 5' HT	B&B
	CER	3	CERCIS CANADENSIS	EASTERN REDBUD	4' - 5' HT	B&B
SHRUBS						
	VDE	15	VIBURNUM DENTATUM	VIBURNUM	18" - 24"	POT
EVERGREEN SHRUBS						
	SEA	19	JUNIPERUS X PFITZERIANA 'SEA GREEN'	SEA GREEN PFITZER JUNIPER	18" - 24"	POT
	TAX	6	TAXUS X MEDIA 'DENSIFORMIS'	DENSE ANGLO-JAPANESE YEW	18" - 24"	POT

NOTE: IF ANY DISCREPANCIES OCCUR BETWEEN AMOUNTS SHOWN ON THE LANDSCAPE PLAN AND WITHIN THE PLANT LIST, THE PLAN SHALL DICTATE.

LANDSCAPING AND BUFFER REQUIREMENTS

CODE SECTION	REQUIRED	PROPOSED
	PERIMETER PARKING LOT LANDSCAPING - STREET YARDS	
§ 28.8.020.(b)(2)	PARKING ACROSS THE STREET FROM NON-RESIDENTIAL: 75% OF PERIMETER SHALL BE LANDSCAPED	
	OAK GROVE ROAD PERIMETER: 4,678 SF	
	(4,678 SF) * (0.75) = 3,509 SF	4,016 SF (85.8%)
	FRONTAGE ROAD PERIMETER: 5,316 SF	
	(5,316 SF) * (0.75) = 3,987 SF	4,444 SF (83.6%)
	DOWNERS DRIVE PERIMETER: 4,693 SF	
	(4,693 SF) * (0.75) = 3,520 SF	3,607 SF (76.9%)
§ 28.8.020.(b)(3)	PARKING LOT PERIMETER LANDSCAPING MUST BE PROVIDED IN PLANT GROUPINGS OF MINIMUM 3 LIVE PLANTS	COMPLIES
§ 28.8.020.(b)(4)	PARKING LOT PERIMETER MAY CONSIST OF SHRUBS, ORNAMENTAL GRASSES, TREES, AND PERENNIALS	COMPLIES
§ 28.8.020.(b)(5)	1 SHADE/ORNAMENTAL TREE FOR EVERY 30 LF OF STREET FRONTAGE	
	OAK GROVE ROAD PERIMETER: 200 FT	
	(200 FT) * (1 TREE / 30 FT) = 7 TREES	5 EXISTING TREES 2 PROPOSED TREES
	FRONTAGE ROAD PERIMETER: 238 FT	
	(238 FT) * (1 TREE / 30 FT) = 8 TREES	1 EXISTING TREE 7 PROPOSED TREES
	DOWNERS DRIVE PERIMETER: 200 FT	
	(200 FT) * (1 TREE / 30 FT) = 7 TREES	7 EXISTING TREES
	PERIMETER PARKING LOT LANDSCAPING - INTERIOR YARDS	
§ 28.8.020.(c)(1)a.	PARKING LOCATED IN SIDE/REAR YARD ABUTTING ANOTHER LOT: 50% OF PERIMETER SHALL BE LANDSCAPED WITH PLANT GROUPINGS OF MINIMUM 3 LIVE PLANTS	
	SOUTH PERIMETER: 2,297 SF	
	(2,297 SF) * (0.50) = 1,149 SF	2,297 SF (100.0%)
§ 28.8.020.(c)(1)b.	PARKING LOT PERIMETER MAY CONSIST OF SHRUBS, ORNAMENTAL GRASSES, TREES, AND PERENNIALS	COMPLIES
	LANDSCAPE ISLANDS	
§ 28.8.030.(b)(1)	LANDSCAPE ISLANDS MUST BE LOCATED AT THE END OF EACH PARKING ROW	COMPLIES
§ 28.8.030.(b)(2)	MAXIMUM DISTANCE BETWEEN ISLANDS: 20 SPACES	COMPLIES
	MINIMUM AREA (SINGLE ROW): 150 SF	COMPLIES
§ 28.8.030.(b)(3)	MINIMUM AREA (DOUBLE ROW): 300 SF	COMPLIES
	MINIMUM WITH: 7 FT	COMPLIES
	1 TREE FOR EVERY 150 SF OF LANDSCAPE ISLAND	
	(1,197 FT) * (1 TREE / 150 SF) = 8 TREES	8 TREES(1)
	SCREENING	
§ 28.8.040.(a)(1)	GROUND-MOUNTED MECHANICAL EQUIPMENT SHALL BE SCREENED FROM R.O.W.	COMPLIES
§ 28.8.040.(a)(3)	REFUSE CONTAINERS SHALL BE SCREENED FROM R.O.W.	COMPLIES

(1) PARKING LOT TREES ARE PROPOSED ADJACENT TO THE PARKING AREA WHERE PLANTING SPACE IS LIMITED WITHIN LANDSCAPE ISLANDS DUE TO UTILITIES.

SYMBOL	DESCRIPTION
	PROPOSED PERIMETER STREET YARD
	PROPOSED PERIMETER STREET YARD TREES
	PROPOSED PARKING LOT TREES
	PROPOSED LANDSCAPED ISLANDS

Know what's **below** **Call** before you dig.

HERBICIDE WEED CONTROL NOTE:

MULCH AND DECORATIVE STONE PLANTING BEDS TO RECEIVE PRE-EMERGENT HERBICIDE.

- PREEN EXTENDED CONTROL WEED PREVENTOR
- HERBICIDE OR APPROVED EQUAL TO BE UTILIZED.
- APPLICATION SHALL BE ON AS-NEEDED BASIS PER MANUFACTURER SPECIFICATION.

LANDSCAPING NOTES

1. THE CONTRACTOR SHALL RESTORE ALL DISTURBED GRASS AND LANDSCAPED AREAS TO MATCH EXISTING CONDITIONS UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
2. THE CONTRACTOR SHALL RESTORE ALL DISTURBED LAWN AREAS WITH A MINIMUM 4 INCH LAYER OF TOPSOIL AND SEED.
3. THE CONTRACTOR SHALL RESTORE MULCH AREAS WITH A MINIMUM 3 INCH LAYER OF MULCH .
4. THE MAXIMUM SLOPE ALLOWABLE IN LANDSCAPE RESTORATION AREAS SHALL BE 3 FEET HORIZONTAL TO 1 FOOT VERTICAL (3:1 SLOPE) UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
5. THE CONTRACTOR IS REQUIRED TO LOCATE ALL SPRINKLER HEADS IN AREA OF LANDSCAPING DISTURBANCE PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL RELOCATE SPRINKLER HEADS AND LINES IN ACCORDANCE WITH OWNER'S DIRECTION WITHIN AREAS OF DISTURBANCE.
6. THE CONTRACTOR SHALL ENSURE THAT ALL DISTURBED LANDSCAPED AREAS ARE GRADED TO MEET FLUSH AT THE ELEVATION OF WALKWAYS AND TOP OF CURB ELEVATIONS EXCEPT UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET. NO ABRUPT CHANGES IN GRADE ARE PERMITTED IN DISTURBED LANDSCAPING AREAS.

20' 0' 20' 40'
GRAPHIC SCALE IN FEET
1" = 20'

ISSUE	DATE	BY	DESCRIPTION
2	04/01/2026	VF	REVISED PER PLANNING AND ZONING COMMENTS
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SITE DEVELOPMENT PLANS

1341 BUTTERFIELD RD.

PROPOSED AUTO WASH

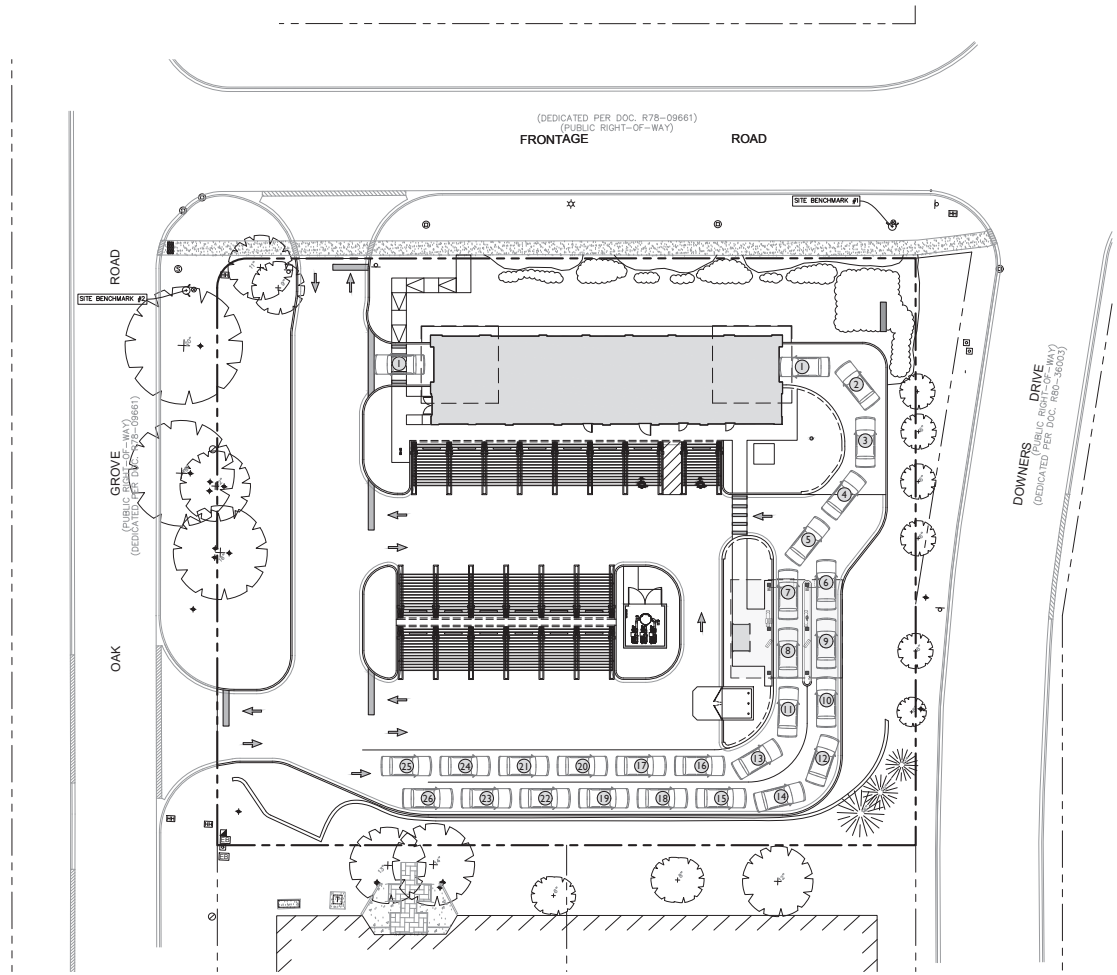
PARCEL ID: 06-30-409-022-0000
1341 BUTTERFIELD ROAD
VILLAGE OF DOWNERS GROVE
DUPAGE COUNTY, IL 60515

STONEFIELD engineering & design

SCALE: 1" = 20' | PROJECT ID: DET-250340

TITLE: LANDSCAPING PLAN

DRAWING: C-8



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1341 BUTTERFIELD ROAD
VILLAGE OF DOWNERS GROVE
DUPAGE COUNTY, IL 60515

STONEFIELD engineering & design

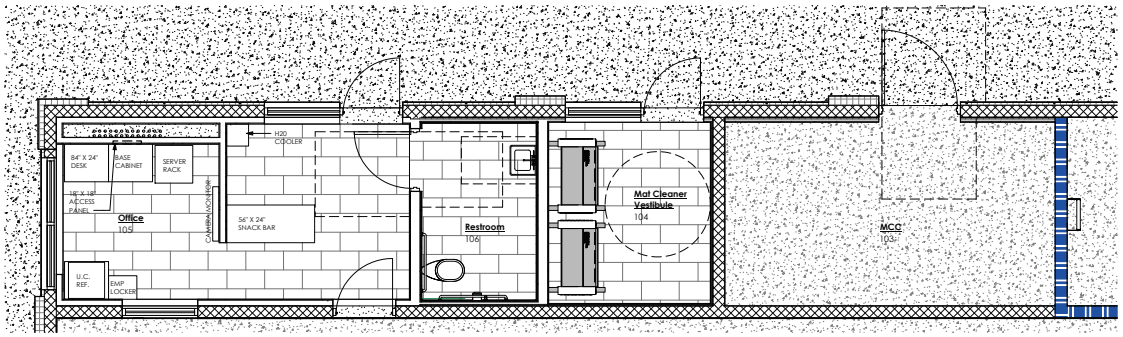
SCALE: 1" = 20' | PROJECT ID: DET-250340

TITLE:

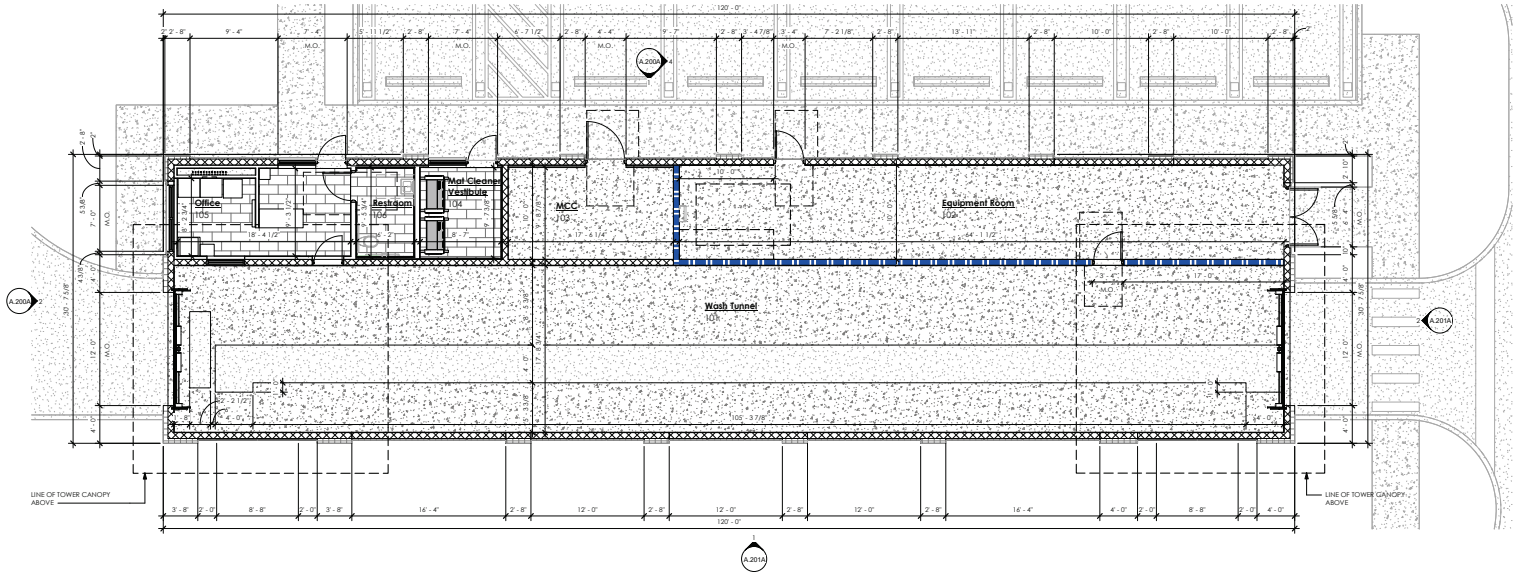
VEHICLE STACKING EXHIBIT

DRAWING:

EX-1



1 Enlarged Floor Plan - Site Plan Approval
3/8" = 1'-0"



Floor Plan - Site Plan Approval
3/16" = 1'-0"

PRELIMINARY NOT FOR CONSTRUCTION

KRIEGER KLATT ARCHITECTS
400 E. Lincoln Ave, Ste. A | Royal Oak, MI 48067
P: 248.414.9270
www.kriegerklatt.com

Client:
El Car Wash - Downers Grove
30200 Telegraph Rd, Suite 205
Bingham Farms, MI 48025

Project:
El Car Wash - Downers Grove
1341 Butterfield Road
Downers Grove, IL

Issued	Description	By
01-21-2026	Site Plan Approval	
02-20-2026	SPA Update	
03-24-2026	SPA Update	

Seal:

Note:
Do not scale drawings. Use calculated dimensions only. Verify existing conditions in field.

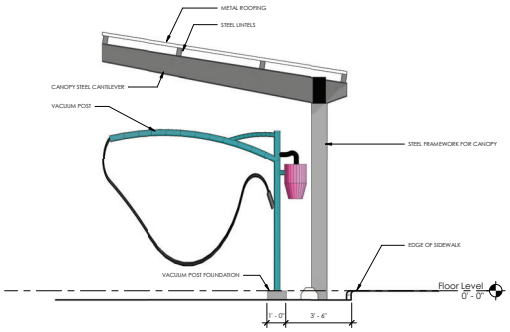
North Arrow:

Sheet Title:
Floor Plan - Site Plan Approval

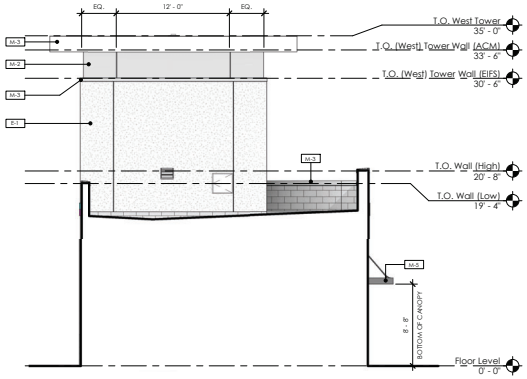
Project Number:
25-XXX

Scale:
As indicated

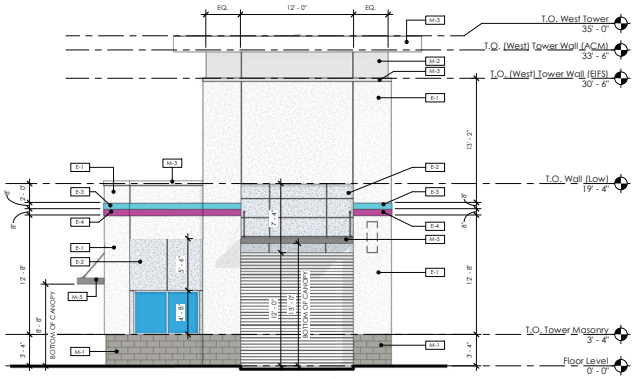
Sheet Number:
A.101A



4 A.101A Canopy Section - Site Plan Approval
3/8" = 1'-0"



3 West Exterior Elevation (@ East Tower) - Site Plan Approval
3/16" = 1'-0"

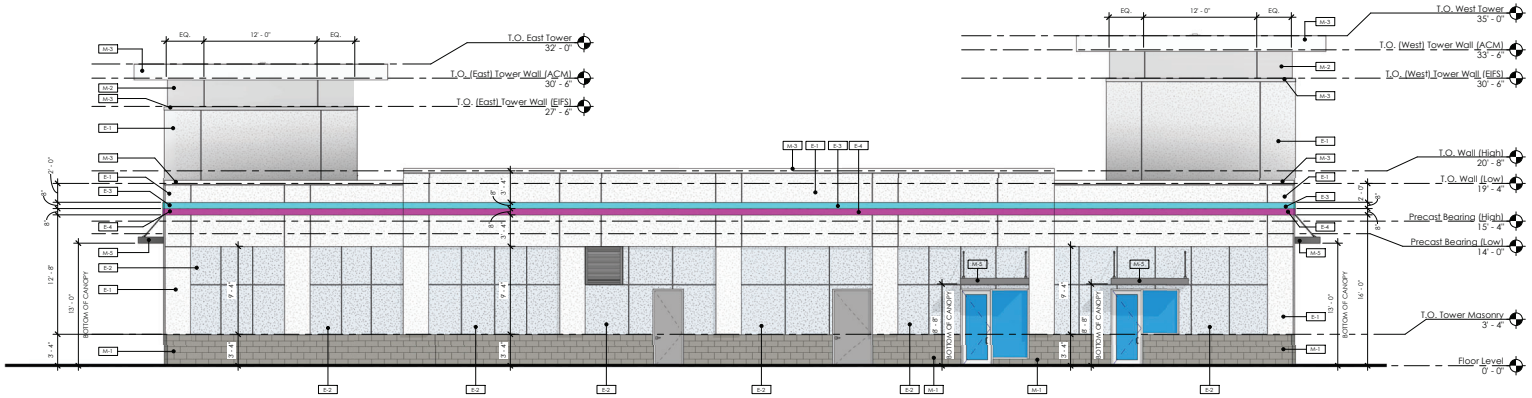


2 A.101A East Exterior Elevation - Site Plan Approval
3/16" = 1'-0"

EXTERIOR MATERIAL SCHEDULE:

M-1	DESCRIPTION:	SPLIT FACE CMU
	BASIS OF DESIGN:	TRI-COUNTY BLOCK & BRICK
	FINISH / COLOR:	STORMY
M-2	DESCRIPTION:	ALUM. COMPOSITE PANEL
	BASIS OF DESIGN:	APOLLIC
	FINISH / COLOR:	REFLECTIVE MIRROR
M-3	DESCRIPTION:	METAL FLASHINGS
	BASIS OF DESIGN:	PAC-CLAD (24 GA)
	FINISH / COLOR:	SILVER
M-4	DESCRIPTION:	HORIZONTAL FLAT PW METAL SIDING PANELS
	BASIS OF DESIGN:	MCELROY
	FINISH / COLOR:	SLATE GRAY
M-5	DESCRIPTION:	PRE-FAB CANOPY
	BASIS OF DESIGN:	MAGA
	FINISH / COLOR:	EXTRUDECK 8" J 3MIL FLAT POFF2 FEDERAL STANDARD GREY
E-1	DESCRIPTION:	EIFS
	BASIS OF DESIGN:	STO CORP.
	FINISH / COLOR:	HIGH REFLECTIVE WHITE SW 7757 (WHITE)
E-2	DESCRIPTION:	EIFS
	BASIS OF DESIGN:	STO CORP.
	FINISH / COLOR:	EVENING SHADOW SW 7662 (MEDIUM GREY)
E-3	DESCRIPTION:	EIFS
	BASIS OF DESIGN:	STO CORP.
	FINISH / COLOR:	PANTONE 3252 (CYAN)
E-4	DESCRIPTION:	EIFS
	BASIS OF DESIGN:	STO CORP.
	FINISH / COLOR:	PAINTED LOGO COLOR (MAGENTA)

NOTE: SUBMIT SAMPLES OF ALL SELECTED MAERIALS TO OWNER & ARCHITECT FOR APPROVAL PRIOR TO ORDERING.



1 A.101A South Exterior Elevation - Site Plan Approval
3/16" = 1'-0"

PRELIMINARY NOT FOR CONSTRUCTION

KRIEGER KLATT ARCHITECTS
400 E. Lincoln Ave, Ste. A | Royal Oak, MI 48067
P: 248.414.9270
www.kriegerklatt.com

Client:
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30200 Telegraph Rd, Suite 205
Bingham Farms, MI 48025

Project:
El Car Wash - Downers Grove
1341 Butterfield Road
Downers Grove, IL

Issued	Description	By
01-21-2026	Site Plan Approval	
02-20-2026	SPA Update	
03-24-2026	SPA Update	

Seal:

Note:
Do not scale drawings. Use calculated dimensions only. Verify existing conditions in field.

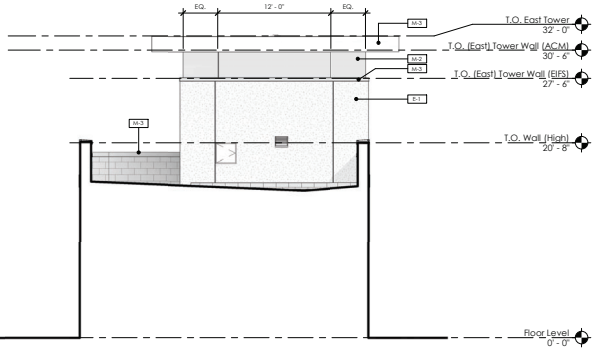
North Arrow:

Sheet Title:
Exterior Elevations

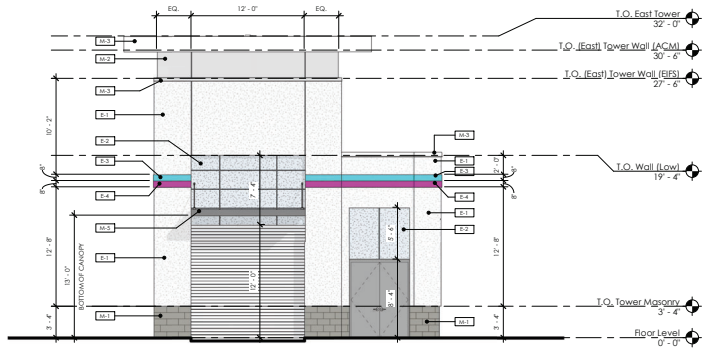
Project Number:
25-XXX

Scale:
As indicated

Sheet Number:
A.200A



3 East Exterior Elevation (@ West Tower) - Site Plan Approval
3/16" = 1'-0"

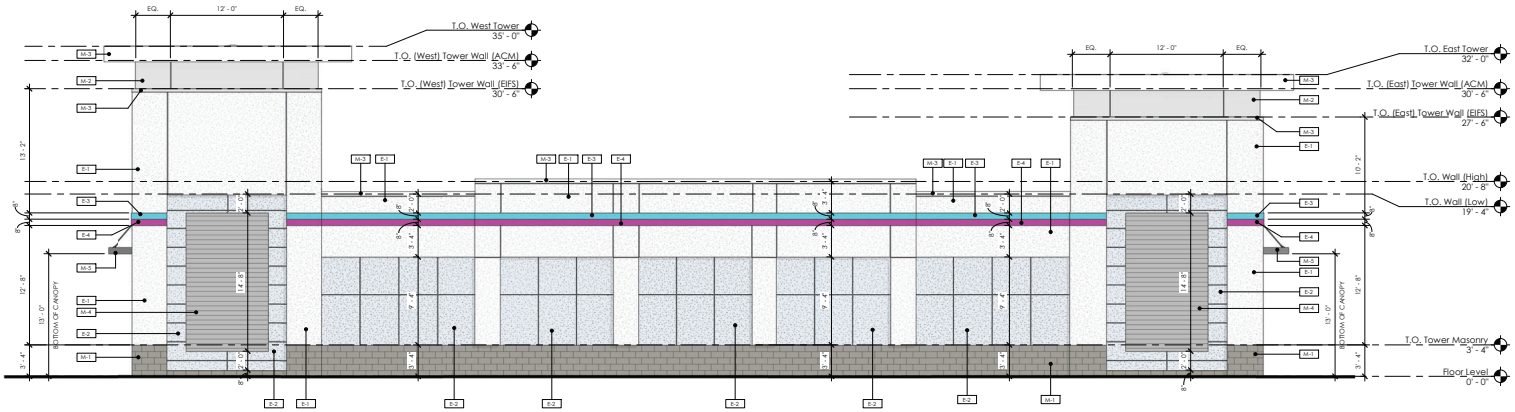


2 A.101A West Exterior Elevation - Site Plan Approval
3/16" = 1'-0"

EXTERIOR MATERIAL SCHEDULE:

M-1	DESCRIPTION:	SPLIT FACE CMU
	BASIS OF DESIGN:	TRI-COUNTY BLOCK & BRICK STORMY
	FINISH / COLOR:	
M-2	DESCRIPTION:	ALUM. COMPOSITE PANEL
	BASIS OF DESIGN:	APOLLIC
	FINISH / COLOR:	REFLECTIVE MIRROR
M-3	DESCRIPTION:	METAL FLASHINGS
	BASIS OF DESIGN:	PAC-CLAD (24 GA)
	FINISH / COLOR:	SILVER
M-4	DESCRIPTION:	HORIZONTAL, FLAT PW METAL SIDING PANELS
	BASIS OF DESIGN:	MCELROY
	FINISH / COLOR:	SLATE GRAY
M-5	DESCRIPTION:	PRE-FAB CANOPY
	BASIS OF DESIGN:	MAGA
	FINISH / COLOR:	EXTRUDECK 8" J 3MA FLAT POPPIT FEDERAL STANDARD GREY
E-1	DESCRIPTION:	EIFS
	BASIS OF DESIGN:	STO CORP.
	FINISH / COLOR:	HIGH REFLECTIVE WHITE SW 7757 (WHITE)
E-2	DESCRIPTION:	EIFS
	BASIS OF DESIGN:	STO CORP.
	FINISH / COLOR:	EVENING SHADOW SW 7662 (MEDIUM GREY)
E-3	DESCRIPTION:	EIFS
	BASIS OF DESIGN:	STO CORP.
	FINISH / COLOR:	PANTONE 3252 (CYAN)
E-4	DESCRIPTION:	EIFS
	BASIS OF DESIGN:	STO CORP.
	FINISH / COLOR:	PAINTED LOGO COLOR (MAGENTA)

NOTE: SUBMIT SAMPLES OF ALL SELECTED MATERIALS TO OWNER & ARCHITECT FOR APPROVAL PRIOR TO ORDERING.



1 A.101A North Exterior Elevation - Site Plan Approval
3/16" = 1'-0"

KRIEGER KLATT ARCHITECTS
400 E. Lincoln Ave, Ste. A | Royal Oak, MI 48067
P: 248.414.9270
www.kriegerklatt.com

Client:
El Car Wash - Downers Grove
30200 Telegraph Rd, Suite 205
Bingham Farms, MI 48025

Project:
El Car Wash - Downers Grove
1341 Butterfield Road
Downers Grove, IL

Issued	Description	By
01-21-2026	Site Plan Approval	
02-20-2026	SPA Update	
03-24-2026	SPA Update	

Seal:

Note:
Do not scale drawings. Use calculated dimensions only. Verify existing conditions in field.

North Arrow:

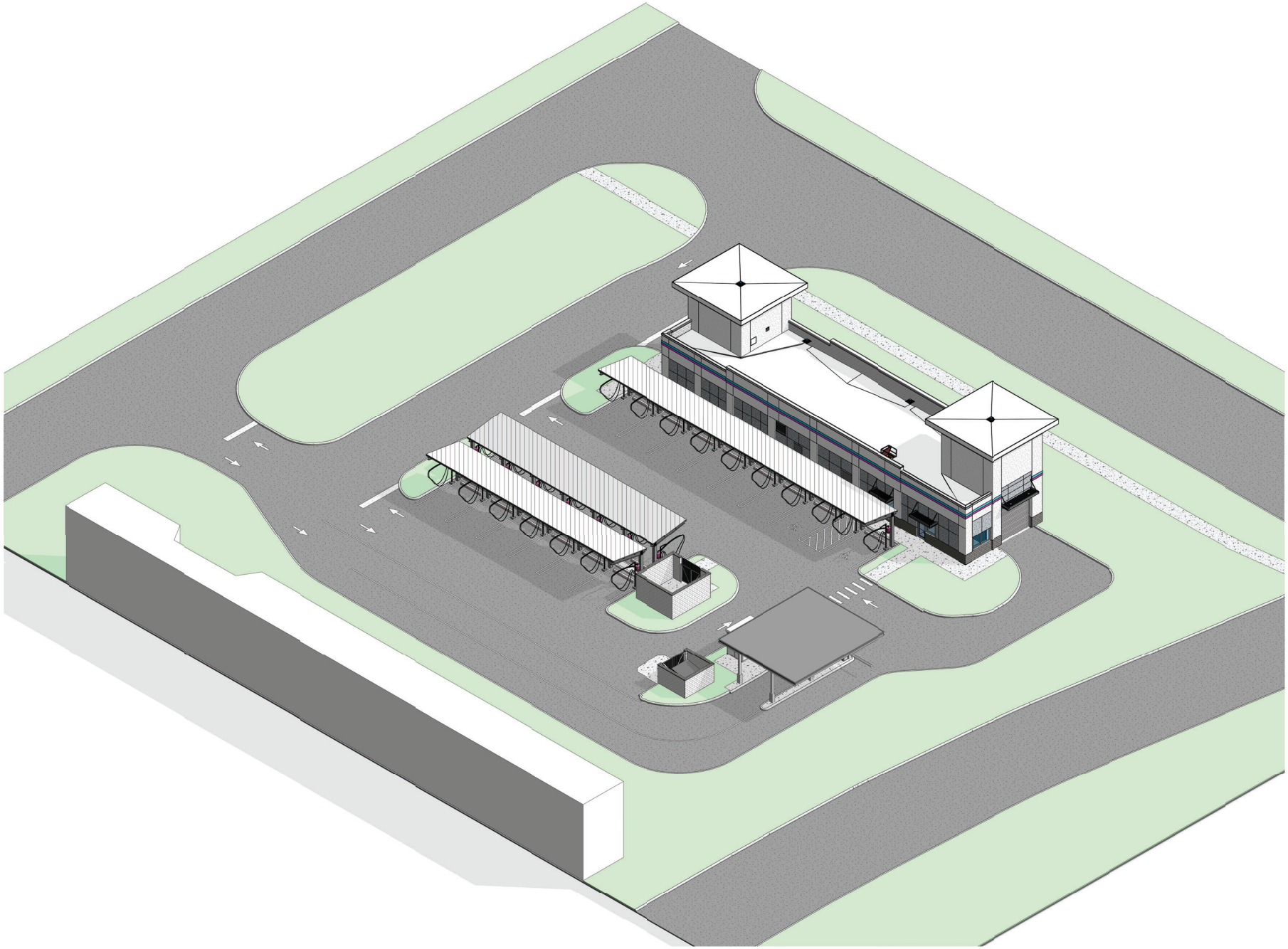
PRELIMINARY NOT FOR CONSTRUCTION

Sheet Title:
Exterior Elevations

Project Number:
25-XXX

Scale:
As indicated

Sheet Number:
A.201A



Southeast Isometric

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03-24-2026	SPA Update	

Seal:

PRELIMINARY NOT FOR CONSTRUCTION

Note:
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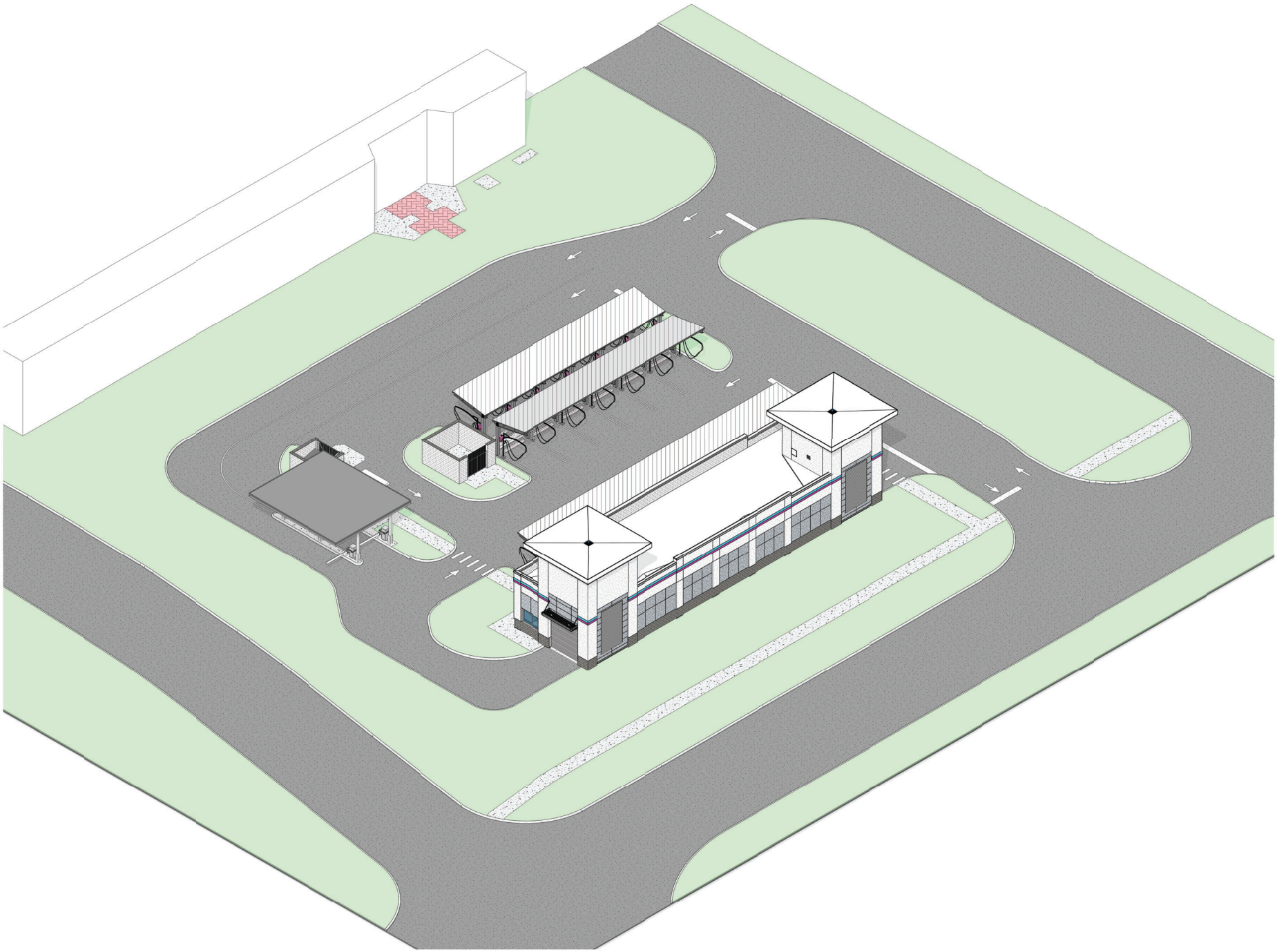
North Arrow:

Sheet Title:
Southeast Isometric

Project Number:
25-XXX

Scale:

Sheet Number:
A.202A



Northeast Isometric

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01-21-2026	Site Plan Approval	
02-20-2026	SPA Update	
03-24-2026	SPA Update	

Seal:

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Note:
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Sheet Title:
Northeast Isometric

Project Number:
25-XXX

Scale:

Sheet Number:
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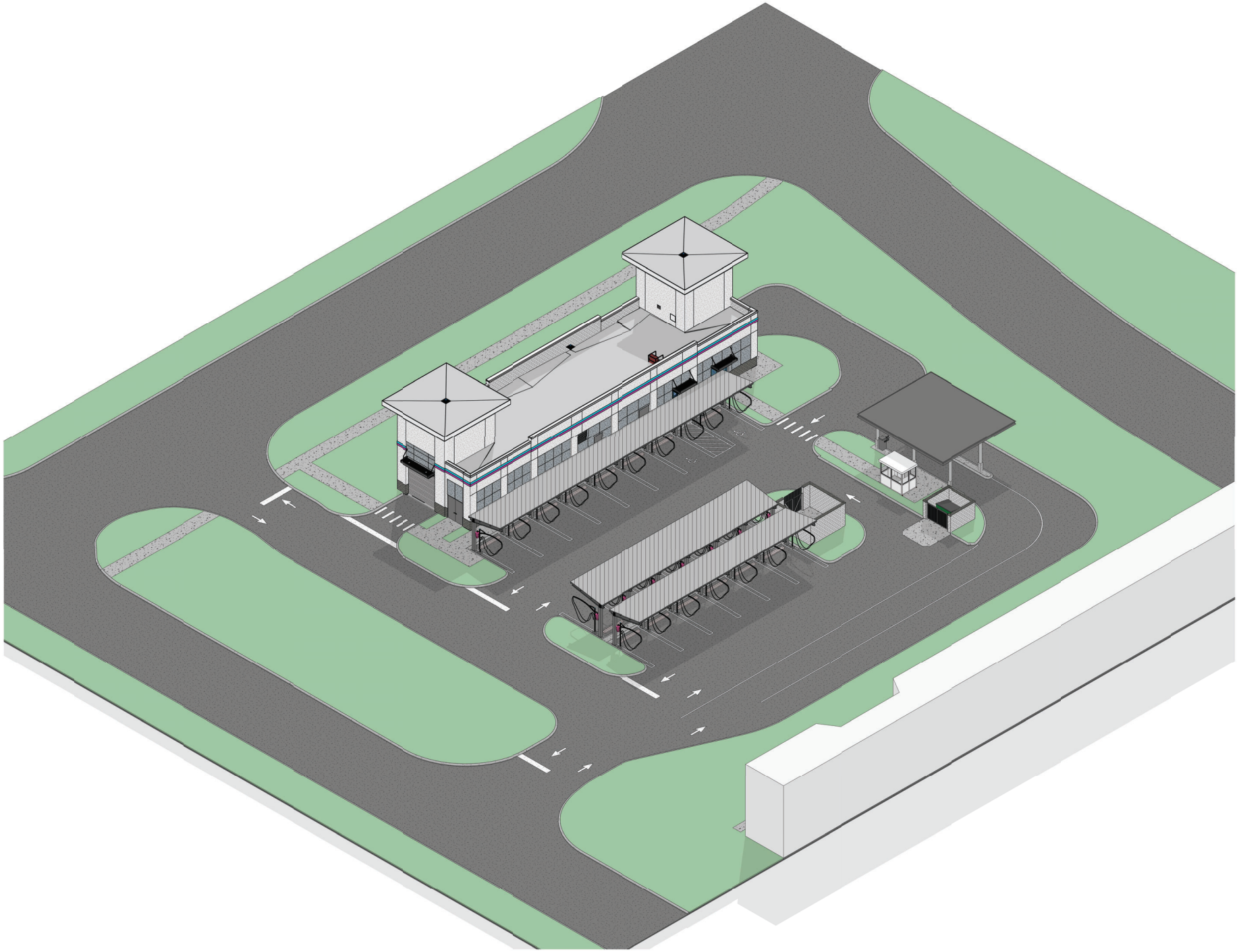

Southwest Isometric

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02-20-2026	SPA Update	
03-24-2026	SPA Update	

Seal:

Note:
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North Arrow:

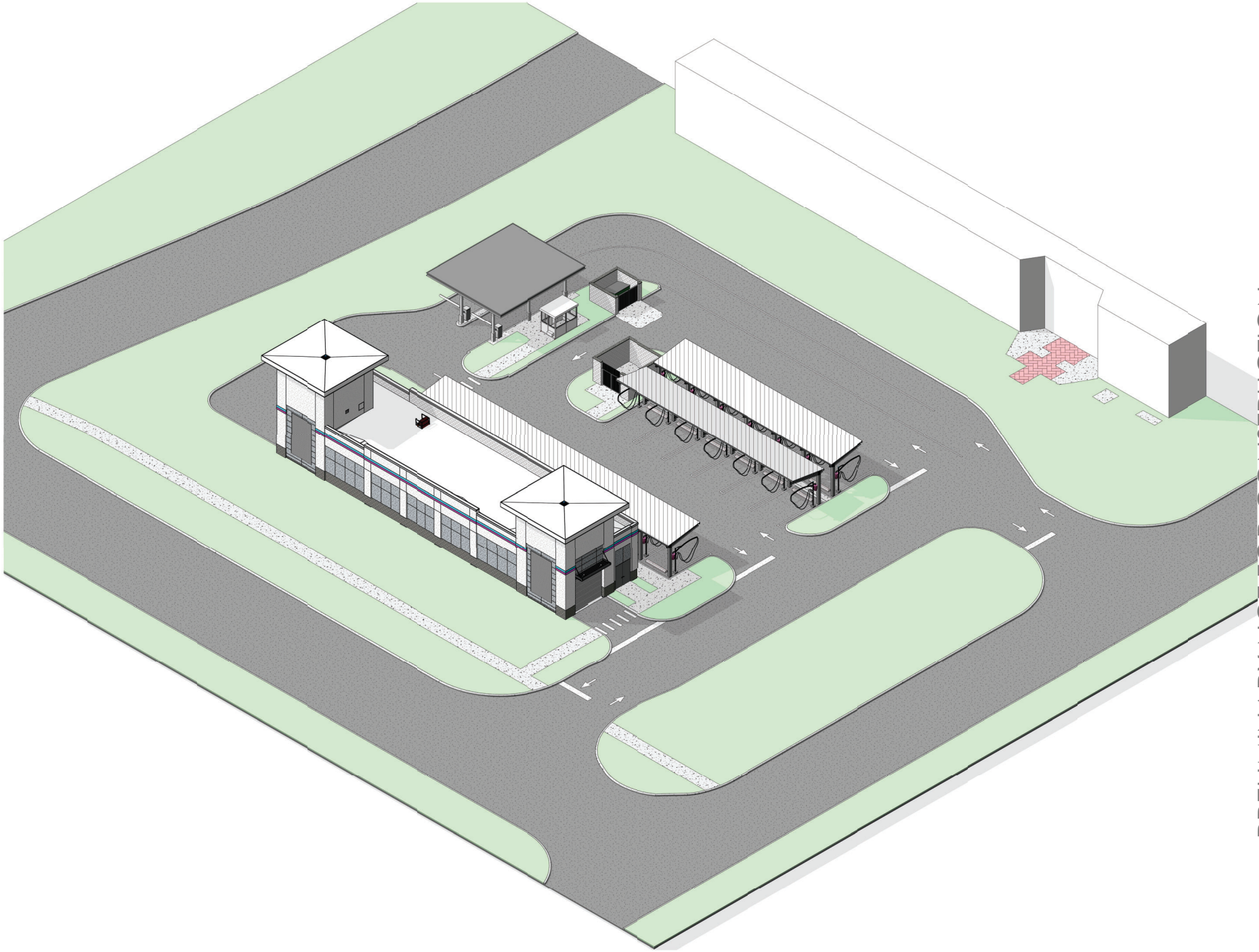
PRELIMINARY NOT FOR CONSTRUCTION

Sheet Title:
Southwest Isometric

Project Number:
25-XXX

Scale:

Sheet Number:
A.204A



Northwest Isometric

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Seal:

PRELIMINARY NOT FOR CONSTRUCTION

Note:
Do not scale drawings. Use calculated dimensions only. Verify existing conditions in field.

North Arrow:

Sheet Title:
Northwest Isometric

Project Number:
25-XXX

Scale:

Sheet Number:
A.205A

Traffic Impact Study
Proposed Car Wash
Downers Grove, Illinois

Prepared For:

ALRIG USA

KLOA
Kenig, Lindgren, O'Hara, Aboona, Inc.

March 20, 2026

1. Introduction

This report summarizes the methodologies, results, and findings of a traffic impact study conducted by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) for a proposed car wash to be located at 1341 Butterfield Road in Downers Grove, Illinois. The plans call for a tunnel car wash with vacuum stalls. Access to the car wash will be provided off Oak Grove Drive and the frontage road.

The purpose of this study was to examine background traffic conditions, assess the impact that the proposed car wash will have on traffic conditions in the area, and determine if any roadway or access improvements are necessary to accommodate traffic generated by the proposed car wash. **Figure 1** shows the location of the site in relation to the area roadway system. **Figure 2** shows an aerial view of the site.

The sections of this report present the following:

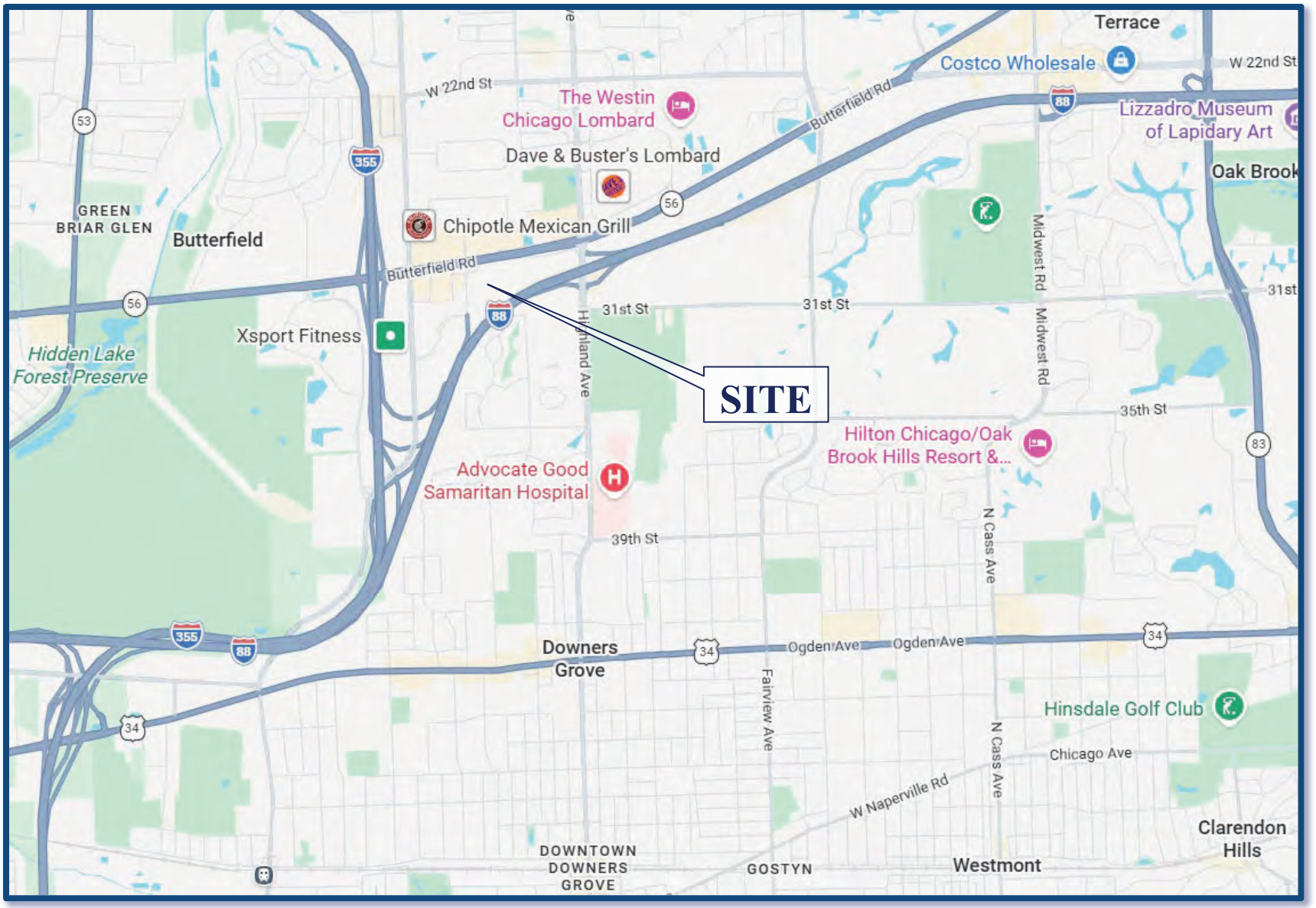
- Existing roadway conditions
- A description of the car wash
- Directional distribution of the car wash traffic
- Vehicle trip generation for the car wash
- Future traffic conditions including access to the car wash
- Traffic analyses for the weekday morning, evening, and Saturday midday peak hours
- Recommendations with respect to adequacy of the site access and adjacent roadway system

Traffic capacity analyses were conducted for the weekday morning, weekday evening, and Saturday midday peak hours for the following conditions:

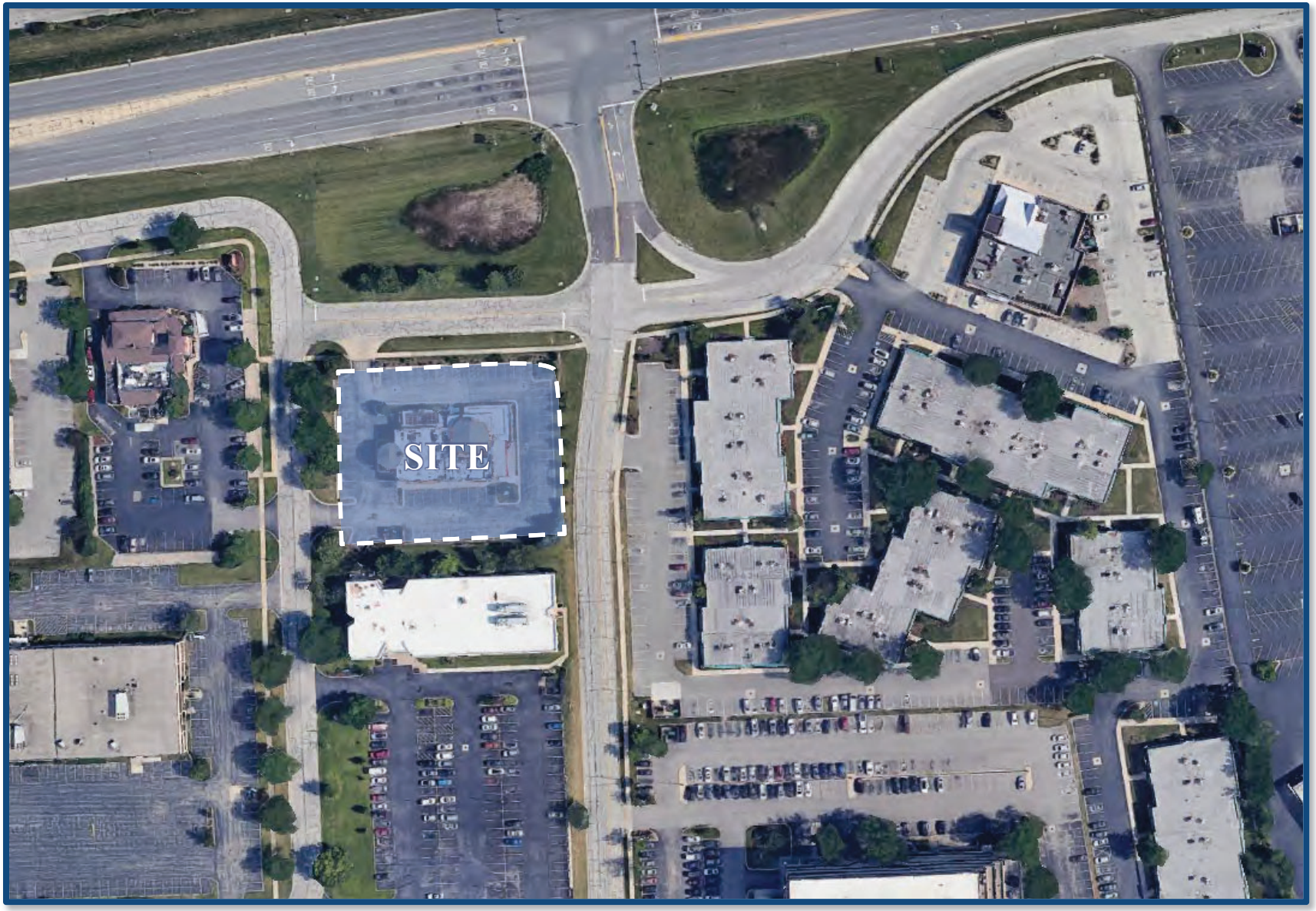
1. Existing Conditions – Analyzes the capacity of the existing roadway system using existing peak hour traffic volumes in the surrounding area.

2. No-Build Conditions – Analyzes the capacity of the existing roadway system using the ambient area growth not attributable to any particular development and any additional developments not associated with the car wash.

3. Projected Conditions – Analyzes the capacity of the future roadway system using the projected traffic volumes that include the existing traffic volumes, ambient area growth not attributable to any particular development, and the traffic estimated to be generated by the proposed car wash.



Site Location **Figure 1**



Aerial View of Site **Figure 2**

2. Existing Conditions

The following provides a description of the geographical location of the site, physical characteristics of the area roadway system including lane usage and traffic control devices, and existing peak hour traffic volumes.

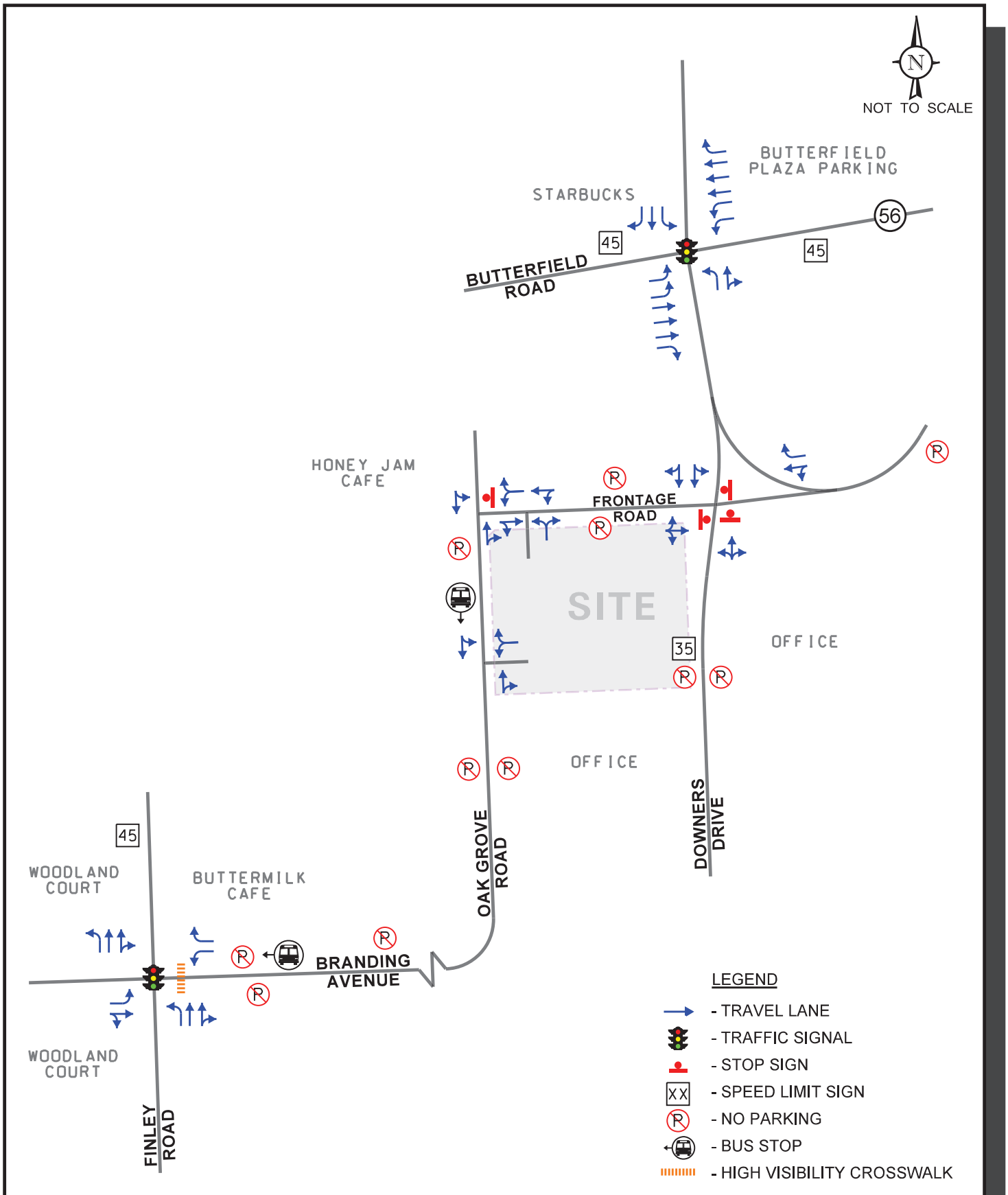
Site Location

The site, which is currently occupied by the vacant Casa Margarita restaurant, is located at 1341 Butterfield Road in Downers Grove, Illinois. The site is bordered by the frontage road to the north, Downers Drive to the east, an office building to the south, and Oak Grove Road to the west. Land uses in the vicinity of the site are primarily retail along Butterfield Road and to the west of the site and primarily office uses to the east and south. The characteristics of the existing roadways near the site are described below and illustrated in **Figure 3**.

Existing Roadway System Characteristics

IL 56 (Butterfield Road) is an east-west other principal arterial roadway that in the vicinity of the site provides two travel lanes in each direction east of Downers Drive and three travel lanes in each direction west of Downers Drive. At its signalized intersection with Downers Drive, Butterfield Road provides two exclusive left-turn lanes, three through lanes, and an exclusive right-turn lane on the eastbound and westbound approaches. Butterfield Road is designated as a Strategic Regional Arterial (SRA), is under the jurisdiction of the Illinois Department of Transportation (IDOT) and carries an Annual Average Daily Traffic (AADT) volume of 40,800 vehicles (IDOT 2023). Butterfield Road has a posted speed limit of 45 miles per hour.

Downers Drive is a north-south minor collector roadway north of Butterfield Road and minor arterial roadway south of Butterfield Road that provides two travel lanes in each direction except on the northbound approach south of the frontage road where it provides one travel lane. At its signalized intersection with Butterfield Road, Downers Drive provides an exclusive left-turn lane and a shared through/right-turn lane on the northbound approach and an exclusive left-turn lane, a through lane, and an exclusive right-turn lane on the southbound approach. At its unsignalized intersection with the frontage road, Downers Drive provides a shared left-turn/through/right-turn lane on the northbound approach and a shared left-turn/through lane and a shared through/right-turn lane on the southbound approach. The northbound approach is under stop sign control. Downers Drive is under the jurisdiction of the Village of Downers Grove, carries an AADT volume of 1,450 vehicles (IDOT 2024), and has a posted speed limit of 25 miles per hour.



Car Wash
Downers Grove, Illinois

Existing Roadway Characteristics

KLOA
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Job No: 26-045 Figure: 3

Finley Road is a north-south minor arterial roadway that in the vicinity of the site provides two travel lanes in each direction. At its unsignalized intersection with Branding Avenue/Woodland Court access drive, Finley Road provides an exclusive left-turn lane, a through lane, and a shared through/right-turn lane on the northbound and southbound approaches. Finley Road is under the jurisdiction of the DuPage County Division of Transportation (DuDOT), carries an AADT of 17,400 vehicles (IDOT 2024), and has a posted speed limit of 45 miles per hour.

Oak Grove Road is a north-south local roadway that provides one travel lane in each direction. At its unsignalized intersection with the frontage road, Oak Grove Road provides a shared through/right-turn lane on the northbound approach and a shared left-turn/through lane on the southbound approach. Oak Grove Road is under the jurisdiction of the Village of Downers Grove.

Branding Avenue is an east-west local roadway that provides one travel lane in each direction. At its unsignalized intersection with Finley Road, Branding Avenue provides an exclusive left-turn lane and an exclusive right-turn lane on the westbound approach and is under stop sign control. Branding Avenue is under the jurisdiction of the Village of Downers Grove.

Frontage Road is an east-west local roadway that provides one travel lane in each direction. At its unsignalized intersection with Downers Drive, the frontage road provides a shared left-turn/through lane and a free-flow channelized right-turn lane on the eastbound approach and a shared left-turn/through/right-turn lane on the westbound approach. Both approaches are under stop sign control. At its unsignalized intersection with Oak Grove Road, the frontage road provides a shared left-turn/right-turn lane on the westbound approach. The frontage road is under the jurisdiction of the Village of Downers Grove.

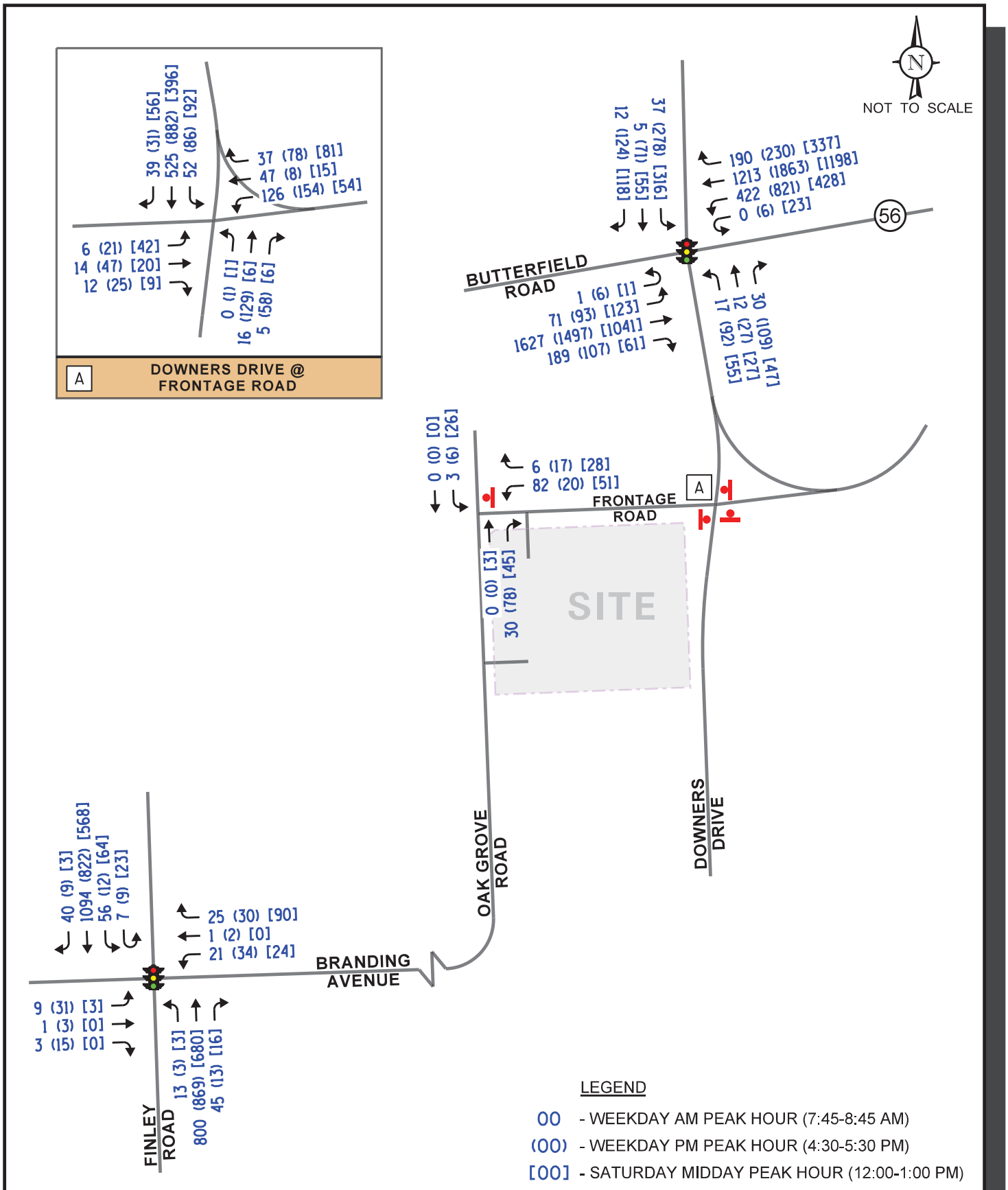
Existing Traffic Volumes

In order to determine current traffic conditions in the vicinity of the site, KLOA, Inc. conducted peak period traffic counts utilizing Miovision Scout Video Collection Units on Tuesday, February 17, 2026, during the weekday morning (7:00 to 9:00 A.M.), weekday evening (4:00 to 6:00 P.M.), and on Saturday, February 14, 2026, during the Saturday midday (12:00 to 2:00 P.M.) peak periods at the following intersections:

- Downers Drive with the frontage road
- Oak Grove Road with the frontage road
- Finely Road with Branding Avenue

The results of the traffic counts showed that the weekday morning peak hour of traffic generally occurs from 7:45 A.M. to 8:45 A.M., the weekday evening peak hour of traffic generally occurs from 4:30 P.M. to 5:30 P.M., and the Saturday midday peak hour generally occurs from 12:00 P.M. to 1:00 P.M. These counts were supplemented with traffic counts conducted at the intersection of Butterfield Road with Downers Drive on Tuesday, August 7, 2025, and Saturday, August 9, 2025.

Figure 4 illustrates the existing traffic volumes. Copies of the traffic count summary sheets are included in the Appendix.



Car Wash
Downers Grove,
Illinois

Existing Traffic Volumes

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Job No: 26-045 Figure: 4

Crash Data Summary

KLOA, Inc. obtained crash data[1] for the most recent available past five years (2020 to 2024) for the intersections within the study area. It should be noted that the intersections of Downers Drive with the frontage road, Oak Grove Road with the frontage road, and Finley Road with Branding Avenue experienced an average of less than one crash per year over the study period. The crash data for the intersection of Butterfield Road with Downers Drive is summarized in **Table 1**. A review of the crash data revealed that no fatalities were reported at the intersections during the reviewed period.

Table 1
BUTTERFIELD ROAD WITH DOWNERS DRIVE – CRASH SUMMARY

Year	Type of Crash								Severity		
	A	HO	O	RE	S	T	Other	Total	PD	I	F
2020	1	0	0	6	0	0	0	7	4	3	0
2021	2	0	0	0	0	4	0	6	3	3	0
2022	1	0	0	5	0	3	0	9	6	3	0
2023	1	0	0	3	0	6	1	11	5	6	0
2024	0	0	0	2	1	3	1	7	3	4	0
Total	**5**	**0**	**0**	**16**	**1**	**16**	**2**	**40**	**21**	**19**	**0**
Avg	**1.0**	**--**	**--**	**3.2**	**<1.0**	**3.2**	**<1.0**	**8.0**	**4.2**	**3.8**	**--**

A – Angle; HO – Head On; O – Object; RE – Rear End; S – Sideswipe; T – Turning
PD – Property Damage; I – Injury; F - Fatal

[1] IDOT DISCLAIMER: The motor vehicle crash data referenced herein was provided by the Illinois Department of Transportation. Any conclusions drawn from analysis of the aforementioned data are the sole responsibility of the data recipient(s).

3. Traffic Characteristics of the Proposed Development

To properly evaluate future traffic conditions in the surrounding area, it was necessary to determine the traffic characteristics of the proposed car wash, including the directional distribution and volumes of traffic that it generates.

Proposed Site and Development Plan

As proposed, the site will be developed with an approximate 3,600 square foot automatic car wash tunnel with 20 vacuum stalls. Access will continue to be provided via the full movement access drives located off the frontage road and Oak Grove Drive.

A copy of the preliminary site plan is included in the Appendix.

Car Wash Operations and Circulation

The automated car wash tunnel will be located on the north side of the site, oriented east-west with vacuum stalls located on the south side of the tunnel and in the middle of the site. Access to the car wash tunnel entrance will be provided via the southern east-west drive aisle and will provide two approach lanes with the northern approach lane splitting into two in the southeast corner of the site and three pay stations. Immediately after the pay stations, the three approach lanes will narrow to one lane that leads to the entrance of the car wash tunnel.

As proposed, the single-lane automatic car wash tunnel will be an exterior-only car wash system and will provide one-way, counterclockwise circulation. Manual and automated controls will increase, decrease, or stop vehicle flow through the car wash. The entrance to the car wash will be oriented towards the east of the site and the exit will be located towards the west. The gates will meter the traffic flow proceeding to the car wash tunnel entrance and will open in sequence based on the order of vehicle arrival.

Once the gate is lifted for the respective lane, the individual vehicle will proceed north and then perform a left-turn to face the entrance to the car wash tunnel. At the entrance to the car wash tunnel, the driver will remain in the vehicle and the car wash will automatically pull the vehicle through the tunnel. After exiting the tunnel, the vehicles will proceed to either use the vacuum stalls or exit the site via the access drives.

Circulation through the vacuum stalls will be provided via two two-way drive aisles. All vehicles will have access to the vacuum stalls before and after utilizing the car wash.

Car Wash Stacking

Based on a review of the site plan, there will be stacking for a total of approximately 36 vehicles to queue in the three approach lanes from the drive aisle to the entrance of the drive-through system. In addition, approximately five vehicles can be stacked inside the tunnel and an additional eight vehicles can be stacked internally for a total internal stacking of 49 vehicles without impacting or blocking external drive aisles.

Car Wash Wayfinding and Traffic Control Signage

The following wayfinding and traffic control signage is recommended:

- Wayfinding signage should be posted to guide vehicles to the respective car wash stacking area to minimize vehicle turning movements within the internal site circulation area.
- Wayfinding signage should be posted at the exit of the car wash tunnel to direct vehicles exiting the car wash to either the access drives or the vacuum stalls.
- A "Do Not Enter" sign should be posted at the exit of the car wash tunnel to deter opposing traffic from entering the car wash tunnel from the one-way exit direction.
- A stop sign should be provided at the western end of the vacuum stall drive aisles in order to promote free-flow movement for vehicles entering and exiting the site.

Vacuum Stalls

Eight of the vacuum stalls will be located on the south side of the tunnel and 12 will be located in the middle of the site. Two two-way drive aisles will be provided, allowing flexibility for vehicles to access the vacuum area before or after the car wash and vehicles exiting the vacuum stalls to utilize the two-way drive aisle to exit the site.

Peak Day Operations

Typical of any car wash, its peak operations (design day) typically occur after a weather event such as a snowfall or a rain event. Based on historical data from other car washes, this typically occurs 12 to 15 times per year.

When this peak demand occurs, the following operational procedures are implemented:

- Increase the service rate of the tunnel to the maximum it can process.
- Provide staff at critical locations within the circulation system during peak periods at the car wash to help direct and manage the flow of traffic through the site. Critical internal locations where staff should be located include the pay stations and at the exit of the car wash.

Directional Distribution of Site Traffic

The directions from which traffic will approach and depart the site were estimated based on existing travel patterns, as determined from the traffic counts. **Figure 5** illustrates the directional distribution of vehicles to/from the proposed car wash.

Car Wash-Generated Traffic Volumes

The number of peak hour trips estimated to be generated by the proposed car wash was based on vehicle trip generation rates contained in *Trip Generation Manual*, 12th Edition, published by the Institute of Transportation Engineers (ITE). The "Automated Car Wash" (Land-Use Code 948) rate was utilized for the car wash tunnel.

