



AGENDA
CITY PLANNING COMMISSION

City Hall - Council Chambers
6131 Taylorsville Road
June 28, 2022
6:00 P.M.

1. Call Meeting To Order
2. Roll Call
3. Opening Remarks By The Chair and Commissioners
4. Citizens Comments
5. Swearing of Witnesses
6. Pending Business
7. New Business
 - A. MAJOR CHANGE - The applicant, SKILKEN GOLD REAL ESTATE DEVELOPMENT, LLC, is requesting approval of a Major Chang to the Basic Development Plan for a proposed 6,138 SF Convenience store with Fuel Canopy, a 1,648 SF Car Wash and Vacuum Stalls. Property is located at NE Corner of Old Troy Pike and Taylorsville Road (MJC 22-21).

- B. MAJOR CHANGE - The applicant, RUETSCHLE ARCHITECTS, requests a Major Change to the Combined Basic and Detailed Development Plan to construct an 11,623 SF career technology addition to the existing auditorium facility. Property is located at 5400 Chambersburg Road (MJC 22-27).

8. Additional Business

9. Approval of Minutes

- A. Planning Commission June 14, 2022

10. Reports and Calendar Review

- A. Detailed Development Plan - Medical Facility

11. Upcoming Meetings

- A. July 12, 2022
July 26, 2022

12. Adjournment

AI-8494

7. A.

Planning Commission

Meeting Date: 06/28/2022

Major Change

Information

Agenda Title

MAJOR CHANGE - The applicant, SKILKEN GOLD REAL ESTATE DEVELOPMENT, LLC, is requesting approval of a Major Change to the Basic Development Plan for a proposed 6,138 SF Convenience store with Fuel Canopy, a 1,648 SF Car Wash and Vacuum Stalls. Property is located at NE Corner of Old Troy Pike and Taylorsville Road (MJC 22-21).

Purpose and Background

Attachments

Staff Report

Decision Record

Site Plan

Sign Package

Traffic Impact Study

Fire Assessment

Memorandum

Staff Report for Meeting of June 28, 2022

To: Huber Heights City Planning Commission

From: Aaron K. Sorrell, Interim City Planner
Community Planning Insights

Date: June 22, 2022

Subject: Major Change to Basic Development Plan

Application dated June 3, 2022

Department of Planning and Zoning

City of Huber Heights

APPLICANT/OWNER: Skilken Gold Real Estate Dev. – Applicant
Broad Reach Retail Partners, LLC - Owners

DEVELOPMENT NAME: Broad Reach / Sheetz

ADDRESS/LOCATION: NE Corner of Old Troy Pike and Taylorsville Rd.

ZONING/ACREAGE: Planned Mixed Use (PM) / 2.82 Acres

EXISTING LAND USE: Vacant

ZONING
ADJACENT LAND: PM (North), R-6 (East), R-4 (South), PC (West)

REQUEST: The applicant requests a major change to the basic development plan to construct a 6,138 SF convenience store with fueling pumps and a 1,648 SF carwash.

ORIGINAL APPROVAL: The Broad Reach basic development plan and rezoning was approved by the Planning Commission on May 11, 2021, and subsequently approved by City Council on June 14, 2021.

APPLICABLE HHCC: Chapter 1171, 1179

CORRESPONDENCE: In Favor – None Received
In Opposition – None Received

STAFF ANALYSIS AND RECOMMENDATION:

Overview

The applicant requests to construct a 6,138 SF convenience store with fueling pumps and a 1,648 SF carwash. During the informal review with the Planning Commission there was significant discussion about the proposed use as compared to the uses illustrated on the adopted basic development plan. The Planning Commission expressed concerns about the perceived deviation from the originally illustrated uses and layout on the south side of the development, and members felt that the City Council should have an opportunity to review the new development proposal. It was recommended by the Planning Commission and agreed to by the applicant that they would request a major change to the basic development plan, which allows City Council the opportunity to review the proposal.

Background

On May 21, 2021, the Planning Commission approved (4-1) a rezoning to PM and basic development plan to facilitate the redevelopment of two parcels totaling 17.2 acres into a mixed use development which includes a variety of commercial, office, and retail uses, along with a 192 unit apartment community. The rezoning was, and continues to be, consistent with the Comprehensive Plan.

As part of the rezoning and basic development plan approval, the following conditions were memorialized in the rezoning ordinance:

1. The Basic Development Plan shall be the plans stamped received by the City of Huber Heights Planning Department on May 5, 2021, unless specifically modified below.
2. The allowable uses shall be those that are permitted within the PM – Planned Mixed Use District as described in Chapter 1179 of the City’s Zoning Code.
3. Prior to the issuance of a zoning permit, the applicant shall submit and receive approval of a Detailed Development Plan through the Planning Commission.
4. Prior to the issuance of a zoning permit, the applicant shall obtain approval of a final subdivision of the subject property for the purpose, but not the sole purpose, of establishing all necessary public easements on the subject property.
5. A drop express lane shall be installed along the frontage of Old Troy Pike at the development.
6. Old Troy Pike & Access 3 (across from Burger King) shall have a signalized intersection installed.
7. Taylorsville Road shall be widened on the north side to match the widening of the existing northbound turn lane at the intersection of Old Troy Pike and Taylorsville.

8. Access shall be provided directly from the multi-family area to Taylorsville Road.
9. Access easements shall be granted to the public for access from the businesses to the north to access the signalized intersection.

Transportation Improvements

As part of the rezoning and basic development plan approval, the developer is widening the north side of Taylorsville Road to add a lane and widening the east side of Old Troy Pike to Huber Road to add a lane. Additionally, a new traffic signal will be installed along Old Troy Pike to facilitate better site access and the existing Huntington Bank and Starbucks sites will have access to this signalized intersection. The site is being cleared and roadway improvements will begin shortly.

For the sites under consideration in this application, the interior drive network and access to Taylorsville Road and Old Troy Pike is unchanged from the approved rezoning and basic development plan.

The city is planning to carry the Old Troy Pike widening from former Huber Road to I-70.

Allowable Uses

For the sites in this application, the basic development plan presented at the May 14th Planning Commission meeting illustrated a proposed bank, medical facility, and future outparcel. The basic development plan simply outlines allowable uses, site access, internal circulation (drive-aisles) and illustrates possible individual site plan concepts.

During the meeting, planning staff indicated to the Planning Commission the three sites were illustrative only, and those uses may change during the detailed development plan process. When the Planning Commission approved the basic development plan, it set the range of allowable uses (those permitted in the PM district), transportation improvements, site access, and internal site circulation.

The applicant is now proposing a convenience store and fueling station on the western parcels and a car wash on the eastern parcel in place of the illustrated bank, medical building and future outparcel.

Chapter 1179.02 states: *"The uses outlined as permitted uses in the (PR) Planned Residential District, (PO) Planned Office District, (PP) Planned Public and Private Buildings and Grounds District, and (PC) Planned Commercial District are principal uses permitted in the (PM) Planned Mixed Use District except as prohibited in this chapter."*

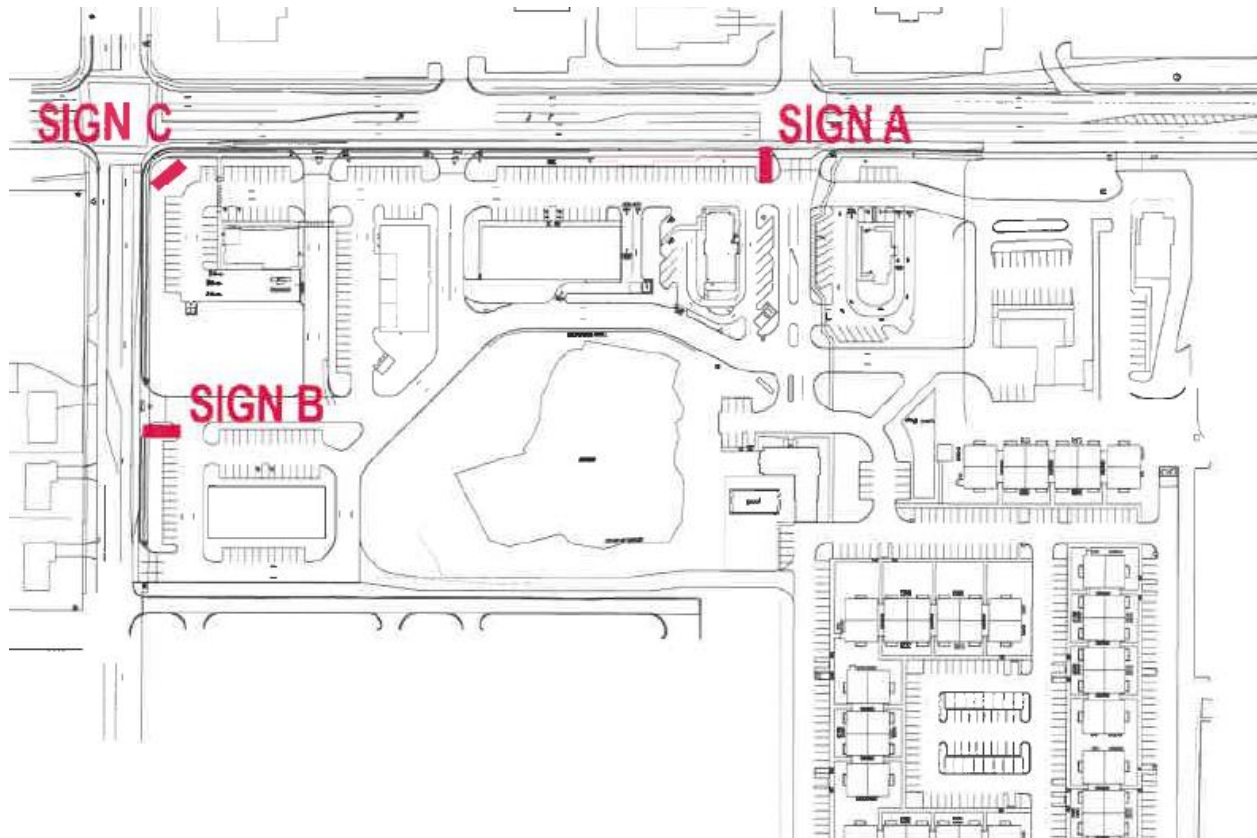
As such, the following related uses are permitted in PM district:

- Retail, office and commercial establishments
- Personal service commercial establishments
- Filling stations
- Service stations

The proposed uses are permitted within this adopted basic development plan.