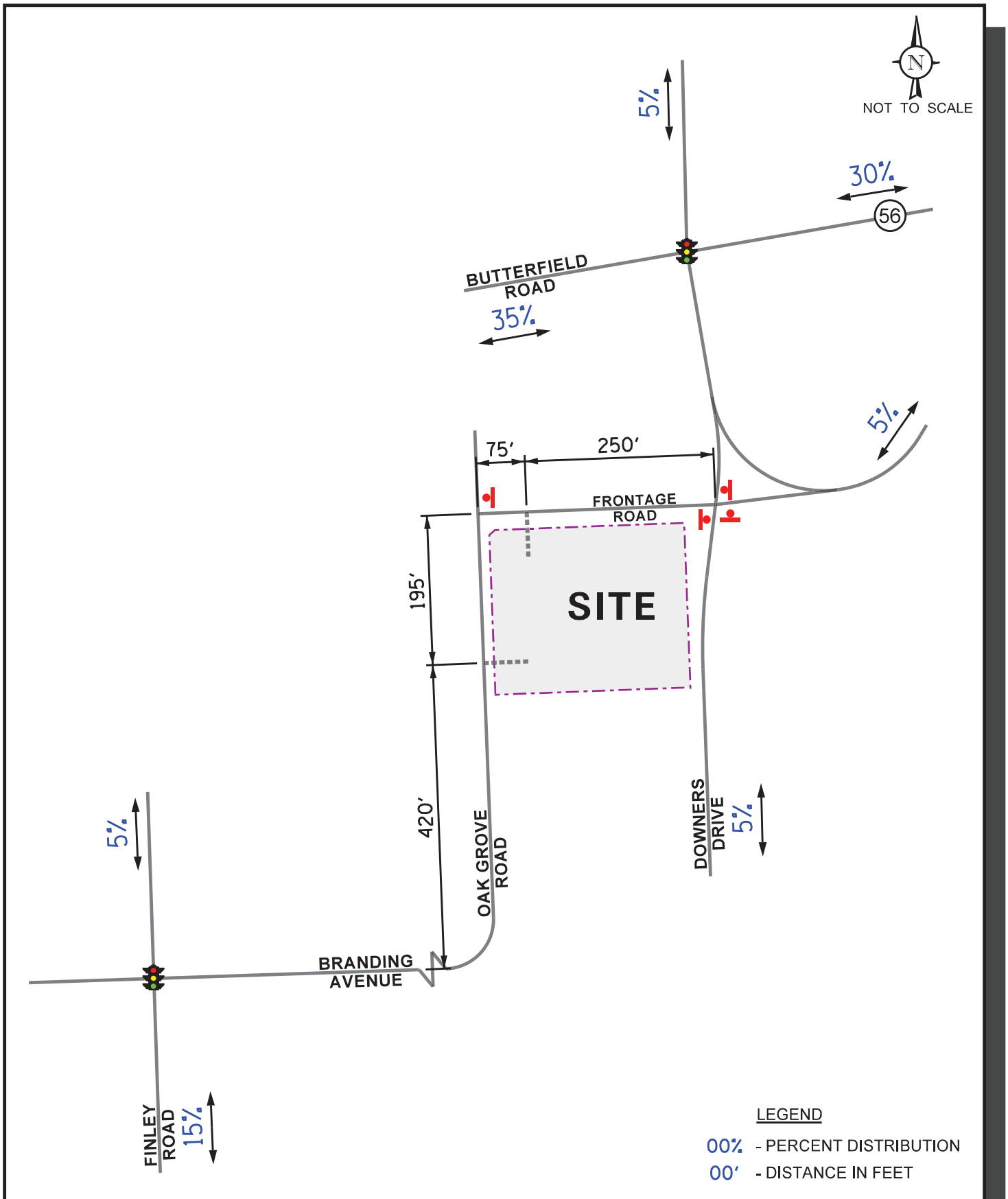
It is important to note that trips made to car washes are typically diverted from the existing traffic on the roadway system. This is particularly true during the weekday morning and evening peak hours when traffic is diverted from the home-to-work and work-to-home trips. Such diverted trips are referred to as pass-by traffic. However, in order to present a worst-case scenario, no reduction in the site-generated traffic was assumed for this study.

Table 2 summarizes the estimated peak hour trips.

Table 2
PEAK HOUR SITE-GENERATED TRAFFIC VOLUMES

ITE Land-Use Code	Type/Size	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Saturday Midday Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
948	Automated Car Wash (3,600 s.f.)	29	25	54	43	45	88	58	58	116

As previously mentioned, the site is currently occupied by a Casa Margarita restaurant. The "High-Turnover (Sit-Down) Restaurant" (Land-Use Code 932 was utilized to estimate the number of peak hour trips currently generated by the restaurant. It should be noted that the restaurant is open from 11:00 A.M. to 10:30 P.M. As such, no trips are generated during the weekday morning peak hour. **Table 3** shows a comparison of the estimated traffic to be generated by the existing restaurant and the proposed car wash. From the table, it can be seen that the proposed car wash will generate approximately 13 and 23 percent more trips during the weekday evening peak hour and the Saturday midday peak hours, respectively. As such, the proposed car wash is projected to have a similar impact on the adjacent roadway system compared to the existing restaurant.



Car Wash
Downers Grove,
Illinois

Directional Distribution

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Job No: 26-045 Figure: 5

Table 3
COMPARISON OF ESTIMATED PEAK HOUR TRIPS

ITE Land-Use Code	Type/Size	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Saturday Midday Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
948	Automated Car Wash (3,600 s.f.)	29	25	54	43	45	88	58	58	116
932	High-Turnover (Sit-Down) Restaurant (~8,500 s.f.)	--	--	--	48	30	78	48	46	94
	Difference	**+29**	**+25**	**+54**	**-5**	**+15**	**+10**	**+10**	**+12**	**+22**

4. Projected Traffic Conditions

The total projected traffic volumes include the existing traffic volumes, increase in background traffic due to growth, and the traffic estimated to be generated by the proposed car wash.

Site-Generated Traffic Assignment

The estimated weekday morning, weekday evening, and Saturday midday peak hour traffic volumes that will be generated by the proposed car wash were assigned to the roadway system in accordance with the previously described directional distribution (Figure 5). The traffic assignment for the proposed car wash is illustrated in **Figure 6**.

Background (No-Build) Traffic Conditions

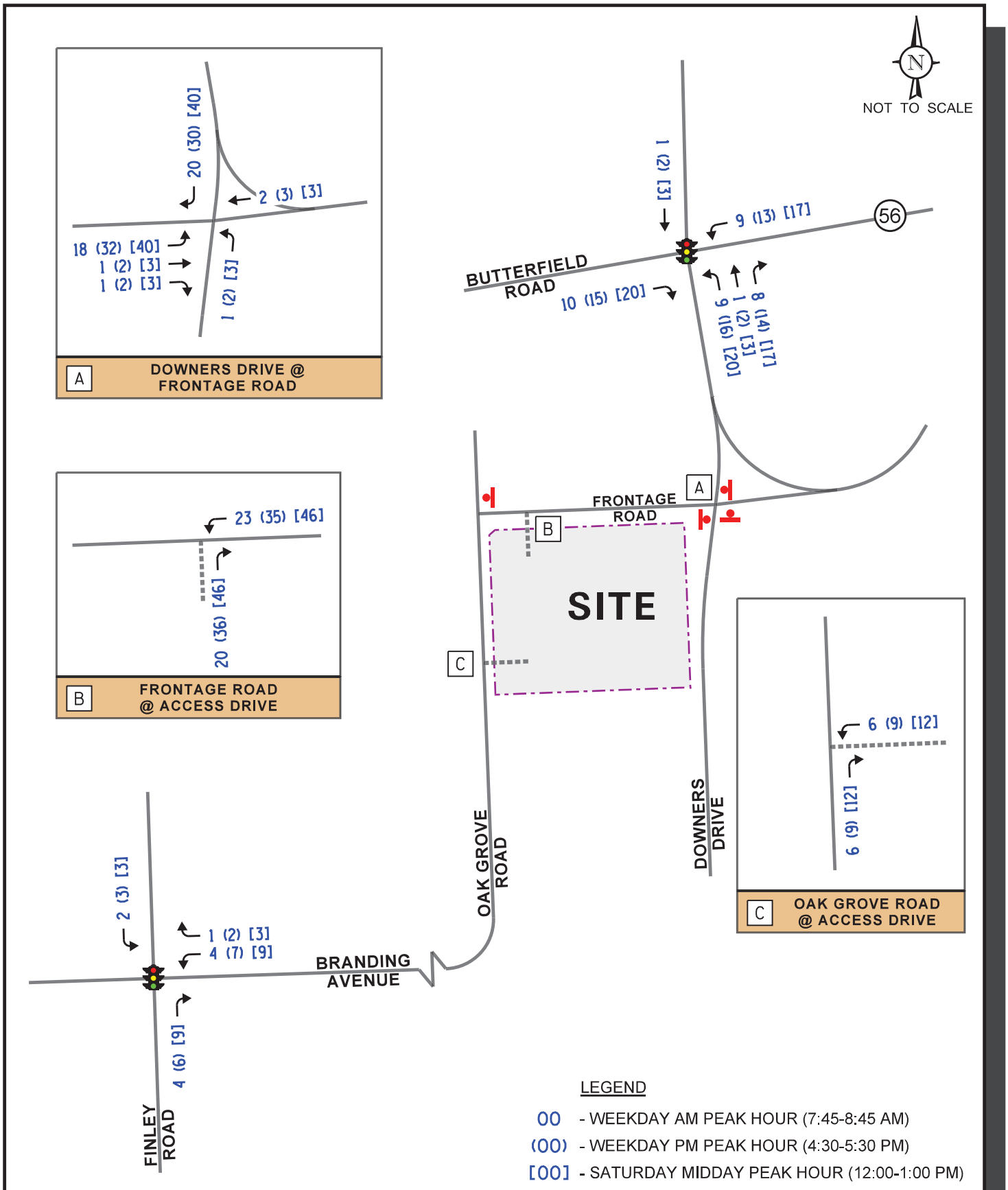
The existing traffic volumes (Figure 4) were increased by a regional growth factor to account for the increase in existing traffic related to regional growth in the area (i.e., not attributable to any particular planned development). Based on Average Daily Traffic (ADT) projections provided by the Chicago Metropolitan Agency for Planning (CMAP), the existing traffic volumes were increased by an annually compounded growth rate of 0.25 percent per year for six years (buildout year plus five years) for a total of approximately 1.5 percent to project Year 2032 background conditions. A copy of the CMAP 2050 projections letter is included in the Appendix.

In addition, the traffic estimated to be generated by the proposed 7-Brew coffee shop located at 1432 Butterfield Road. The traffic estimated to be generated by this coffee shop was based on a traffic impact study conducted by KLOA, Inc. dated December 11, 2025.

Figure 7 illustrates the Year 2032 no-build conditions.

Year 2032 Total Projected Traffic Volumes

The Year 2032 total projected traffic volumes include the no-build traffic volumes, and the traffic estimated to be generated by the proposed car wash. **Figure 8** shows the Year 2032 total projected traffic volumes.

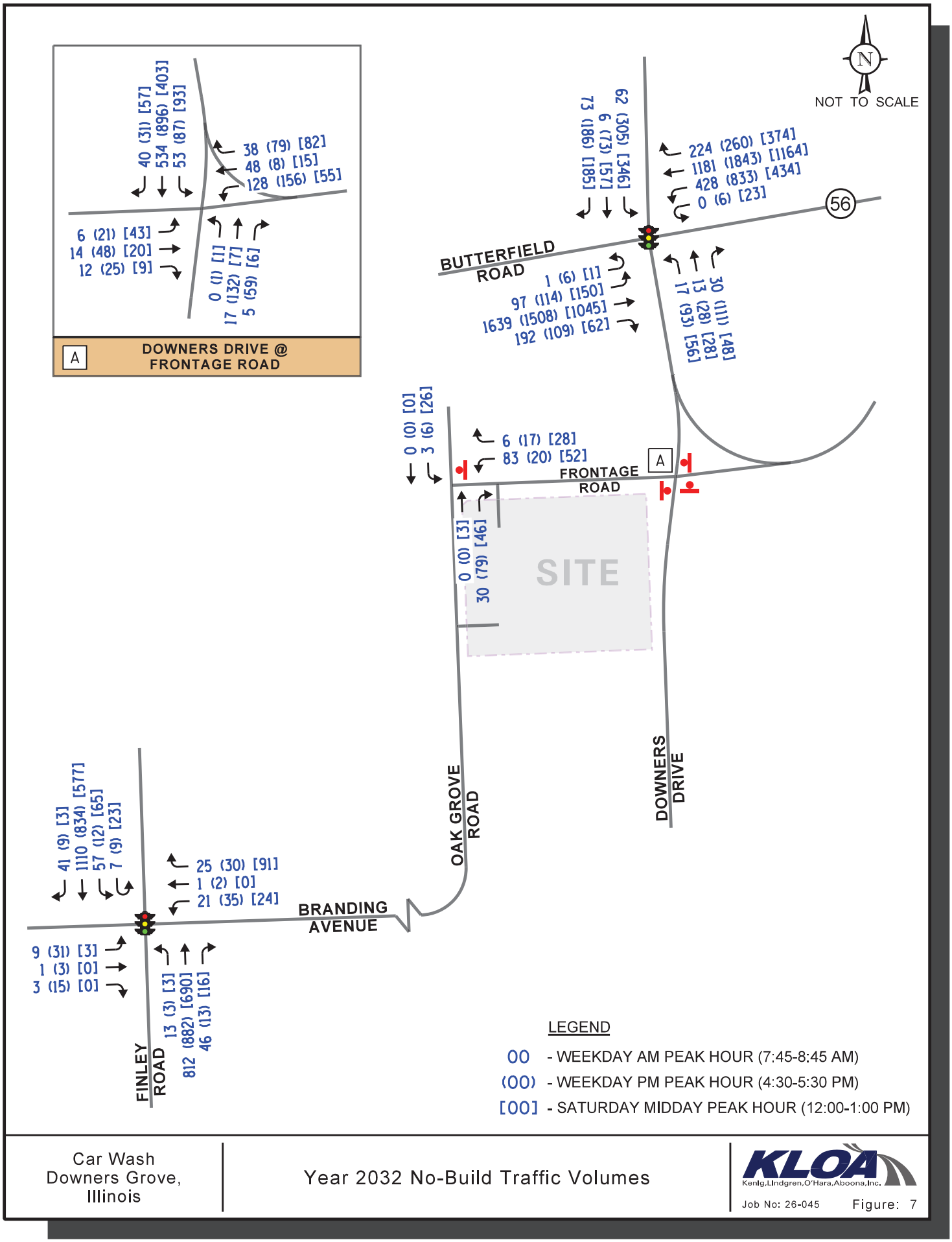


Car Wash
Downers Grove, Illinois

New Site Traffic Assignment

KLOA Kenig,Lindgren,O'Hara,Aboona,Inc.

Job No: 26-045 Figure: 6

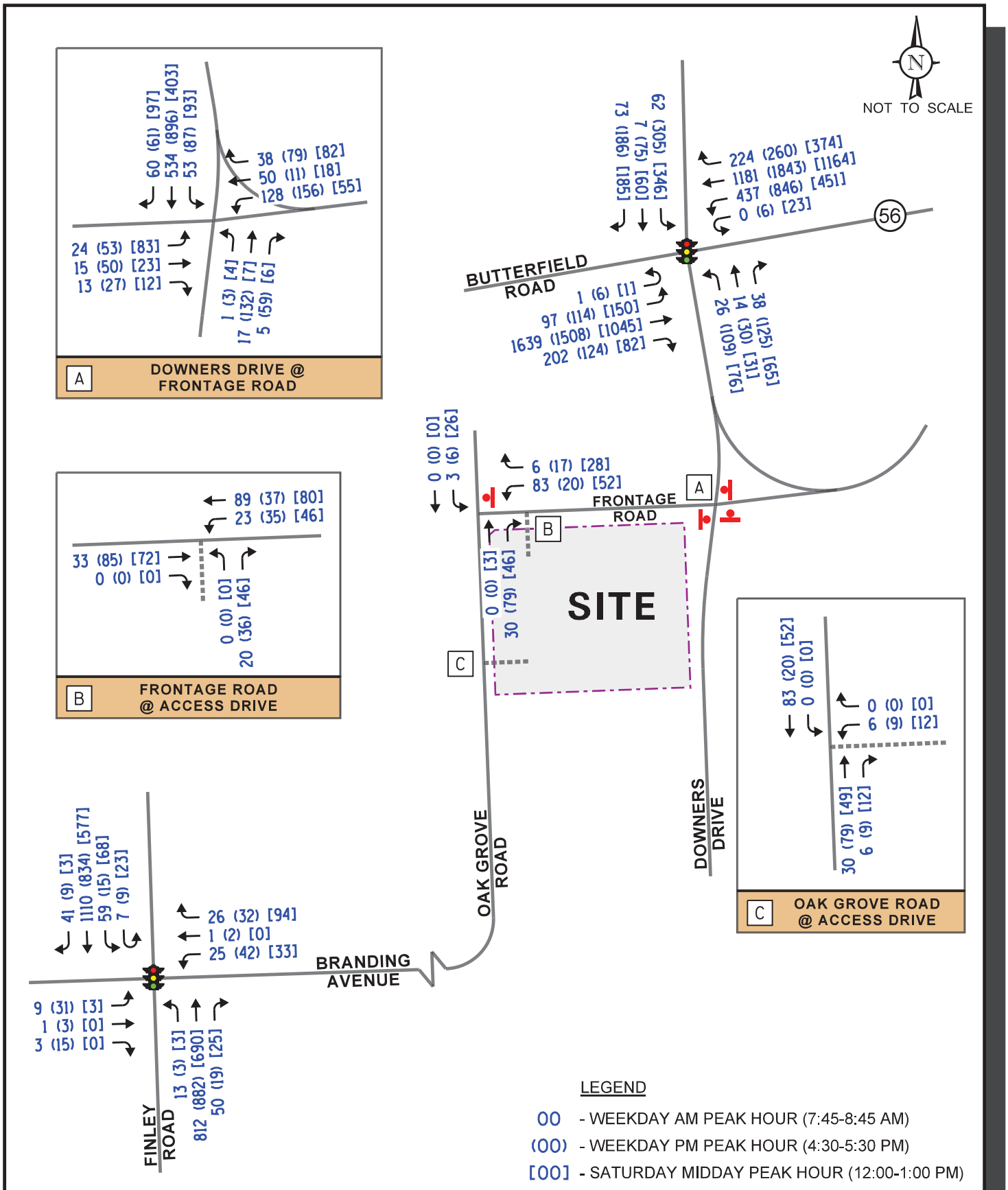


Car Wash
Downers Grove,
Illinois

Year 2032 No-Build Traffic Volumes

KLOA
Kenig,Lindgren,O'Hara,Aboona,Inc.

Job No: 26-045 Figure: 7



Car Wash
Downers Grove, Illinois

Year 2032 Total Traffic Volumes

KLOA Kenig,Lindgren,O'Hara,Aboona,Inc.

Job No: 26-045 Figure: 8

5. Traffic Analysis and Recommendations

The following provides an evaluation conducted for the weekday morning, weekday evening, and Saturday midday peak hours. The analysis includes conducting capacity analyses to determine how well the roadway system and access drives are projected to operate and whether any roadway improvements or modifications are required.

Traffic Analyses

Roadway and adjacent or nearby intersection analyses were performed for the weekday morning, weekday evening, and Saturday midday peak hours for the existing (Year 2026), no-build, and future projected (Year 2032) traffic volumes.

The traffic analyses were performed using the methodologies outlined in the Transportation Research Board's *Highway Capacity Manual (HCM), 7*th Edition and analyzed using the Synchro/SimTraffic 12 software. The analysis for the traffic-signal controlled intersection of Butterfield Road with Downers Drive was accomplished using actual cycle lengths, phasings, and offsets to determine the average overall vehicle delay and levels of service.

The analyses for the unsignalized intersections determine the average control delay to vehicles at an intersection. Control delay is the elapsed time from a vehicle joining the queue at a stop sign (includes the time required to decelerate to a stop) until its departure from the stop sign and resumption of free flow speed. The methodology analyzes each intersection approach controlled by a stop sign and considers traffic volumes on all approaches and lane characteristics.

The ability of an intersection to accommodate traffic flow is expressed in terms of level of service, which is assigned a letter from A to F based on the average control delay experienced by vehicles passing through the intersection. The *Highway Capacity Manual* definitions for levels of service and the corresponding control delay for signalized intersections and unsignalized intersections are included in the Appendix of this report.

Summaries of the traffic analysis results showing the level of service and overall intersection delay (measured in seconds) for the existing, Year 2032 no-build, and Year 2032 total projected conditions are presented in **Tables 4** through **7**. A discussion of the intersections follows. Summary sheets for the capacity analyses are included in the Appendix.

Table 4
CAPACITY ANALYSIS RESULTS - BUTTERFIELD ROAD WITH DOWNERS DRIVE – SIGNALIZED

	Peak Hour	Eastbound			Westbound			Northbound		Southbound			Overall
			T	R	L	T	R	L	T/R	L	T	R	
Existing Conditions	Weekday Morning	E 59.6	B 19.1	A 2.7	E 58.9	A 9.8	A 1.7	D 42.4	C 30.8	D 48.7	D 52.2	A 0.3	C 20.2
		B – 19.0			C – 20.3			C – 34.1		D – 38.0			
	Weekday Evening	E 68.0	D 44.4	A 2.1	E 58.2	C 20.7	A 2.3	D 42.4	C 29.4	F 84.9	E 56.0	B 16.1	D 37.2
		D – 43.1			C – 29.9			C – 34.6		E – 62.6			
	Saturday Midday	D 48.2	C 26.5	A 0.2	D 50.6	C 20.8	A 3.4	C 23.8	C 22.2	D 37.4	C 33.2	A 4.8	C 26.0
		C – 27.4			C – 24.6			C – 22.8		C – 29.0			
No-Build Conditions	Weekday Morning	E 60.0	B 19.6	A 2.7	E 59.0	B 10.7	A 1.8	D 42.2	C 31.2	D 51.7	D 52.2	A 6.3	C 20.9
		B – 20.0			C – 20.9			C – 34.3		C – 27.9			
	Weekday Evening	E 69.7	D 45.1	A 2.3	E 58.5	C 20.9	A 2.3	D 42.4	C 29.7	F 99+	E 56.2	C 26.0	D 39.1
		D – 44.1			C – 30.0			C – 34.8		E – 73.3			
	Saturday Midday	D 49.5	C 26.7	A 0.2	D 50.9	C 21.0	A 3.5	C 23.8	C 22.3	D 40.9	C 33.3	A 4.4	C 26.3
		C – 28.2			C – 24.6			C – 22.9		C – 28.7			
Projected Conditions	Weekday Morning	E 60.0	B 19.8	A 2.7	E 59.2	B 10.7	A 1.8	D 42.7	C 29.6	E 56.0	D 54.0	A 7.0	C 21.2
		C – 20.1			C – 21.2			C – 33.9		C – 30.6			
	Weekday Evening	E 70.4	D 45.7	A 3.5	E 59.4	C 21.0	A 2.3	D 45.5	C 32.1	F 91.4	D 54.6	C 24.6	D 38.7
		D – 44.4			C – 30.4			D – 37.7		E – 64.6			
	Saturday Midday	D 49.8	C 27.0	A 0.3	D 51.8	C 21.0	A 3.5	C 24.9	C 20-.9	D 41.0	C 34.2	A 4.5	C 26.4
		C – 28.0			C – 25.0			C – 22.7		C – 28.9			

Letter denotes Level of Service L – Left Turn R – Right Turn
Delay is measured in seconds. T – Through

Table 5
CAPACITY ANALYSIS RESULTS - EXISTING CONDITIONS – UNSIGNALIZED

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Saturday Midday Peak Hour	
	LOS	Delay	LOS	Delay	LOS	Delay
Downers Drive with Frontage Road[3]						
• Intersection Capacity Utilization (ICU)	A	43.4%	B	63.9%	A	36.0%
Oak Grove Road with Frontage Road[1]						
• Westbound Approach	A	9.1	A	9.0	A	9.2
• Southbound Left Turn	A	7.3	A	7.5	A	7.4
Finley Road with Branding Avenue[2]						
• Northbound Left Turn	B	11.5	A	9.9	A	8.6
• Eastbound Approach	D	33.4	C	23.7	C	21.7
• Westbound Approach	C	21.9	C	21.5	B	13.6
• Southbound Left Turn	B	11.1	B	13.4	B	11.0

LOS = Level of Service
Delay is measured in seconds.

1 – All-way stop control
2 – Two-way stop control
3 – Three-way stop control

Table 6
CAPACITY ANALYSIS RESULTS – YEAR 2032 NO-BUILD CONDITIONS - UNSIGNALIZED

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Saturday Midday Peak Hour	
	LOS	Delay	LOS	Delay	LOS	Delay
Downers Drive with Frontage Road[3]						
• Intersection Capacity Utilization (ICU)	A	43.8%	C	64.6%	A	36.3%
Oak Grove Road with Frontage Road[1]						
• Westbound Approach	A	9.1	A	9.1	A	9.2
• Southbound Left Turn	A	7.3	A	7.5	A	7.4
Finley Road with Branding Avenue[2]						
• Northbound Left Turn	B	11.6	A	9.9	A	8.7
• Eastbound Approach	D	34.4	C	24.2	C	22.0
• Westbound Approach	C	22.3	C	22.2	B	13.7
• Southbound Left Turn	B	11.2	B	13.5	B	11.1

LOS = Level of Service
Delay is measured in seconds.

1 – All-way stop control
2 – Two-way stop control
3 – Three-way stop control

Table 7
CAPACITY ANALYSIS RESULTS – YEAR 2032 PROJECTED CONDITIONS - UNSIGNALIZED

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Saturday Midday Peak Hour	
	LOS	Delay	LOS	Delay	LOS	Delay
Downers Drive with Frontage Road[3]						
• Intersection Capacity Utilization (ICU)	A	43.3%	C	65.8%	A	38.1%
Oak Grove Road with Frontage Road[1]						
• Westbound Approach	A	9.1	A	9.1	A	9.2
• Southbound Left Turn	A	7.3	A	7.5	A	7.4
Finley Road with Branding Avenue[2]						
• Northbound Left Turn	B	11.6	A	9.9	A	8.7
• Eastbound Approach	D	34.7	C	24.5	C	22.3
• Westbound Approach	C	23.6	C	23.6	B	14.5
• Southbound Left Turn	B	11.2	B	13.4	B	11.2
Frontage Road with Access Drive[1]						
• Northbound Approach	A	8.5	A	8.8	A	8.8
• Westbound Left Turn	A	7.3	A	7.4	A	7.4
Oak Grove Road with Access Drive[1]						
• Westbound Approach	A	9.1	A	9.1	A	9.1
• Southbound Left Turn	--	--	--	--	--	--

LOS = Level of Service
Delay is measured in seconds.

1 – All-way stop control
2 – Two-way stop control
3 – Three-way stop control

Discussion and Recommendations

The following summarizes how the intersections are projected to operate and identifies any roadway and traffic control improvements necessary to accommodate the car wash-generated traffic.

Butterfield Road with Downers Drive

The results of the capacity analysis indicate the following:

- The intersection overall currently operates at Level of Service (LOS) D or better during the weekday morning, weekday evening, and Saturday midday peak hours.

- Through movements on the eastbound and westbound approaches currently operate at LOS D or better and through movements on the northbound and southbound approaches currently operate at LOS E or better. However, this is due to the limited green time given to the northbound and southbound approaches.

- Left-turn movements on all approaches currently operate at LOS E or better during the peak hours except the southbound left turn during the weekday evening peak hour which operates at LOS F.

    - The high delay for eastbound and westbound movements is to be expected as they operate under a protected phase.

- Under no-build and total projected conditions, the intersection overall is projected to continue operating at existing levels of service during the peak hours. All approaches are projected to continue operating at existing LOS except the eastbound and westbound approaches which are projected to operate at LOS C during the weekday morning peak hour.

As such, this intersection has sufficient reserve capacity to accommodate the traffic estimated to be generated by the proposed car wash and no roadway or traffic control improvements are required.

Downers Drive with Frontage Road

Because of the traffic control configuration of this intersection where the eastbound traffic is under stop sign control and the other three approaches are free, the intersection could not be analyzed using HCM procedures. Given this traffic control configuration and the limitations of the HCM procedures, the intersection was analyzed using the intersection capacity utilization (ICU) level of service. The ICU indicates how much reserve capacity is available or how much an intersection is over capacity.

Based on the ICU analysis, the intersection currently utilizes approximately 43 percent of the capacity of the intersection during the weekday morning peak hour, approximately 64 percent of its capacity during the weekday evening peak hour, and approximately 36 percent of its capacity during the Saturday midday peak hour. Under future conditions it is projected that the intersection will utilize approximately 43 percent of its capacity during the weekday morning peak hour and 66 percent of its capacity during the weekday evening peak hour and approximately 38 percent of its capacity during the Saturday midday peak hour. As a result, the intersection will continue to operate efficiently and with minimal delays.

Oak Grove Road with Frontage Road

The results of the capacity analyses indicate that the westbound approach and southbound left-turn movement at this intersection operate at LOS A during the weekday morning, weekday evening, and Saturday midday peak hours.

Under no-build and total projected conditions, the westbound approach and southbound left-turn movement are projected to continue to operate at existing levels of service during all three peak hour. As such, this intersection has sufficient reserve capacity to accommodate the traffic estimated to be generated by the proposed car wash and no roadway or traffic control improvements are required.

Finley Road with Branding Avenue

The results of the capacity analyses indicate that all of the approaches and critical movements at this intersection operate at LOS D or better during the weekday morning, weekday evening, and Saturday midday peak hours. Under no-build and total projected conditions, the approaches and critical movements are projected to continue to operate at existing levels of service during all three peak hours. As such, this intersection has sufficient reserve capacity to accommodate the traffic estimated to be generated by the proposed car wash and no roadway or traffic control improvements are required.

Frontage Road with Access Drive

Access to the car wash will be provided via the existing full-movement access drive off the frontage road which provides one inbound lane and one outbound lane. It is recommended that outbound movements be under stop sign control.

The results of the capacity analyses indicate that the northbound approach and westbound left-turn movement are projected to operate at LOS A during the weekday morning, weekday evening, and Saturday midday peak hours. As such, this access drive will be sufficient in accommodating the traffic estimated to be generated by the proposed car wash.

Oak Grove Road with Access Drive

Access to the car wash will be provided via the existing full-movement access drive off Oak Grove Road which provides one inbound lane and one outbound lane. It is recommended that outbound movements be under stop sign control.

The results of the capacity analyses indicate that westbound approach is projected to operate at LOS A during the weekday morning, weekday evening, and Saturday midday peak hours. As such, this access drive will be sufficient in accommodating the traffic estimated to be generated by the proposed development.

6. Conclusion

Based on the preceding analyses and recommendations, the following conclusions have been made:

- The site will be developed into an automatic car wash that consists of one car wash tunnel with 20 vacuum stalls.
- Access will continue to be provided via the existing access system serving the Casa Margarita restaurant, which currently occupies the site.
- The results of the capacity analysis indicated that the existing roadway system and access drives have adequate reserve capacity to accommodate the estimated traffic to be generated by the car wash and no roadway improvements or traffic control modifications are required.
- In order to enhance the flow of traffic through the car wash site on peak days, the operator should consider implementing the following recommendations:
    - Increase the service rate of the tunnel to the maximum it can process.
    - Provide staff at critical locations within the circulation system during peak periods at the car wash to help direct and manage the flow of traffic through the site. Critical internal locations where staff should be located include at the pay stations and at the exit of the car wash.

Appendix

Traffic Count Summary Sheets
Site Plan
ITE Trip Generation Sheets
CMAP 2050 Projections Letter
Level of Service Criteria
Capacity Analysis Summary Sheets

Traffic Count Summary Sheets

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Count Name: Butterfield Road with Downers Drive TMC
Site Code:
Start Date: 08/07/2025
Page No: 1

Turning Movement Data

Start Time	Butterfield Road Eastbound						Butterfield Road Westbound						Downers Drive Northbound						Downers Drive Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	0	20	284	12	0	316	1	47	202	33	0	283	0	5	1	1	0	7	0	11	3	10	0	24	630
7:15 AM	0	9	348	14	0	371	1	70	259	28	0	358	0	4	6	0	0	10	0	18	11	8	0	37	776
7:30 AM	0	24	369	28	0	421	0	79	270	38	0	387	0	3	2	6	0	11	0	17	9	8	0	34	853
7:45 AM	0	26	416	37	0	479	0	91	335	58	1	484	0	2	2	13	0	17	0	13	11	4	0	28	1008
Hourly Total	0	79	1417	91	0	1587	2	287	1066	157	1	1512	0	14	11	20	0	45	0	59	34	30	0	123	3267
8:00 AM	1	16	397	40	0	454	0	77	303	62	0	442	0	4	2	7	0	13	0	21	9	8	0	38	947
8:15 AM	0	16	408	47	0	471	0	104	271	36	2	411	0	5	3	4	0	12	0	15	8	10	0	33	927
8:30 AM	0	13	406	34	0	453	0	80	304	34	0	418	0	8	6	9	0	23	0	37	4	12	0	53	947
8:45 AM	2	25	363	30	0	420	2	99	287	38	0	426	0	11	4	6	0	21	0	31	6	14	0	51	918
Hourly Total	3	70	1574	151	0	1798	2	360	1165	170	2	1697	0	28	15	26	0	69	0	104	27	44	0	175	3739
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	4	27	360	29	0	420	2	210	429	52	0	693	0	17	6	18	0	41	0	64	28	45	0	137	1291
4:15 PM	0	24	354	24	0	402	1	179	482	56	0	718	0	21	10	15	0	46	0	67	24	29	1	120	1286
4:30 PM	2	25	315	29	0	371	0	177	442	60	0	679	0	18	5	31	0	54	0	89	23	40	0	152	1256
4:45 PM	0	12	385	34	0	431	1	168	487	67	0	723	0	23	11	30	0	64	0	70	17	31	0	118	1336
Hourly Total	6	88	1414	116	0	1624	4	734	1840	235	0	2813	0	79	32	94	0	205	0	290	92	145	1	527	5169
5:00 PM	3	21	427	12	0	463	3	214	484	39	0	740	0	36	5	29	0	70	0	58	9	30	0	97	1370
5:15 PM	1	35	370	27	0	433	2	218	450	64	0	734	0	22	8	24	0	54	0	61	17	23	0	101	1322
5:30 PM	2	18	400	11	2	431	1	131	385	50	0	567	0	12	6	12	0	30	0	71	13	28	0	112	1140
5:45 PM	2	31	431	25	0	489	2	145	417	52	0	616	0	16	2	14	0	32	0	71	3	30	0	104	1241
Hourly Total	8	105	1628	75	2	1816	8	708	1736	205	0	2657	0	86	21	79	0	186	0	261	42	111	0	414	5073
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 PM	0	34	272	21	0	327	6	93	299	99	0	497	0	9	7	11	0	27	0	78	13	25	0	116	967
12:15 PM	1	28	250	16	0	295	4	112	351	77	0	544	0	14	7	10	0	31	0	84	16	28	0	128	998
12:30 PM	0	35	282	13	0	330	6	109	278	65	0	458	0	8	3	15	0	26	0	62	12	31	0	105	919
12:45 PM	0	26	237	13	0	276	7	127	270	96	0	500	0	19	7	7	0	33	0	92	16	34	0	142	951
Hourly Total	1	123	1041	63	0	1228	23	441	1198	337	0	1999	0	50	24	43	0	117	0	316	57	118	0	491	3835
1:00 PM	0	41	304	8	0	353	6	95	336	85	1	522	0	8	8	7	0	23	0	64	17	34	0	115	1013
1:15 PM	0	38	274	11	0	323	3	107	345	88	0	543	0	14	7	9	0	30	0	70	17	40	0	127	1023
1:30 PM	2	25	280	4	0	311	5	97	331	89	0	522	0	12	11	6	0	29	1	72	16	48	0	137	999
1:45 PM	0	38	299	5	0	342	4	93	335	77	0	509	0	18	8	16	0	42	0	76	15	39	0	130	1023
Hourly Total	2	142	1157	28	0	1329	18	392	1347	339	1	2096	0	52	34	38	0	124	1	282	65	161	0	509	4058
Grand Total	20	607	8231	524	2	9382	57	2922	8352	1443	4	12774	0	309	137	300	0	746	1	1312	317	609	1	2239	25141
Approach %	0.2	6.5	87.7	5.6	-	-	0.4	22.9	65.4	11.3	-	-	0.0	41.4	18.4	40.2	-	-	0.0	58.6	14.2	27.2	-	-	-
Total %	0.1	2.4	32.7	2.1	-	37.3	0.2	11.6	33.2	5.7	-	50.8	0.0	1.2	0.5	1.2	-	3.0	0.0	5.2	1.3	2.4	-	8.9	-

Lights	20	597	8095	521	-	9233	55	2858	8228	1436	-	12577	0	309	136	298	-	743	1	1299	313	600	-	2213	24766
% Lights	100.0	98.4	98.3	99.4	-	98.4	96.5	97.8	98.5	99.5	-	98.5	-	100.0	99.3	99.3	-	99.6	100.0	99.0	98.7	98.5	-	98.8	98.5
Buses	0	0	31	0	-	31	0	29	7	1	-	37	0	0	0	0	-	0	0	0	0	0	-	0	68
% Buses	0.0	0.0	0.4	0.0	-	0.3	0.0	1.0	0.1	0.1	-	0.3	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.3
Single-Unit Trucks	0	6	78	1	-	85	1	24	88	4	-	117	0	0	1	1	-	2	0	9	1	2	-	12	216
% Single-Unit Trucks	0.0	1.0	0.9	0.2	-	0.9	1.8	0.8	1.1	0.3	-	0.9	-	0.0	0.7	0.3	-	0.3	0.0	0.7	0.3	0.3	-	0.5	0.9
Articulated Trucks	0	4	27	2	-	33	1	11	29	2	-	43	0	0	0	1	-	1	0	4	3	6	-	13	90
% Articulated Trucks	0.0	0.7	0.3	0.4	-	0.4	1.8	0.4	0.3	0.1	-	0.3	-	0.0	0.0	0.3	-	0.1	0.0	0.3	0.9	1.0	-	0.6	0.4
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	1	-	1	1
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.2	-	0.0	0.0
Pedestrians	-	-	-	-	2	-	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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Count Name: Butterfield Road with Downers Drive TMC
Site Code:
Start Date: 08/07/2025