Ground Signs

The approved basic development plan approved two multi-tenant ID signs, and one general ID sign adjacent to the public right of way. The approved locations are illustrated below. Sign “A” is 16’-8” and located at the main signalized intersection along Old Troy Pike. Sign “B” is 14’-2” and located along Taylorsville Road. Sign “C”, the smallest ID sign, is 5’ tall and located at the corner of Taylorsville Road and Old Troy Pike.





OLD TROY PIKE
(STATE ROUTE 202)

SHEETZ MONUMENT SIGN

BROADREACH SIGN C

20' UTIL. ESMT

21'

21'

12'

13'

10'

20'

20'

53.39'

35' TYP

64'

39.85'

70'

27' x 42'

TANK AREA

PROPOSED FUEL CANOPY

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Applicable Zoning Regulations

The significant applicable zoning chapters include: 1171 General Provisions, 1179 Planned Mixed Use District, and 1181 General Provisions. Since a basic development plan was previously approved, only the relevant sections to this application are discussed in detail below:

Chapter 1171 General Provisions

1171.06 General standards for approval.

The Planning Commission shall review the application, prepared development plan and the facts presented at the hearing. The applicant shall have the burden of proof. No approval shall be given unless the Commission shall find by a preponderance of the evidence that such PUD on the proposed locations:

- (a) Is consistent with official thoroughfare plan, comprehensive development plan and other applicable plans and policies;*
- (b) Could be substantially completed within the period of time specified in the schedule of development submitted by the developer;*
- (c) Is accessible from public roads that are adequate to carry the traffic that shall be imposed upon them by the proposed development. Further, the streets and driveways on the site of the proposed development shall be adequate to serve the residents or occupants of the proposed development;*
- (d) Shall not impose an undue burden on public services such as utilities, fire and police protection, and schools;*
- (e) Contains such proposed covenants, easements and other provisions relating to the proposed development standards as may reasonably be required for the public health, safety and welfare;*
- (f) Shall be landscaped or otherwise improved and the location and arrangement of structures, parking areas, walks, lighting and appurtenant facilities shall be compatible with the existing intended uses, and any part of a PUD not used for structures, parking and loading areas, or accessways;*
- (g) Shall preserve natural features such as water courses, trees and rock outcrops, to the degree possible, so that they can enhance the overall design of the PUD;*
- (h) Is designed to take advantage of the existing land contours in order to provide satisfactory road gradients and suitable building lots and to facilitate the provision of proposed services;*
- (i) Shall place underground all electric and telephone facilities, street light wiring and other wiring conduits and similar facilities in any development which is primarily designed for or occupied by dwellings, unless waived by the Commission because of technical reasons;*
- (j) Shall not create excessive additional requirements at public cost of public facilities and services and shall not be detrimental to the economic welfare of the community;*
- (k) Shall not involve uses, activities, processes, materials, equipment and conditions of operation that shall be detrimental to any persons, property or the general welfare by reason of excessive production of traffic, noise, smoke, fumes, glare or odors; and*

- (l) *Rezoning of the land to the PUD District and approval of the development plan shall not adversely affect the public peace, health, morals, safety or welfare.*

1171.11 Changes in the basic and detailed development plans.

A PUD shall be developed only according to the approved and recorded detailed development plan and supporting data together with all recorded amendments and shall be binding on the applicants, their successors, grantees and assigns and shall limit and control the use of premises (including the internal use of buildings and structures) and location of structures in the PUD as set forth therein.

- (a) *Major Changes. Changes which alter the concept, uses or intent of the PUD including increases in the number of units per acre, change in location or amount of nonresidential land uses, more than 15 percent modification in proportion of housing types, significant redesign of roadways, utilities or drainage, may be approved only by submission of a new basic plan and supporting data in accordance with Sections 1171.03, 1171.04 and 1171.05.*
- (b) *Minor Changes. The Zoning Officer recommends to the Planning Commission approval or disapproval of the minor changes in the PUD. Minor changes are defined as any change not defined as a major change.*

Conformance with Zoning Regulations

1179.02 Permitted uses.

The uses outlined as permitted uses in the (PR) Planned Residential District, (PO) Planned Office District, (PP) Planned Public and Private Buildings and Grounds District, and (PC) Planned Commercial District are principal uses permitted in the (PM) Planned Mixed Use District except as prohibited in this chapter.

The approved basic development plan permits the uses proposed by the applicant.

Development Standards Analysis:

1179.06 Development standards (Planned Mixed Use)

Except when specifically modified herein, the provisions of the Planning and Zoning Code shall govern. The following development standards apply to a PM development:

- (a) *Minimum Land Area Requirement. A minimum of 20 acres shall be required.*

The approved basic development plan contains 17.2 acres.

- (b) *Covenants. The developer of a PM development shall be required to submit a set of covenants or deed restrictions with the Basic Development Plan application that will outline, at a minimum, development standards and guidelines established in this chapter and any other requirements the developer and/or Planning Commission deems necessary. The Planning Commission may require additional or amended covenants as it deems necessary to ensure compliance with the Planning and Zoning Code and the Planned Mixed-Use District.*

Covenants will be submitted during the detailed development phase and with the PUD agreement.

- (c) *Required Mix of Land Uses. A developer shall be required to provide a mix of land uses in a PM Development. At a minimum, at least two of the following uses are required in a PM Development: residential, commercial, office, institutional, and/or industrial.*

The approved permitted uses include a mix of residential, office, retail and commercial uses.

- (d) *Site Planning.*

- (1) *The combination of different uses whether as part of one building or as part of the overall development shall be designed and developed so as not to create a nuisance by excessive noise, light, vibration, odor or any other annoyances for any uses within the development or neighboring properties.*

After the informal review with the Planning Commission, the applicant relocated the proposed vacuum stands from along Taylorsville Road to behind the car wash. The revised location will reduce the noise impacts to surrounding residents. Additionally, the more intense activities such as fueling pumps, and the main access to the convenience store, are located adjacent to Old Troy Pike, away from surrounding residential areas. The car wash is a single bay wash whose doors close during the washing procedure.

- (2) *A PM development is to be designed so that buildings and structures are clustered and open space areas are preserved and maintained. Special care shall be given to protect preexisting natural features including, but not limited to, woodlands, ravines, streams, lakes, ponds, and/or flood plains. Impervious surface coverage, including, but not limited to, buildings, parking area, and accessways, shall not exceed 75 percent of the total development area. Therefore, 25 percent of the development area shall be reserved for green space.*

The approved basic development plan requires a minimum of 25 percent green space. The proposal shall also meet this requirement, which will be evaluated at the Detailed Development Plan stage.

- (3) *The number of ingress and egress points onto the public streets shall be limited in order to reduce the number of traffic conflict points. Adequate and properly arranged facilities for internal pedestrian and traffic circulations shall be provided. The street and thoroughfare network shall be designed to minimize truck traffic through residential areas of the development.*

The proposed development maintains the previously approved site access points and internal circulation pathways.

- (4) *Parking systems shall be designed so as to discourage single large unbroken paved lots for off-street parking and shall encourage smaller defined parking areas within the total parking system. Underground parking facilities are encouraged.*

The applicant's proposal has two smaller parking areas, not one large parking area, consistent with other commercial sites within this development.

- (5) *The development shall be designed to tie all the uses into one overall community and encourage walking, biking, running, and alternative modes of transportation. Developers are encouraged to incorporate bus stops, bikeways, walkways, and crosswalks into an overall thematic scheme for pedestrian traffic. Sidewalks shall be required except, in the case of a golf course or specific open space development, the Planning Commission may determine them to be unnecessary.*

The proposed development maintains the previously approved transportation system, including sidewalks, site access points and internal circulation pathways.

- (6) *Any signs as proposed within this district, shall comply with Chapter 1189 "Signs". Additionally, a developer of a PM development shall develop and submit with the Detailed Development Plan application, a comprehensive set of graphic design criteria for signage in the development. This set of graphic design criteria for signage shall be approved by the Planning Commission and shall apply to all signage requests within the development. The criteria shall include, at a minimum, the sizes permitted (if different from Chapter 1189), colors permitted, materials permitted, typefaces permitted, type size permitted, and permitted illumination. Compliance with the on- site comprehensive graphics shall be verified by the Zoning Administrator during the sign permit review process.*

Ground Signs

The applicant proposes two 6'-10" ground-mounted gas price signs adjacent to the public right of way. The signs have been significantly redesigned from those illustrated during the informal review. Specifically, they have been reduced from 30' tall pylon signs to a more modest height of 6'-10" and are designed in complementary manner that reflects the design of those being constructed by the Broad Reach developer. The two-ground mounted gas price signs are the only substantial change being proposed to the approved basic development plan.

Building Signs

While not part of the basic development plan, the proposed canopy and wall signs are generally consistent with the sign code and similar to those approved within the Broad Reach development. The final sign package will be evaluated during the detailed development plan phase.

- (7) *Minimum lot area, frontage and setback requirements may be varied to allow greater flexibility in design. However, the following shall be used as a guideline for development:*
- A. *With multiple buildings on a single property, entirely residential buildings shall be at least 15 feet from another entirely residential building and at least 50 feet from nonresidential or mixed-use buildings.*

The proposal meets these standards

- (8) *No maximum height restriction shall apply, except that the proposed development meets all Federal Aviation Administration (FAA), Dayton International Airport or Wright Patterson Air Force Base height or abatement requirements.*

The proposal meets these standards

- (9) *Common parking areas and accessways shall be lighted adequately with light fixtures that shall be designed to reflect light away from adjoining properties. Special attention will be given to protect entirely residential structures from light emitted from nonresidential land uses.*

A lighting plan was submitted with the application and appears to meet the lighting standards in terms of height and light trespass. A final review will be completed during the detailed development plan phase.

- (10) *Nonresidential uses shall have trash containers and/or receptacles (including recycling containers) placed to the rear of all structures and shall be screened or enclosed on four sides with opening doors for the purpose of trash removal. The placement of trash containers and/or receptacles in multi-family residential developments shall be as inconspicuous as possible. The use of a wooden or vinyl fence structure, earth mound, or wall with an opaqueness of 100 percent and a height of 12 inches above the top of the largest container is required.*

The application illustrates enclosed dumpsters. A final review will be completed during the detailed development plan phase.

- (11) *The architecture of nonresidential structures is encouraged to be unique yet similar in certain sections of the PM.*

The applicant is proposing brick structures consistent with the non-residential material requirements and the basic development plan. A final review will be completed during the detailed development plan phase.

- (12) *The distribution systems for utilities are required to be underground.*

All utilities will be below ground.

- (13) *The use of privately owned open space and public dedicated park land is encouraged as part of a PM development. Privately owned open space shall be maintained by the developer or by a duly authorized owner's association.*

All open space will be privately maintained.

- (14) *The use of chain link fencing is prohibited. Additionally, on an entirely residential property, no fencing shall be permitted in the front yard, and, in the case of a corner lot, no fencing shall be permitted in the side yard with frontage to a public right-of-way. The covenants submitted by the developer shall establish the height requirements for fencing in the development. Fencing in a development shall be uniform in height in related use areas. On an entirely residential property, fence height shall not exceed six feet.*

No fencing is proposed in the application.

- (15) With the submission of a Basic Development Plan application, the applicant is required to submit a phasing plan that details when certain sections of the development will commence construction and when the sections will be complete.*

The proposed filling station will be constructed in one phase.

1179.07 Landscaping.

To protect and promote a harmonious development that ensures a functional and logical arrangement of mixed uses, the effective and efficient use of landscaping and buffering is required. Therefore, a PM development shall include the following landscaping and buffering:

- (a) Development Landscaping. Within the PM development that is proposed, entirely residential buildings shall be screened from nonresidential and mixed-use buildings with a 20 foot wide buffer strip that includes a six foot high earth mound, wooden or vinyl fence, wall, landscaping and/or mixture thereof that shall maintain an opacity of at least 80 percent year around. Parking areas, accessways, or any impervious surfaces are prohibited within this buffer strip. If planted materials are used, the screen must achieve the required height, width, and opacity within two years of planting. The use of pre-existing trees, natural features or amenities as part of this buffer is encouraged. The Planning Commission may approve some other arrangement of buffering if it determines that such an arrangement meets the intent of this requirement.*

N/A

- (b) Perimeter Landscaping. In a section of a PM development that contains nonresidential, mixed use, or multi-family buildings that abut a neighboring property with a single-family residential zoning designation or in a PM development section that contains an entirely residential section that abuts a neighboring property with a commercial, office, or multi-family zoning designation, the perimeter of the section of the PM development shall be screened with a 25 foot wide buffer strip that includes a six foot high earth mound, wooden or vinyl fence, wall, landscaping and/or mixture thereof that shall maintain an opacity of at least 80 percent year-round. Parking areas, accessways or an impervious surfaces are prohibited within this buffer strip. If planted materials are used, the screen must achieve the required height, width, and opacity within two years of planting. The use of pre-existing trees, natural features or amenities as part of this buffer is encouraged. The Planning Commission may approve some other arrangement of buffering if it determines that such an arrangement meets the intent of this requirement.*

N/A

- (c) Parking Lot Landscaping. All parking lots are required to have interior landscaped areas as outlined in Chapter 1185, "Parking and Loading".*

The landscaping plan submitted appears to meet these requirements. Staff will verify compliance during the detailed development phase.

- (d) Street Tree Requirement. All frontage property within a PM development that abuts public rights-of-way and is developed with nonresidential, mixed use, and/or multi-family buildings is required to have one street tree per 40 feet of frontage planted just outside of the street right-*

of-way. Unless determined to be inappropriate by the City Engineer, street trees shall be planted at least four feet from the edge of the sidewalk on private property. All frontage property within a PM development along a major collector or better as defined by the Huber Heights Thoroughfare Plan, no matter what use, shall meet this requirement. The type of tree and size shall be proposed by the developer at the Detailed Development Plan application stage and approved by the Planning Commission. A list of appropriate trees with required caliper is available in the City Engineer's Office.

Street trees are illustrated in a clustered manner. Further refinement may be necessary during the detailed development phase.

1179.08 Parking and loading.

The provisions of Chapter 1185, "Parking and Loading" shall apply, except that the off-street loading spaces and docks shall be provided with area, location and design appropriate to the needs of the development and specific uses within it, and the space designated for off-street loading shall not be used for off-street parking. Within the PM development, off-street loading areas shall be physically isolated and/or enclosed from residences in or adjacent to the PM Development. In all cases, off-street loading spaces and docks are prohibited in the front and side yards of any property.

As proposed, the code requires approximately 49 spaces and at least five stacking spaces. The initial site plan illustrates 45 parking spaces and room to stack 10 vehicles. The final parking requirements will be determined during the detailed development plan review and may change based on the floor area of the retail component of the convenience store.

1179.09 Planning commission/city council review.

All requirements within this chapter are to be used as guidelines and may be varied as part of the Basic or Detailed Development Plan approval if it is determined that such deviation will not adversely affect neighboring properties or the community as a whole. Additionally, any variation of these requirements shall, in no case, change the overall plan and character of the proposed development.

1181.24 Commercial building design standards.

- (a) *Applicability. The Commercial Building Design Standards shall apply to all newly constructed or reconstructed/remodeled nonresidential structures located in the O-1, B-1, B-2, and B-3 zoning districts.*
 - (1) *Exceptions. The requirements of this section shall not apply to:*
 - A. *Existing structures as of the adoption of this section shall be exempt from these commercial building design standards unless an exempted structure is expanded by ten percent or more of its original size.*
 - B. *Deviation from the design standards contained in this section may only be approved through the Planned Unit Development Approval Process.*
- (b) *Design Standards.*
 - (1) *Building materials.*

- A. *All exterior walls, including parking structures, garages, and accessory structures shall be 100 percent masonry materials.*
 - B. *Masonry coverage calculation does not include doors, windows, chimneys, dormers, window box-outs, bay windows that do not extend to the foundation, or any exterior wall that does not bear on the foundation.*
 - C. *Masonry Materials shall be defined as:*
 - 1. *Hard fired brick: Shall be kiln fired clay or slate material and can include concrete brick if it is to the same American Society for Testing and Materials (ASTM) standard for construction as typical hard fired clay brick. Unfired or under-fired clay, sand or shale brick shall be prohibited.*
 - 2. *Stone: Includes naturally occurring granite, marble, limestone, slate, river rock, and other similar hard and durable all-weather stone that is customarily used in exterior construction material. Cast or manufactured stone product may be approved, provided that such product yields a highly textured, stone-like appearance.*
 - 3. *Decorative concrete block: Shall be highly textured finish such as split-faced, indented, hammered, fluted, ribbed, or similar architectural finish. Coloration shall be integral to the masonry material and shall not be painted on.*
 - 4. *Concrete pre-cast or tilt wall panel: Shall be of an architectural finish that is equal to or exceeds the appearance and texture of face brick or stone. Coloration shall be integral to the masonry material and shall not be painted on.*
 - 5. *Stucco: An exterior plaster made from a mixture of cement, sand, lime and water spread over metal screening or chicken wire or lath.*
 - 6. *Exterior Insulated Finish System (EIFS): A synthetic stucco cladding system that typically consists of these main components:*
 - a. *Panels of expanded polystyrene foam insulation installed with adhesive or mechanically fastened to the substrate, usually plywood or oriented strand board;*
 - b. *A base coat over the foam insulation panels,*
 - c. *A glass fiber reinforcing mesh laid over the polystyrene insulation panels and fully imbedded in the base coat; and*
 - d. *A finishing coat over the base coat and the reinforcing mesh.*
 - 7. *Other: The Director of the Planning and Development Department, or his/her designee, may approve the use of other materials not specifically mentioned herein if it is determined that said materials exhibit comparable characteristics as those materials already approved herein.*
- (2) *Roofing design and materials.*
- A. *Asphalt shingles, industry approved synthetic shingles, standing seam metal or tile roofs are allowed.*
 - B. *Gable roofs, if provided, shall have a minimum pitch of 6/12.*

- C. *Pitch roofs, if provided, shall have a minimum pitch of 9/12.*
 - D. *Architectural elements that add visual interest to the roof, such as dormers and masonry chimneys, are encouraged.*
 - E. *Flat roofs shall require parapet screening in accordance with Section 1181.18.*
 - F. *Parapet shall require cornice detailing or similar design.*
- (3) *Prohibited Materials. The following materials shall be prohibited as primary cladding or roofing materials:*
- A. *Aluminum or vinyl siding or cladding.*
 - B. *Galvanized steel or other metal.*
 - C. *Wood or plastic siding.*
 - D. *Cementitious fiber board.*
 - E. *Unfinished concrete block.*
 - F. *Exposed aggregate.*
 - G. *Wood roof shingles.*
 - H. *Reflective glass.*
- (4) *Architectural design features.*
- A. *All nonresidential buildings shall be architecturally finished on all sides with the same materials and detailing (e.g. tiles, moldings, cornices, wainscoting, etc.)*
 - B. *Structures 20,000 square feet or less shall require a minimum of two distinct building materials from the approved masonry list be utilized on all facades to provide architectural detail and interest.*
 - C. *Structures over 20,000 square feet shall require a minimum of three distinct building materials from the approved masonry list be utilized on all facades to provide architectural detail and interest.*
 - D. *Secondary materials must cover a minimum of ten percent of the building façade on all sides.*
 - E. *No blank walls shall front along any public right-of-way.*
 - F. *All nonresidential buildings shall be designed to include no less than four of the architectural design features listed as follows. Buildings over 20,000 square feet must include a minimum of six of the architectural design features listed as follows.*
 - 1. *Canopies, awnings, arcades, covered walkways or porticos.*
 - 2. *Recesses, projections, columns, pilasters projecting from the planes, offsets, reveals or projecting ribs used to express architectural or structural bays.*
 - 3. *Varies roof heights for pitched, peaked, sloped or flat roof styles.*
 - 4. *Articulated cornice line.*
 - 5. *Arches.*
 - 6. *Display windows, faux windows or decorative windows.*

7. *Architectural details (such as tile work and molding) or accent materials integrated into the building facade.*
8. *Integrated planted or wing walls that incorporate landscaping and sitting areas or outdoor patios.*
9. *Integrated water features.*
10. *Other architectural features approved by the Planning and development Director or his/her designee.*

The submitted elevations indicate the buildings will be clad with a brick and stone exterior, consistent with the design standards. A formal review of the building design for compliance with this section will occur during the detailed development plan phase.

Staff Analysis

The applicant requests to construct a 6,138 SF convenience store with fueling pumps and a 1,648 SF carwash. On May 21, 2021, the Planning Commission approved (4-1) a rezoning to PM and a basic development plan to facilitate the redevelopment of two parcels totaling 17.2 acres into a mixed-use development including a variety of commercial, office, and retail uses, along with a 192 unit apartment community. The rezoning was, and continues to be, consistent with the Comprehensive Plan.

When the Planning Commission approved the basic development plan, it set the range of allowable uses (those permitted in the PM district), site access, and internal site circulation. The applicant is proposing a convenience store and fueling station on the western parcels and a car wash on the eastern parcel bisected by the interior street network. The proposed uses are permitted within the adopted basic development plan.

Additionally, the revised traffic study indicates there will be minimal changes in the level of service and delay by the proposed development compared to three previous lots originally studied. No additional roadway improvements are necessary beyond the roadway widenings currently underway. The internal circulation system proposed by the applicant remains unchanged from the approved basic development plan.