Turning Movement Peak Hour Data (7:45 AM)

Start Time	Butterfield Road Eastbound						Butterfield Road Westbound						Downers Drive Northbound						Downers Drive Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:45 AM	0	26	416	37	0	479	0	91	335	58	1	484	0	2	2	13	0	17	0	13	11	4	0	28	1008
8:00 AM	1	16	397	40	0	454	0	77	303	62	0	442	0	4	2	7	0	13	0	21	9	8	0	38	947
8:15 AM	0	16	408	47	0	471	0	104	271	36	2	411	0	5	3	4	0	12	0	15	8	10	0	33	927
8:30 AM	0	13	406	34	0	453	0	80	304	34	0	418	0	8	6	9	0	23	0	37	4	12	0	53	947
Total	1	71	1627	158	0	1857	0	352	1213	190	3	1755	0	19	13	33	0	65	0	86	32	34	0	152	3829
Approach %	0.1	3.8	87.6	8.5	-	-	0.0	20.1	69.1	10.8	-	-	0.0	29.2	20.0	50.8	-	-	0.0	56.6	21.1	22.4	-	-	-
Total %	0.0	1.9	42.5	4.1	-	48.5	0.0	9.2	31.7	5.0	-	45.8	0.0	0.5	0.3	0.9	-	1.7	0.0	2.2	0.8	0.9	-	4.0	-
PHF	0.250	0.683	0.978	0.840	-	0.969	0.000	0.846	0.905	0.766	-	0.907	0.000	0.594	0.542	0.635	-	0.707	0.000	0.581	0.727	0.708	-	0.717	0.950
Lights	1	69	1595	157	-	1822	0	340	1175	186	-	1701	0	19	12	32	-	63	0	83	31	31	-	145	3731
% Lights	100.0	97.2	98.0	99.4	-	98.1	-	96.6	96.9	97.9	-	96.9	-	100.0	92.3	97.0	-	96.9	-	96.5	96.9	91.2	-	95.4	97.4
Buses	0	0	6	0	-	6	0	8	0	0	-	8	0	0	0	0	-	0	0	0	0	0	-	0	14
% Buses	0.0	0.0	0.4	0.0	-	0.3	-	2.3	0.0	0.0	-	0.5	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.4
Single-Unit Trucks	0	1	19	0	-	20	0	3	29	3	-	35	0	0	1	0	-	1	0	3	0	1	-	4	60
% Single-Unit Trucks	0.0	1.4	1.2	0.0	-	1.1	-	0.9	2.4	1.6	-	2.0	-	0.0	7.7	0.0	-	1.5	-	3.5	0.0	2.9	-	2.6	1.6
Articulated Trucks	0	1	7	1	-	9	0	1	9	1	-	11	0	0	0	1	-	1	0	0	1	2	-	3	24
% Articulated Trucks	0.0	1.4	0.4	0.6	-	0.5	-	0.3	0.7	0.5	-	0.6	-	0.0	0.0	3.0	-	1.5	-	0.0	3.1	5.9	-	2.0	0.6
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 dfreeman@kloainc.com

Count Name: Butterfield Road with Downers Drive TMC
Site Code:
Start Date: 08/07/2025

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Butterfield Road Eastbound						Butterfield Road Westbound						Downers Drive Northbound						Downers Drive Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:30 PM	2	25	315	29	0	371	0	177	442	60	0	679	0	18	5	31	0	54	0	89	23	40	0	152	1256
4:45 PM	0	12	385	34	0	431	1	168	487	67	0	723	0	23	11	30	0	64	0	70	17	31	0	118	1336
5:00 PM	3	21	427	12	0	463	3	214	484	39	0	740	0	36	5	29	0	70	0	58	9	30	0	97	1370
5:15 PM	1	35	370	27	0	433	2	218	450	64	0	734	0	22	8	24	0	54	0	61	17	23	0	101	1322
Total	6	93	1497	102	0	1698	6	777	1863	230	0	2876	0	99	29	114	0	242	0	278	66	124	0	468	5284
Approach %	0.4	5.5	88.2	6.0	-	-	0.2	27.0	64.8	8.0	-	-	0.0	40.9	12.0	47.1	-	-	0.0	59.4	14.1	26.5	-	-	-
Total %	0.1	1.8	28.3	1.9	-	32.1	0.1	14.7	35.3	4.4	-	54.4	0.0	1.9	0.5	2.2	-	4.6	0.0	5.3	1.2	2.3	-	8.9	-
PHF	0.500	0.664	0.876	0.750	-	0.917	0.500	0.891	0.956	0.858	-	0.972	0.000	0.688	0.659	0.919	-	0.864	0.000	0.781	0.717	0.775	-	0.770	0.964
Lights	6	90	1466	101	-	1663	6	762	1845	230	-	2843	0	99	29	114	-	242	0	276	64	123	-	463	5211
% Lights	100.0	96.8	97.9	99.0	-	97.9	100.0	98.1	99.0	100.0	-	98.9	-	100.0	100.0	100.0	-	100.0	-	99.3	97.0	99.2	-	98.9	98.6
Buses	0	0	7	0	-	7	0	9	0	0	-	9	0	0	0	0	-	0	0	0	0	0	-	0	16
% Buses	0.0	0.0	0.5	0.0	-	0.4	0.0	1.2	0.0	0.0	-	0.3	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.3
Single-Unit Trucks	0	3	19	0	-	22	0	4	12	0	-	16	0	0	0	0	-	0	0	1	1	0	-	2	40
% Single-Unit Trucks	0.0	3.2	1.3	0.0	-	1.3	0.0	0.5	0.6	0.0	-	0.6	-	0.0	0.0	0.0	-	0.0	-	0.4	1.5	0.0	-	0.4	0.8
Articulated Trucks	0	0	5	1	-	6	0	2	6	0	-	8	0	0	0	0	-	0	0	1	1	1	-	3	17
% Articulated Trucks	0.0	0.0	0.3	1.0	-	0.4	0.0	0.3	0.3	0.0	-	0.3	-	0.0	0.0	0.0	-	0.0	-	0.4	1.5	0.8	-	0.6	0.3
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
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Count Name: Butterfield Road with Downers Drive TMC
Site Code:
Start Date: 08/07/2025

Turning Movement Peak Hour Data (12:00 PM)

Start Time	Butterfield Road Eastbound						Butterfield Road Westbound						Downers Drive Northbound						Downers Drive Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
12:00 PM	0	34	272	21	0	327	6	93	299	99	0	497	0	9	7	11	0	27	0	78	13	25	0	116	967
12:15 PM	1	28	250	16	0	295	4	112	351	77	0	544	0	14	7	10	0	31	0	84	16	28	0	128	998
12:30 PM	0	35	282	13	0	330	6	109	278	65	0	458	0	8	3	15	0	26	0	62	12	31	0	105	919
12:45 PM	0	26	237	13	0	276	7	127	270	96	0	500	0	19	7	7	0	33	0	92	16	34	0	142	951
Total	1	123	1041	63	0	1228	23	441	1198	337	0	1999	0	50	24	43	0	117	0	316	57	118	0	491	3835
Approach %	0.1	10.0	84.8	5.1	-	-	1.2	22.1	59.9	16.9	-	-	0.0	42.7	20.5	36.8	-	-	0.0	64.4	11.6	24.0	-	-	-
Total %	0.0	3.2	27.1	1.6	-	32.0	0.6	11.5	31.2	8.8	-	52.1	0.0	1.3	0.6	1.1	-	3.1	0.0	8.2	1.5	3.1	-	12.8	-
PHF	0.250	0.879	0.923	0.750	-	0.930	0.821	0.868	0.853	0.851	-	0.919	0.000	0.658	0.857	0.717	-	0.886	0.000	0.859	0.891	0.868	-	0.864	0.961
Lights	1	122	1031	62	-	1216	23	436	1185	337	-	1981	0	50	24	43	-	117	0	315	57	118	-	490	3804
% Lights	100.0	99.2	99.0	98.4	-	99.0	100.0	98.9	98.9	100.0	-	99.1	-	100.0	100.0	100.0	-	100.0	-	99.7	100.0	100.0	-	99.8	99.2
Buses	0	0	2	0	-	2	0	3	3	0	-	6	0	0	0	0	-	0	0	0	0	0	-	0	8
% Buses	0.0	0.0	0.2	0.0	-	0.2	0.0	0.7	0.3	0.0	-	0.3	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.2
Single-Unit Trucks	0	0	6	1	-	7	0	1	8	0	-	9	0	0	0	0	-	0	0	1	0	0	-	1	17
% Single-Unit Trucks	0.0	0.0	0.6	1.6	-	0.6	0.0	0.2	0.7	0.0	-	0.5	-	0.0	0.0	0.0	-	0.0	-	0.3	0.0	0.0	-	0.2	0.4
Articulated Trucks	0	1	2	0	-	3	0	1	2	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0	6
% Articulated Trucks	0.0	0.8	0.2	0.0	-	0.2	0.0	0.2	0.2	0.0	-	0.2	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.2
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Count Name: finley rd and branding ave TMC
Site Code:
Start Date: 02/14/2026
Page No: 1

Turning Movement Data

Start Time	access dr Eastbound						Branding ave Westbound						finley rd Northbound						finley rd Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
12:00 PM	0	1	0	0	0	1	0	7	0	27	0	34	0	1	160	5	0	166	3	18	126	0	1	147	348
12:15 PM	0	2	0	0	0	2	0	9	0	22	0	31	0	0	167	5	0	172	5	17	152	1	0	175	380
12:30 PM	0	0	0	0	0	0	0	7	0	28	1	35	0	2	165	2	0	169	8	17	132	1	0	158	362
12:45 PM	0	0	0	0	1	0	0	1	0	13	0	14	0	0	188	4	0	192	7	12	158	1	0	178	384
Hourly Total	0	3	0	0	1	3	0	24	0	90	1	114	0	3	680	16	0	699	23	64	568	3	1	658	1474
1:00 PM	0	0	0	0	0	0	0	6	0	22	0	28	0	0	126	2	0	128	1	18	151	0	0	170	326
1:15 PM	0	3	0	0	0	3	0	6	1	10	0	17	0	1	132	4	0	137	4	6	170	1	0	181	338
1:30 PM	0	2	0	0	1	2	0	3	0	20	0	23	0	1	140	5	0	146	8	8	163	2	1	181	352
1:45 PM	0	1	0	0	0	1	0	5	0	17	0	22	1	0	125	4	0	130	6	8	174	2	0	190	343
Hourly Total	0	6	0	0	1	6	0	20	1	69	0	90	1	2	523	15	0	541	19	40	658	5	1	722	1359
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	0	2	0	0	0	2	0	1	0	3	0	4	0	0	159	5	0	164	3	7	177	1	0	188	358
7:15 AM	0	0	0	0	0	0	0	3	1	2	0	6	0	2	192	9	0	203	3	5	165	0	0	173	382
7:30 AM	0	1	0	0	0	1	0	3	0	2	0	5	0	1	186	5	0	192	3	11	236	1	0	251	449
7:45 AM	0	2	0	0	0	2	0	6	1	7	0	14	0	1	224	16	0	241	1	19	292	5	0	317	574
Hourly Total	0	5	0	0	0	5	0	13	2	14	0	29	0	4	761	35	0	800	10	42	870	7	0	929	1763
8:00 AM	0	1	0	1	0	2	0	4	0	2	0	6	0	2	203	10	0	215	2	16	276	6	1	300	523
8:15 AM	0	4	0	0	1	4	0	4	0	9	0	13	1	3	198	11	0	213	3	13	273	18	0	307	537
8:30 AM	0	2	1	2	1	5	0	7	0	7	1	14	2	7	175	8	0	192	1	8	253	11	2	273	484
8:45 AM	0	2	0	3	0	5	0	5	0	3	0	8	0	6	193	6	0	205	1	10	210	13	0	234	452
Hourly Total	0	9	1	6	2	16	0	20	0	21	1	41	3	18	769	35	0	825	7	47	1012	48	3	1114	1996
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	5	0	3	0	8	0	6	0	7	1	13	0	1	194	4	0	199	2	6	249	3	0	260	480
4:15 PM	0	5	0	1	2	6	0	3	0	3	0	6	0	1	175	3	0	179	4	4	227	5	2	240	431
4:30 PM	0	13	1	5	1	19	0	11	0	9	0	20	0	0	205	6	0	211	2	3	200	2	1	207	457
4:45 PM	0	3	1	1	0	5	0	4	2	6	0	12	0	1	197	2	0	200	1	3	198	1	0	203	420
Hourly Total	0	26	2	10	3	38	0	24	2	25	1	51	0	3	771	15	0	789	9	16	874	11	3	910	1788
5:00 PM	0	10	1	6	0	17	0	12	0	9	0	21	0	2	242	2	0	246	4	4	226	3	0	237	521
5:15 PM	0	5	0	3	0	8	0	7	0	6	0	13	0	0	225	3	0	228	2	2	198	3	0	205	454
5:30 PM	0	3	2	1	0	6	0	0	0	3	0	3	0	0	168	4	0	172	5	4	205	0	0	214	395
5:45 PM	0	6	1	2	0	9	0	4	0	3	0	7	0	1	152	3	0	156	3	5	159	2	0	169	341
Hourly Total	0	24	4	12	0	40	0	23	0	21	0	44	0	3	787	12	0	802	14	15	788	8	0	825	1711
Grand Total	0	73	7	28	7	108	0	124	5	240	3	369	4	33	4291	128	0	4456	82	224	4770	82	8	5158	10091
Approach %	0.0	67.6	6.5	25.9	-	-	0.0	33.6	1.4	65.0	-	-	0.1	0.7	96.3	2.9	-	-	1.6	4.3	92.5	1.6	-	-	-
Total %	0.0	0.7	0.1	0.3	-	1.1	0.0	1.2	0.0	2.4	-	3.7	0.0	0.3	42.5	1.3	-	44.2	0.8	2.2	47.3	0.8	-	51.1	-

Lights	0	73	7	28	-	108	0	121	5	210	-	336	4	33	4244	123	-	4404	82	216	4692	81	-	5071	9919
% Lights	-	100.0	100.0	100.0	-	100.0	-	97.6	100.0	87.5	-	91.1	100.0	100.0	98.9	96.1	-	98.8	100.0	96.4	98.4	98.8	-	98.3	98.3
Buses	0	0	0	0	-	0	0	0	0	26	-	26	0	0	9	3	-	12	0	1	8	0	-	9	47
% Buses	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	10.8	-	7.0	0.0	0.0	0.2	2.3	-	0.3	0.0	0.4	0.2	0.0	-	0.2	0.5
Single-Unit Trucks	0	0	0	0	-	0	0	3	0	2	-	5	0	0	31	2	-	33	0	5	48	1	-	54	92
% Single-Unit Trucks	-	0.0	0.0	0.0	-	0.0	-	2.4	0.0	0.8	-	1.4	0.0	0.0	0.7	1.6	-	0.7	0.0	2.2	1.0	1.2	-	1.0	0.9
Articulated Trucks	0	0	0	0	-	0	0	0	0	2	-	2	0	0	7	0	-	7	0	2	21	0	-	23	32
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.8	-	0.5	0.0	0.0	0.2	0.0	-	0.2	0.0	0.9	0.4	0.0	-	0.4	0.3
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	1
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	7	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	8	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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Count Name: finley rd and branding ave TMC
Site Code:
Start Date: 02/14/2026
Page No: 3

Turning Movement Peak Hour Data (12:00 PM)

Start Time	access dr Eastbound						Branding ave Westbound						finley rd Northbound						finley rd Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
12:00 PM	0	1	0	0	0	1	0	7	0	27	0	34	0	1	160	5	0	166	3	18	126	0	1	147	348
12:15 PM	0	2	0	0	0	2	0	9	0	22	0	31	0	0	167	5	0	172	5	17	152	1	0	175	380
12:30 PM	0	0	0	0	0	0	0	7	0	28	1	35	0	2	165	2	0	169	8	17	132	1	0	158	362
12:45 PM	0	0	0	0	1	0	0	1	0	13	0	14	0	0	188	4	0	192	7	12	158	1	0	178	384
Total	0	3	0	0	1	3	0	24	0	90	1	114	0	3	680	16	0	699	23	64	568	3	1	658	1474
Approach %	0.0	100.0	0.0	0.0	-	-	0.0	21.1	0.0	78.9	-	-	0.0	0.4	97.3	2.3	-	-	3.5	9.7	86.3	0.5	-	-	-
Total %	0.0	0.2	0.0	0.0	-	0.2	0.0	1.6	0.0	6.1	-	7.7	0.0	0.2	46.1	1.1	-	47.4	1.6	4.3	38.5	0.2	-	44.6	-
PHF	0.000	0.375	0.000	0.000	-	0.375	0.000	0.667	0.000	0.804	-	0.814	0.000	0.375	0.904	0.800	-	0.910	0.719	0.889	0.899	0.750	-	0.924	0.960
Lights	0	3	0	0	-	3	0	24	0	85	-	109	0	3	677	15	-	695	23	63	561	3	-	650	1457
% Lights	-	100.0	-	-	-	100.0	-	100.0	-	94.4	-	95.6	-	100.0	99.6	93.8	-	99.4	100.0	98.4	98.8	100.0	-	98.8	98.8
Buses	0	0	0	0	-	0	0	0	0	5	-	5	0	0	0	1	-	1	0	1	2	0	-	3	9
% Buses	-	0.0	-	-	-	0.0	-	0.0	-	5.6	-	4.4	-	0.0	0.0	6.3	-	0.1	0.0	1.6	0.4	0.0	-	0.5	0.6
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	2	0	0	5	0	-	5	7
% Single-Unit Trucks	-	0.0	-	-	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.3	0.0	-	0.3	0.0	0.0	0.9	0.0	-	0.8	0.5
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	1
% Articulated Trucks	-	0.0	-	-	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.1	0.0	-	0.1	0.0	0.0	0.0	0.0	-	0.0	0.1
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	-	-	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 dfreeman@kloainc.com

Count Name: finley rd and branding ave TMC
Site Code:
Start Date: 02/14/2026
Page No: 4

Turning Movement Peak Hour Data (7:45 AM)

Start Time	access dr Eastbound						Branding ave Westbound						finley rd Northbound						finley rd Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:45 AM	0	2	0	0	0	2	0	6	1	7	0	14	0	1	224	16	0	241	1	19	292	5	0	317	574
8:00 AM	0	1	0	1	0	2	0	4	0	2	0	6	0	2	203	10	0	215	2	16	276	6	1	300	523
8:15 AM	0	4	0	0	1	4	0	4	0	9	0	13	1	3	198	11	0	213	3	13	273	18	0	307	537
8:30 AM	0	2	1	2	1	5	0	7	0	7	1	14	2	7	175	8	0	192	1	8	253	11	2	273	484
Total	0	9	1	3	2	13	0	21	1	25	1	47	3	13	800	45	0	861	7	56	1094	40	3	1197	2118
Approach %	0.0	69.2	7.7	23.1	-	-	0.0	44.7	2.1	53.2	-	-	0.3	1.5	92.9	5.2	-	-	0.6	4.7	91.4	3.3	-	-	-
Total %	0.0	0.4	0.0	0.1	-	0.6	0.0	1.0	0.0	1.2	-	2.2	0.1	0.6	37.8	2.1	-	40.7	0.3	2.6	51.7	1.9	-	56.5	-
PHF	0.000	0.563	0.250	0.375	-	0.650	0.000	0.750	0.250	0.694	-	0.839	0.375	0.464	0.893	0.703	-	0.893	0.583	0.737	0.937	0.556	-	0.944	0.922
Lights	0	9	1	3	-	13	0	19	1	18	-	38	3	13	788	44	-	848	7	55	1074	39	-	1175	2074
% Lights	-	100.0	100.0	100.0	-	100.0	-	90.5	100.0	72.0	-	80.9	100.0	100.0	98.5	97.8	-	98.5	100.0	98.2	98.2	97.5	-	98.2	97.9
Buses	0	0	0	0	-	0	0	0	0	4	-	4	0	0	3	0	-	3	0	0	4	0	-	4	11
% Buses	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	16.0	-	8.5	0.0	0.0	0.4	0.0	-	0.3	0.0	0.0	0.4	0.0	-	0.3	0.5
Single-Unit Trucks	0	0	0	0	-	0	0	2	0	2	-	4	0	0	7	1	-	8	0	1	12	1	-	14	26
% Single-Unit Trucks	-	0.0	0.0	0.0	-	0.0	-	9.5	0.0	8.0	-	8.5	0.0	0.0	0.9	2.2	-	0.9	0.0	1.8	1.1	2.5	-	1.2	1.2
Articulated Trucks	0	0	0	0	-	0	0	0	0	1	-	1	0	0	2	0	-	2	0	0	4	0	-	4	7
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	4.0	-	2.1	0.0	0.0	0.3	0.0	-	0.2	0.0	0.0	0.4	0.0	-	0.3	0.3
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
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Count Name: finley rd and branding ave TMC
Site Code:
Start Date: 02/14/2026

Turning Movement Peak Hour Data (4:30 PM)

Start Time	access dr Eastbound						Branding ave Westbound						finley rd Northbound						finley rd Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:30 PM	0	13	1	5	1	19	0	11	0	9	0	20	0	0	205	6	0	211	2	3	200	2	1	207	457
4:45 PM	0	3	1	1	0	5	0	4	2	6	0	12	0	1	197	2	0	200	1	3	198	1	0	203	420
5:00 PM	0	10	1	6	0	17	0	12	0	9	0	21	0	2	242	2	0	246	4	4	226	3	0	237	521
5:15 PM	0	5	0	3	0	8	0	7	0	6	0	13	0	0	225	3	0	228	2	2	198	3	0	205	454
Total	0	31	3	15	1	49	0	34	2	30	0	66	0	3	869	13	0	885	9	12	822	9	1	852	1852
Approach %	0.0	63.3	6.1	30.6	-	-	0.0	51.5	3.0	45.5	-	-	0.0	0.3	98.2	1.5	-	-	1.1	1.4	96.5	1.1	-	-	-
Total %	0.0	1.7	0.2	0.8	-	2.6	0.0	1.8	0.1	1.6	-	3.6	0.0	0.2	46.9	0.7	-	47.8	0.5	0.6	44.4	0.5	-	46.0	-
PHF	0.000	0.596	0.750	0.625	-	0.645	0.000	0.708	0.250	0.833	-	0.786	0.000	0.375	0.898	0.542	-	0.899	0.563	0.750	0.909	0.750	-	0.899	0.889
Lights	0	31	3	15	-	49	0	34	2	26	-	62	0	3	865	12	-	880	9	11	812	9	-	841	1832
% Lights	-	100.0	100.0	100.0	-	100.0	-	100.0	100.0	86.7	-	93.9	-	100.0	99.5	92.3	-	99.4	100.0	91.7	98.8	100.0	-	98.7	98.9
Buses	0	0	0	0	-	0	0	0	0	4	-	4	0	0	0	0	-	0	0	0	0	0	-	0	4
% Buses	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	13.3	-	6.1	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.2
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	2	1	-	3	0	1	8	0	-	9	12
% Single-Unit Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.2	7.7	-	0.3	0.0	8.3	1.0	0.0	-	1.1	0.6
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	2	0	0	2	0	-	2	4
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.2	0.0	-	0.2	0.0	0.0	0.2	0.0	-	0.2	0.2
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
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Count Name: frontage rd and downers dr
Site Code:
Start Date: 02/21/2026
Page No: 1

Turning Movement Data

Start Time	frontage rd Eastbound						frontage rd Westbound						downers dr Northbound						downers dr Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
12:00 PM	0	10	2	2	0	14	0	15	3	19	0	37	0	1	0	0	0	1	0	31	95	13	0	139	191
12:15 PM	0	7	7	3	0	17	0	14	3	18	0	35	0	0	2	2	0	4	0	23	91	19	0	133	189
12:30 PM	0	17	5	3	0	25	0	17	6	25	0	48	0	0	2	4	1	6	1	15	97	10	0	123	202
12:45 PM	0	8	6	1	0	15	0	8	3	19	0	30	0	0	2	0	1	2	0	23	113	14	0	150	197
Hourly Total	0	42	20	9	0	71	0	54	15	81	0	150	0	1	6	6	2	13	1	92	396	56	0	545	779
1:00 PM	0	6	3	1	0	10	0	17	5	34	0	56	0	1	3	0	0	4	1	42	91	11	0	145	215
1:15 PM	0	10	0	2	0	12	0	11	2	14	0	27	0	0	0	0	0	0	0	30	118	11	0	159	198
1:30 PM	0	8	4	3	0	15	0	14	6	13	0	33	0	0	0	1	2	1	0	32	115	6	0	153	202
1:45 PM	0	8	5	1	0	14	0	14	2	17	0	33	0	0	3	0	1	3	1	27	102	8	0	138	188
Hourly Total	0	32	12	7	0	51	0	56	15	78	0	149	0	1	6	1	3	8	2	131	426	36	0	595	803
Grand Total	0	74	32	16	0	122	0	110	30	159	0	299	0	2	12	7	5	21	3	223	822	92	0	1140	1582
Approach %	0.0	60.7	26.2	13.1	-	-	0.0	36.8	10.0	53.2	-	-	0.0	9.5	57.1	33.3	-	-	0.3	19.6	72.1	8.1	-	-	-
Total %	0.0	4.7	2.0	1.0	-	7.7	0.0	7.0	1.9	10.1	-	18.9	0.0	0.1	0.8	0.4	-	1.3	0.2	14.1	52.0	5.8	-	72.1	-
Lights	0	73	31	14	-	118	0	108	30	158	-	296	0	2	12	7	-	21	3	223	815	83	-	1124	1559
% Lights	-	98.6	96.9	87.5	-	96.7	-	98.2	100.0	99.4	-	99.0	-	100.0	100.0	100.0	-	100.0	100.0	100.0	99.1	90.2	-	98.6	98.5
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	7	-	7	7
% Buses	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	7.6	-	0.6	0.4
Single-Unit Trucks	0	1	1	1	-	3	0	1	0	1	-	2	0	0	0	0	-	0	0	0	7	2	-	9	14
% Single-Unit Trucks	-	1.4	3.1	6.3	-	2.5	-	0.9	0.0	0.6	-	0.7	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.9	2.2	-	0.8	0.9
Articulated Trucks	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.9	0.0	0.0	-	0.3	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.1
Bicycles on Road	0	0	0	1	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1
% Bicycles on Road	-	0.0	0.0	6.3	-	0.8	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.1
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	5	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

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Count Name: frontage rd and downers dr
Site Code:
Start Date: 02/21/2026

Turning Movement Peak Hour Data (12:00 PM)

Start Time	frontage rd Eastbound						frontage rd Westbound						downers dr Northbound						downers dr Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
12:00 PM	0	10	2	2	0	14	0	15	3	19	0	37	0	1	0	0	0	1	0	31	95	13	0	139	191
12:15 PM	0	7	7	3	0	17	0	14	3	18	0	35	0	0	2	2	0	4	0	23	91	19	0	133	189
12:30 PM	0	17	5	3	0	25	0	17	6	25	0	48	0	0	2	4	1	6	1	15	97	10	0	123	202
12:45 PM	0	8	6	1	0	15	0	8	3	19	0	30	0	0	2	0	1	2	0	23	113	14	0	150	197
Total	0	42	20	9	0	71	0	54	15	81	0	150	0	1	6	6	2	13	1	92	396	56	0	545	779
Approach %	0.0	59.2	28.2	12.7	-	-	0.0	36.0	10.0	54.0	-	-	0.0	7.7	46.2	46.2	-	-	0.2	16.9	72.7	10.3	-	-	-
Total %	0.0	5.4	2.6	1.2	-	9.1	0.0	6.9	1.9	10.4	-	19.3	0.0	0.1	0.8	0.8	-	1.7	0.1	11.8	50.8	7.2	-	70.0	-
PHF	0.000	0.618	0.714	0.750	-	0.710	0.000	0.794	0.625	0.810	-	0.781	0.000	0.250	0.750	0.375	-	0.542	0.250	0.742	0.876	0.737	-	0.908	0.964
Lights	0	42	19	9	-	70	0	54	15	81	-	150	0	1	6	6	-	13	1	92	390	51	-	534	767
% Lights	-	100.0	95.0	100.0	-	98.6	-	100.0	100.0	100.0	-	100.0	-	100.0	100.0	100.0	-	100.0	100.0	100.0	98.5	91.1	-	98.0	98.5
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	4	-	4	4
% Buses	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	7.1	-	0.7	0.5
Single-Unit Trucks	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	6	1	-	7	8
% Single-Unit Trucks	-	0.0	5.0	0.0	-	1.4	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	1.5	1.8	-	1.3	1.0
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
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Count Name: Frontage Rd and downers dr TMC
Site Code:
Start Date: 02/17/2026
Page No: 1

Turning Movement Data

Start Time	frontage rd Eastbound						frontage rd Westbound						downers dr Northbound						downers dr Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	1	5	0	0	6	0	13	3	1	0	17	0	1	2	2	0	5	0	5	69	8	0	82	110
7:15 AM	0	2	3	2	0	7	0	19	3	3	0	25	0	0	1	0	0	1	0	6	89	4	0	99	132
7:30 AM	0	2	1	1	0	4	0	32	3	7	0	42	0	0	6	0	0	6	0	14	127	4	0	145	197
7:45 AM	0	1	5	2	0	8	0	25	13	6	0	44	0	0	3	1	0	4	0	16	139	13	0	168	224
Hourly Total	0	6	14	5	0	25	0	89	22	17	0	128	0	1	12	3	0	16	0	41	424	29	0	494	663
8:00 AM	0	2	4	3	0	9	0	29	14	7	0	50	0	0	6	1	1	7	0	16	128	10	0	154	220
8:15 AM	0	3	1	2	0	6	0	35	13	12	0	60	0	0	1	1	1	2	0	7	138	10	0	155	223
8:30 AM	0	0	4	5	0	9	0	37	7	12	0	56	0	0	6	2	0	8	0	13	120	6	0	139	212
8:45 AM	0	1	7	2	0	10	0	28	11	1	0	40	0	0	2	0	2	2	0	14	109	9	0	132	184
Hourly Total	0	6	16	12	0	34	0	129	45	32	0	206	0	0	15	4	4	19	0	50	495	35	0	580	839
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	4	4	2	0	10	0	46	2	18	0	66	0	0	30	15	0	45	0	17	233	6	0	256	377
4:15 PM	0	5	7	2	0	14	0	42	1	14	0	57	0	0	18	11	0	29	0	15	215	6	0	236	336
4:30 PM	0	8	26	14	0	48	0	40	1	13	0	54	0	0	30	22	0	52	0	13	219	7	0	239	393
4:45 PM	0	6	6	2	0	14	0	39	4	17	0	60	0	1	24	12	0	37	0	27	197	4	0	228	339
Hourly Total	0	23	43	20	0	86	0	167	8	62	0	237	0	1	102	60	0	163	0	72	864	23	0	959	1445
5:00 PM	0	4	9	6	0	19	0	33	2	23	0	58	0	0	40	16	1	56	0	21	223	8	0	252	385
5:15 PM	0	3	6	3	0	12	0	42	1	25	0	68	0	0	35	8	0	43	0	25	243	12	0	280	403
5:30 PM	0	9	2	8	0	19	0	28	2	17	0	47	0	0	22	8	0	30	0	20	195	7	0	222	318
5:45 PM	0	2	4	2	0	8	0	21	4	13	0	38	0	0	10	5	0	15	0	18	121	5	0	144	205
Hourly Total	0	18	21	19	0	58	0	124	9	78	0	211	0	0	107	37	1	144	0	84	782	32	0	898	1311
Grand Total	0	53	94	56	0	203	0	509	84	189	0	782	0	2	236	104	5	342	0	247	2565	119	0	2931	4258
Approach %	0.0	26.1	46.3	27.6	-	-	0.0	65.1	10.7	24.2	-	-	0.0	0.6	69.0	30.4	-	-	0.0	8.4	87.5	4.1	-	-	-
Total %	0.0	1.2	2.2	1.3	-	4.8	0.0	12.0	2.0	4.4	-	18.4	0.0	0.0	5.5	2.4	-	8.0	0.0	5.8	60.2	2.8	-	68.8	-
Lights	0	52	90	55	-	197	0	499	80	185	-	764	0	2	236	104	-	342	0	244	2545	102	-	2891	4194
% Lights	-	98.1	95.7	98.2	-	97.0	-	98.0	95.2	97.9	-	97.7	-	100.0	100.0	100.0	-	100.0	-	98.8	99.2	85.7	-	98.6	98.5
Buses	0	0	2	0	-	2	0	2	0	1	-	3	0	0	0	0	-	0	0	2	2	16	-	20	25
% Buses	-	0.0	2.1	0.0	-	1.0	-	0.4	0.0	0.5	-	0.4	-	0.0	0.0	0.0	-	0.0	-	0.8	0.1	13.4	-	0.7	0.6
Single-Unit Trucks	0	0	2	1	-	3	0	7	3	2	-	12	0	0	0	0	-	0	0	1	14	1	-	16	31
% Single-Unit Trucks	-	0.0	2.1	1.8	-	1.5	-	1.4	3.6	1.1	-	1.5	-	0.0	0.0	0.0	-	0.0	-	0.4	0.5	0.8	-	0.5	0.7
Articulated Trucks	0	1	0	0	-	1	0	0	1	1	-	2	0	0	0	0	-	0	0	0	4	0	-	4	7
% Articulated Trucks	-	1.9	0.0	0.0	-	0.5	-	0.0	1.2	0.5	-	0.3	-	0.0	0.0	0.0	-	0.0	-	0.0	0.2	0.0	-	0.1	0.2
Bicycles on Road	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1

% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.2	0.0	0.0	-	0.1	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	5	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 dfreeman@kloainc.com

Count Name: Frontage Rd and downers dr TMC
Site Code:
Start Date: 02/17/2026

Turning Movement Peak Hour Data (7:45 AM)

Start Time	frontage rd Eastbound						frontage rd Westbound						downers dr Northbound						downers dr Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:45 AM	0	1	5	2	0	8	0	25	13	6	0	44	0	0	3	1	0	4	0	16	139	13	0	168	224
8:00 AM	0	2	4	3	0	9	0	29	14	7	0	50	0	0	6	1	1	7	0	16	128	10	0	154	220
8:15 AM	0	3	1	2	0	6	0	35	13	12	0	60	0	0	1	1	1	2	0	7	138	10	0	155	223
8:30 AM	0	0	4	5	0	9	0	37	7	12	0	56	0	0	6	2	0	8	0	13	120	6	0	139	212
Total	0	6	14	12	0	32	0	126	47	37	0	210	0	0	16	5	2	21	0	52	525	39	0	616	879
Approach %	0.0	18.8	43.8	37.5	-	-	0.0	60.0	22.4	17.6	-	-	0.0	0.0	76.2	23.8	-	-	0.0	8.4	85.2	6.3	-	-	-
Total %	0.0	0.7	1.6	1.4	-	3.6	0.0	14.3	5.3	4.2	-	23.9	0.0	0.0	1.8	0.6	-	2.4	0.0	5.9	59.7	4.4	-	70.1	-
PHF	0.000	0.500	0.700	0.600	-	0.889	0.000	0.851	0.839	0.771	-	0.875	0.000	0.000	0.667	0.625	-	0.656	0.000	0.813	0.944	0.750	-	0.917	0.981
Lights	0	6	14	12	-	32	0	122	44	35	-	201	0	0	16	5	-	21	0	51	518	32	-	601	855
% Lights	-	100.0	100.0	100.0	-	100.0	-	96.8	93.6	94.6	-	95.7	-	-	100.0	100.0	-	100.0	-	98.1	98.7	82.1	-	97.6	97.3
Buses	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	0	0	1	0	6	-	7	9
% Buses	-	0.0	0.0	0.0	-	0.0	-	1.6	0.0	0.0	-	1.0	-	-	0.0	0.0	-	0.0	-	1.9	0.0	15.4	-	1.1	1.0
Single-Unit Trucks	0	0	0	0	-	0	0	1	2	1	-	4	0	0	0	0	-	0	0	0	5	1	-	6	10
% Single-Unit Trucks	-	0.0	0.0	0.0	-	0.0	-	0.8	4.3	2.7	-	1.9	-	-	0.0	0.0	-	0.0	-	0.0	1.0	2.6	-	1.0	1.1
Articulated Trucks	0	0	0	0	-	0	0	0	1	1	-	2	0	0	0	0	-	0	0	0	2	0	-	2	4
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	2.1	2.7	-	1.0	-	-	0.0	0.0	-	0.0	-	0.0	0.4	0.0	-	0.3	0.5
Bicycles on Road	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.8	0.0	0.0	-	0.5	-	-	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.1
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

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9575 W. Higgins Rd., Suite 400

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Count Name: Frontage Rd and downers dr TMC
Site Code:
Start Date: 02/17/2026

Turning Movement Peak Hour Data (4:30 PM)