Since the informal review before the Planning Commission, the applicant has made two key revisions to the application. First, the carwash and vacuum stations were redesigned to reduce noise impacts to the surrounding properties. Secondly, two 30' tall pylon gas price signs were reduced to 6'-10" tall.

Since the approved basic development plan only permitted three signs adjacent to the right of way, the two proposed 6'-10" gas price ground signs require major change approval from the Planning Commission. Staff feels the two proposed gas price ground signs are modestly sized and highly complementary in design to the previously approved Broad Reach ID signs.

Additional Comments:

Fire: See Attached.

City Engineer: The City Engineer has expressed a concern about customers parking along the eastern edge of the building backing into the drive aisle, and a concern about drive-thru customers crossing a drive aisle after ordering and stacking at the pick-up window.

This site is not unique with parking along a drive aisle; most of the sites along Old Troy Pike are similarly situated. Regarding drive-thru customers crossing the drive aisle, the applicant has stated that drive-thru customers are approximately 10% of sales and the applicant does not anticipate congestion issues related to vehicle stacking.

Recommendation

The application for a major change was initiated at the request of the Planning Commission and their desire for City Council to review this development application.

Only the two proposed ground signs must be approved through the major change. Staff feels the major change requested by the applicant meets the standards outlined in Chapter 1171.06 for the following reasons:

- The proposed uses are consistent with the Comprehensive Plan;
- The proposed uses are currently permitted within the approved basic development plan;
- All site access locations and interior circulation remain unchanged;
- The replacement of the convenience store, fueling station and carwash will result in minimal changes in the level of service and delay along the thoroughfares compared to the three lots and uses originally studied; and,
- The two ground mounted gas price signs are modest in height and designed in a complementary manner to the previously approved development ID signs.

Staff recommends approval with the following conditions:

- All conditions approved by the Planning Commission on May 21, 2021, shall remain in effect;
- The two additional ground mounted gas price signs shall not exceed 6'-10";
- The applicant shall comply with all engineering, building and fire codes; and,
- The applicant shall update the basic development plan to reflect all conditions imposed by the planning commission.

Planning Commission Action

Planning Commission may take the following actions with a motion to:

- 1) Approve the basic development plan application, with or without conditions.
- 2) Deny the basic development plan.
- 3) Table the application in order to gather additional information.



Planning Commission Decision Record

WHEREAS, on June 3, 2022, the applicant, Skilken Gold Real Estate Development Architects, requested approval of a Major Change to the basic development plan to construct a 6,138 SF convenience store with fueling pumps and a 1,648 SF carwash at property located at the NE Corner of Old Troy Pike and Taylorsville Road further identified as Parcel Numbers P70 04005 0015 and P70 04005 0043 of the Montgomery County Auditor's Map (Case MJC 22-21), and;

WHEREAS, on June 28, 2022, the Planning Commission did meet and fully discuss the details of the request.

NOW, THEREFORE, BE IT RESOLVED that the Planning Commission hereby recommended approval of the request.

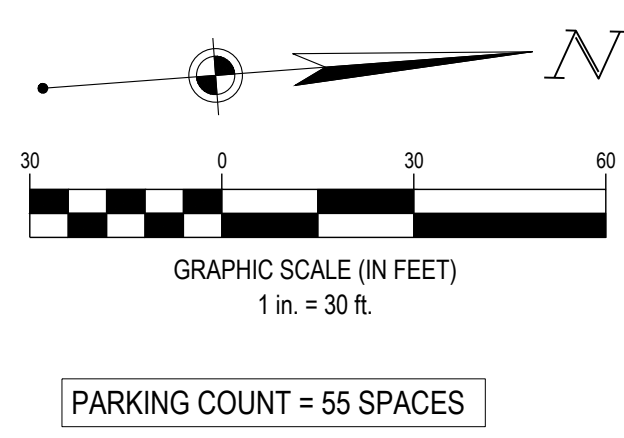
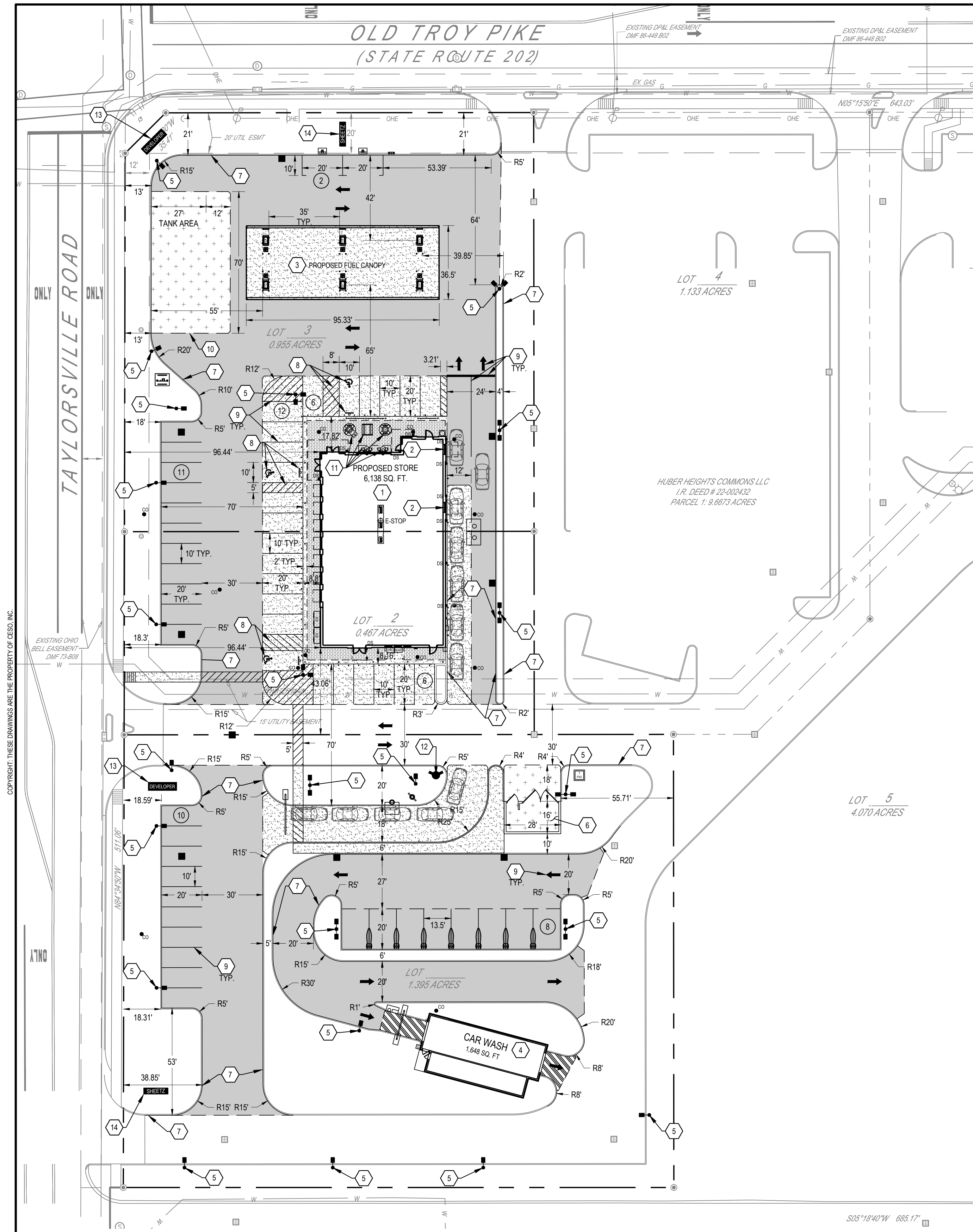
moved to approve the request by the applicant, Skilken Gold real estate Development Architects, for approval of a Major Change to the basic development plan to construct a 6,138 SF convenience store with fueling pumps and a 1,648 SF carwash at property located at the NE Corner of Old Troy Pike and Taylorsville Road (Case MJC 22-21), in accordance with the recommendation of Staff's Memorandum dated June 22, 2022, with the following conditions:

1. All conditions approved by the Planning commission on May 21, 2021, shall remain in effect;
2. The two additional ground mounted gas price signs shall not exceed 6'-10";
3. The applicant shall comply with all engineering, building and fire codes; and,
4. The applicant shall update the basic development plan to reflect all conditions imposed by the Planning Commission.

Seconded by _____. Roll call showed: YEAS: NAYS: Motion to recommend approval carried _____

Terry Walton, Chair
Planning Commission

Date



CODING NOTES:

- 1. PROPOSED 6,138 SF STORE. REFER TO ARCHITECTURAL PLANS.
- 2. PROPOSED DRIVE-THRU WINDOW.
- 3. PROPOSED SIX (6) DISPENSER FUEL CANOPY. REFER TO ARCHITECTURAL PLANS.
- 4. PROPOSED 1,648 SF CAR WASH BUILDING. REFER TO ARCHITECTURAL PLANS.
- 5. PROPOSED LIGHT POLE. SEE DETAIL ON SHEET C7.1.
- 6. PROPOSED DUMPSTER ENCLOSURE AND PAD. SEE DETAIL ON SHEET C6.1.
- 7. PROPOSED 6" CONCRETE CURB. SEE DETAIL ON SHEET C6.2.
- 8. CONTRACTOR TO CONSTRUCT ADA PARKING SPACE PER DETAIL ON SHEET C6.2 AND ACCORDING TO ALL LOCAL, STATE AND FEDERAL REGULATIONS.
- 9. PROPOSED PAVEMENT MARKINGS.
- 10. PROPOSED UNDERGROUND FUEL TANK PAD.
- 11. PROPOSED PATIO SEATING. REFER TO ARCHITECTURAL PLANS.
- 12. FIRE HYDRANT BY DEVELOPER.
- 13. MONUMENT SIGN BY DEVELOPER.
- 14. PROPOSED SHEETZ MONUMENT SIGN.