Start Time	frontage rd Eastbound						frontage rd Westbound						downers dr Northbound						downers dr Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
4:30 PM	0	8	26	14	0	48	0	40	1	13	0	54	0	0	30	22	0	52	0	13	219	7	0	239	393
4:45 PM	0	6	6	2	0	14	0	39	4	17	0	60	0	1	24	12	0	37	0	27	197	4	0	228	339
5:00 PM	0	4	9	6	0	19	0	33	2	23	0	58	0	0	40	16	1	56	0	21	223	8	0	252	385
5:15 PM	0	3	6	3	0	12	0	42	1	25	0	68	0	0	35	8	0	43	0	25	243	12	0	280	403
Total	0	21	47	25	0	93	0	154	8	78	0	240	0	1	129	58	1	188	0	86	882	31	0	999	1520
Approach %	0.0	22.6	50.5	26.9	-	-	0.0	64.2	3.3	32.5	-	-	0.0	0.5	68.6	30.9	-	-	0.0	8.6	88.3	3.1	-	-	-
Total %	0.0	1.4	3.1	1.6	-	6.1	0.0	10.1	0.5	5.1	-	15.8	0.0	0.1	8.5	3.8	-	12.4	0.0	5.7	58.0	2.0	-	65.7	-
PHF	0.000	0.656	0.452	0.446	-	0.484	0.000	0.917	0.500	0.780	-	0.882	0.000	0.250	0.806	0.659	-	0.839	0.000	0.796	0.907	0.646	-	0.892	0.943
Lights	0	21	46	25	-	92	0	153	8	77	-	238	0	1	129	58	-	188	0	86	879	27	-	992	1510
% Lights	-	100.0	97.9	100.0	-	98.9	-	99.4	100.0	98.7	-	99.2	-	100.0	100.0	100.0	-	100.0	-	100.0	99.7	87.1	-	99.3	99.3
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	4	-	4	4
% Buses	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	12.9	-	0.4	0.3
Single-Unit Trucks	0	0	1	0	-	1	0	1	0	1	-	2	0	0	0	0	-	0	0	0	3	0	-	3	6
% Single-Unit Trucks	-	0.0	2.1	0.0	-	1.1	-	0.6	0.0	1.3	-	0.8	-	0.0	0.0	0.0	-	0.0	-	0.0	0.3	0.0	-	0.3	0.4
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

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9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 dfreeman@kloainc.com

Count Name: oak grove dr and frontage rd TMC
Site Code:
Start Date: 02/14/2026
Page No: 1

Turning Movement Data

Start Time	frontage rd Westbound					oak grove rd Northbound					oak grove rd Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Int. Total
12:00 PM	0	16	4	0	20	0	0	11	1	11	0	4	0	0	4	35
12:15 PM	0	14	10	0	24	0	0	9	0	9	0	6	0	0	6	39
12:30 PM	0	8	5	0	13	0	3	19	3	22	0	7	0	0	7	42
12:45 PM	0	13	9	0	22	0	0	6	0	6	0	9	0	0	9	37
Hourly Total	0	51	28	0	79	0	3	45	4	48	0	26	0	0	26	153
1:00 PM	0	12	4	0	16	0	0	18	0	18	0	2	0	0	2	36
1:15 PM	0	7	6	0	13	0	1	17	0	18	0	7	1	0	8	39
1:30 PM	0	10	8	0	18	0	0	16	0	16	0	10	0	0	10	44
1:45 PM	0	7	11	0	18	0	1	7	0	8	0	7	0	0	7	33
Hourly Total	0	36	29	0	65	0	2	58	0	60	0	26	1	0	27	152
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	0	13	0	0	13	0	0	5	0	5	0	0	0	0	0	18
7:15 AM	0	6	1	0	7	0	0	7	0	7	0	1	0	0	1	15
7:30 AM	0	7	0	0	7	0	1	4	0	5	0	1	0	0	1	13
7:45 AM	0	27	1	0	28	0	0	7	0	7	0	1	0	0	1	36
Hourly Total	0	53	2	0	55	0	1	23	0	24	0	3	0	0	3	82
8:00 AM	0	21	2	0	23	0	0	8	0	8	0	1	0	0	1	32
8:15 AM	0	21	1	0	22	0	0	6	1	6	0	1	0	0	1	29
8:30 AM	0	13	2	0	15	0	0	9	0	9	0	0	0	0	0	24
8:45 AM	0	14	7	0	21	0	1	8	0	9	0	0	1	0	1	31
Hourly Total	0	69	12	0	81	0	1	31	1	32	0	2	1	0	3	116
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	4	1	0	5	0	0	9	0	9	0	3	0	0	3	17
4:15 PM	0	3	1	0	4	0	1	17	0	18	0	2	0	0	2	24
4:30 PM	2	5	4	0	11	0	0	38	0	38	0	3	0	0	3	52
4:45 PM	0	4	2	0	6	0	0	16	0	16	0	1	0	0	1	23
Hourly Total	2	16	8	0	26	0	1	80	0	81	0	9	0	0	9	116
5:00 PM	0	5	5	0	10	0	0	12	0	12	0	1	0	0	1	23
5:15 PM	0	6	6	0	12	0	0	12	1	12	0	1	0	0	1	25
5:30 PM	0	3	3	0	6	0	2	11	0	13	0	2	0	0	2	21
5:45 PM	0	6	3	0	9	0	0	6	0	6	0	2	0	0	2	17
Hourly Total	0	20	17	0	37	0	2	41	1	43	0	6	0	0	6	86
Grand Total	2	245	96	0	343	0	10	278	6	288	0	72	2	0	74	705
Approach %	0.6	71.4	28.0	-	-	0.0	3.5	96.5	-	-	0.0	97.3	2.7	-	-	-
Total %	0.3	34.8	13.6	-	48.7	0.0	1.4	39.4	-	40.9	0.0	10.2	0.3	-	10.5	-
Lights	2	220	92	-	314	0	9	270	-	279	0	70	2	-	72	665

% Lights	100.0	89.8	95.8	-	91.5	-	90.0	97.1	-	96.9	-	97.2	100.0	-	97.3	94.3
Buses	0	21	2	-	23	0	0	2	-	2	0	0	0	-	0	25
% Buses	0.0	8.6	2.1	-	6.7	-	0.0	0.7	-	0.7	-	0.0	0.0	-	0.0	3.5
Single-Unit Trucks	0	2	2	-	4	0	0	4	-	4	0	2	0	-	2	10
% Single-Unit Trucks	0.0	0.8	2.1	-	1.2	-	0.0	1.4	-	1.4	-	2.8	0.0	-	2.7	1.4
Articulated Trucks	0	2	0	-	2	0	1	2	-	3	0	0	0	-	0	5
% Articulated Trucks	0.0	0.8	0.0	-	0.6	-	10.0	0.7	-	1.0	-	0.0	0.0	-	0.0	0.7
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	0	-	-	-	-	6	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-

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9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
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Count Name: oak grove dr and frontage rd TMC
Site Code:
Start Date: 02/14/2026

Turning Movement Peak Hour Data (12:00 PM)

Start Time	frontage rd Westbound					oak grove rd Northbound					oak grove rd Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Int. Total
12:00 PM	0	16	4	0	20	0	0	11	1	11	0	4	0	0	4	35
12:15 PM	0	14	10	0	24	0	0	9	0	9	0	6	0	0	6	39
12:30 PM	0	8	5	0	13	0	3	19	3	22	0	7	0	0	7	42
12:45 PM	0	13	9	0	22	0	0	6	0	6	0	9	0	0	9	37
Total	0	51	28	0	79	0	3	45	4	48	0	26	0	0	26	153
Approach %	0.0	64.6	35.4	-	-	0.0	6.3	93.8	-	-	0.0	100.0	0.0	-	-	-
Total %	0.0	33.3	18.3	-	51.6	0.0	2.0	29.4	-	31.4	0.0	17.0	0.0	-	17.0	-
PHF	0.000	0.797	0.700	-	0.823	0.000	0.250	0.592	-	0.545	0.000	0.722	0.000	-	0.722	0.911
Lights	0	48	27	-	75	0	3	45	-	48	0	25	0	-	25	148
% Lights	-	94.1	96.4	-	94.9	-	100.0	100.0	-	100.0	-	96.2	-	-	96.2	96.7
Buses	0	3	0	-	3	0	0	0	-	0	0	0	0	-	0	3
% Buses	-	5.9	0.0	-	3.8	-	0.0	0.0	-	0.0	-	0.0	-	-	0.0	2.0
Single-Unit Trucks	0	0	1	-	1	0	0	0	-	0	0	1	0	-	1	2
% Single-Unit Trucks	-	0.0	3.6	-	1.3	-	0.0	0.0	-	0.0	-	3.8	-	-	3.8	1.3
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	-	0.0	-	-	0.0	0.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	-	0.0	-	-	0.0	0.0
Pedestrians	-	-	-	0	-	-	-	-	4	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 dfreeman@kloainc.com

Count Name: oak grove dr and frontage rd TMC
Site Code:
Start Date: 02/14/2026
Page No: 4

Turning Movement Peak Hour Data (7:45 AM)

Start Time	frontage rd Westbound					oak grove rd Northbound					oak grove rd Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Int. Total
7:45 AM	0	27	1	0	28	0	0	7	0	7	0	1	0	0	1	36
8:00 AM	0	21	2	0	23	0	0	8	0	8	0	1	0	0	1	32
8:15 AM	0	21	1	0	22	0	0	6	1	6	0	1	0	0	1	29
8:30 AM	0	13	2	0	15	0	0	9	0	9	0	0	0	0	0	24
Total	0	82	6	0	88	0	0	30	1	30	0	3	0	0	3	121
Approach %	0.0	93.2	6.8	-	-	0.0	0.0	100.0	-	-	0.0	100.0	0.0	-	-	-
Total %	0.0	67.8	5.0	-	72.7	0.0	0.0	24.8	-	24.8	0.0	2.5	0.0	-	2.5	-
PHF	0.000	0.759	0.750	-	0.786	0.000	0.000	0.833	-	0.833	0.000	0.750	0.000	-	0.750	0.840
Lights	0	74	5	-	79	0	0	29	-	29	0	3	0	-	3	111
% Lights	-	90.2	83.3	-	89.8	-	-	96.7	-	96.7	-	100.0	-	-	100.0	91.7
Buses	0	5	1	-	6	0	0	0	-	0	0	0	0	-	0	6
% Buses	-	6.1	16.7	-	6.8	-	-	0.0	-	0.0	-	0.0	-	-	0.0	5.0
Single-Unit Trucks	0	1	0	-	1	0	0	1	-	1	0	0	0	-	0	2
% Single-Unit Trucks	-	1.2	0.0	-	1.1	-	-	3.3	-	3.3	-	0.0	-	-	0.0	1.7
Articulated Trucks	0	2	0	-	2	0	0	0	-	0	0	0	0	-	0	2
% Articulated Trucks	-	2.4	0.0	-	2.3	-	-	0.0	-	0.0	-	0.0	-	-	0.0	1.7
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	-	0.0	-	-	0.0	-	0.0	-	0.0	-	-	0.0	0.0
Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 dfreeman@kloainc.com

Count Name: oak grove dr and frontage rd TMC
Site Code:
Start Date: 02/14/2026
Page No: 5

Turning Movement Peak Hour Data (4:30 PM)

Start Time	frontage rd Westbound					oak grove rd Northbound					oak grove rd Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Int. Total
4:30 PM	2	5	4	0	11	0	0	38	0	38	0	3	0	0	3	52
4:45 PM	0	4	2	0	6	0	0	16	0	16	0	1	0	0	1	23
5:00 PM	0	5	5	0	10	0	0	12	0	12	0	1	0	0	1	23
5:15 PM	0	6	6	0	12	0	0	12	1	12	0	1	0	0	1	25
Total	2	20	17	0	39	0	0	78	1	78	0	6	0	0	6	123
Approach %	5.1	51.3	43.6	-	-	0.0	0.0	100.0	-	-	0.0	100.0	0.0	-	-	-
Total %	1.6	16.3	13.8	-	31.7	0.0	0.0	63.4	-	63.4	0.0	4.9	0.0	-	4.9	-
PHF	0.250	0.833	0.708	-	0.813	0.000	0.000	0.513	-	0.513	0.000	0.500	0.000	-	0.500	0.591
Lights	2	16	17	-	35	0	0	77	-	77	0	6	0	-	6	118
% Lights	100.0	80.0	100.0	-	89.7	-	-	98.7	-	98.7	-	100.0	-	-	100.0	95.9
Buses	0	4	0	-	4	0	0	0	-	0	0	0	0	-	0	4
% Buses	0.0	20.0	0.0	-	10.3	-	-	0.0	-	0.0	-	0.0	-	-	0.0	3.3
Single-Unit Trucks	0	0	0	-	0	0	0	1	-	1	0	0	0	-	0	1
% Single-Unit Trucks	0.0	0.0	0.0	-	0.0	-	-	1.3	-	1.3	-	0.0	-	-	0.0	0.8
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	0.0	-	0.0	-	-	0.0	-	0.0	-	0.0	-	-	0.0	0.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	0.0	-	-	0.0	-	0.0	-	0.0	-	-	0.0	0.0
Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-

Site Plan

LAND USE AND ZONING

PID: 0630409022		
GENERAL SERVICES AND HIGHWAY BUSINESS (B-3) DISTRICT		
PROPOSED USE		
AUTO WASH	SPECIAL USE	
ZONING REQUIREMENT	**REQUIRED**	**PROPOSED**
MINIMUM B-3 OVERALL DISTRICT AREA	174,240 SF (4.0 AC)	EXISTING
MINIMUM LOT AREA	N/A	47,606 SF (1.09 AC)
MINIMUM LOT WIDTH	N/A	238.1 FT
MINIMUM FLOOR AREA RATIO	0.75 (35,468 SF)	0.08 (3,720 SF)
MAXIMUM BUILDING HEIGHT	60 FT	<60 FT
MINIMUM STREET SETBACK[1]	25.0 FT	23.0 FT
MINIMUM PARKING SETBACK (NORTH)	25.0 FT	29.5 FT
MINIMUM PARKING SETBACK (WEST)	25.0 FT	96 FT (V)
MINIMUM PARKING SETBACK (EAST)	25.0 FT	25.0 FT
MINIMUM CORNER VISIBILITY TRIANGLE	10 FT X 10 FT	10 (IBN)
MINIMUM ACCESSORY BUILDING FROM PRINCIPAL	10.0 FT	52.5 FT
MINIMUM ACCESSORY BUILDING STREET SETBACK	25.0 FT	25.0 FT
MINIMUM BICYCLE PARKING SETBACK (ALL LOT LINES)	6.0 FT	62.0 FT
MINIMUM RETAINING WALL SETBACK (ALL LOT LINES)	1.0 FT	1.2 FT
MINIMUM FLAGPOLE SETBACK	35 FT[3]	35.0 FT
MINIMUM LANDSCAPE OPEN SPACE	10% (4,729 SF)	36.2% (17,250 SF)
MINIMUM STREET YARD LANDSCAPE[2]	50% (2,365 SF)[2]	12,196 SF

(V) VARIANCE
(1) TABLE 14-1 - AWNINGS IN NONRESIDENTIAL DISTRICTS ALLOWED 2.5 FT OF ENCROACHMENT INTO STREET SETBACK
(2) § 283.030.10 - AT LEAST 50% OF THE REQUIRED LANDSCAPED OPEN SPACE MUST BE LOCATED IN THE STREET YARD
(3) § 286.010.H - FLAG POLES MUST BE SETBACK FROM LOT LINES A MINIMUM DISTANCE EQUAL TO THE HEIGHT OF THE POLE AND SITED SO THE FLAG WILL NOT EXTEND BEYOND ANY LOT LINE

OFF-STREET PARKING REQUIREMENTS

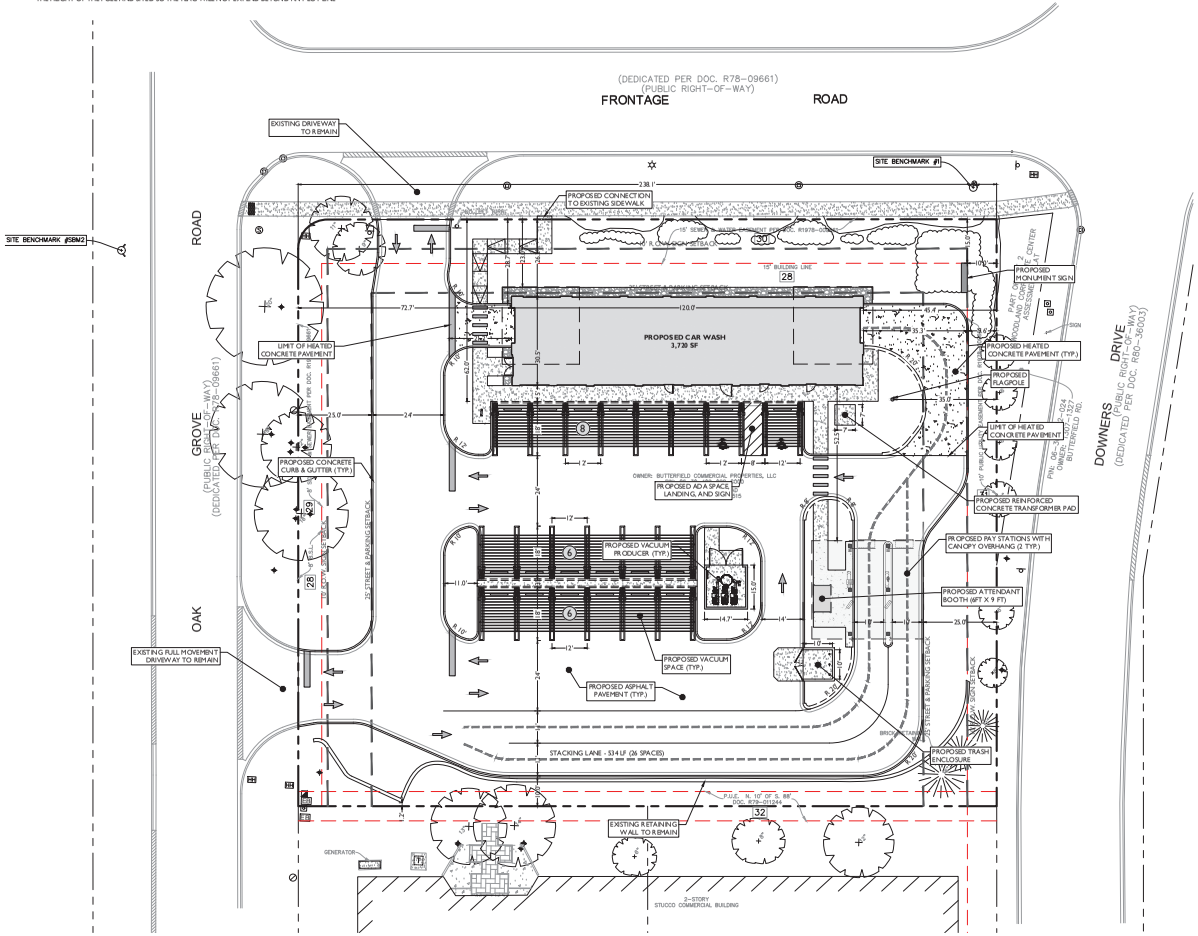
CODE SECTION	REQUIRED	PROPOSED
TABLE 7-1	**CAR WASH:** 1 SPACE PER WASH BAY (1 BAY) (1 SPACE/1 BAY) = 1 SPACE	20 SPACES
TABLE 7-4	**90° PARKING:** 9 FT X 18 FT W/ 24 FT AISLE	12 FT X 18 FT W/ 24 FT AISLE
TABLE 7-5	**STACKING:** 2 SPACES PER APPROACH LANE (3 LANES) (2 SPACES/1 LANE) = 6 SPACES 2 END OF BAY DRYING SPACES	26 SPACES 1 DRYING SPACE (V)
§ 287.130.D.1	**MINIMUM STACKING WIDTH:** 10 FT	11 FT
TABLE 7-3	**BICYCLE PARKING:** NONE FOR THE FIRST 19 SPACES THEN 10% OR 2 SPACES (GREATER GOVERNS) (20 SPACES) (0.10) = 2 SPACES	2 SPACES
§ 288.030.b)(2)	**LANDSCAPE ISLANDS:** MINIMUM 7 FT WIDTH; MINIMUM 150 SF AREA	11.0 FT 377 SF
§ 288.030.b)(1)	**MAXIMUM PARKING SPACES IN A ROW:** 20	8 SPACES

(V) VARIANCE

SIGNAGE REQUIREMENTS[1]

CODE SECTION	REQUIRED	PROPOSED
§ 28.9.050.b)(1).b	MINIMUM R.O.W. MONUMENT SIGN SETBACK: 10 FT[1]	10.0 FT

(1) § 28.9.050.b)(1).b - TABLE A(PLUS TO MONUMENT SIGNS THAT ARE 10 FT IN HEIGHT OR LESS. REQUIREMENTS DIFFER FOR SIGNS GREATER THAN 10 FT.



SYMBOL / DESCRIPTION

- PROPERTY LINE
- SETBACK LINE
- PROPOSED CURB
- PROPOSED FLUSH CURB
- PROPOSED MOUNTABLE CURB
- PROPOSED SIGNS / BOLLARDS
- PROPOSED BUILDING
- PROPOSED CONCRETE
- PROPOSED HEATED CONCRETE
- PROPOSED BUILDING DOORS

GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY AND FAMILIARIZE THEMSELVES WITH THE EXISTING SITE CONDITIONS AND THE PROPOSED SCOPE OF WORK (INCLUDING DIMENSIONS, LAYOUT, ETC.) PRIOR TO INITIATING THE IMPROVEMENTS IDENTIFIED WITHIN THESE DOCUMENTS. SHOULD ANY DISCREPANCY BE FOUND BETWEEN THE EXISTING SITE CONDITIONS AND THE PROPOSED WORK THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. PRIOR TO THE START OF CONSTRUCTION.
2. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND ENSURE THAT ALL REQUIRED APPROVALS HAVE BEEN OBTAINED PRIOR TO THE START OF CONSTRUCTION. COPIES OF ALL REQUIRED PERMITS AND APPROVALS SHALL BE KEPT ON SITE AT ALL TIMES DURING CONSTRUCTION.
3. ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED BY LAW, INDEMNIFY AND HOLD HARMLESS STONEFIELD ENGINEERING & DESIGN, LLC. AND IT'S SUB-CONSULTANTS FROM AND AGAINST ANY DAMAGES AND LIABILITIES INCLUDING ATTORNEY'S FEES ARISING OUT OF CLAIMS BY EMPLOYEES OF THE CONTRACTOR IN ADDITION TO CLAIMS CONNECTED TO THE PROJECT AS A RESULT OF NOT CARRYING THE PROPER INSURANCE FOR WORKERS COMPENSATION, LIABILITY INSURANCE, AND LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE.
4. THE CONTRACTOR SHALL NOT DEVIATE FROM THE PROPOSED IMPROVEMENTS IDENTIFIED WITHIN THIS PLAN SET UNLESS APPROVAL IS PROVIDED IN WRITING BY STONEFIELD ENGINEERING & DESIGN, LLC.
5. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE MEANS AND METHODS OF CONSTRUCTION.
6. THE CONTRACTOR SHALL NOT PERFORM ANY WORK OR CAUSE DISTURBANCE ON A PRIVATE PROPERTY NOT CONTROLLED BY THE PERSON OR ENTITY WHO HAS AUTHORIZED THE WORK WITHOUT PRIOR WRITTEN CONSENT FROM THE OWNER OF THE PRIVATE PROPERTY.
7. THE CONTRACTOR IS RESPONSIBLE TO RESTORE ANY DAMAGED OR UNDERMINED STRUCTURE OR SITE FEATURE THAT IS IDENTIFIED TO REMAIN ON THE PLAN SET. ALL REPAIRS SHALL USE NEW MATERIALS TO RESTORE THE FEATURE TO ITS EXISTING CONDITION AT THE CONTRACTORS EXPENSE.
8. CONTRACTOR IS RESPONSIBLE TO PROVIDE THE APPROPRIATE SHOP DRAWINGS, PRODUCT DATA, AND OTHER REQUIRED SUBMITTALS FOR REVIEW. STONEFIELD ENGINEERING & DESIGN, LLC. WILL REVIEW THE SUBMITTALS IN ACCORDANCE WITH THE DESIGN INTENT AS REFLECTED WITHIN THE PLAN SET.
9. THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
10. THE CONTRACTOR IS REQUIRED TO PERFORM ALL WORK IN THE PUBLIC RIGHT-OF-WAY IN ACCORDANCE WITH THE APPROPRIATE GOVERNING AUTHORITY AND SHALL BE RESPONSIBLE FOR THE PROCUREMENT OF STREET OPENING PERMITS.
11. THE CONTRACTOR IS REQUIRED TO RETAIN AN OSHA CERTIFIED SAFETY INSPECTOR TO BE PRESENT ON SITE AT ALL TIMES DURING CONSTRUCTION & DEMOLITION ACTIVITIES.
12. SHOULD AN EMPLOYEE OF STONEFIELD ENGINEERING & DESIGN, LLC. BE PRESENT ON SITE AT ANY TIME DURING CONSTRUCTION, IT DOES NOT RELIEVE THE CONTRACTOR OF ANY OF THE RESPONSIBILITIES AND REQUIREMENTS LISTED IN THE NOTES WITHIN THIS PLAN SET.

20' 0' 20' 40'
GRAPHIC SCALE IN FEET
1" = 20'

DESCRIPTION	BY	DATE	ISSUE
FOR PLANNING AND ZONING SUBMISSION	VF	02/26/2026	1

NOT APPROVED FOR CONSTRUCTION

STONEFIELD engineering & design
Birmingham, MI · New York, NY · Salem, MA
Princeton, NJ · Tampa, FL · Rutherford, NJ
www.stonefieldeng.com
555 S. Old Woodward Avenue, Suite 12L, Birmingham, MI 48009
Phone 248.247.1115

SITE DEVELOPMENT PLANS

1341 BUTTERFIELD RD.

PROPOSED AUTO WASH

PARCEL ID: 06-30-409-022-0000
1341 BUTTERFIELD ROAD
VILLAGE OF DOWNERS GROVE
DUPAGE COUNTY, IL 60515

JONATHAN REID COOKSEY 062-049141 LICENSED PROFESSIONAL ENGINEER STATE OF ILLINOIS

STONEFIELD engineering & design

SCALE: 1" = 20' | PROJECT ID: DET-250340

TITLE: SITE PLAN

DRAWING: C-3

ITE Trip Generation Sheets

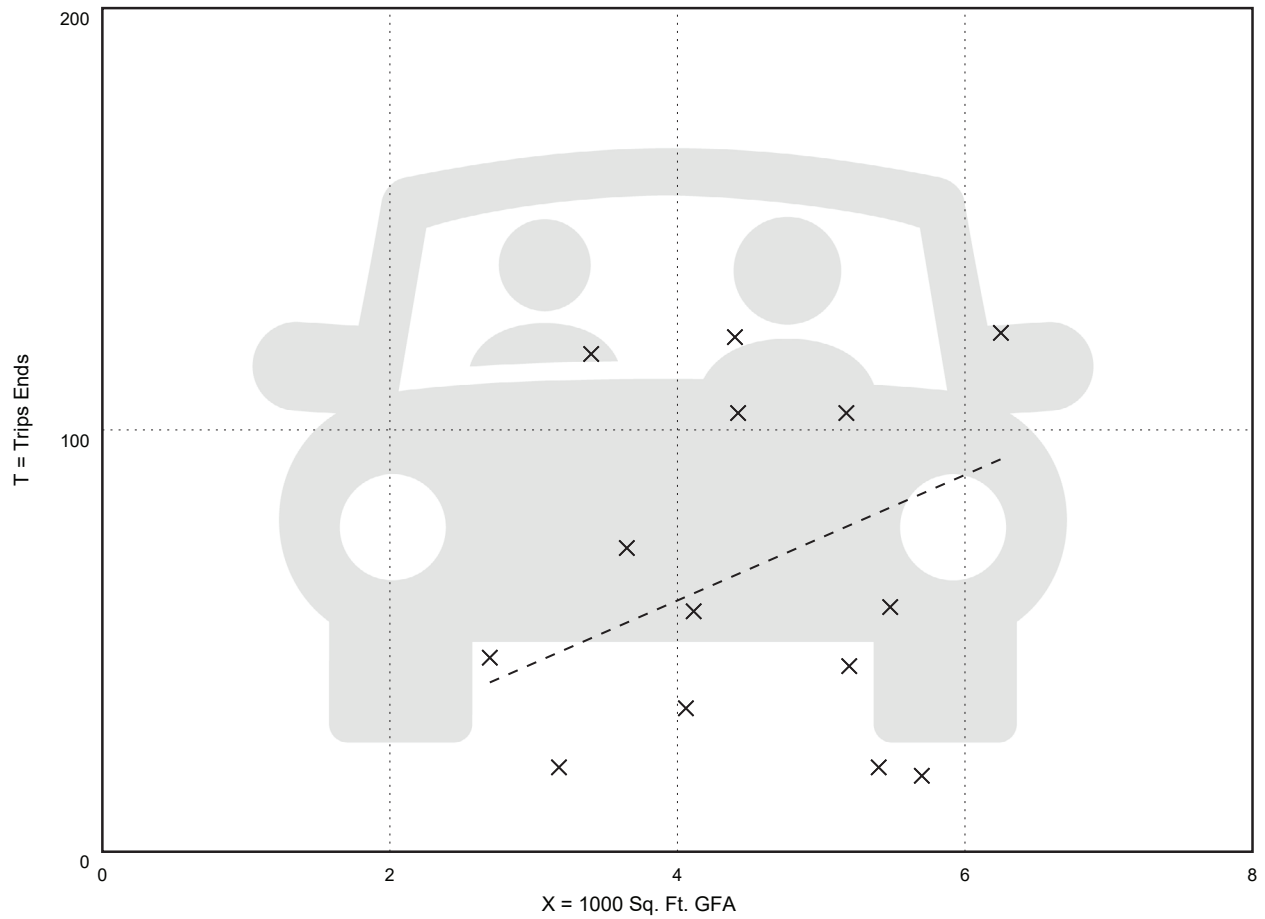
Automated Car Wash
(948)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 14
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 55% entering, 45% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
14.89	3.16 - 34.71	9.20

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= *

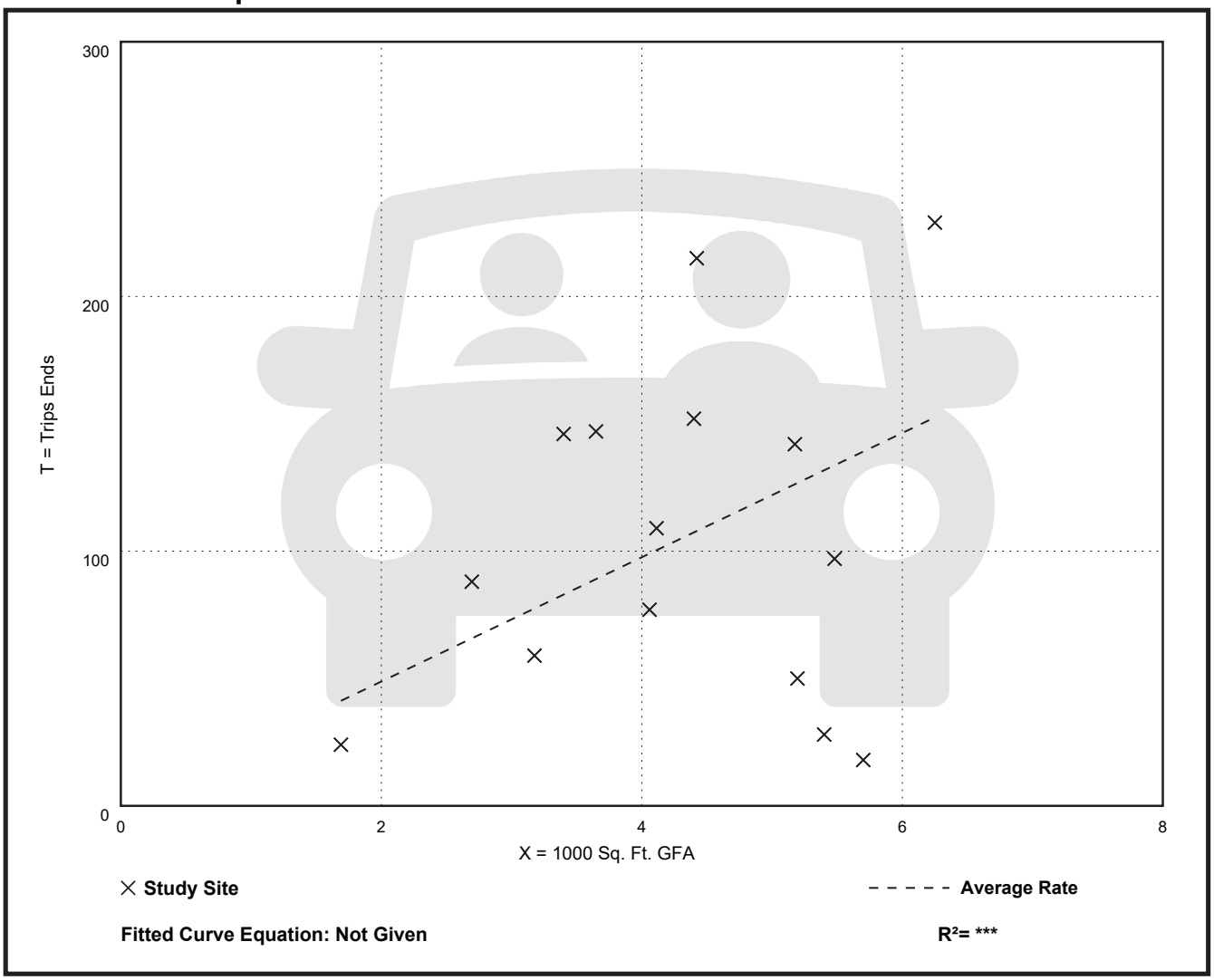
Automated Car Wash
(948)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 15
Avg. 1000 Sq. Ft. GFA: 4
Directional Distribution: 49% entering, 51% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
24.40	3.16 - 48.62	14.47

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= *

Automated Car Wash
(948)

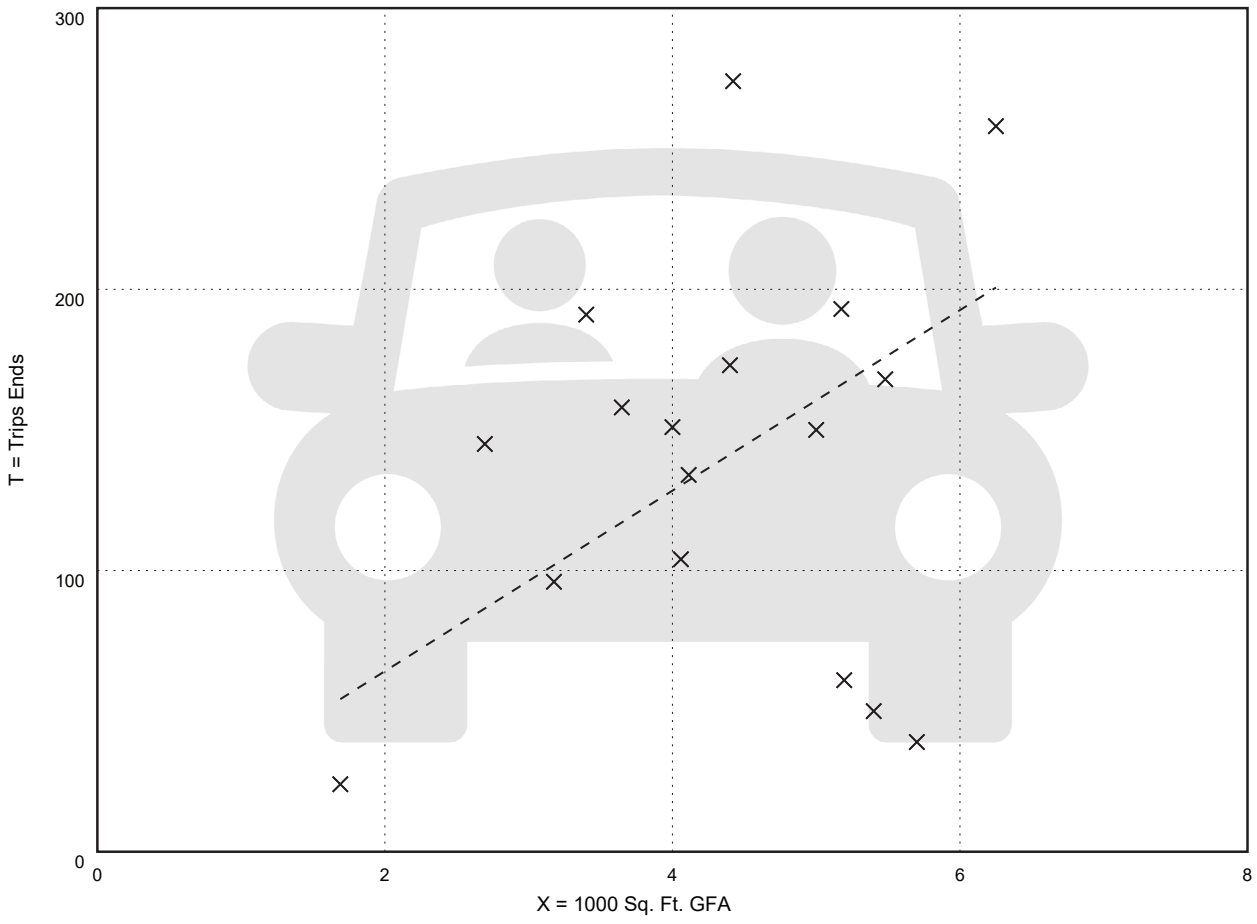
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 17
Avg. 1000 Sq. Ft. GFA: 4
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
32.10	6.84 - 61.96	16.11

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= *

CMAP 2050 Projections Letter

Chicago Metropolitan Agency for Planning

433 West Van Buren Street, Suite 450
Chicago, IL 60607
cmap.illinois.gov | 312-454-0400

February 12, 2026

Ryan May
Project Coordinator
Kenig, Lindgren, O'Hara and Aboona, Inc.
9575 West Higgins Road
Suite 400
Rosemont, IL 60018

Subject: Finley Road - Butterfield Road - Downers Drive
IDOT

Dear Ms. May:

In response to a request made on your behalf and dated February 10, 2026, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	Current ADT	Year 2050 ADT
Finley Road at Branding Avenue	17,400	18,900
Butterfield Road at Downers Drive	45,000	48,900
Downers Drive at Butterfield Road	1,450	1,500

Traffic projections are developed using existing ADT data provided in the request letter and the results from the December 2025 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2050 socioeconomic projections and assumes the implementation of the ON TO 2050 Comprehensive Regional Plan for the Northeastern Illinois area. The provision of this data in support of your request does not constitute a CMAP endorsement of the proposed development or any subsequent developments.