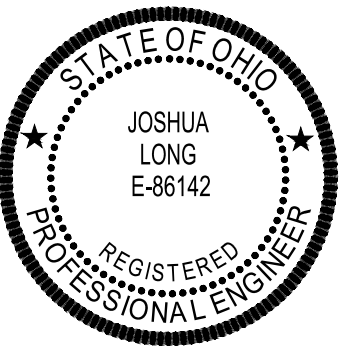
SITE LEGEND

- EXISTING**
- REFER TO C1.1 FOR EXISTING FEATURES LEGEND
- PROPOSED**
- PROPOSED BRICK PAVERS (REFER TO ARCHITECTURAL PLANS)
 - PROPOSED STANDARD-DUTY ASPHALT PAVEMENT (SEE DETAIL ON SHEET C6.0)
 - PROPOSED REINFORCED STANDARD-DUTY CONCRETE PAVEMENT (SEE DETAIL ON SHEET C6.0)
 - PROPOSED INSULATED REINFORCED STANDARD-DUTY CONCRETE PAVEMENT (SEE DETAIL ON SHEET C6.0)
 - PROPOSED REINFORCED HEAVY-DUTY CONCRETE PAVEMENT (SEE DETAIL ON SHEET C6.0)
 - BUILDING
 - CONCRETE CURB
 - EDGE OF PAVEMENT / WALK
 - PAVEMENT TRANSITION
 - PARKING SPACE COUNT
 - SIGN
 - STOREFRONT BUMPER POST, SEE DETAIL ON SHEET C6.0
 - 6" BOLLARD, SEE DETAIL ON SHEET C6.0
 - AIR MACHINE, SEE DETAIL ON SHEET C6.0
 - UNDERGROUND FUEL TANK VENT PAD, SEE DETAIL ON SHEET C6.0
 - VACUUM, SEE DETAIL ON SHEET C6.1
 - GREASE TANK, REFER TO PLUMBING PLANS
 - PROPANE LOCKERS, SEE DETAIL ON SHEET C6.1
 - ICE MERCHANDISER
 - DRIVE-THRU CLEARANCE BAR, REFER TO ARCHITECTURAL PLANS
 - DRIVE-THRU SPEAKER & MENU BOARD, REFER TO ARCHITECTURAL PLANS
 - FUEL E-STOP (ALL DISPENSERS FALL WITHIN A 100' RADIUS OF THE E-STOP), SEE DETAIL ON SHEET C6.1



WWW.CESOINC.COM

NO.	DATE	REVISION DESCRIPTION
1	04/29/2022	MAJOR SITE PLAN - 1ST SUBMITTAL
2	06/03/2022	MAJOR SITE PLAN - 2ND SUBMITTAL



Joshua Long

SKILKEN | GOLD
REAL ESTATE DEVELOPMENT

SHEETZ

OLD TROY PIKE & TAYLORSVILLE ROAD
HUBER HEIGHTS, OHIO

SITE PLAN

ISSUE:	OWNER REVIEW
DATE:	04.29.2022
JOB NO.:	760396
DESIGN:	MST
DRAWN:	MST
CHECKED:	BJH
SHEET NO.	C2.0



OHIO
Utilities Protection
SERVICE
811 or
1-800-362-2764
Call Before You Dig

FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: OHIO UTILITIES PROTECTION SERVICE AT 811 OR 1 (800) 362-2764, AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF OHIO UTILITIES PROTECTION SERVICE

HUBER HEIGHTS

5700 SIXTH AVE.
ALTOONA, PA 16602

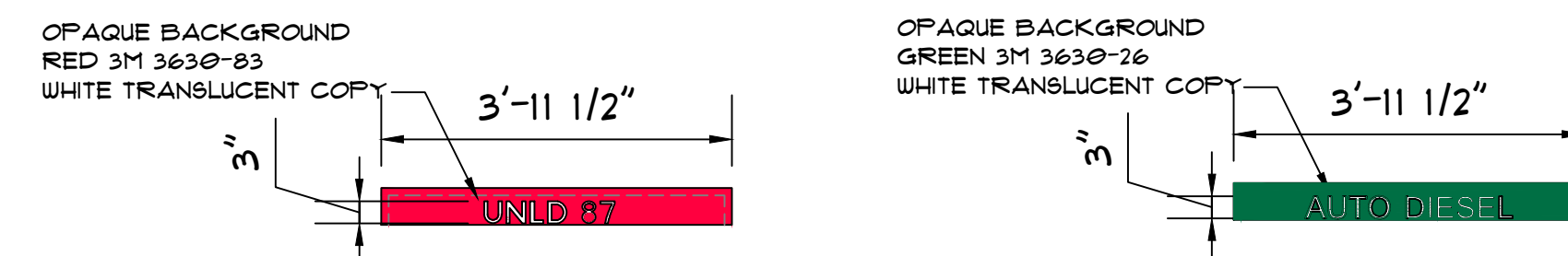
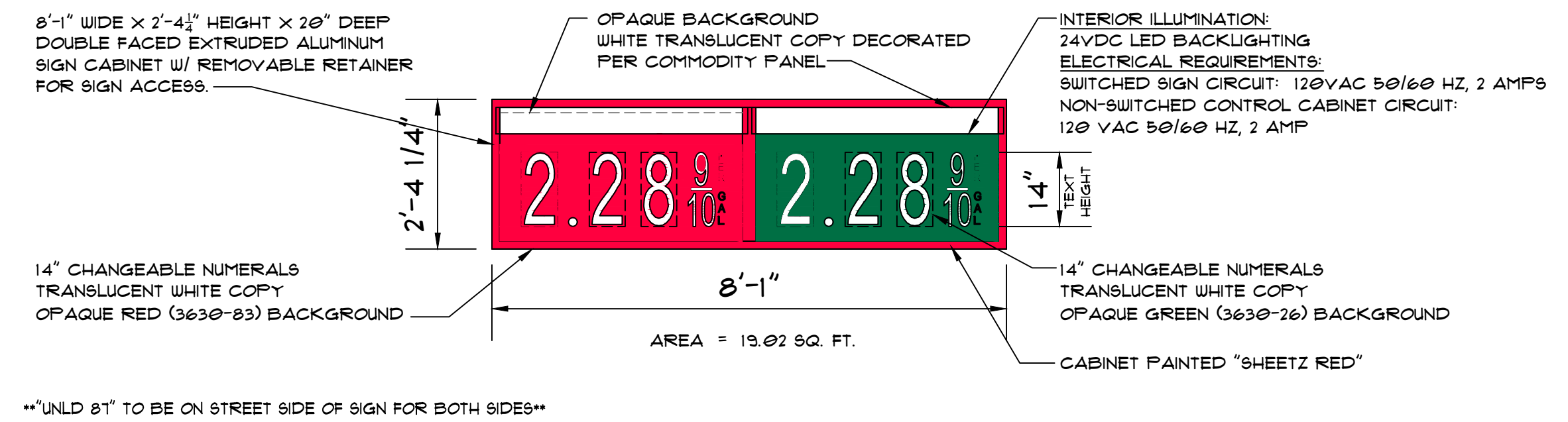
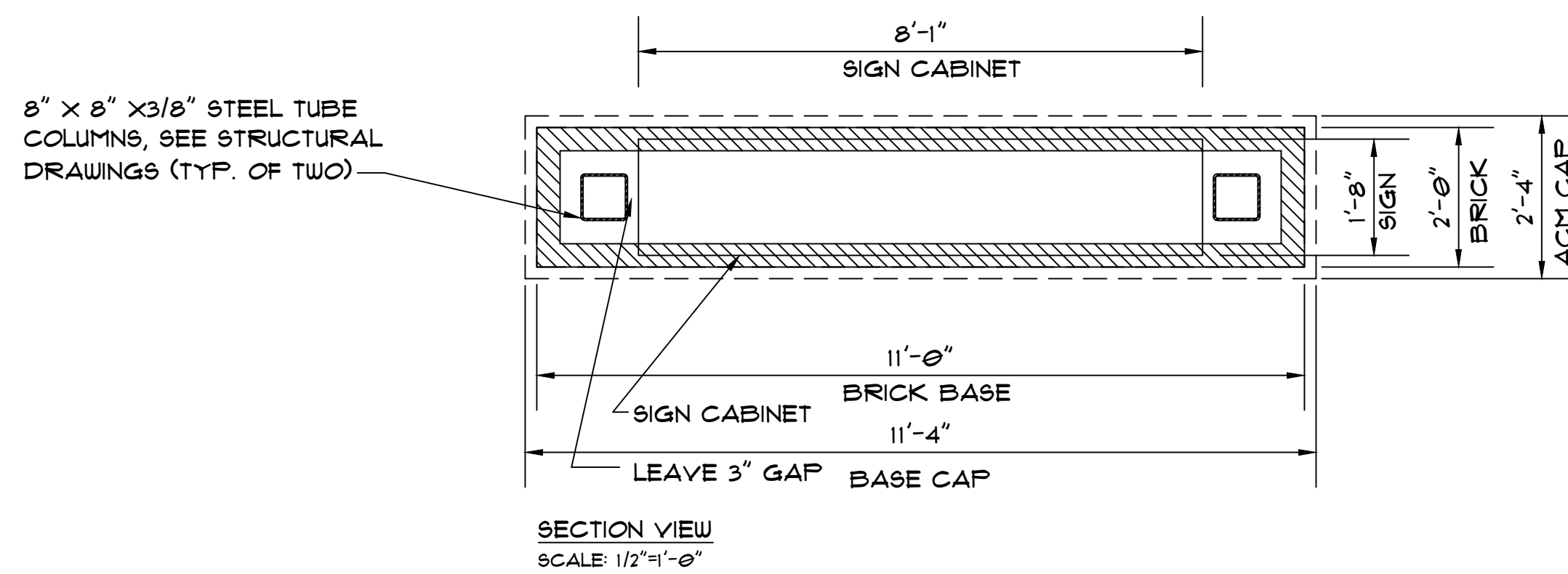
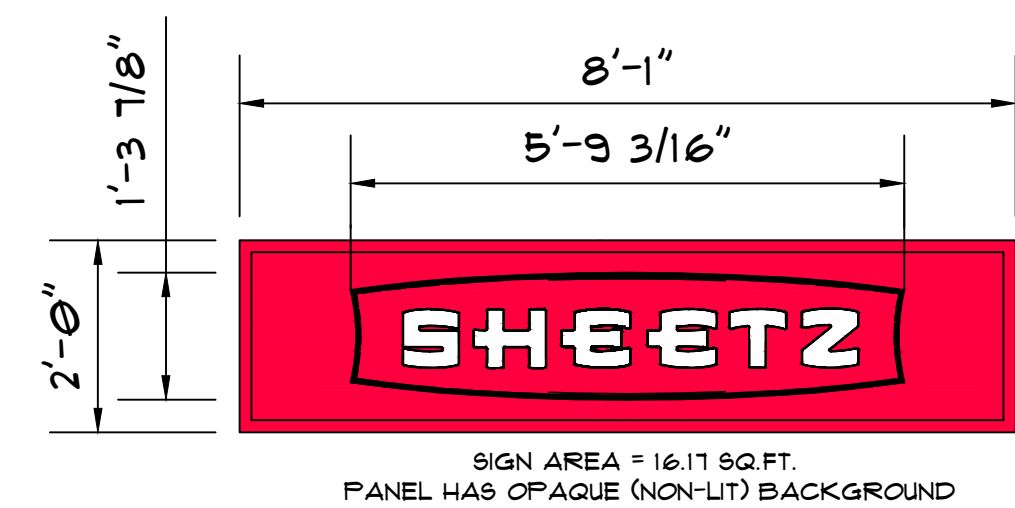
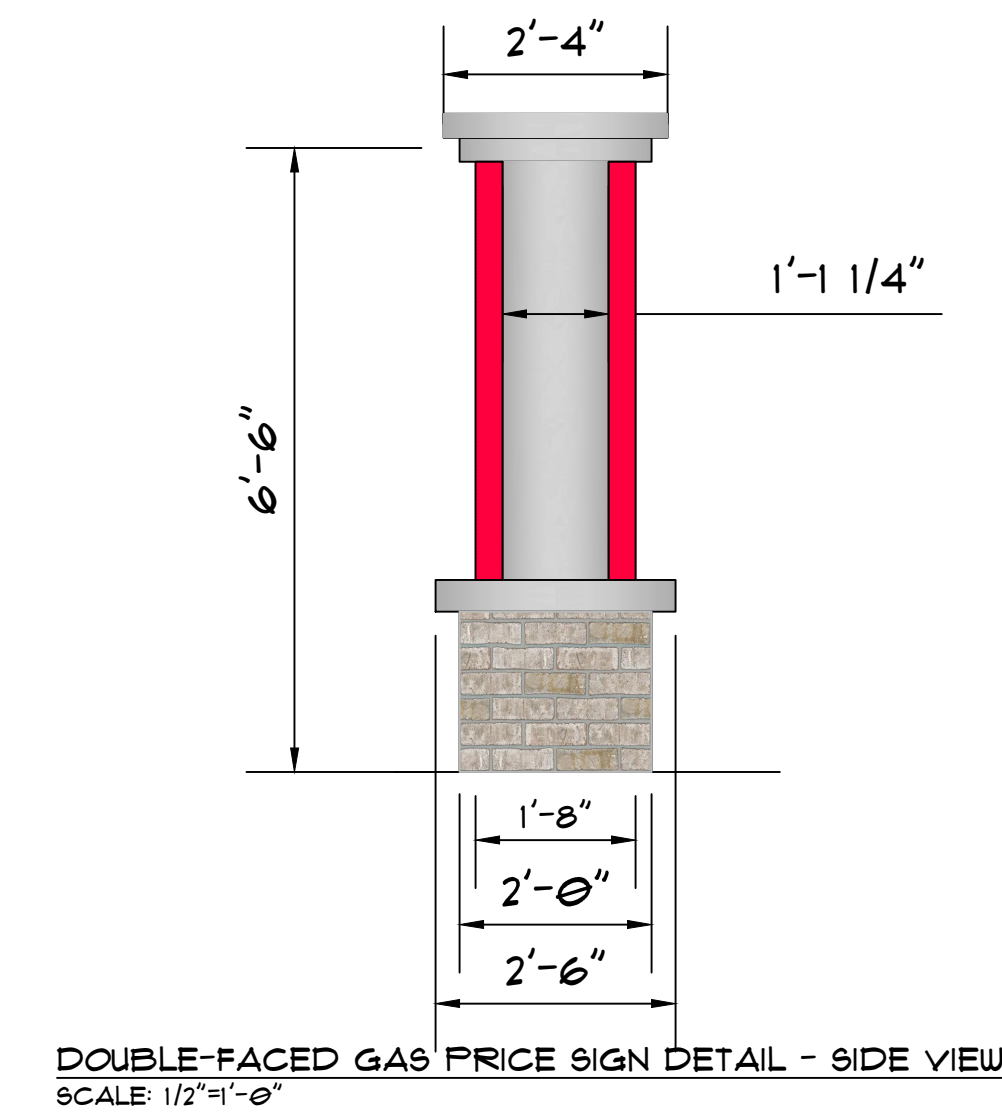
PROFESSIONAL