If you have any questions, please call me at (312) 386-8806 or email me at jrodriguez@cmap.illinois.gov

Jose Rodriguez, PTP, AICP
Senior Planner, Research & Analysis

cc: Rios (IDOT)
S:\AdminGroups\ResearchAnalysis\2026_TrafficForecasts\DownersGrove\du-10-26\du-10-26.docx

TRAFFIC FORECAST RECORD

Record Number: du-10-26
Type of Report: Projection
Year Sought: 2050
Analyst: JAR
Organization Requestion Forecast: KLOA
Contact: Ryan May
Email or Phone: rmay@kloainc.com
Sponsor: IDOT
Date request was received: 46063
Date that response was emailed: 2/12/2026
Facility Location: Finley Road - Butterfield Road - Downers Drive
Municipality: Downers Grove

Level of Service Criteria

LEVEL OF SERVICE CRITERIA

Signalized Intersections		
Level of Service	**Interpretation**	**Average Control Delay (seconds per vehicle)**
A	Favorable progression. Most vehicles arrive during the green indication and travel through the intersection without stopping.	≤10
B	Good progression, with more vehicles stopping than for Level of Service A.	> 10 - 20
C	Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear. Number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	> 20 - 35
D	The volume-to-capacity ratio is high and either progression is ineffective or the cycle length is too long. Many vehicles stop and individual cycle failures are noticeable.	> 35 - 55
E	Progression is unfavorable. The volume-to-capacity ratio is high and the cycle length is long. Individual cycle failures are frequent.	> 55 - 80
F	The volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.	> 80

Unsignalized Intersections	
Level of Service	**Average Total Delay (sec/veh)**
A	0 - 10
B	> 10 - 15
C	> 15 - 25
D	> 25 - 35
E	> 35 - 50
F	> 50

Source: *Highway Capacity Manual*, 7th Edition.

Capacity Analysis Summary Sheets

Existing Weekday Morning Peak Hour

Intersection Capacity Utilization
2: Downers Drive & Frontage Road 02/26/2026

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	14	12	126	47	37	0	16	5	52	525	39
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	32	0	0	173	37	0	21	0	0	616	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.93	0.85	0.95	0.96	0.85	0.95	0.96	0.85	0.95	0.99	0.85
Saturated Flow (vph)	0	1776	0	0	1831	1615	0	1832	0	0	3568	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		No			No			No			No	
Reference Time (s)			0.0			2.7			0.0			0.0
Adj Reference Time (s)			0.0			8.0			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	0	462		0	607		0	1832		0	363	
Reference Time A (s)	0.0	8.3		0.0	34.2		0.0	1.4		0.0	67.5	
Adj Saturation B (vph	0	0		0	0		NA	NA		0	1790	
Reference Time B (s)	8.4	10.2		16.4	19.3		NA	NA		11.5	24.7	
Reference Time (s)		8.3			19.3			1.4			24.7	
Adj Reference Time (s)		12.3			23.3			8.0			28.7	
Split Option												
Ref Time Combined (s)	0.0	2.2		0.0	11.3		0.0	1.4		0.0	20.7	
Ref Time Seperate (s)	0.4	0.9		8.4	3.0		0.0	1.0		3.5	17.6	
Reference Time (s)	2.2	2.2		11.3	11.3		1.4	1.4		20.7	20.7	
Adj Reference Time (s)	8.0	8.0		15.3	15.3		8.0	8.0		24.7	24.7	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	23.3	28.7	
Split Option (s)	23.3	32.7	
Minimum (s)	23.3	28.7	52.0

Right Turns	WBR
Adj Reference Time (s)	8.0
Cross Thru Ref Time (s)	8.0
Oncoming Left Ref Time (s)	8.0
Combined (s)	24.0

Intersection Summary			
Intersection Capacity Utilization	43.4%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	71	1627	189	422	1213	190	17	12	30	37	5
Future Volume (vph)	1	71	1627	189	422	1213	190	17	12	30	37	5
Ideal Flow (vphpl)	1900	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900
Storage Length (ft)		230		280	350		335	0		0	0	
Storage Lanes		2		1	2		1	1		0	1	
Taper Length (ft)		300			300			25			0	
Lane Util. Factor	0.91	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850			0.850		0.893			
Flt Protected		0.950			0.950			0.950			0.950	
Satd. Flow (prot)	0	3401	5353	1599	3467	5301	1583	1805	1625	0	1736	1845
Flt Permitted		0.950			0.950			0.754			0.720	
Satd. Flow (perm)	0	3401	5353	1599	3467	5301	1583	1433	1625	0	1315	1845
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				199			200		32			
Link Speed (mph)			45			45			25			25
Link Distance (ft)			967			657			246			235
Travel Time (s)			14.7			10.0			6.7			6.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	3%	2%	1%	1%	3%	2%	0%	8%	3%	4%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	76	1713	199	444	1277	200	18	45	0	39	5
Turn Type	Prot	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA		pm+pt	NA
Protected Phases	5!	5	2		1	6		3	8		7	4
Permitted Phases				2			6	8			4	
Detector Phase	5	5	2	2	1	6	6	3	8		7	4
Switch Phase												
Minimum Initial (s)	3.0	3.0	15.0	15.0	3.0	15.0	15.0	3.0	8.0		3.0	8.0
Minimum Split (s)	7.5	7.5	21.0	21.0	7.5	21.0	21.0	6.5	14.0		6.5	14.0
Total Split (s)	13.0	13.0	68.0	68.0	24.0	79.0	79.0	12.0	21.0		12.0	21.0
Total Split (%)	10.4%	10.4%	54.4%	54.4%	19.2%	63.2%	63.2%	9.6%	16.8%		9.6%	16.8%
Yellow Time (s)	3.5	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5		3.5	4.5
All-Red Time (s)	1.0	1.0	1.5	1.5	1.0	1.5	1.5	0.0	1.5		0.0	1.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)		4.5	6.0	6.0	4.5	6.0	6.0	3.5	6.0		3.5	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None
Act Effct Green (s)		8.2	72.4	72.4	20.9	88.4	88.4	16.7	8.8		15.9	13.1
Actuated g/C Ratio		0.07	0.58	0.58	0.17	0.71	0.71	0.13	0.07		0.13	0.10
v/c Ratio		0.34	0.55	0.20	0.77	0.34	0.17	0.08	0.31		0.20	0.03
Control Delay (s/veh)		59.6	19.1	2.7	58.9	9.8	1.7	42.4	30.8		48.7	52.2
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay (s/veh)		59.6	19.1	2.7	58.9	9.8	1.7	42.4	30.8		48.7	52.2
LOS		E	B	A	E	A	A	D	C		D	D
Approach Delay (s/veh)			19.0			20.3			34.1			38.0
Approach LOS			B			C			C			D
Queue Length 50th (ft)		31	336	0	179	168	0	12	11		28	4
Queue Length 95th (ft)		57	423	39	233	223	31	33	52		60	18

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

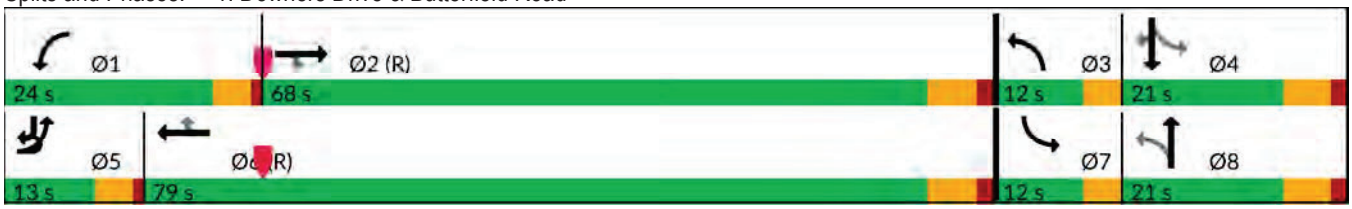
Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	12
Future Volume (vph)	12
Ideal Flow (vphpl)	1900
Storage Length (ft)	150
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1482
Flt Permitted	
Satd. Flow (perm)	1482
Right Turn on Red	Yes
Satd. Flow (RTOR)	96
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.95
Heavy Vehicles (%)	9%
Shared Lane Traffic (%)	
Lane Group Flow (vph)	13
Turn Type	pm+ov
Protected Phases	5!
Permitted Phases	4
Detector Phase	5
Switch Phase	
Minimum Initial (s)	3.0
Minimum Split (s)	7.5
Total Split (s)	13.0
Total Split (%)	10.4%
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	4.5
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	21.7
Actuated g/C Ratio	0.17
v/c Ratio	0.04
Control Delay (s/veh)	0.3
Queue Delay	0.0
Total Delay (s/veh)	0.3
LOS	A
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	0
Queue Length 95th (ft)	0

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)			887			577			166			155
Turn Bay Length (ft)		230		280	350		335					
Base Capacity (vph)		244	3101	1009	596	3750	1178	244	223		202	245
Starvation Cap Reductn		0	0	0	0	0	0	0	0		0	0
Spillback Cap Reductn		0	0	0	0	0	0	0	0		0	0
Storage Cap Reductn		0	0	0	0	0	0	0	0		0	0
Reduced v/c Ratio		0.31	0.55	0.20	0.74	0.34	0.17	0.07	0.20		0.19	0.02

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 125			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay (s/veh): 20.2		Intersection LOS: C	
Intersection Capacity Utilization 64.4%		ICU Level of Service C	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

Splits and Phases: 1: Downers Drive & Butterfield Road



Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	SBR
Internal Link Dist (ft)	
Turn Bay Length (ft)	150
Base Capacity (vph)	345
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.04

Intersection Summary

Intersection	
Int Delay, s/veh	6.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	82	6	0	30	3	0
Future Vol, veh/h	82	6	0	30	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	4	0	0	3	0	0
Mvmt Flow	98	7	0	36	4	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	25	18	0	0	36	0
Stage 1	18	-	-	-	-	-
Stage 2	7	-	-	-	-	-
Critical Hdwy	6.44	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	986	1067	-	-	1588	-
Stage 1	1000	-	-	-	-	-
Stage 2	1011	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	983	1067	-	-	1588	-
Mov Cap-2 Maneuver	983	-	-	-	-	-
Stage 1	1000	-	-	-	-	-
Stage 2	1008	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.07	0	7.27
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	989	1588	-
HCM Lane V/C Ratio	-	-	0.106	0.002	-
HCM Ctrl Dly (s/v)	-	-	9.1	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	9	1	3	21	1	25	13	800	45	7	56	1094	40
Future Vol, veh/h	9	1	3	21	1	25	13	800	45	7	56	1094	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	0	-	-	370	-	-	205	-	-	-	160	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	10	0	12	0	1	2	0	2	2	3
Mvmt Flow	10	1	3	23	1	27	14	870	49	8	61	1189	43

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	1811	2295	616	1654	2292	459	1233	0	0	918	918	0	0
Stage 1	1348	1348	-	922	922	-	-	-	-	-	-	-	-
Stage 2	464	947	-	732	1370	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.7	6.5	7.14	4.1	-	-	6.4	4.14	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.7	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.7	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.6	4	3.42	2.2	-	-	2.5	2.22	-	-
Pot Cap-1 Maneuver	50	40	438	59	40	522	572	-	-	381	739	-	-
Stage 1	162	221	-	275	352	-	-	-	-	-	-	-	-
Stage 2	553	342	-	361	216	-	-	-	-	-	-	-	-
Platoon blocked, %								-	-			-	-
Mov Cap-1 Maneuver	41	35	438	51	35	522	572	-	-	662	662	-	-
Mov Cap-2 Maneuver	113	119	-	154	122	-	-	-	-	-	-	-	-
Stage 1	145	199	-	268	343	-	-	-	-	-	-	-	-
Stage 2	510	334	-	320	194	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	33.43	21.85	0.17	0.58
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	572	-	-	113	262	154	464	662	-	-
HCM Lane V/C Ratio	0.025	-	-	0.087	0.017	0.149	0.061	0.104	-	-
HCM Ctrl Dly (s/v)	11.5	-	-	39.9	19	32.5	13.3	11.1	-	-
HCM Lane LOS	B	-	-	E	C	D	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	0.5	0.2	0.3	-	-

Capacity Analysis Summary Sheets

Existing Weekday Evening Peak Hour

Intersection Capacity Utilization
2: Downers Drive & Frontage Road 02/26/2026

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	47	25	154	8	78	1	129	58	86	882	31
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	93	0	0	162	78	0	188	0	0	999	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.99	0.85
Saturated Flow (vph)	0	1803	0	0	1810	1615	0	1812	0	0	3585	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		No			No			No			No	
Reference Time (s)			0.0			5.8			0.0			0.0
Adj Reference Time (s)			0.0			9.8			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	0	405		0	551		0	1686		0	393	
Reference Time A (s)	0.0	27.6		0.0	35.3		0.0	13.4		0.0	99.9	
Adj Saturation B (vph	0	0		0	0		NA	NA		NA	NA	
Reference Time B (s)	9.4	14.2		18.2	18.7		NA	NA		NA	NA	
Reference Time (s)		14.2			18.7			13.4			99.9	
Adj Reference Time (s)		18.2			22.7			17.4			103.9	
Split Option												
Ref Time Combined (s)	0.0	6.2		0.0	10.7		0.0	12.5		0.0	33.4	
Ref Time Seperate (s)	1.4	3.1		10.2	0.5		0.1	8.5		5.7	29.4	
Reference Time (s)	6.2	6.2		10.7	10.7		12.5	12.5		33.4	33.4	
Adj Reference Time (s)	10.2	10.2		14.7	14.7		16.5	16.5		37.4	37.4	

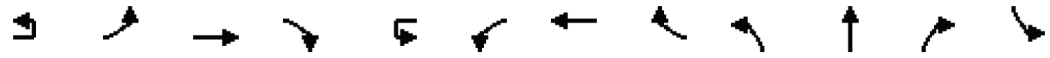
Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	22.7	103.9	
Split Option (s)	24.9	53.9	
Minimum (s)	22.7	53.9	76.6

Right Turns	WBR
Adj Reference Time (s)	9.8
Cross Thru Ref Time (s)	16.5
Oncoming Left Ref Time (s)	10.2
Combined (s)	36.4

Intersection Summary			
Intersection Capacity Utilization	63.9%	ICU Level of Service	B

Reference Times and Phasing Options do not represent an optimized timing plan.

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026



Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	6	93	1497	107	6	821	1863	230	92	27	109	278
Future Volume (vph)	6	93	1497	107	6	821	1863	230	92	27	109	278
Ideal Flow (vphpl)	1900	1900	2000	1900	1900	1900	2000	1900	1900	1900	1900	1900
Storage Length (ft)		230		280		350		335	0		0	0
Storage Lanes		2		1		2		1	1		0	1
Taper Length (ft)		300				300			25			0
Lane Util. Factor	0.91	0.97	0.91	1.00	0.91	0.97	0.91	1.00	1.00	1.00	1.00	1.00
Frt				0.850				0.850		0.880		
Flt Protected		0.950				0.950			0.950			0.950
Satd. Flow (prot)	0	3405	5353	1599	0	3467	5406	1615	1805	1672	0	1787
Flt Permitted		0.950				0.950			0.709			0.284
Satd. Flow (perm)	0	3405	5353	1599	0	3467	5406	1615	1347	1672	0	534
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				154				240		114		
Link Speed (mph)			45				45			25		
Link Distance (ft)			967				412			246		
Travel Time (s)			14.7				6.2			6.7		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	3%	2%	1%	0%	1%	1%	0%	0%	0%	0%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	1559	111	0	861	1941	240	96	142	0	290
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	pm+pt	NA		pm+pt
Protected Phases	5!	5	2		1	1	6		3	8		7
Permitted Phases				2				6	8			4
Detector Phase	5	5	2	2	1	1	6	6	3	8		7
Switch Phase												
Minimum Initial (s)	3.0	3.0	15.0	15.0	3.0	3.0	15.0	15.0	3.0	8.0		3.0
Minimum Split (s)	7.5	7.5	21.0	21.0	7.5	7.5	21.0	21.0	6.5	14.0		6.5
Total Split (s)	13.0	13.0	49.0	49.0	44.0	44.0	80.0	80.0	14.0	19.0		23.0
Total Split (%)	9.6%	9.6%	36.3%	36.3%	32.6%	32.6%	59.3%	59.3%	10.4%	14.1%		17.0%
Yellow Time (s)	3.5	3.5	4.5	4.5	3.5	3.5	4.5	4.5	3.5	4.5		3.5
All-Red Time (s)	1.0	1.0	1.5	1.5	1.0	1.0	1.5	1.5	0.0	1.5		0.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)		4.5	6.0	6.0		4.5	6.0	6.0	3.5	6.0		3.5
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None		None
Act Effct Green (s)		8.7	48.2	48.2		37.8	77.3	77.3	24.8	9.5		32.2
Actuated g/C Ratio		0.06	0.36	0.36		0.28	0.57	0.57	0.18	0.07		0.24
v/c Ratio		0.47	0.82	0.17		0.89	0.63	0.23	0.32	0.64		0.94
Control Delay (s/veh)		68.0	44.4	2.1		58.2	20.7	2.3	42.4	29.4		84.9
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)		68.0	44.4	2.1		58.2	20.7	2.3	42.4	29.4		84.9
LOS		E	D	A		E	C	A	D	C		F
Approach Delay (s/veh)			43.1				29.9			34.6		
Approach LOS			D				C			C		
Queue Length 50th (ft)		46	460	0		370	395	0	67	24		232
Queue Length 95th (ft)		78	556	16		453	478	39	111	92		#343

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

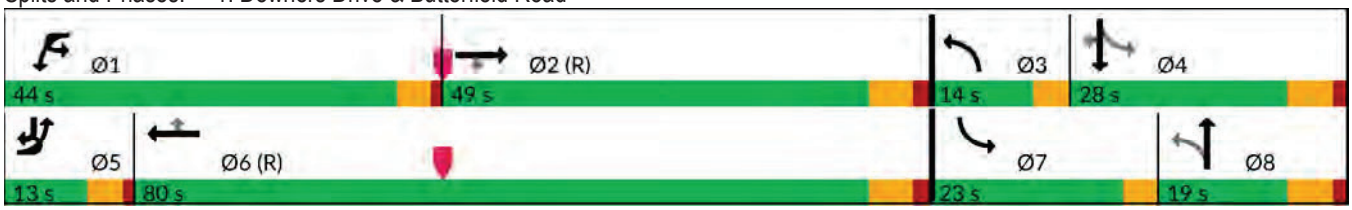
Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	71	124
Future Volume (vph)	71	124
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		150
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	1845	1599
Flt Permitted		
Satd. Flow (perm)	1845	1599
Right Turn on Red		Yes
Satd. Flow (RTOR)		89
Link Speed (mph)	25	
Link Distance (ft)	235	
Travel Time (s)	6.4	
Peak Hour Factor	0.96	0.96
Heavy Vehicles (%)	3%	1%
Shared Lane Traffic (%)		
Lane Group Flow (vph)	74	129
Turn Type	NA	pm+ov
Protected Phases	4	5!
Permitted Phases		4
Detector Phase	4	5
Switch Phase		
Minimum Initial (s)	8.0	3.0
Minimum Split (s)	14.0	7.5
Total Split (s)	28.0	13.0
Total Split (%)	20.7%	9.6%
Yellow Time (s)	4.5	3.5
All-Red Time (s)	1.5	1.0
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	6.0	4.5
Lead/Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes
Recall Mode	None	None
Act Effct Green (s)	16.9	28.8
Actuated g/C Ratio	0.13	0.21
v/c Ratio	0.32	0.31
Control Delay (s/veh)	56.0	16.1
Queue Delay	0.0	0.0
Total Delay (s/veh)	56.0	16.1
LOS	E	B
Approach Delay (s/veh)	62.6	
Approach LOS	E	
Queue Length 50th (ft)	61	28
Queue Length 95th (ft)	108	80

Lanes and Geometries
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Internal Link Dist (ft)			887				332			166		
Turn Bay Length (ft)		230		280		350		335				
Base Capacity (vph)		229	1909	669		1027	3094	1026	300	264		308
Starvation Cap Reductn		0	0	0		0	0	0	0	0		0
Spillback Cap Reductn		0	0	0		0	0	0	0	0		0
Storage Cap Reductn		0	0	0		0	0	0	0	0		0
Reduced v/c Ratio		0.45	0.82	0.17		0.84	0.63	0.23	0.32	0.54		0.94

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 63 (47%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay (s/veh): 37.2		Intersection LOS: D	
Intersection Capacity Utilization 91.7%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
! Phase conflict between lane groups.			

Splits and Phases: 1: Downers Drive & Butterfield Road



Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	SBT	SBR
Internal Link Dist (ft)	155	
Turn Bay Length (ft)		150
Base Capacity (vph)	300	415
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.25	0.31

Intersection Summary

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	17	0	78	6	0
Future Vol, veh/h	20	17	0	78	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	59	59	59	59	59	59
Heavy Vehicles, %	0	0	0	1	0	0
Mvmt Flow	34	29	0	132	10	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	86	66	0	0	132	0
Stage 1	66	-	-	-	-	-
Stage 2	20	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	920	1003	-	-	1465	-
Stage 1	962	-	-	-	-	-
Stage 2	1008	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	913	1003	-	-	1465	-
Mov Cap-2 Maneuver	913	-	-	-	-	-
Stage 1	962	-	-	-	-	-
Stage 2	1001	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.05	0	7.47
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	953	1465	-
HCM Lane V/C Ratio	-	-	0.066	0.007	-
HCM Ctrl Dly (s/v)	-	-	9	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

HCM 7th TWSC
4: Finley Road & Branding Avenue 02/26/2026

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	31	3	15	34	2	30	3	869	13	9	12	822	9
Future Vol, veh/h	31	3	15	34	2	30	3	869	13	9	12	822	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	0	-	-	370	-	-	205	-	-	-	160	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	8	0	8	1	0
Mvmt Flow	35	3	17	38	2	34	3	976	15	10	13	924	10

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	1472	1974	467	1501	1971	496	934	0	0	991	991	0	0
Stage 1	976	976	-	990	990	-	-	-	-	-	-	-	-
Stage 2	496	998	-	511	981	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	6.4	4.26	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.5	2.28	-	-
Pot Cap-1 Maneuver	90	63	548	86	63	525	741	-	-	342	658	-	-
Stage 1	273	332	-	268	327	-	-	-	-	-	-	-	-
Stage 2	529	324	-	519	330	-	-	-	-	-	-	-	-
Platoon blocked, %								-	-			-	-
Mov Cap-1 Maneuver	79	59	548	77	60	525	741	-	-	453	453	-	-
Mov Cap-2 Maneuver	184	167	-	187	172	-	-	-	-	-	-	-	-
Stage 1	259	315	-	267	325	-	-	-	-	-	-	-	-
Stage 2	490	323	-	472	313	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	23.72	21.5	0.03	0.33
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	741	-	-	184	397	187	465	453	-	-
HCM Lane V/C Ratio	0.005	-	-	0.189	0.051	0.204	0.077	0.052	-	-
HCM Ctrl Dly (s/v)	9.9	-	-	29	14.6	29.1	13.4	13.4	-	-
HCM Lane LOS	A	-	-	D	B	D	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.2	0.7	0.3	0.2	-	-

Capacity Analysis Summary Sheets

Existing Saturday Midday Peak Hour

Intersection Capacity Utilization
2: Downers Drive & Frontage Road 02/26/2026

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	42	20	9	54	15	81	1	6	6	92	396	56
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	71	0	0	69	81	0	13	0	0	544	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.95	0.85	0.95	0.96	0.85	0.95	0.93	0.85	0.95	0.98	0.85
Saturated Flow (vph)	0	1809	0	0	1826	1615	0	1762	0	0	3532	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		No			No			No			No	
Reference Time (s)			0.0			6.0			0.0			0.0
Adj Reference Time (s)			0.0			10.0			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	0	179		0	1352		0	830		0	254	
Reference Time A (s)	0.0	47.5		0.0	6.1		0.0	1.9		0.0	43.5	
Adj Saturation B (vph	0	0		0	0		NA	NA		0	1775	
Reference Time B (s)	10.8	12.7		11.6	12.5		NA	NA		14.1	22.5	
Reference Time (s)		12.7			6.1			1.9			22.5	
Adj Reference Time (s)		16.7			10.1			8.0			26.5	
Split Option												
Ref Time Combined (s)	0.0	4.7		0.0	4.5		0.0	0.9		0.0	18.5	
Ref Time Seperate (s)	2.8	1.3		3.6	0.9		0.1	0.4		6.1	13.4	
Reference Time (s)	4.7	4.7		4.5	4.5		0.9	0.9		18.5	18.5	
Adj Reference Time (s)	8.7	8.7		8.5	8.5		8.0	8.0		22.5	22.5	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	16.7	26.5	
Split Option (s)	17.2	30.5	
Minimum (s)	16.7	26.5	43.2

Right Turns	WBR
Adj Reference Time (s)	10.0
Cross Thru Ref Time (s)	8.0
Oncoming Left Ref Time (s)	8.7
Combined (s)	26.7

Intersection Summary			
Intersection Capacity Utilization	36.0%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	123	1041	61	23	428	1198	337	55	27	47	316
Future Volume (vph)	1	123	1041	61	23	428	1198	337	55	27	47	316
Ideal Flow (vphpl)	1900	1900	2000	1900	1900	1900	2000	1900	1900	1900	1900	1900
Storage Length (ft)		230		280		350		335	0		0	0
Storage Lanes		2		1		2		1	1		0	1
Taper Length (ft)		300				300			25			0
Lane Util. Factor	0.91	0.97	0.91	1.00	0.91	0.97	0.91	1.00	1.00	1.00	1.00	1.00
Frt				0.850				0.850		0.905		
Flt Protected		0.950				0.950			0.950			0.950
Satd. Flow (prot)	0	3467	5460	1615	0	3469	5406	1615	1805	1687	0	1787
Flt Permitted		0.950				0.950			0.720			0.517
Satd. Flow (perm)	0	3467	5460	1615	0	3469	5406	1615	1368	1687	0	973
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				207				340		47		
Link Speed (mph)			45				45			25		
Link Distance (ft)			967				412			246		
Travel Time (s)			14.7				6.2			6.7		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	1%	0%	0%	0%	1%	1%	0%	0%	0%	3%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	125	1052	62	0	455	1210	340	56	74	0	319
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	pm+pt	NA		pm+pt
Protected Phases	5!	5	2		1	1	6		3	8		7
Permitted Phases				2				6	8			4
Detector Phase	5	5	2	2	1	1	6	6	3	8		7
Switch Phase												
Minimum Initial (s)	3.0	3.0	15.0	15.0	3.0	3.0	15.0	15.0	3.0	8.0		3.0
Minimum Split (s)	7.5	7.5	21.0	21.0	7.5	7.5	21.0	21.0	6.5	14.0		6.5
Total Split (s)	13.0	13.0	38.0	38.0	21.0	21.0	46.0	46.0	15.0	20.0		21.0
Total Split (%)	13.0%	13.0%	38.0%	38.0%	21.0%	21.0%	46.0%	46.0%	15.0%	20.0%		21.0%
Yellow Time (s)	3.5	3.5	4.5	4.5	3.5	3.5	4.5	4.5	3.5	4.5		3.5
All-Red Time (s)	1.0	1.0	1.5	1.5	1.0	1.0	1.5	1.5	0.0	1.5		0.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)		4.5	6.0	6.0		4.5	6.0	6.0	3.5	6.0		3.5
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None		None
Act Effct Green (s)		8.4	37.9	37.9		16.7	46.3	46.3	19.0	11.3		31.3
Actuated g/C Ratio		0.08	0.38	0.38		0.17	0.46	0.46	0.19	0.11		0.31
v/c Ratio		0.43	0.51	0.08		0.79	0.48	0.37	0.19	0.32		0.72
Control Delay (s/veh)		48.2	26.5	0.2		50.6	20.8	3.4	23.8	22.2		37.4
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)		48.2	26.5	0.2		50.6	20.8	3.4	23.8	22.2		37.4
LOS		D	C	A		D	C	A	C	C		D
Approach Delay (s/veh)			27.4				24.6			22.8		
Approach LOS			C				C			C		
Queue Length 50th (ft)		39	202	0		142	205	0	24	16		162
Queue Length 95th (ft)		69	251	0		#217	261	53	49	57		235

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

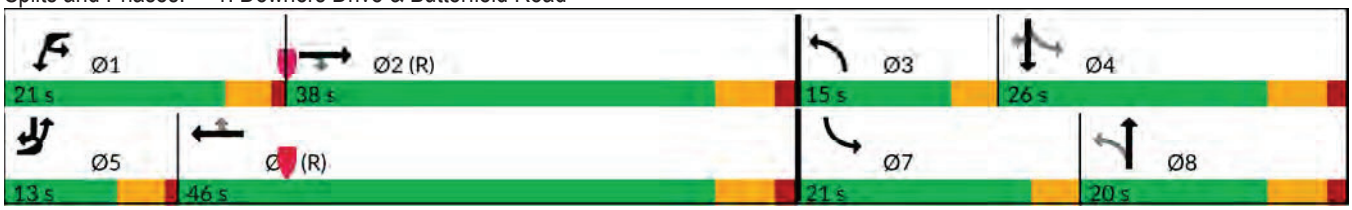
Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	55	118
Future Volume (vph)	55	118
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		150
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	1863	1615
Flt Permitted		
Satd. Flow (perm)	1863	1615
Right Turn on Red		Yes
Satd. Flow (RTOR)		120
Link Speed (mph)	25	
Link Distance (ft)	235	
Travel Time (s)	6.4	
Peak Hour Factor	0.99	0.99
Heavy Vehicles (%)	2%	0%
Shared Lane Traffic (%)		
Lane Group Flow (vph)	56	119
Turn Type	NA	pm+ov
Protected Phases	4	5!
Permitted Phases		4
Detector Phase	4	5
Switch Phase		
Minimum Initial (s)	8.0	3.0
Minimum Split (s)	14.0	7.5
Total Split (s)	26.0	13.0
Total Split (%)	26.0%	13.0%
Yellow Time (s)	4.5	3.5
All-Red Time (s)	1.5	1.0
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	6.0	4.5
Lead/Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes
Recall Mode	None	None
Act Effct Green (s)	19.6	33.9
Actuated g/C Ratio	0.20	0.34
v/c Ratio	0.15	0.19
Control Delay (s/veh)	33.2	4.8
Queue Delay	0.0	0.0
Total Delay (s/veh)	33.2	4.8
LOS	C	A
Approach Delay (s/veh)	29.0	
Approach LOS	C	
Queue Length 50th (ft)	30	0
Queue Length 95th (ft)	64	36

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Internal Link Dist (ft)			887				332			166		
Turn Bay Length (ft)		230		280		350		335				
Base Capacity (vph)		307	2071	741		597	2502	930	363	276		450
Starvation Cap Reductn		0	0	0		0	0	0	0	0		0
Spillback Cap Reductn		0	0	0		0	0	0	0	0		0
Storage Cap Reductn		0	0	0		0	0	0	0	0		0
Reduced v/c Ratio		0.41	0.51	0.08		0.76	0.48	0.37	0.15	0.27		0.71

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay (s/veh): 26.0		Intersection LOS: C	
Intersection Capacity Utilization 69.9%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
! Phase conflict between lane groups.			

Splits and Phases: 1: Downers Drive & Butterfield Road



Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	SBT	SBR
Internal Link Dist (ft)	155	
Turn Bay Length (ft)		150
Base Capacity (vph)	389	634
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.14	0.19

Intersection Summary

Intersection	
Int Delay, s/veh	6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	51	28	3	45	26	0
Future Vol, veh/h	51	28	3	45	26	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	4	0	0	4	0
Mvmt Flow	56	31	3	49	29	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	85	28	0	0	53	0
Stage 1	28	-	-	-	-	-
Stage 2	57	-	-	-	-	-
Critical Hdwy	6.4	6.24	-	-	4.14	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.336	-	-	2.236	-
Pot Cap-1 Maneuver	921	1041	-	-	1540	-
Stage 1	1000	-	-	-	-	-
Stage 2	971	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	904	1041	-	-	1540	-
Mov Cap-2 Maneuver	904	-	-	-	-	-
Stage 1	1000	-	-	-	-	-
Stage 2	953	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.18	0	7.38
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	948	1540	-
HCM Lane V/C Ratio	-	-	0.092	0.019	-
HCM Ctrl Dly (s/v)	-	-	9.2	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

HCM 7th TWSC
4: Finley Road & Branding Avenue 02/26/2026

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	3	0	0	24	0	90	3	680	16	23	64	568	3
Future Vol, veh/h	3	0	0	24	0	90	3	680	16	23	64	568	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	0	-	-	370	-	-	205	-	-	-	160	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	92	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	1	0
Mvmt Flow	3	0	0	25	0	94	3	708	17	25	67	592	3

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	1137	1508	297	1202	1501	363	595	0	0	725	725	0	0
Stage 1	777	777	-	723	723	-	-	-	-	-	-	-	-
Stage 2	360	731	-	479	778	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	6.4	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.5	2.2	-	-
Pot Cap-1 Maneuver	159	122	705	143	123	640	991	-	-	505	887	-	-
Stage 1	361	410	-	388	434	-	-	-	-	-	-	-	-
Stage 2	636	430	-	542	409	-	-	-	-	-	-	-	-
Platoon blocked, %								-	-			-	-
Mov Cap-1 Maneuver	117	105	705	123	106	640	991	-	-	688	688	-	-
Mov Cap-2 Maneuver	219	206	-	249	225	-	-	-	-	-	-	-	-
Stage 1	313	356	-	387	433	-	-	-	-	-	-	-	-
Stage 2	541	429	-	470	355	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	21.65	13.59	0.04	1.47
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	991	-	-	219	-	249	640	688	-	-
HCM Lane V/C Ratio	0.003	-	-	0.014	-	0.101	0.146	0.133	-	-
HCM Ctrl Dly (s/v)	8.6	-	-	21.7	0	21.1	11.6	11	-	-
HCM Lane LOS	A	-	-	C	A	C	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0.3	0.5	0.5	-	-

Capacity Analysis Summary Sheets

Year 2032 No-Build Weekday Morning Peak Hour

Intersection Capacity Utilization
2: Downers Drive & Frontage Road 02/26/2026

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	14	12	128	48	38	0	17	5	53	534	40
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	32	0	0	176	38	0	22	0	0	627	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.93	0.85	0.95	0.96	0.85	0.95	0.97	0.85	0.95	0.99	0.85
Saturated Flow (vph)	0	1776	0	0	1831	1615	0	1835	0	0	3568	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		No			No			No			No	
Reference Time (s)			0.0			2.8			0.0			0.0
Adj Reference Time (s)			0.0			8.0			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	0	462		0	608		0	1835		0	362	
Reference Time A (s)	0.0	8.3		0.0	34.7		0.0	1.4		0.0	68.7	
Adj Saturation B (vph	0	0		0	0		NA	NA		0	1790	
Reference Time B (s)	8.4	10.2		16.5	19.5		NA	NA		11.5	25.1	
Reference Time (s)		8.3			19.5			1.4			25.1	
Adj Reference Time (s)		12.3			23.5			8.0			29.1	
Split Option												
Ref Time Combined (s)	0.0	2.2		0.0	11.5		0.0	1.4		0.0	21.1	
Ref Time Seperate (s)	0.4	0.9		8.5	3.0		0.0	1.1		3.5	17.9	
Reference Time (s)	2.2	2.2		11.5	11.5		1.4	1.4		21.1	21.1	
Adj Reference Time (s)	8.0	8.0		15.5	15.5		8.0	8.0		25.1	25.1	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	23.5	29.1	
Split Option (s)	23.5	33.1	
Minimum (s)	23.5	29.1	52.6

Right Turns	WBR
Adj Reference Time (s)	8.0
Cross Thru Ref Time (s)	8.0
Oncoming Left Ref Time (s)	8.0
Combined (s)	24.0

Intersection Summary			
Intersection Capacity Utilization	43.8%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	97	1639	192	428	1181	224	17	13	30	62	5
Future Volume (vph)	1	97	1639	192	428	1181	224	17	13	30	62	5
Ideal Flow (vphpl)	1900	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900
Storage Length (ft)		230		280	350		335	0		0	0	
Storage Lanes		2		1	2		1	1		0	1	
Taper Length (ft)		300			300			25			0	
Lane Util. Factor	0.91	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850			0.850		0.896			
Flt Protected		0.950			0.950			0.950			0.950	
Satd. Flow (prot)	0	3401	5353	1599	3467	5301	1583	1805	1629	0	1736	1845
Flt Permitted		0.950			0.950			0.754			0.692	
Satd. Flow (perm)	0	3401	5353	1599	3467	5301	1583	1433	1629	0	1264	1845
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				202			236		32			
Link Speed (mph)			45			45			25			25
Link Distance (ft)			967			657			246			235
Travel Time (s)			14.7			10.0			6.7			6.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	3%	2%	1%	1%	3%	2%	0%	8%	3%	4%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	1725	202	451	1243	236	18	46	0	65	5
Turn Type	Prot	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA		pm+pt	NA
Protected Phases	5!	5	2		1	6		3	8		7	4
Permitted Phases				2			6	8			4	
Detector Phase	5	5	2	2	1	6	6	3	8		7	4
Switch Phase												
Minimum Initial (s)	3.0	3.0	15.0	15.0	3.0	15.0	15.0	3.0	8.0		3.0	8.0
Minimum Split (s)	7.5	7.5	21.0	21.0	7.5	21.0	21.0	6.5	14.0		6.5	14.0
Total Split (s)	13.0	13.0	68.0	68.0	24.0	79.0	79.0	12.0	21.0		12.0	21.0
Total Split (%)	10.4%	10.4%	54.4%	54.4%	19.2%	63.2%	63.2%	9.6%	16.8%		9.6%	16.8%
Yellow Time (s)	3.5	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5		3.5	4.5
All-Red Time (s)	1.0	1.0	1.5	1.5	1.0	1.5	1.5	0.0	1.5		0.0	1.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)		4.5	6.0	6.0	4.5	6.0	6.0	3.5	6.0		3.5	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None
Act Effct Green (s)		9.1	71.8	71.8	21.1	83.8	83.8	16.8	8.8		16.4	13.5
Actuated g/C Ratio		0.07	0.57	0.57	0.17	0.67	0.67	0.13	0.07		0.13	0.11
v/c Ratio		0.42	0.56	0.20	0.77	0.35	0.21	0.08	0.32		0.33	0.03
Control Delay (s/veh)		60.0	19.6	2.7	59.0	10.7	1.8	42.2	31.2		51.7	52.2
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay (s/veh)		60.0	19.6	2.7	59.0	10.7	1.8	42.2	31.2		51.7	52.2
LOS		E	B	A	E	B	A	D	C		D	D
Approach Delay (s/veh)			20.0			20.9			34.3			27.9
Approach LOS			B			C			C			C
Queue Length 50th (ft)		42	344	0	181	167	0	12	12		47	4
Queue Length 95th (ft)		72	428	39	237	224	34	33	52		88	18

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

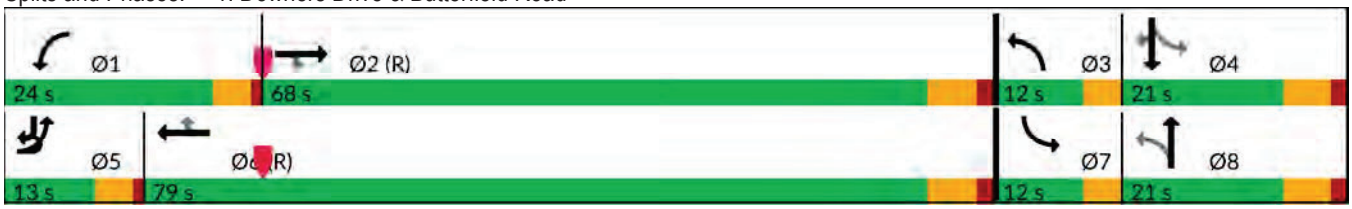
Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	73
Future Volume (vph)	73
Ideal Flow (vphpl)	1900
Storage Length (ft)	150
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1482
Flt Permitted	
Satd. Flow (perm)	1482
Right Turn on Red	Yes
Satd. Flow (RTOR)	96
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.95
Heavy Vehicles (%)	9%
Shared Lane Traffic (%)	
Lane Group Flow (vph)	77
Turn Type	pm+ov
Protected Phases	5!
Permitted Phases	4
Detector Phase	5
Switch Phase	
Minimum Initial (s)	3.0
Minimum Split (s)	7.5
Total Split (s)	13.0
Total Split (%)	10.4%
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	4.5
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	23.0
Actuated g/C Ratio	0.18
v/c Ratio	0.22
Control Delay (s/veh)	6.3
Queue Delay	0.0
Total Delay (s/veh)	6.3
LOS	A
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	0
Queue Length 95th (ft)	30

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)			887			577			166			155
Turn Bay Length (ft)		230		280	350		335					
Base Capacity (vph)		261	3075	1004	600	3552	1138	245	223		202	250
Starvation Cap Reductn		0	0	0	0	0	0	0	0		0	0
Spillback Cap Reductn		0	0	0	0	0	0	0	0		0	0
Storage Cap Reductn		0	0	0	0	0	0	0	0		0	0
Reduced v/c Ratio		0.39	0.56	0.20	0.75	0.35	0.21	0.07	0.21		0.32	0.02

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 125			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay (s/veh): 20.9		Intersection LOS: C	
Intersection Capacity Utilization 66.1%		ICU Level of Service C	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

Splits and Phases: 1: Downers Drive & Butterfield Road



Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	SBR
Internal Link Dist (ft)	
Turn Bay Length (ft)	150
Base Capacity (vph)	356
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.22

Intersection Summary

Intersection	
Int Delay, s/veh	6.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	83	6	0	30	3	0
Future Vol, veh/h	83	6	0	30	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	4	0	0	3	0	0
Mvmt Flow	99	7	0	36	4	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	25	18	0	0	36	0
Stage 1	18	-	-	-	-	-
Stage 2	7	-	-	-	-	-
Critical Hdwy	6.44	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	986	1067	-	-	1588	-
Stage 1	1000	-	-	-	-	-
Stage 2	1011	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	983	1067	-	-	1588	-
Mov Cap-2 Maneuver	983	-	-	-	-	-
Stage 1	1000	-	-	-	-	-
Stage 2	1008	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.08	0	7.27
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	989	1588	-
HCM Lane V/C Ratio	-	-	0.107	0.002	-
HCM Ctrl Dly (s/v)	-	-	9.1	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	9	1	3	21	1	25	13	812	46	7	57	1110	41
Future Vol, veh/h	9	1	3	21	1	25	13	812	46	7	57	1110	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	0	-	-	370	-	-	205	-	-	-	160	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	10	0	12	0	1	2	0	2	2	3
Mvmt Flow	10	1	3	23	1	27	14	883	50	8	62	1207	45

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	1838	2329	626	1679	2326	466	1251	0	0	933	933	0	0
Stage 1	1368	1368	-	936	936	-	-	-	-	-	-	-	-
Stage 2	470	961	-	743	1390	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.7	6.5	7.14	4.1	-	-	6.4	4.14	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.7	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.7	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.6	4	3.42	2.2	-	-	2.5	2.22	-	-
Pot Cap-1 Maneuver	48	38	432	57	38	517	563	-	-	373	730	-	-
Stage 1	157	217	-	270	346	-	-	-	-	-	-	-	-
Stage 2	548	337	-	356	211	-	-	-	-	-	-	-	-
Platoon blocked, %								-	-			-	-
Mov Cap-1 Maneuver	39	33	432	49	33	517	563	-	-	653	653	-	-
Mov Cap-2 Maneuver	109	116	-	150	118	-	-	-	-	-	-	-	-
Stage 1	141	194	-	263	338	-	-	-	-	-	-	-	-
Stage 2	505	329	-	314	189	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	34.37	22.27	0.17	0.59
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	563	-	-	109	257	150	458	653	-	-
HCM Lane V/C Ratio	0.025	-	-	0.089	0.017	0.152	0.062	0.106	-	-
HCM Ctrl Dly (s/v)	11.6	-	-	41.1	19.3	33.3	13.4	11.2	-	-
HCM Lane LOS	B	-	-	E	C	D	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	0.5	0.2	0.4	-	-

Capacity Analysis Summary Sheets

Year 2032 No-Build Weekday Evening Peak Hour

Intersection Capacity Utilization
2: Downers Drive & Frontage Road 02/26/2026

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	48	25	156	8	79	1	132	59	87	896	31
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	94	0	0	164	79	0	192	0	0	1014	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.99	0.85
Saturated Flow (vph)	0	1804	0	0	1810	1615	0	1812	0	0	3586	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		No			No			No			No	
Reference Time (s)			0.0			5.9			0.0			0.0
Adj Reference Time (s)			0.0			9.9			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	0	409		0	546		0	1688		0	394	
Reference Time A (s)	0.0	27.6		0.0	36.0		0.0	13.6		0.0	101.3	
Adj Saturation B (vph	0	0		0	0		NA	NA		NA	NA	
Reference Time B (s)	9.4	14.3		18.4	18.9		NA	NA		NA	NA	
Reference Time (s)		14.3			18.9			13.6			101.3	
Adj Reference Time (s)		18.3			22.9			17.6			105.3	
Split Option												
Ref Time Combined (s)	0.0	6.3		0.0	10.9		0.0	12.7		0.0	33.9	
Ref Time Seperate (s)	1.4	3.2		10.4	0.5		0.1	8.7		5.8	29.9	
Reference Time (s)	6.3	6.3		10.9	10.9		12.7	12.7		33.9	33.9	
Adj Reference Time (s)	10.3	10.3		14.9	14.9		16.7	16.7		37.9	37.9	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	22.9	105.3	
Split Option (s)	25.1	54.7	
Minimum (s)	22.9	54.7	77.5

Right Turns	WBR
Adj Reference Time (s)	9.9
Cross Thru Ref Time (s)	16.7
Oncoming Left Ref Time (s)	10.3
Combined (s)	36.8

Intersection Summary			
Intersection Capacity Utilization	64.6%	ICU Level of Service	C

Reference Times and Phasing Options do not represent an optimized timing plan.

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	6	114	1508	109	6	833	1843	260	93	28	111	305
Future Volume (vph)	6	114	1508	109	6	833	1843	260	93	28	111	305
Ideal Flow (vphpl)	1900	1900	2000	1900	1900	1900	2000	1900	1900	1900	1900	1900
Storage Length (ft)		230		280		350		335	0		0	0
Storage Lanes		2		1		2		1	1		0	1
Taper Length (ft)		300				300			25			0
Lane Util. Factor	0.91	0.97	0.91	1.00	0.91	0.97	0.91	1.00	1.00	1.00	1.00	1.00
Frt				0.850				0.850		0.880		
Flt Protected		0.950				0.950			0.950			0.950
Satd. Flow (prot)	0	3404	5353	1599	0	3467	5406	1615	1805	1672	0	1787
Flt Permitted		0.950				0.950			0.708			0.282
Satd. Flow (perm)	0	3404	5353	1599	0	3467	5406	1615	1345	1672	0	530
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				154				271		116		
Link Speed (mph)			45				45			25		
Link Distance (ft)			967				412			246		
Travel Time (s)			14.7				6.2			6.7		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	3%	2%	1%	0%	1%	1%	0%	0%	0%	0%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	125	1571	114	0	874	1920	271	97	145	0	318
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	pm+pt	NA		pm+pt
Protected Phases	5!	5	2		1	1	6		3	8		7
Permitted Phases				2				6	8			4
Detector Phase	5	5	2	2	1	1	6	6	3	8		7
Switch Phase												
Minimum Initial (s)	3.0	3.0	15.0	15.0	3.0	3.0	15.0	15.0	3.0	8.0		3.0
Minimum Split (s)	7.5	7.5	21.0	21.0	7.5	7.5	21.0	21.0	6.5	14.0		6.5
Total Split (s)	13.0	13.0	49.0	49.0	44.0	44.0	80.0	80.0	14.0	19.0		23.0
Total Split (%)	9.6%	9.6%	36.3%	36.3%	32.6%	32.6%	59.3%	59.3%	10.4%	14.1%		17.0%
Yellow Time (s)	3.5	3.5	4.5	4.5	3.5	3.5	4.5	4.5	3.5	4.5		3.5
All-Red Time (s)	1.0	1.0	1.5	1.5	1.0	1.0	1.5	1.5	0.0	1.5		0.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)		4.5	6.0	6.0		4.5	6.0	6.0	3.5	6.0		3.5
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None		None
Act Effct Green (s)		9.2	47.8	47.8		38.2	76.7	76.7	24.8	9.5		32.2
Actuated g/C Ratio		0.07	0.35	0.35		0.28	0.57	0.57	0.18	0.07		0.24
v/c Ratio		0.54	0.83	0.17		0.89	0.62	0.26	0.33	0.64		1.03
Control Delay (s/veh)		69.7	45.1	2.3		58.5	20.9	2.3	42.4	29.7		106.2
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)		69.7	45.1	2.3		58.5	20.9	2.3	42.4	29.7		106.2
LOS		E	D	A		E	C	A	D	C		F
Approach Delay (s/veh)			44.1				30.0			34.8		
Approach LOS			D				C			C		
Queue Length 50th (ft)		56	468	0		375	395	0	68	25		~264
Queue Length 95th (ft)		92	#568	19		462	470	40	113	93		#399

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

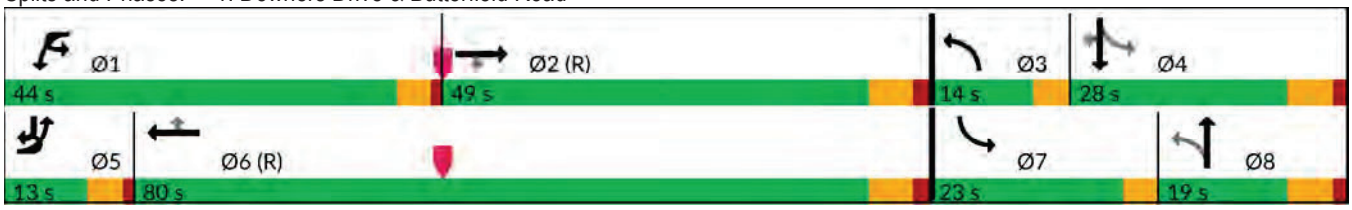
Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	73	186
Future Volume (vph)	73	186
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		150
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	1845	1599
Flt Permitted		
Satd. Flow (perm)	1845	1599
Right Turn on Red		Yes
Satd. Flow (RTOR)		89
Link Speed (mph)	25	
Link Distance (ft)	235	
Travel Time (s)	6.4	
Peak Hour Factor	0.96	0.96
Heavy Vehicles (%)	3%	1%
Shared Lane Traffic (%)		
Lane Group Flow (vph)	76	194
Turn Type	NA	pm+ov
Protected Phases	4	5!
Permitted Phases		4
Detector Phase	4	5
Switch Phase		
Minimum Initial (s)	8.0	3.0
Minimum Split (s)	14.0	7.5
Total Split (s)	28.0	13.0
Total Split (%)	20.7%	9.6%
Yellow Time (s)	4.5	3.5
All-Red Time (s)	1.5	1.0
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	6.0	4.5
Lead/Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes
Recall Mode	None	None
Act Effct Green (s)	16.9	29.4
Actuated g/C Ratio	0.13	0.22
v/c Ratio	0.33	0.47
Control Delay (s/veh)	56.2	26.0
Queue Delay	0.0	0.0
Total Delay (s/veh)	56.2	26.0
LOS	E	C
Approach Delay (s/veh)	73.3	
Approach LOS	E	
Queue Length 50th (ft)	63	76
Queue Length 95th (ft)	111	146

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Internal Link Dist (ft)			887				332			166		
Turn Bay Length (ft)		230		280		350		335				
Base Capacity (vph)		238	1895	665		1028	3073	1034	300	265		308
Starvation Cap Reductn		0	0	0		0	0	0	0	0		0
Spillback Cap Reductn		0	0	0		0	0	0	0	0		0
Storage Cap Reductn		0	0	0		0	0	0	0	0		0
Reduced v/c Ratio		0.53	0.83	0.17		0.85	0.62	0.26	0.32	0.55		1.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 63 (47%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay (s/veh): 39.1		Intersection LOS: D	
Intersection Capacity Utilization 93.9%		ICU Level of Service F	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
! Phase conflict between lane groups.			

Splits and Phases: 1: Downers Drive & Butterfield Road



Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	SBT	SBR
Internal Link Dist (ft)	155	
Turn Bay Length (ft)		150
Base Capacity (vph)	300	420
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.25	0.46

Intersection Summary

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	17	0	79	6	0
Future Vol, veh/h	20	17	0	79	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	59	59	59	59	59	59
Heavy Vehicles, %	0	0	0	1	0	0
Mvmt Flow	34	29	0	134	10	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	87	67	0	0	134	0
Stage 1	67	-	-	-	-	-
Stage 2	20	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	919	1002	-	-	1463	-
Stage 1	961	-	-	-	-	-
Stage 2	1008	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	912	1002	-	-	1463	-
Mov Cap-2 Maneuver	912	-	-	-	-	-
Stage 1	961	-	-	-	-	-
Stage 2	1001	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.05	0	7.48
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	951	1463	-
HCM Lane V/C Ratio	-	-	0.066	0.007	-
HCM Ctrl Dly (s/v)	-	-	9.1	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

HCM 7th TWSC
4: Finley Road & Branding Avenue 02/26/2026

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	31	3	15	35	2	30	3	882	13	9	12	834	9
Future Vol, veh/h	31	3	15	35	2	30	3	882	13	9	12	834	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	0	-	-	370	-	-	205	-	-	-	160	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	8	0	8	1	0
Mvmt Flow	35	3	17	39	2	34	3	991	15	10	13	937	10

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	1493	2002	474	1522	1999	503	947	0	0	1006	1006	0	0
Stage 1	989	989	-	1005	1005	-	-	-	-	-	-	-	-
Stage 2	503	1012	-	517	994	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	6.4	4.26	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.5	2.28	-	-
Pot Cap-1 Maneuver	87	60	543	83	61	519	733	-	-	335	649	-	-
Stage 1	268	327	-	263	322	-	-	-	-	-	-	-	-
Stage 2	524	319	-	514	325	-	-	-	-	-	-	-	-
Platoon blocked, %								-	-			-	-
Mov Cap-1 Maneuver	76	57	543	74	57	519	733	-	-	445	445	-	-
Mov Cap-2 Maneuver	180	164	-	183	169	-	-	-	-	-	-	-	-
Stage 1	254	310	-	261	320	-	-	-	-	-	-	-	-
Stage 2	484	318	-	467	308	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	24.17	22.11	0.03	0.33
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	733	-	-	180	392	183	460	445	-	-
HCM Lane V/C Ratio	0.005	-	-	0.193	0.052	0.215	0.078	0.053	-	-
HCM Ctrl Dly (s/v)	9.9	-	-	29.7	14.7	30	13.5	13.5	-	-
HCM Lane LOS	A	-	-	D	B	D	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.2	0.8	0.3	0.2	-	-

Capacity Analysis Summary Sheets

Year 2032 No-Build Saturday Midday Peak Hour

Intersection Capacity Utilization
2: Downers Drive & Frontage Road 02/26/2026

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	43	20	9	55	15	82	1	6	6	93	403	57
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	72	0	0	70	82	0	13	0	0	553	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.95	0.85	0.95	0.96	0.85	0.95	0.93	0.85	0.95	0.98	0.85
Saturated Flow (vph)	0	1809	0	0	1825	1615	0	1762	0	0	3532	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		No			No			No			No	
Reference Time (s)			0.0			6.1			0.0			0.0
Adj Reference Time (s)			0.0			10.1			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	0	178		0	1359		0	830		0	254	
Reference Time A (s)	0.0	48.6		0.0	6.2		0.0	1.9		0.0	44.0	
Adj Saturation B (vph	0	0		0	0		NA	NA		0	1775	
Reference Time B (s)	10.9	12.8		11.7	12.6		NA	NA		14.2	22.8	
Reference Time (s)		12.8			6.2			1.9			22.8	
Adj Reference Time (s)		16.8			10.2			8.0			26.8	
Split Option												
Ref Time Combined (s)	0.0	4.8		0.0	4.6		0.0	0.9		0.0	18.8	
Ref Time Seperate (s)	2.9	1.3		3.7	0.9		0.1	0.4		6.2	13.6	
Reference Time (s)	4.8	4.8		4.6	4.6		0.9	0.9		18.8	18.8	
Adj Reference Time (s)	8.8	8.8		8.6	8.6		8.0	8.0		22.8	22.8	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	16.8	26.8	
Split Option (s)	17.4	30.8	
Minimum (s)	16.8	26.8	43.5

Right Turns	WBR
Adj Reference Time (s)	10.1
Cross Thru Ref Time (s)	8.0
Oncoming Left Ref Time (s)	8.8
Combined (s)	26.9

Intersection Summary			
Intersection Capacity Utilization	36.3%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	150	1045	62	23	434	1164	374	56	28	48	346
Future Volume (vph)	1	150	1045	62	23	434	1164	374	56	28	48	346
Ideal Flow (vphpl)	1900	1900	2000	1900	1900	1900	2000	1900	1900	1900	1900	1900
Storage Length (ft)		230		280		350		335	0		0	0
Storage Lanes		2		1		2		1	1		0	1
Taper Length (ft)		300				300			25			0
Lane Util. Factor	0.91	0.97	0.91	1.00	0.91	0.97	0.91	1.00	1.00	1.00	1.00	1.00
Frt				0.850				0.850		0.905		
Flt Protected		0.950				0.950			0.950			0.950
Satd. Flow (prot)	0	3467	5460	1615	0	3469	5406	1615	1805	1688	0	1787
Flt Permitted		0.950				0.950			0.719			0.516
Satd. Flow (perm)	0	3467	5460	1615	0	3469	5406	1615	1366	1688	0	971
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				207				378		48		
Link Speed (mph)			45				45			25		
Link Distance (ft)			967				412			246		
Travel Time (s)			14.7				6.2			6.7		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	1%	0%	0%	0%	1%	1%	0%	0%	0%	3%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	153	1056	63	0	461	1176	378	57	76	0	349
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	pm+pt	NA		pm+pt
Protected Phases	5!	5	2		1	1	6		3	8		7
Permitted Phases				2				6	8			4
Detector Phase	5	5	2	2	1	1	6	6	3	8		7
Switch Phase												
Minimum Initial (s)	3.0	3.0	15.0	15.0	3.0	3.0	15.0	15.0	3.0	8.0		3.0
Minimum Split (s)	7.5	7.5	21.0	21.0	7.5	7.5	21.0	21.0	6.5	14.0		6.5
Total Split (s)	13.0	13.0	38.0	38.0	21.0	21.0	46.0	46.0	15.0	20.0		21.0
Total Split (%)	13.0%	13.0%	38.0%	38.0%	21.0%	21.0%	46.0%	46.0%	15.0%	20.0%		21.0%
Yellow Time (s)	3.5	3.5	4.5	4.5	3.5	3.5	4.5	4.5	3.5	4.5		3.5
All-Red Time (s)	1.0	1.0	1.5	1.5	1.0	1.0	1.5	1.5	0.0	1.5		0.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)		4.5	6.0	6.0		4.5	6.0	6.0	3.5	6.0		3.5
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None		None
Act Effct Green (s)		8.8	37.6	37.6		16.8	45.6	45.6	19.0	11.3		31.6
Actuated g/C Ratio		0.09	0.38	0.38		0.17	0.46	0.46	0.19	0.11		0.32
v/c Ratio		0.50	0.51	0.09		0.79	0.48	0.40	0.19	0.33		0.78
Control Delay (s/veh)		49.5	26.7	0.2		50.9	21.0	3.5	23.8	22.3		40.9
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)		49.5	26.7	0.2		50.9	21.0	3.5	23.8	22.3		40.9
LOS		D	C	A		D	C	A	C	C		D
Approach Delay (s/veh)			28.2				24.6			22.9		
Approach LOS			C				C			C		
Queue Length 50th (ft)		48	204	0		144	201	0	24	16		181
Queue Length 95th (ft)		82	252	0		#221	252	55	50	58		260

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

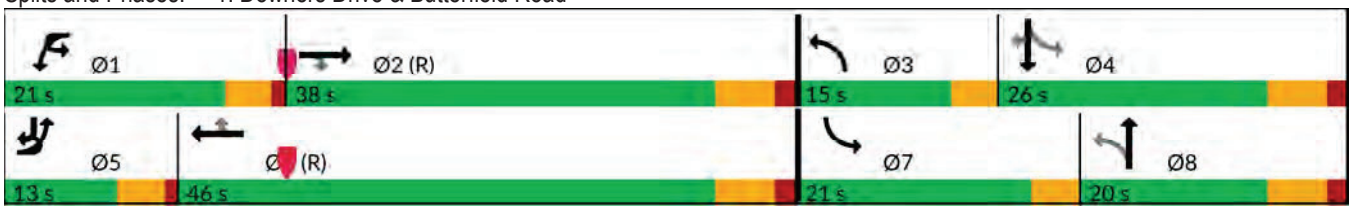
Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	57	185
Future Volume (vph)	57	185
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		150
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	1863	1615
Flt Permitted		
Satd. Flow (perm)	1863	1615
Right Turn on Red		Yes
Satd. Flow (RTOR)		187
Link Speed (mph)	25	
Link Distance (ft)	235	
Travel Time (s)	6.4	
Peak Hour Factor	0.99	0.99
Heavy Vehicles (%)	2%	0%
Shared Lane Traffic (%)		
Lane Group Flow (vph)	58	187
Turn Type	NA	pm+ov
Protected Phases	4	5!
Permitted Phases		4
Detector Phase	4	5
Switch Phase		
Minimum Initial (s)	8.0	3.0
Minimum Split (s)	14.0	7.5
Total Split (s)	26.0	13.0
Total Split (%)	26.0%	13.0%
Yellow Time (s)	4.5	3.5
All-Red Time (s)	1.5	1.0
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	6.0	4.5
Lead/Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes
Recall Mode	None	None
Act Effct Green (s)	19.8	34.6
Actuated g/C Ratio	0.20	0.35
v/c Ratio	0.16	0.28
Control Delay (s/veh)	33.3	4.4
Queue Delay	0.0	0.0
Total Delay (s/veh)	33.3	4.4
LOS	C	A
Approach Delay (s/veh)	28.7	
Approach LOS	C	
Queue Length 50th (ft)	31	0
Queue Length 95th (ft)	65	44

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Internal Link Dist (ft)			887				332			166		
Turn Bay Length (ft)		230		280		350		335				
Base Capacity (vph)		313	2051	735		599	2466	942	363	277		450
Starvation Cap Reductn		0	0	0		0	0	0	0	0		0
Spillback Cap Reductn		0	0	0		0	0	0	0	0		0
Storage Cap Reductn		0	0	0		0	0	0	0	0		0
Reduced v/c Ratio		0.49	0.51	0.09		0.77	0.48	0.40	0.16	0.27		0.78

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay (s/veh): 26.3		Intersection LOS: C	
Intersection Capacity Utilization 71.8%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
! Phase conflict between lane groups.			

Splits and Phases: 1: Downers Drive & Butterfield Road



Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	SBT	SBR
Internal Link Dist (ft)	155	
Turn Bay Length (ft)		150
Base Capacity (vph)	389	684
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.15	0.27

Intersection Summary

Intersection	
Int Delay, s/veh	6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	52	28	3	46	26	0
Future Vol, veh/h	52	28	3	46	26	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	4	0	0	4	0
Mvmt Flow	57	31	3	51	29	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	86	29	0	0	54	0
Stage 1	29	-	-	-	-	-
Stage 2	57	-	-	-	-	-
Critical Hdwy	6.4	6.24	-	-	4.14	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.336	-	-	2.236	-
Pot Cap-1 Maneuver	921	1041	-	-	1539	-
Stage 1	999	-	-	-	-	-
Stage 2	971	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	903	1041	-	-	1539	-
Mov Cap-2 Maneuver	903	-	-	-	-	-
Stage 1	999	-	-	-	-	-
Stage 2	953	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.19	0	7.38
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	947	1539	-
HCM Lane V/C Ratio	-	-	0.093	0.019	-
HCM Ctrl Dly (s/v)	-	-	9.2	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	3	0	0	24	0	91	3	690	16	23	65	577	3
Future Vol, veh/h	3	0	0	24	0	91	3	690	16	23	65	577	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	0	-	-	370	-	-	205	-	-	-	160	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	92	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	1	0
Mvmt Flow	3	0	0	25	0	95	3	719	17	25	68	601	3

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	1154	1530	302	1219	1523	368	604	0	0	735	735	0	0
Stage 1	788	788	-	733	733	-	-	-	-	-	-	-	-
Stage 2	366	742	-	486	790	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	6.4	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.5	2.2	-	-
Pot Cap-1 Maneuver	155	118	700	138	119	635	983	-	-	497	879	-	-
Stage 1	355	405	-	383	429	-	-	-	-	-	-	-	-
Stage 2	632	425	-	537	405	-	-	-	-	-	-	-	-
Platoon blocked, %								-	-			-	-
Mov Cap-1 Maneuver	113	102	700	119	103	635	983	-	-	681	681	-	-
Mov Cap-2 Maneuver	215	202	-	244	221	-	-	-	-	-	-	-	-
Stage 1	307	350	-	381	428	-	-	-	-	-	-	-	-
Stage 2	536	424	-	464	350	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	22.02	13.7	0.04	1.48
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	983	-	-	215	-	244	635	681	-	-
HCM Lane V/C Ratio	0.003	-	-	0.015	-	0.102	0.149	0.136	-	-
HCM Ctrl Dly (s/v)	8.7	-	-	22	0	21.4	11.7	11.1	-	-
HCM Lane LOS	A	-	-	C	A	C	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0.3	0.5	0.5	-	-

Capacity Analysis Summary Sheets

Year 2032 Total Projected Weekday Morning Peak Hour

Intersection Capacity Utilization
2: Downers Drive & Frontage Road 02/26/2026

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	15	13	128	50	38	1	17	5	53	534	60
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	52	0	0	178	38	0	23	0	0	647	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.94	0.85	0.95	0.96	0.85	0.95	0.97	0.85	0.95	0.98	0.85
Saturated Flow (vph)	0	1787	0	0	1832	1615	0	1834	0	0	3553	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		No			No			No			No	
Reference Time (s)			0.0			2.8			0.0			0.0
Adj Reference Time (s)			0.0			8.0			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	0	219		0	1177		0	1129		0	658	
Reference Time A (s)	0.0	28.5		0.0	18.1		0.0	2.4		0.0	39.7	
Adj Saturation B (vph	0	0		0	0		NA	NA		0	1781	
Reference Time B (s)	9.6	11.5		16.5	19.7		NA	NA		11.5	25.8	
Reference Time (s)		11.5			18.1			2.4			25.8	
Adj Reference Time (s)		15.5			22.1			8.0			29.8	
Split Option												
Ref Time Combined (s)	0.0	3.5		0.0	11.7		0.0	1.5		0.0	21.9	
Ref Time Seperate (s)	1.6	1.0		8.5	3.2		0.1	1.1		3.5	18.0	
Reference Time (s)	3.5	3.5		11.7	11.7		1.5	1.5		21.9	21.9	
Adj Reference Time (s)	8.0	8.0		15.7	15.7		8.0	8.0		25.9	25.9	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	22.1	29.8	
Split Option (s)	23.7	33.9	
Minimum (s)	22.1	29.8	52.0

Right Turns	WBR
Adj Reference Time (s)	8.0
Cross Thru Ref Time (s)	8.0
Oncoming Left Ref Time (s)	8.0
Combined (s)	24.0

Intersection Summary			
Intersection Capacity Utilization	43.3%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	97	1639	202	437	1181	224	26	14	38	62	7
Future Volume (vph)	1	97	1639	202	437	1181	224	26	14	38	62	7
Ideal Flow (vphpl)	1900	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900
Storage Length (ft)		230		280	350		335	0		0	0	
Storage Lanes		2		1	2		1	1		0	1	
Taper Length (ft)		300			300			25			0	
Lane Util. Factor	0.91	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850			0.850		0.891			
Flt Protected		0.950			0.950			0.950			0.950	
Satd. Flow (prot)	0	3401	5353	1599	3467	5301	1583	1805	1622	0	1736	1845
Flt Permitted		0.950			0.950			0.484			0.721	
Satd. Flow (perm)	0	3401	5353	1599	3467	5301	1583	920	1622	0	1317	1845
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				213			236		40			
Link Speed (mph)			45			45			25			25
Link Distance (ft)			967			657			246			235
Travel Time (s)			14.7			10.0			6.7			6.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	3%	2%	1%	1%	3%	2%	0%	8%	3%	4%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	1725	213	460	1243	236	27	55	0	65	7
Turn Type	Prot	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA		pm+pt	NA
Protected Phases	5!	5	2		1	6		3	8		7	4
Permitted Phases				2			6	8			4	
Detector Phase	5	5	2	2	1	6	6	3	8		7	4
Switch Phase												
Minimum Initial (s)	3.0	3.0	15.0	15.0	3.0	15.0	15.0	3.0	8.0		3.0	8.0
Minimum Split (s)	7.5	7.5	21.0	21.0	7.5	21.0	21.0	6.5	14.0		6.5	14.0
Total Split (s)	13.0	13.0	68.0	68.0	24.0	79.0	79.0	12.0	21.0		12.0	21.0
Total Split (%)	10.4%	10.4%	54.4%	54.4%	19.2%	63.2%	63.2%	9.6%	16.8%		9.6%	16.8%
Yellow Time (s)	3.5	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5		3.5	4.5
All-Red Time (s)	1.0	1.0	1.5	1.5	1.0	1.5	1.5	0.0	1.5		0.0	1.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)		4.5	6.0	6.0	4.5	6.0	6.0	3.5	6.0		3.5	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None
Act Effct Green (s)		9.1	71.5	71.5	21.3	83.6	83.6	18.2	8.9		13.6	11.1
Actuated g/C Ratio		0.07	0.57	0.57	0.17	0.67	0.67	0.15	0.07		0.11	0.09
v/c Ratio		0.42	0.56	0.21	0.78	0.35	0.21	0.12	0.36		0.38	0.04
Control Delay (s/veh)		60.0	19.8	2.7	59.2	10.7	1.8	42.7	29.6		56.0	54.0
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay (s/veh)		60.0	19.8	2.7	59.2	10.7	1.8	42.7	29.6		56.0	54.0
LOS		E	B	A	E	B	A	D	C		E	D
Approach Delay (s/veh)			20.1			21.2			33.9			30.6
Approach LOS			C			C			C			C
Queue Length 50th (ft)		42	347	0	185	167	0	18	12		54	6
Queue Length 95th (ft)		72	428	40	243	226	34	44	56		88	21

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

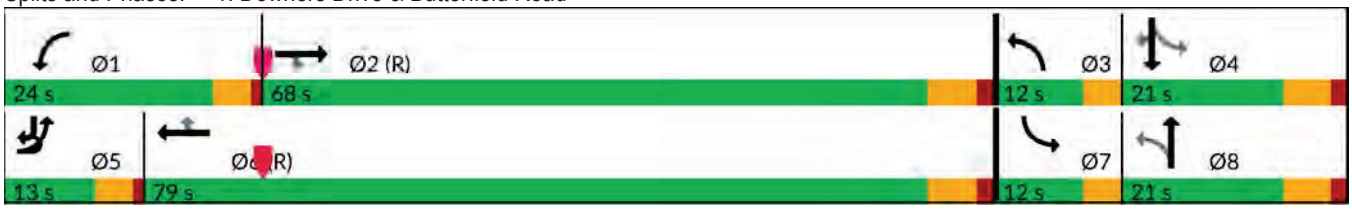
Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	73
Future Volume (vph)	73
Ideal Flow (vphpl)	1900
Storage Length (ft)	150
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1482
Flt Permitted	
Satd. Flow (perm)	1482
Right Turn on Red	Yes
Satd. Flow (RTOR)	96
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.95
Heavy Vehicles (%)	9%
Shared Lane Traffic (%)	
Lane Group Flow (vph)	77
Turn Type	pm+ov
Protected Phases	5!
Permitted Phases	4
Detector Phase	5
Switch Phase	
Minimum Initial (s)	3.0
Minimum Split (s)	7.5
Total Split (s)	13.0
Total Split (%)	10.4%
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	4.5
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	17.8
Actuated g/C Ratio	0.14
v/c Ratio	0.26
Control Delay (s/veh)	7.0
Queue Delay	0.0
Total Delay (s/veh)	7.0
LOS	A
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	0
Queue Length 95th (ft)	30

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)			887			577			166			155
Turn Bay Length (ft)		230		280	350		335					
Base Capacity (vph)		261	3060	1005	604	3546	1137	243	229		177	235
Starvation Cap Reductn		0	0	0	0	0	0	0	0		0	0
Spillback Cap Reductn		0	0	0	0	0	0	0	0		0	0
Storage Cap Reductn		0	0	0	0	0	0	0	0		0	0
Reduced v/c Ratio		0.39	0.56	0.21	0.76	0.35	0.21	0.11	0.24		0.37	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 125			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay (s/veh): 21.2		Intersection LOS: C	
Intersection Capacity Utilization 66.4%		ICU Level of Service C	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