KEYPLAN

[illegible]

MONUMENT SIGN DETAILS

SIGN



PROJECT NAME:
NEW SHEETZ SITE
HUBER HEIGHTS

Int. of Old Troy Pike, State Route 202
and Taylorsville Road
Huber Heights
Ohio

OWNER:
SHEETZ, INC.

5700 SIXTH AVE.
ALTOONA, PA 16602

CONSULTANT

PROFESSIONAL

KEYPLAN

ISSUE: **04-27-22**

PROJECT NO:

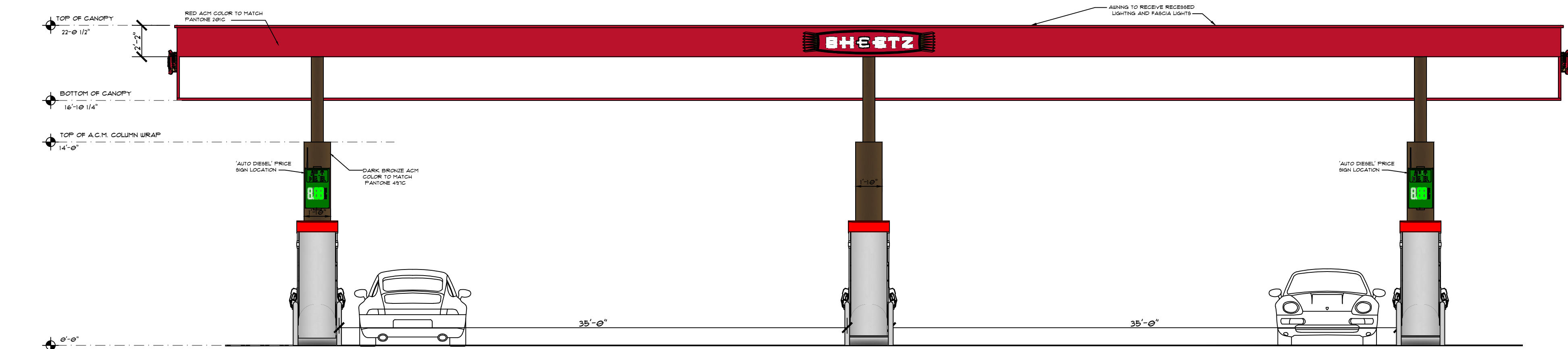
AUTHOR BY: NMI

REVIEW BY:

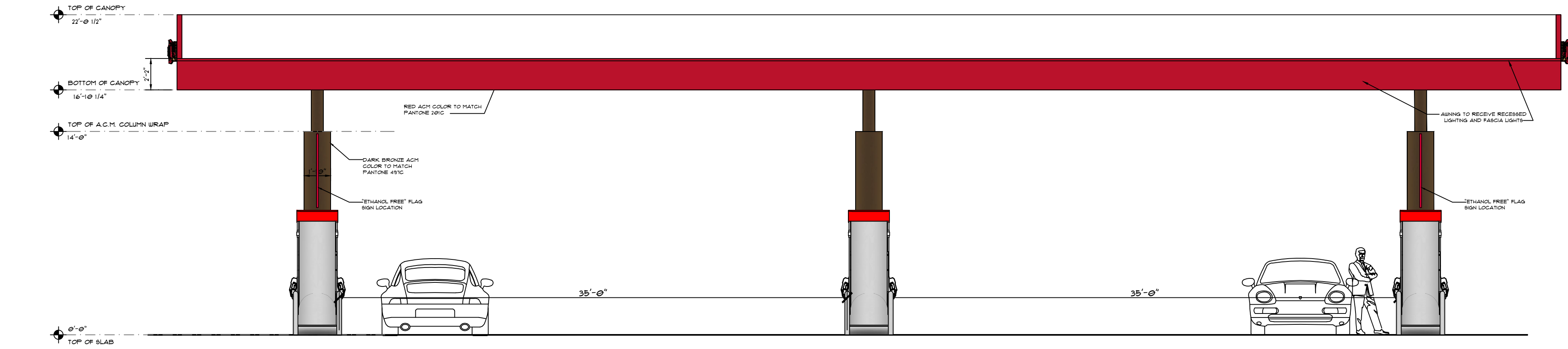
SHEET TITLE

GAS AWNING
DETAILS

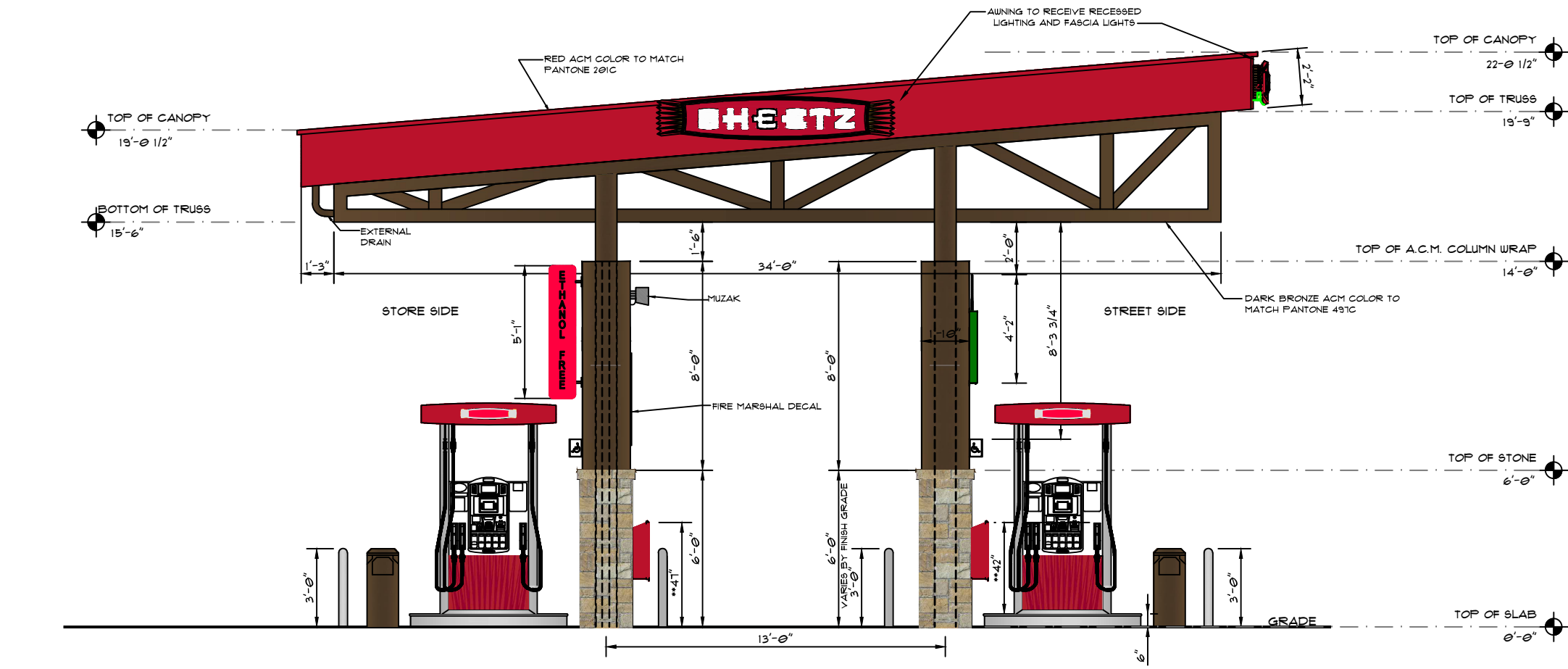
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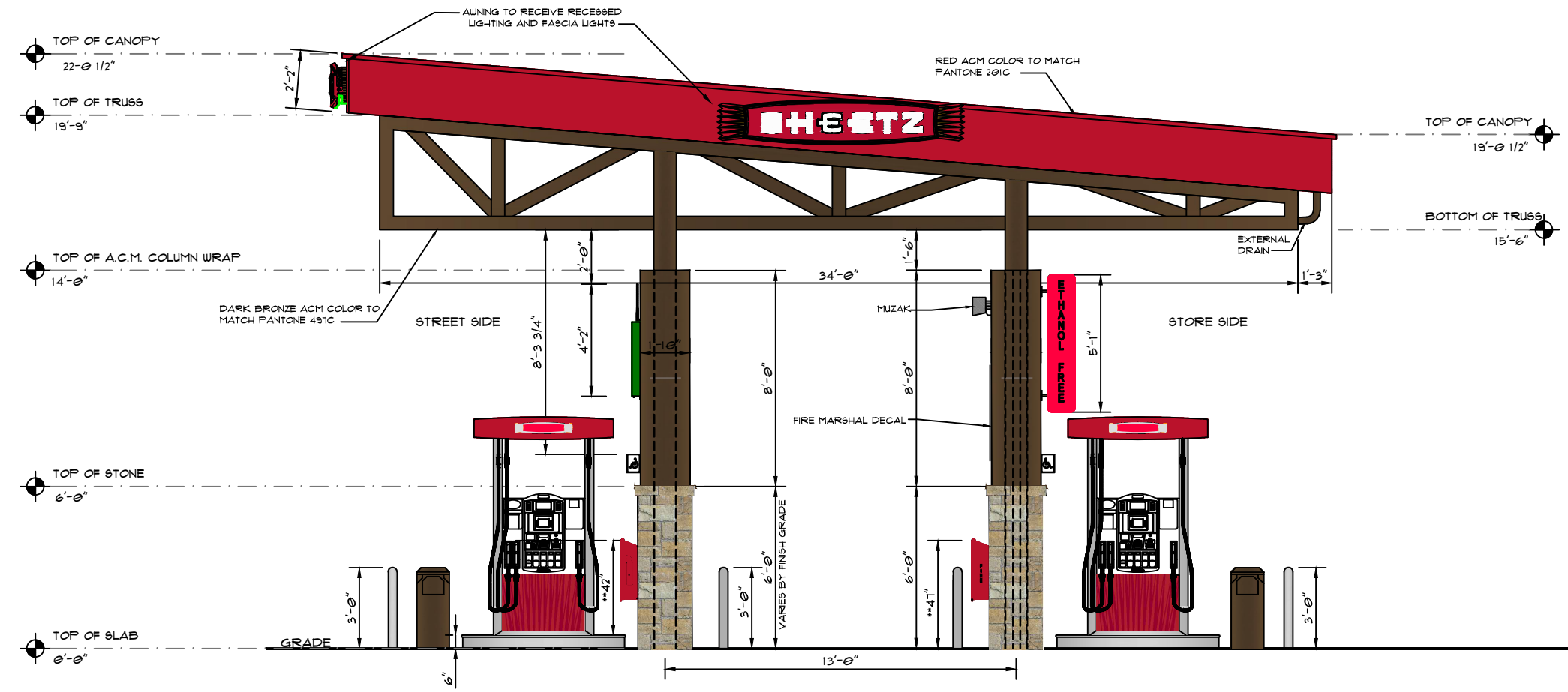
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SCALE: 3/16" = 1'-0"



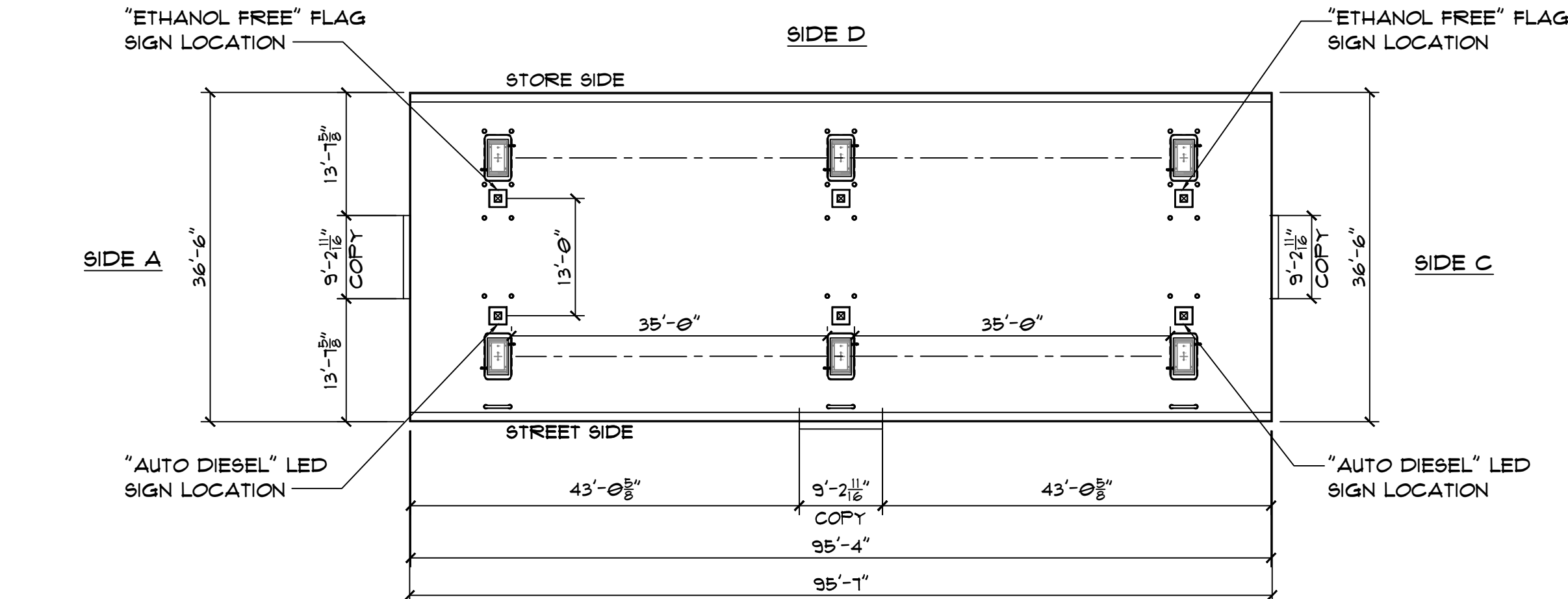
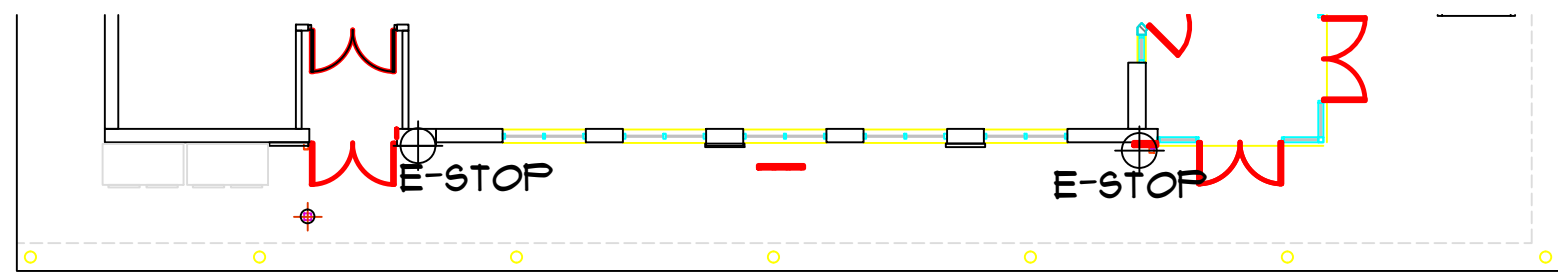
SIDE 'D' STORE SIDE ELEVATION
SCALE: 3/16" = 1'-0"