Splits and Phases: 1: Downers Drive & Butterfield Road



Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	SBR
Internal Link Dist (ft)	
Turn Bay Length (ft)	150
Base Capacity (vph)	298
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.26

Intersection Summary

Intersection	
Int Delay, s/veh	6.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	83	6	0	30	3	0
Future Vol, veh/h	83	6	0	30	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	4	0	0	3	0	0
Mvmt Flow	99	7	0	36	4	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	25	18	0	0	36	0
Stage 1	18	-	-	-	-	-
Stage 2	7	-	-	-	-	-
Critical Hdwy	6.44	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	986	1067	-	-	1588	-
Stage 1	1000	-	-	-	-	-
Stage 2	1011	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	983	1067	-	-	1588	-
Mov Cap-2 Maneuver	983	-	-	-	-	-
Stage 1	1000	-	-	-	-	-
Stage 2	1008	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.08	0	7.27
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	989	1588	-
HCM Lane V/C Ratio	-	-	0.107	0.002	-
HCM Ctrl Dly (s/v)	-	-	9.1	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0	-

HCM 7th TWSC
4: Finley Road & Branding Avenue 02/26/2026

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	9	1	3	25	1	26	13	812	50	7	59	1110	41
Future Vol, veh/h	9	1	3	25	1	26	13	812	50	7	59	1110	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	0	-	-	370	-	-	205	-	-	-	160	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	10	0	12	0	1	2	0	2	2	3
Mvmt Flow	10	1	3	27	1	28	14	883	54	8	64	1207	45

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	1842	2338	626	1685	2333	468	1251	0	0	937	937	0	0
Stage 1	1372	1372	-	938	938	-	-	-	-	-	-	-	-
Stage 2	470	965	-	747	1395	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.7	6.5	7.14	4.1	-	-	6.4	4.14	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.7	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.7	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.6	4	3.42	2.2	-	-	2.5	2.22	-	-
Pot Cap-1 Maneuver	48	37	432	56	37	515	563	-	-	370	727	-	-
Stage 1	156	216	-	269	346	-	-	-	-	-	-	-	-
Stage 2	548	336	-	353	210	-	-	-	-	-	-	-	-
Platoon blocked, %								-	-			-	-
Mov Cap-1 Maneuver	39	32	432	48	32	515	563	-	-	652	652	-	-
Mov Cap-2 Maneuver	108	114	-	149	117	-	-	-	-	-	-	-	-
Stage 1	139	192	-	262	337	-	-	-	-	-	-	-	-
Stage 2	504	327	-	310	187	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	34.68	23.56	0.17	0.61
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	563	-	-	108	255	149	458	652	-	-
HCM Lane V/C Ratio	0.025	-	-	0.09	0.017	0.183	0.064	0.11	-	-
HCM Ctrl Dly (s/v)	11.6	-	-	41.5	19.4	34.5	13.4	11.2	-	-
HCM Lane LOS	B	-	-	E	C	D	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	0.6	0.2	0.4	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	33	0	23	89	0	20
Future Vol, veh/h	33	0	23	89	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	35	0	24	94	0	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	35	0	177	35
Stage 1	-	-	-	-	35	-
Stage 2	-	-	-	-	142	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1590	-	818	1044
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	890	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1590	-	804	1044
Mov Cap-2 Maneuver	-	-	-	-	804	-
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	876	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	1.5	8.52
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1044	-	-	370	-
HCM Lane V/C Ratio	0.02	-	-	0.015	-
HCM Ctrl Dly (s/v)	8.5	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	0	30	6	0	83
Future Vol, veh/h	6	0	30	6	0	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	0	32	6	0	87

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	122	35	0	0	38	0
Stage 1	35	-	-	-	-	-
Stage 2	87	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	878	1044	-	-	1585	-
Stage 1	993	-	-	-	-	-
Stage 2	941	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	878	1044	-	-	1585	-
Mov Cap-2 Maneuver	878	-	-	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	941	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.13	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	878	1585	-
HCM Lane V/C Ratio	-	-	0.007	-	-
HCM Ctrl Dly (s/v)	-	-	9.1	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Capacity Analysis Summary Sheets

Year 2032 Total Projected Weekday Evening Peak Hour

Intersection Capacity Utilization
2: Downers Drive & Frontage Road 02/26/2026

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	53	50	27	156	11	79	3	132	59	87	896	61
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	130	0	0	167	79	0	194	0	0	1044	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.99	0.85
Saturated Flow (vph)	0	1803	0	0	1811	1615	0	1812	0	0	3571	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		No			No			No			No	
Reference Time (s)			0.0			5.9			0.0			0.0
Adj Reference Time (s)			0.0			9.9			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	0	246		0	899		0	1487		0	479	
Reference Time A (s)	0.0	63.5		0.0	22.3		0.0	15.7		0.0	87.3	
Adj Saturation B (vph	0	0		0	0		NA	NA		NA	NA	
Reference Time B (s)	11.5	16.7		18.4	19.1		NA	NA		NA	NA	
Reference Time (s)		16.7			19.1			15.7			87.3	
Adj Reference Time (s)		20.7			23.1			19.7			91.3	
Split Option												
Ref Time Combined (s)	0.0	8.7		0.0	11.1		0.0	12.8		0.0	35.1	
Ref Time Seperate (s)	3.5	3.3		10.4	0.7		0.2	8.7		5.8	30.0	
Reference Time (s)	8.7	8.7		11.1	11.1		12.8	12.8		35.1	35.1	
Adj Reference Time (s)	12.7	12.7		15.1	15.1		16.8	16.8		39.1	39.1	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	23.1	91.3	
Split Option (s)	27.7	55.9	
Minimum (s)	23.1	55.9	79.0

Right Turns	WBR
Adj Reference Time (s)	9.9
Cross Thru Ref Time (s)	16.8
Oncoming Left Ref Time (s)	12.7
Combined (s)	39.4

Intersection Summary			
Intersection Capacity Utilization	65.8%	ICU Level of Service	C

Reference Times and Phasing Options do not represent an optimized timing plan.

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	6	114	1508	124	6	846	1843	260	109	30	125	305
Future Volume (vph)	6	114	1508	124	6	846	1843	260	109	30	125	305
Ideal Flow (vphpl)	1900	1900	2000	1900	1900	1900	2000	1900	1900	1900	1900	1900
Storage Length (ft)		230		280		350		335	0		0	0
Storage Lanes		2		1		2		1	1		0	1
Taper Length (ft)		300				300			25			0
Lane Util. Factor	0.91	0.97	0.91	1.00	0.91	0.97	0.91	1.00	1.00	1.00	1.00	1.00
Frt				0.850				0.850		0.879		
Flt Protected		0.950				0.950			0.950			0.950
Satd. Flow (prot)	0	3404	5353	1599	0	3467	5406	1615	1805	1670	0	1787
Flt Permitted		0.950				0.950			0.706			0.301
Satd. Flow (perm)	0	3404	5353	1599	0	3467	5406	1615	1341	1670	0	566
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				154				271		124		
Link Speed (mph)			45				45			25		
Link Distance (ft)			967				412			246		
Travel Time (s)			14.7				6.2			6.7		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	3%	2%	1%	0%	1%	1%	0%	0%	0%	0%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	125	1571	129	0	887	1920	271	114	161	0	318
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	pm+pt	NA		pm+pt
Protected Phases	5!	5	2		1	1	6		3	8		7
Permitted Phases				2				6	8			4
Detector Phase	5	5	2	2	1	1	6	6	3	8		7
Switch Phase												
Minimum Initial (s)	3.0	3.0	15.0	15.0	3.0	3.0	15.0	15.0	3.0	8.0		3.0
Minimum Split (s)	7.5	7.5	21.0	21.0	7.5	7.5	21.0	21.0	6.5	14.0		6.5
Total Split (s)	13.0	13.0	49.0	49.0	44.0	44.0	80.0	80.0	14.0	19.0		23.0
Total Split (%)	9.6%	9.6%	36.3%	36.3%	32.6%	32.6%	59.3%	59.3%	10.4%	14.1%		17.0%
Yellow Time (s)	3.5	3.5	4.5	4.5	3.5	3.5	4.5	4.5	3.5	4.5		3.5
All-Red Time (s)	1.0	1.0	1.5	1.5	1.0	1.0	1.5	1.5	0.0	1.5		0.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)		4.5	6.0	6.0		4.5	6.0	6.0	3.5	6.0		3.5
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None		None
Act Effct Green (s)		9.1	47.4	47.4		38.3	76.6	76.6	22.3	9.8		35.3
Actuated g/C Ratio		0.07	0.35	0.35		0.28	0.57	0.57	0.17	0.07		0.26
v/c Ratio		0.55	0.84	0.20		0.90	0.63	0.26	0.45	0.68		0.98
Control Delay (s/veh)		70.4	45.7	3.5		59.4	21.0	2.3	45.5	32.1		91.4
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)		70.4	45.7	3.5		59.4	21.0	2.3	45.5	32.1		91.4
LOS		E	D	A		E	C	A	D	C		F
Approach Delay (s/veh)			44.4				30.4			37.7		
Approach LOS			D				C			D		
Queue Length 50th (ft)		56	474	0		380	400	0	80	32		257
Queue Length 95th (ft)		92	#568	30		#478	470	40	130	105		#389

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

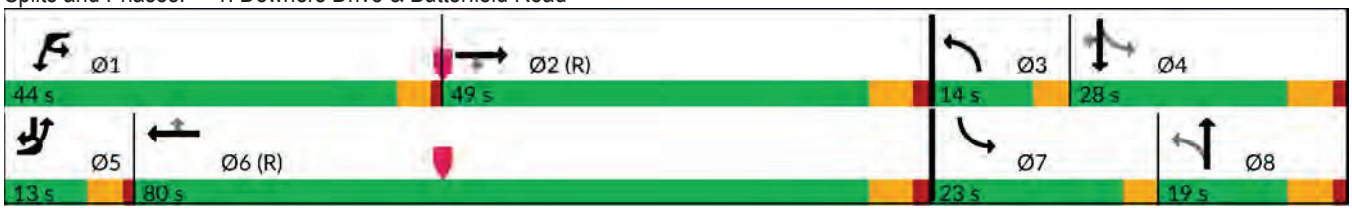
Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	75	186
Future Volume (vph)	75	186
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		150
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	1845	1599
Flt Permitted		
Satd. Flow (perm)	1845	1599
Right Turn on Red		Yes
Satd. Flow (RTOR)		89
Link Speed (mph)	25	
Link Distance (ft)	235	
Travel Time (s)	6.4	
Peak Hour Factor	0.96	0.96
Heavy Vehicles (%)	3%	1%
Shared Lane Traffic (%)		
Lane Group Flow (vph)	78	194
Turn Type	NA	pm+ov
Protected Phases	4	5!
Permitted Phases		4
Detector Phase	4	5
Switch Phase		
Minimum Initial (s)	8.0	3.0
Minimum Split (s)	14.0	7.5
Total Split (s)	28.0	13.0
Total Split (%)	20.7%	9.6%
Yellow Time (s)	4.5	3.5
All-Red Time (s)	1.5	1.0
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	6.0	4.5
Lead/Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes
Recall Mode	None	None
Act Effct Green (s)	19.3	34.4
Actuated g/C Ratio	0.14	0.25
v/c Ratio	0.30	0.41
Control Delay (s/veh)	54.6	24.6
Queue Delay	0.0	0.0
Total Delay (s/veh)	54.6	24.6
LOS	D	C
Approach Delay (s/veh)	64.6	
Approach LOS	E	
Queue Length 50th (ft)	65	75
Queue Length 95th (ft)	113	146

Lanes and Geometries
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Internal Link Dist (ft)			887				332			166		
Turn Bay Length (ft)		230		280		350		335				
Base Capacity (vph)		234	1877	660		1027	3068	1033	262	272		324
Starvation Cap Reductn		0	0	0		0	0	0	0	0		0
Spillback Cap Reductn		0	0	0		0	0	0	0	0		0
Storage Cap Reductn		0	0	0		0	0	0	0	0		0
Reduced v/c Ratio		0.53	0.84	0.20		0.86	0.63	0.26	0.44	0.59		0.98

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 63 (47%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay (s/veh): 38.7		Intersection LOS: D	
Intersection Capacity Utilization 95.2%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
! Phase conflict between lane groups.			

Splits and Phases: 1: Downers Drive & Butterfield Road



Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	SBT	SBR
Internal Link Dist (ft)	155	
Turn Bay Length (ft)		150
Base Capacity (vph)	300	476
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.26	0.41

Intersection Summary

HCM 7th TWSC
3: Oak Grove Road & Frontage Road 02/26/2026

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	17	0	79	6	0
Future Vol, veh/h	20	17	0	79	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	59	59	59	59	59	59
Heavy Vehicles, %	0	0	0	1	0	0
Mvmt Flow	34	29	0	134	10	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	87	67	0	0	134	0
Stage 1	67	-	-	-	-	-
Stage 2	20	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	919	1002	-	-	1463	-
Stage 1	961	-	-	-	-	-
Stage 2	1008	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	912	1002	-	-	1463	-
Mov Cap-2 Maneuver	912	-	-	-	-	-
Stage 1	961	-	-	-	-	-
Stage 2	1001	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.05	0	7.48
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	951	1463	-
HCM Lane V/C Ratio	-	-	0.066	0.007	-
HCM Ctrl Dly (s/v)	-	-	9.1	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	31	3	15	42	2	32	3	882	19	9	15	834	9
Future Vol, veh/h	31	3	15	42	2	32	3	882	19	9	15	834	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	0	-	-	370	-	-	205	-	-	-	160	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	8	0	8	1	0
Mvmt Flow	35	3	17	47	2	36	3	991	21	10	17	937	10

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	1499	2015	474	1533	2010	506	947	0	0	1012	1012	0	0
Stage 1	996	996	-	1008	1008	-	-	-	-	-	-	-	-
Stage 2	503	1019	-	524	1001	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	6.4	4.26	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.5	2.28	-	-
Pot Cap-1 Maneuver	86	59	543	81	60	517	733	-	-	332	646	-	-
Stage 1	266	325	-	261	321	-	-	-	-	-	-	-	-
Stage 2	524	317	-	510	323	-	-	-	-	-	-	-	-
Platoon blocked, %								-	-			-	-
Mov Cap-1 Maneuver	74	56	543	72	56	517	733	-	-	458	458	-	-
Mov Cap-2 Maneuver	178	161	-	181	167	-	-	-	-	-	-	-	-
Stage 1	250	306	-	260	319	-	-	-	-	-	-	-	-
Stage 2	482	315	-	460	304	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	24.51	23.6	0.03	0.37
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	733	-	-	178	389	181	460	458	-	-
HCM Lane V/C Ratio	0.005	-	-	0.196	0.052	0.261	0.083	0.059	-	-
HCM Ctrl Dly (s/v)	9.9	-	-	30.2	14.8	31.7	13.5	13.4	-	-
HCM Lane LOS	A	-	-	D	B	D	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.2	1	0.3	0.2	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	85	0	35	37	0	36
Future Vol, veh/h	85	0	35	37	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	89	0	37	39	0	38

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	89	0	202	89
Stage 1	-	-	-	-	89	-
Stage 2	-	-	-	-	113	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1519	-	791	974
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	917	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1519	-	771	974
Mov Cap-2 Maneuver	-	-	-	-	771	-
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	894	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	3.61	8.85
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	974	-	-	875	-
HCM Lane V/C Ratio	0.039	-	-	0.024	-
HCM Ctrl Dly (s/v)	8.8	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	0	79	9	0	20
Future Vol, veh/h	9	0	79	9	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	0	83	9	0	21

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	109	88	0	0	93	0
Stage 1	88	-	-	-	-	-
Stage 2	21	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	893	976	-	-	1515	-
Stage 1	941	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	893	976	-	-	1515	-
Mov Cap-2 Maneuver	893	-	-	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	1007	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.07	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	893	1515	-
HCM Lane V/C Ratio	-	-	0.011	-	-
HCM Ctrl Dly (s/v)	-	-	9.1	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Capacity Analysis Summary Sheets

Year 2032 Total Projected Saturday Midday Peak Hour

Intersection Capacity Utilization
2: Downers Drive & Frontage Road 02/26/2026

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	83	23	12	55	18	82	4	7	6	93	403	97
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	118	0	0	73	82	0	17	0	0	593	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.95	0.85	0.95	0.96	0.85	0.95	0.94	0.85	0.95	0.97	0.85
Saturated Flow (vph)	0	1805	0	0	1828	1615	0	1778	0	0	3501	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		No			No			No			No	
Reference Time (s)			0.0			6.1			0.0			0.0
Adj Reference Time (s)			0.0			10.1			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	0	155		0	1564		0	386		0	607	
Reference Time A (s)	0.0	91.2		0.0	5.6		0.0	5.3		0.0	21.8	
Adj Saturation B (vph	0	0		0	0		NA	NA		0	1756	
Reference Time B (s)	13.5	15.8		11.7	12.8		NA	NA		14.2	24.3	
Reference Time (s)		15.8			5.6			5.3			21.8	
Adj Reference Time (s)		19.8			9.6			9.3			25.8	
Split Option												
Ref Time Combined (s)	0.0	7.8		0.0	4.8		0.0	1.1		0.0	20.3	
Ref Time Seperate (s)	5.5	1.5		3.7	1.1		0.3	0.5		6.2	13.8	
Reference Time (s)	7.8	7.8		4.8	4.8		1.1	1.1		20.3	20.3	
Adj Reference Time (s)	11.8	11.8		8.8	8.8		8.0	8.0		24.3	24.3	

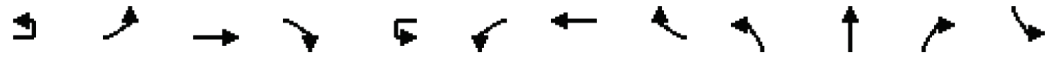
Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	19.8	25.8	
Split Option (s)	20.6	32.3	
Minimum (s)	19.8	25.8	45.7

Right Turns	WBR
Adj Reference Time (s)	10.1
Cross Thru Ref Time (s)	8.0
Oncoming Left Ref Time (s)	11.8
Combined (s)	29.9

Intersection Summary			
Intersection Capacity Utilization	38.1%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026



Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	150	1045	82	23	451	1164	374	76	31	65	346
Future Volume (vph)	1	150	1045	82	23	451	1164	374	76	31	65	346
Ideal Flow (vphpl)	1900	1900	2000	1900	1900	1900	2000	1900	1900	1900	1900	1900
Storage Length (ft)		230		280		350		335	0		0	0
Storage Lanes		2		1		2		1	1		0	1
Taper Length (ft)		300				300			25			0
Lane Util. Factor	0.91	0.97	0.91	1.00	0.91	0.97	0.91	1.00	1.00	1.00	1.00	1.00
Frt				0.850				0.850		0.898		
Flt Protected		0.950				0.950			0.950			0.950
Satd. Flow (prot)	0	3467	5460	1615	0	3469	5406	1615	1805	1672	0	1787
Flt Permitted		0.950				0.950			0.717			0.507
Satd. Flow (perm)	0	3467	5460	1615	0	3469	5406	1615	1362	1672	0	954
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				207				378		66		
Link Speed (mph)			45				45			25		
Link Distance (ft)			967				412			246		
Travel Time (s)			14.7				6.2			6.7		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	1%	0%	0%	0%	1%	1%	0%	0%	0%	3%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	153	1056	83	0	479	1176	378	77	97	0	349
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	pm+pt	NA		pm+pt
Protected Phases	5!	5	2		1	1	6		3	8		7
Permitted Phases				2				6	8			4
Detector Phase	5	5	2	2	1	1	6	6	3	8		7
Switch Phase												
Minimum Initial (s)	3.0	3.0	15.0	15.0	3.0	3.0	15.0	15.0	3.0	8.0		3.0
Minimum Split (s)	7.5	7.5	21.0	21.0	7.5	7.5	21.0	21.0	6.5	14.0		6.5
Total Split (s)	13.0	13.0	38.0	38.0	21.0	21.0	46.0	46.0	15.0	20.0		21.0
Total Split (%)	13.0%	13.0%	38.0%	38.0%	21.0%	21.0%	46.0%	46.0%	15.0%	20.0%		21.0%
Yellow Time (s)	3.5	3.5	4.5	4.5	3.5	3.5	4.5	4.5	3.5	4.5		3.5
All-Red Time (s)	1.0	1.0	1.5	1.5	1.0	1.0	1.5	1.5	0.0	1.5		0.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)		4.5	6.0	6.0		4.5	6.0	6.0	3.5	6.0		3.5
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None		None
Act Effct Green (s)		8.7	37.2	37.2		17.1	45.6	45.6	19.9	11.4		31.7
Actuated g/C Ratio		0.09	0.37	0.37		0.17	0.46	0.46	0.20	0.11		0.32
v/c Ratio		0.51	0.52	0.11		0.81	0.48	0.40	0.25	0.39		0.78
Control Delay (s/veh)		49.8	27.0	0.3		51.8	21.0	3.5	24.9	20.9		41.0
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)		49.8	27.0	0.3		51.8	21.0	3.5	24.9	20.9		41.0
LOS		D	C	A		D	C	A	C	C		D
Approach Delay (s/veh)			28.0				25.0			22.7		
Approach LOS			C				C			C		
Queue Length 50th (ft)		48	206	0		150	202	0	33	18		180
Queue Length 95th (ft)		82	252	0		#235	252	55	63	65		260

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

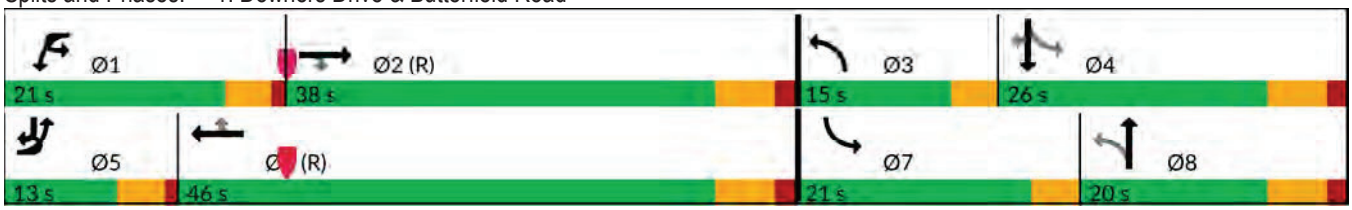
Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	60	185
Future Volume (vph)	60	185
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		150
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	1863	1615
Flt Permitted		
Satd. Flow (perm)	1863	1615
Right Turn on Red		Yes
Satd. Flow (RTOR)		187
Link Speed (mph)	25	
Link Distance (ft)	235	
Travel Time (s)	6.4	
Peak Hour Factor	0.99	0.99
Heavy Vehicles (%)	2%	0%
Shared Lane Traffic (%)		
Lane Group Flow (vph)	61	187
Turn Type	NA	pm+ov
Protected Phases	4	5!
Permitted Phases		4
Detector Phase	4	5
Switch Phase		
Minimum Initial (s)	8.0	3.0
Minimum Split (s)	14.0	7.5
Total Split (s)	26.0	13.0
Total Split (%)	26.0%	13.0%
Yellow Time (s)	4.5	3.5
All-Red Time (s)	1.5	1.0
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	6.0	4.5
Lead/Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes
Recall Mode	None	None
Act Effct Green (s)	19.2	33.9
Actuated g/C Ratio	0.19	0.34
v/c Ratio	0.17	0.28
Control Delay (s/veh)	34.2	4.5
Queue Delay	0.0	0.0
Total Delay (s/veh)	34.2	4.5
LOS	C	A
Approach Delay (s/veh)	28.9	
Approach LOS	C	
Queue Length 50th (ft)	33	0
Queue Length 95th (ft)	69	45

Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Internal Link Dist (ft)			887				332			166		
Turn Bay Length (ft)		230		280		350		335				
Base Capacity (vph)		310	2030	730		605	2464	941	364	290		449
Starvation Cap Reductn		0	0	0		0	0	0	0	0		0
Spillback Cap Reductn		0	0	0		0	0	0	0	0		0
Storage Cap Reductn		0	0	0		0	0	0	0	0		0
Reduced v/c Ratio		0.49	0.52	0.11		0.79	0.48	0.40	0.21	0.33		0.78

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay (s/veh): 26.4		Intersection LOS: C	
Intersection Capacity Utilization 72.3%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
! Phase conflict between lane groups.			

Splits and Phases: 1: Downers Drive & Butterfield Road



Lanes and Geometrics
1: Downers Drive & Butterfield Road 02/26/2026

Lane Group	SBT	SBR
Internal Link Dist (ft)	155	
Turn Bay Length (ft)		150
Base Capacity (vph)	380	675
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.16	0.28

Intersection Summary

Intersection	
Int Delay, s/veh	6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	52	28	3	46	26	0
Future Vol, veh/h	52	28	3	46	26	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	4	0	0	4	0
Mvmt Flow	57	31	3	51	29	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	86	29	0	0	54	0
Stage 1	29	-	-	-	-	-
Stage 2	57	-	-	-	-	-
Critical Hdwy	6.4	6.24	-	-	4.14	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.336	-	-	2.236	-
Pot Cap-1 Maneuver	921	1041	-	-	1539	-
Stage 1	999	-	-	-	-	-
Stage 2	971	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	903	1041	-	-	1539	-
Mov Cap-2 Maneuver	903	-	-	-	-	-
Stage 1	999	-	-	-	-	-
Stage 2	953	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.19	0	7.38
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	947	1539	-
HCM Lane V/C Ratio	-	-	0.093	0.019	-
HCM Ctrl Dly (s/v)	-	-	9.2	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

HCM 7th TWSC
4: Finley Road & Branding Avenue 02/26/2026

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	3	0	0	33	0	94	3	690	25	23	68	577	3
Future Vol, veh/h	3	0	0	33	0	94	3	690	25	23	68	577	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	0	-	-	370	-	-	205	-	-	-	160	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	92	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	1	0
Mvmt Flow	3	0	0	34	0	98	3	719	26	25	71	601	3

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	1160	1545	302	1230	1534	372	604	0	0	745	745	0	0
Stage 1	794	794	-	738	738	-	-	-	-	-	-	-	-
Stage 2	366	751	-	492	796	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	6.4	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.5	2.2	-	-
Pot Cap-1 Maneuver	153	116	700	136	118	631	983	-	-	491	872	-	-
Stage 1	352	403	-	380	427	-	-	-	-	-	-	-	-
Stage 2	632	421	-	532	402	-	-	-	-	-	-	-	-
Platoon blocked, %								-	-			-	-
Mov Cap-1 Maneuver	111	99	700	116	101	631	983	-	-	677	677	-	-
Mov Cap-2 Maneuver	211	198	-	241	218	-	-	-	-	-	-	-	-
Stage 1	302	346	-	379	426	-	-	-	-	-	-	-	-
Stage 2	532	420	-	457	345	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	22.32	14.52	0.04	1.53
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	983	-	-	211	-	241	631	677	-	-
HCM Lane V/C Ratio	0.003	-	-	0.015	-	0.143	0.155	0.142	-	-
HCM Ctrl Dly (s/v)	8.7	-	-	22.3	0	22.4	11.8	11.2	-	-
HCM Lane LOS	A	-	-	C	A	C	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0.5	0.5	0.5	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	72	0	46	80	0	46
Future Vol, veh/h	72	0	46	80	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	76	0	48	84	0	48

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	76	0	257	76
Stage 1	-	-	-	-	76	-
Stage 2	-	-	-	-	181	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1536	-	736	991
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	855	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1536	-	712	991
Mov Cap-2 Maneuver	-	-	-	-	712	-
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	827	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	2.71	8.82
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	991	-	-	657	-
HCM Lane V/C Ratio	0.049	-	-	0.032	-
HCM Ctrl Dly (s/v)	8.8	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	0	49	12	0	52
Future Vol, veh/h	12	0	49	12	0	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	13	0	52	13	0	55

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	113	58	0	0	64	0
Stage 1	58	-	-	-	-	-
Stage 2	55	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	889	1014	-	-	1551	-
Stage 1	970	-	-	-	-	-
Stage 2	973	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	889	1014	-	-	1551	-
Mov Cap-2 Maneuver	889	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	973	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.11	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	889	1551	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Ctrl Dly (s/v)	-	-	9.1	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Village of Downers Grove

Planning and Zoning Commission – Minutes (DRAFT)

Table 1 - Detailed information on this Planning and Zoning Commission meeting.

Meeting Location	Civic Center – Betty Cheever Council Chambers
Meeting Address	850 Curtiss St., Downers Grove, IL 60515
Meeting Date	March 3, 2026 at 7:00 PM

File 26-PZC-0011.

The petitioner is seeking approval of a Special Use to operate a car wash, and associated variances. The property is currently zoned B-3, General Services and Highway Business. The property is located approximately 330 feet southwest of the intersection of Butterfield Road and Downers Drive, commonly known as 1341 Butterfield, Downers Grove, IL (PIN:06-30-409-022). Vincenzo Finazzo, Petitioner and Butterfield Commercial, Owner.

Gabe Schuchman, with El Car Wash, gave an introduction and background into their company. He shared their hours of operation are 7 a.m. to 8 p.m., and they typically see between four hundred (400) to five hundred (500) customers a day. He noted they do a lot of work to minimize noise, use non-toxic soaps, and reuse ninety percent (90%) of their water. He briefly went over the elevations for the site.

Mitchell Harvey, Civil Engineer with Stonefield Engineering, went over the site plan and stated they have twenty (26) stacking spaces and twenty (20) vacuum spaces. He noted they are bringing thirty-nine (39) new trees and around seven thousand (7,000) square feet of new green space to the site and lighting will be provided that meet all zoning ordinance requirements. He explained they are requesting two variances, one of which is for the pavement setback along the east side. He said the existing site has parking all the way up to the road to the north, east, and west, so they are trying to pull that in and meet the twenty-five (25) foot pavement setbacks, and the only part they encroach on is the knob up to the north. They believe that variance is acceptable, as being fully compliant with the setback would not allow for a functional car wash,

would restrict the site, and the variance request would not alter the character of the neighborhood. The other variance request is regarding the requirement to have two drying spaces at the exit of the car wash, as they are only proposing one. Mr. Harvey explained this car wash uses a state-of-the-art drying equipment package, so cars come out a lot dryer than the older style car washes, and they want to focus on maintaining some of the green space to the east and west of the site. He added their drying lane will be paved with heated concrete, which will reduce ice buildup and there is no room for a second drying lane.

Hannah Saed, with Elrod Friedman, presented on the Special Use Permit for the carwash, which is in the B-3 District. She stated a carwash is specifically listed as a special use in the B-3 criteria, as it is considered a personal vehicle repair and maintenance use. She said the proposed use would not be detrimental to the health, safety, or general welfare of the community, and they are environmentally friendly, as they do not use any harmful substances or negatively impact utilities. She noted El Car Wash prides themselves on how quiet and undisruptive they are, and they do not anticipate generating too much traffic.

Mr. Harvey discussed the traffic study for the site. He expressed all surrounding intersections will continue operating at an acceptable level of service and carwash would not generate significantly more trips than the existing use.

Chairman Rickard asked for questions for the petitioner.

Commissioner Patel asked to be walked through the drying lane process and total length of the tunnel. Mr. Schuchman responded the zoning code requires a drying space, but they do not have one, as it is a touchless service. He said the zoning code seems to reference an old-style carwash where cars are hand dried. He said the tunnel is one hundred and twenty (120) feet.

Commissioner Lincoln asked what is the most cars they have seen in a queue backed up from the carwash. Mr. Schuchman responded they have opened five (5) locations in metro Detroit in the past eighteen (18) months, and the most stacking they encountered was twenty (20) to twenty-five (25) cars, and the average daily traffic is between four hundred (400) to five hundred (500) cars. He noted they see seventy (70) to eighty (80) cars an hour in a peak period, and a car can go through the wash in seventy-five (75) seconds. He added members also go through the carwash quicker.

Commissioner Eberhardt inquired if people can go right or left when coming out of the tunnel. Mr. Schuchman answered yes.

Commissioner Frankovic asked if they have had other carwashes built at ninety (90) to one hundred (100) feet, why is this one, one hundred and twenty (120) feet with the variance request. Mr. Schuchman responded they process cars faster and add more services for the cars at one hundred and twenty (120) feet.

Commissioner Lincon inquired how much faster. Mr. Schuchman voiced it is around thirty (30) seconds faster.

Chairman Rickard asked for public comment. There were none.

Chairman Rickard asked for the staff report.

Carter Moran, Staff Planner, stated the property is located southwest of the intersection of Downers Dr and Butterfield Rd, along Frontage Rd, and the property is zone B-3, General Services and Highway Business. He stated all noticing requirements were met and staff received one public comment that was general in nature. He said the site will include a queuing lane with twenty-six (26) spaces across two lanes, payment booth with free standing canopy, attendance station booth, bailout lane, a carwash lane extending northeast into setback, one drying space, and twenty (20) parking spaces with access to a vacuum. He went over the pedestrian pathway network through the site, bike parking, landscape plan, design scheme, isometric plan, and noted the carwash building includes two towers at the vehicle entrance and exit. He expressed the petitioners are seeking a Special Use for the carwash and commercial variations related to the drive-through lane, as the carwash queuing lane extends into the twenty-five (25) foot setback on the east side. The petitioner believes the site presents a unique circumstance, where the lanes cannot fit cohesively without variation. He added the zoning ordinance requires carwashes provide two drying spaces after the vehicles are out of the wash building, but this site only includes one with the reasoning that the proposed drive pattern on site prevents construction of a second drying lane. Mr. Moran went over the recommendations for development in the Comprehensive Plan, Variation criteria, and Special Use criteria. Staff found all standards of approval were met and recommended approval of the petition.

Chairman Rickard asked for questions for staff.

Commissioner Lincoln asked why they still have the requirement for two drying lanes in the code. Mr. Moran responded the requirement is so the sun or a towel would continue to dry the car after getting out of the washing portion and two spaces to allow drivers to orient themselves after coming out of the tunnel. He added the drying spaces are more like a stacking space.

Commissioner Lincoln inquired if length was also part of the argument so cars are not going right into traffic. Mr. Zawila answered yes, and added they are working on a comprehensive text amendment project and this is one of the items they will be looking at based off of current trends.

Commissioner Lincoln asked if there were any other properties with a similar variance. Mr. Zawila voiced no, as this is one of the first new car washes they have looked at in a long time.

Commissioner Eberhardt commented it seemed maybe the intent of the ordinance was to give cars a spot to get out of the way to dry the car. Commissioner Barry mentioned other carwashes in town that have a drying space at the end but no place to keep going. Mr. Zawila responded most of those carwashes were constructed before they did the 2014 update to the text amendments, so it is likely a lot of them are legal non-conforming.

Chairman Rickard noted a lot of those tunnels are shorter.

Commissioner Eberhardt asked for clarification that this does not go further than the existing restaurant did. Mr. Zawila answered yes.

Commissioner Lincoln asked if the restaurant was legal non-conforming due to the parking lot being too close to the setbacks. Mr. Moran responded they would have been legal non-conforming to the setback, but they are looking at this fresh because this is a new use and user.

Commissioner Lincoln inquired if it was unique in the Village to have setbacks on three sides. Mr. Zawila agreed that was uncommon and the site does not have the depth and visibility that other out lots typically have in the Butterfield corridor.

Chairman Rickard gave the petitioner another opportunity to come up and answer any questions and/or add any information.

Mr. Schuchman stated the 20 feet queuing out of the tunnel is standard protocol for them so they felt they had enough area to get out.

Chairman Rickard asked for Commission discussion.

Commissioner Lincoln expressed everything seems to have been met except for the nine (9) feet. However, he was still leaning towards yes since the parking lot was already there.

Commissioner Frankovic agreed and felt they would be bringing great benefits to the lot and the community by paying staff livable wages, providing extra green space, and improving storm water.

Commissioner Barry concurred and additional green space to the lot would make it a better site.

Commissioner Patel liked the location of the carwash, as it is very insulated and away from traffic coming on and off major thoroughfares.

Chairman Rickard stated all the Special Use criteria was met, as well as the variations. He agreed the geometry of the site is unique and it would not affect the neighborhood.

Commissioner Eberhardt agreed with her fellow commissioners. However, she pointed out that staff did not mention number three (3) on the conditions on the draft motion.

Mr. Moran responded it is a hold harmless agreement and typical thing that happens, and just states they would be looking at their own setbacks rather than anything platted previously. Mr. Zawila added they typically do that with a large portion of single-family homes throughout the community, but they do not see if often in a Planning and Zoning Commission cases.

Chairman Rickard reopened public comment since the Commission asked another question.

Scott Richards voiced he recently went to Fuller's carwash on Ogden and did not understand how to use it, as it was different than any other carwash he had seen before. He said he changed his mind and decided not to use the carwash, and had to have help backing up and get out of there. He asked the same thing would happen with this carwash if someone changed their mind.

With respect to File 26-PZC-0011, based on the petitioner's submittal, the staff report and the testimony presented, it is founded that the petitioner has met the standards of approval for a special use and two variations to construct and operate a carwash, as required by the Village of Downers Grove Zoning Ordinance and is in the public interest, and therefore, Commissioner Patel made a motion that the Planning and Zoning Commission recommend the Village Council approval of File 26-PZC-0011, subject to the conditions in the staff report.

The motion was seconded by Commissioner Eberhardt

Roll Call: Patel, Eberhardt, Frankovic, Lincoln, Reyes, Wolf, Barry, Chairman Rickard.

Motion Approved. Vote: 8-0