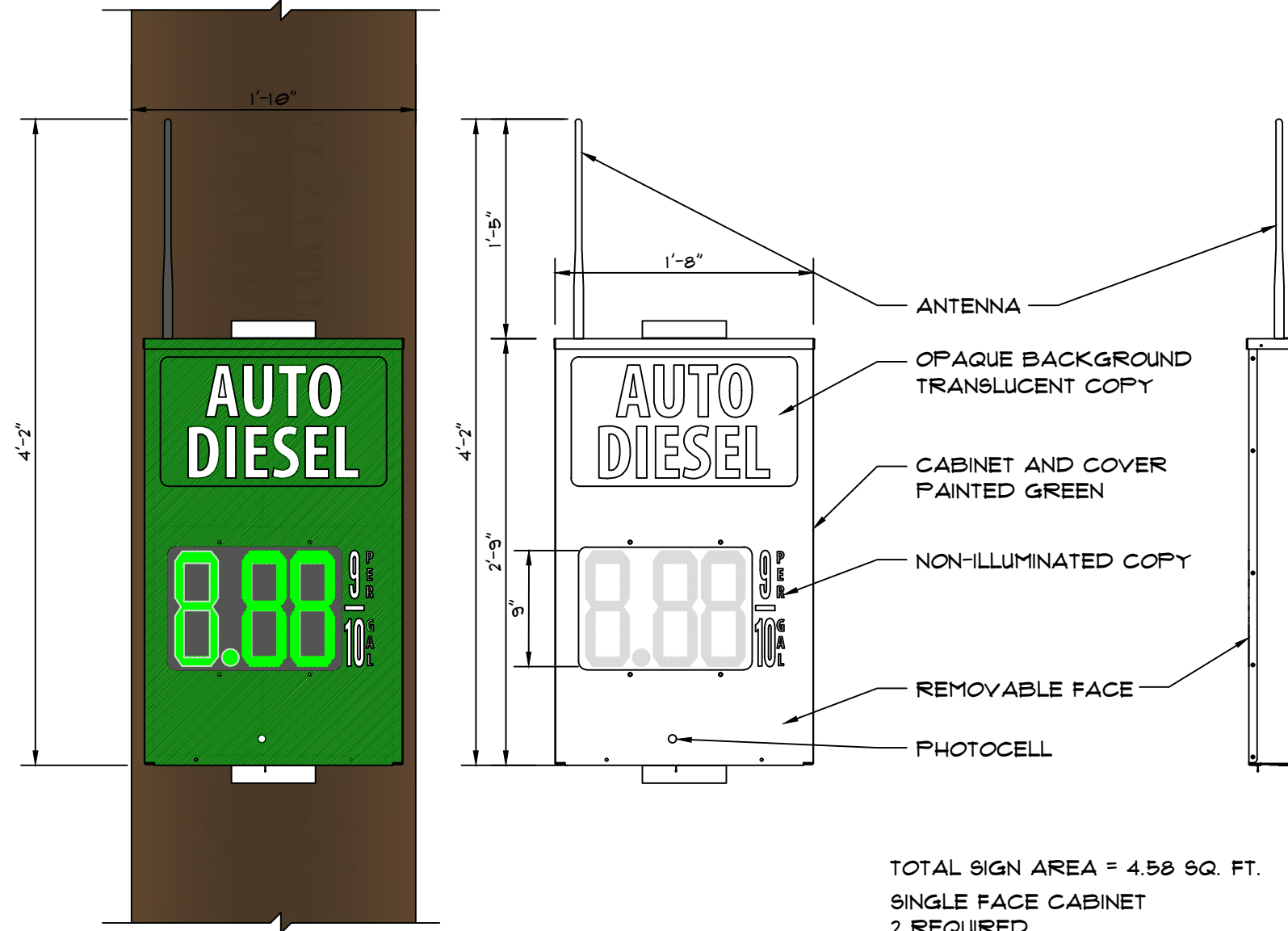
SIDE 'A' LEFT SIDE ELEVATION
SCALE: 3/16" = 1'-0"



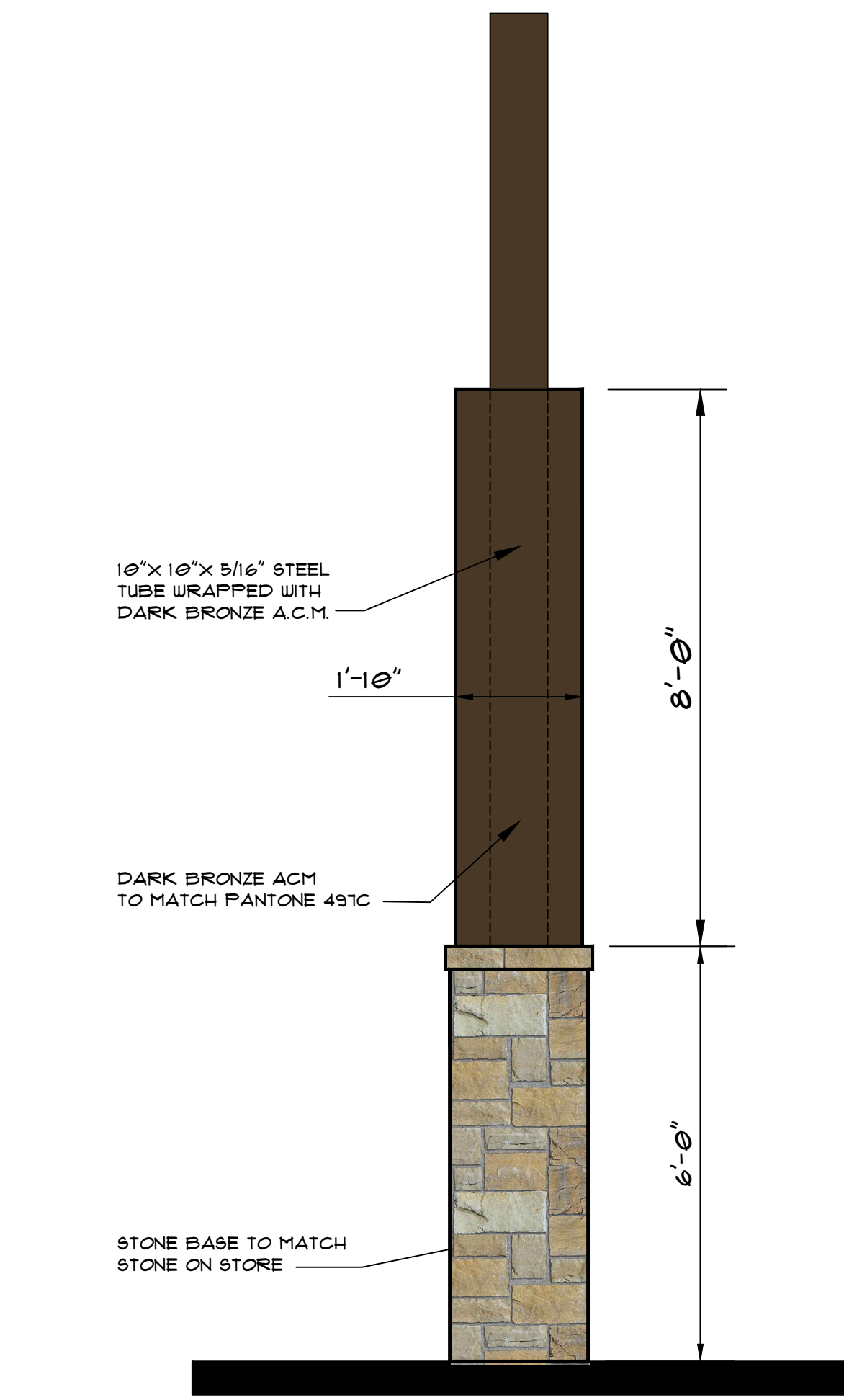
SIDE 'C' RIGHT SIDE ELEVATION
SCALE: 3/16" = 1'-0"



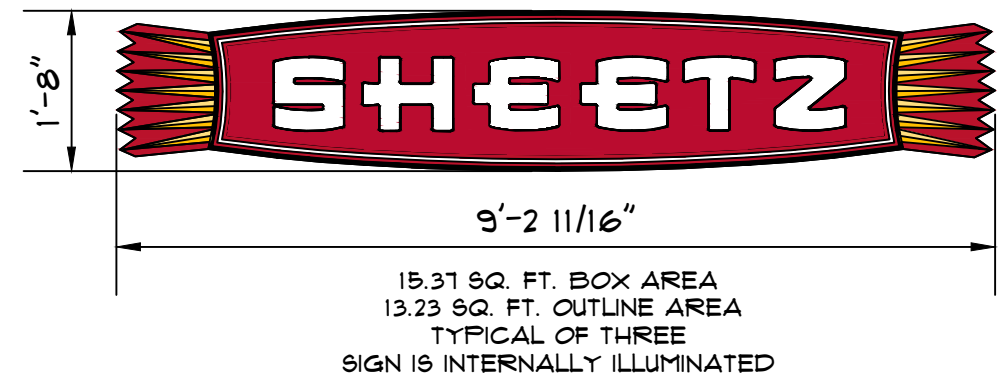
PLAN VIEW FOR LOGO LOCATIONS



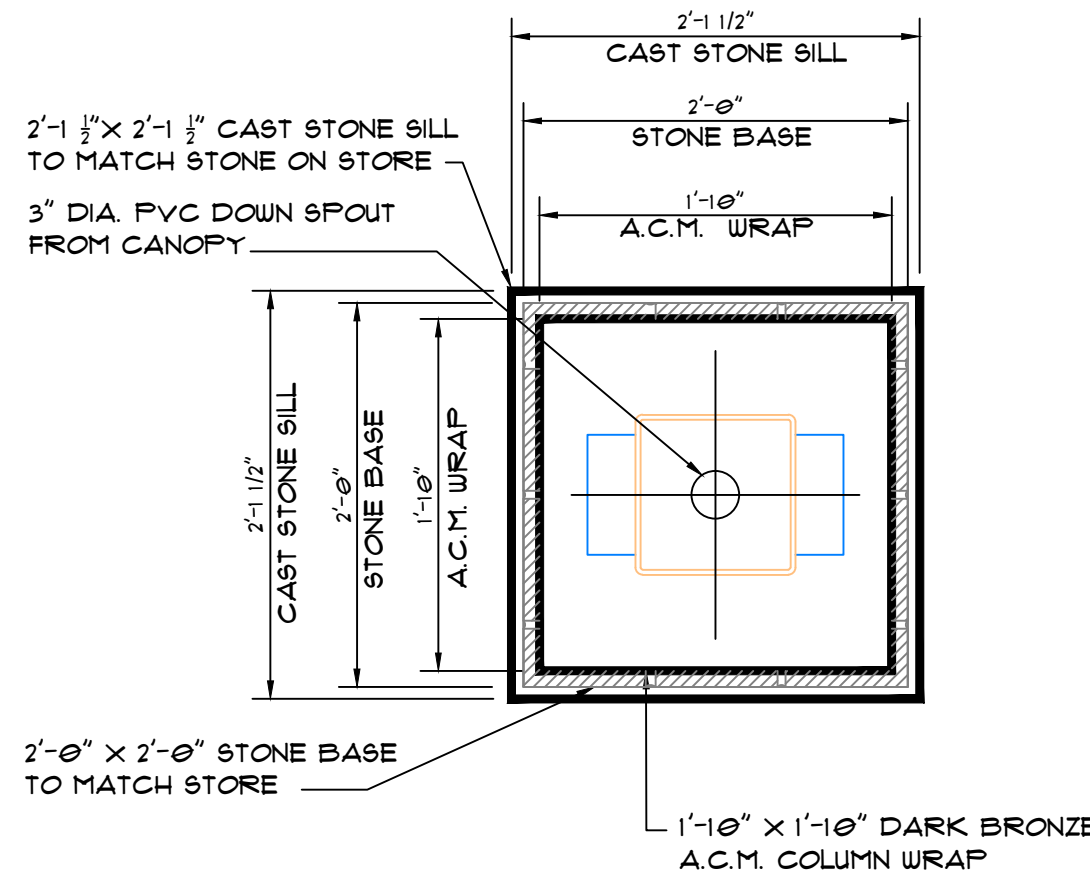
"AUTO DIESEL" LED SIGN ELEVATION AND DETAIL
SCALE: 1/4" = 1'-0"



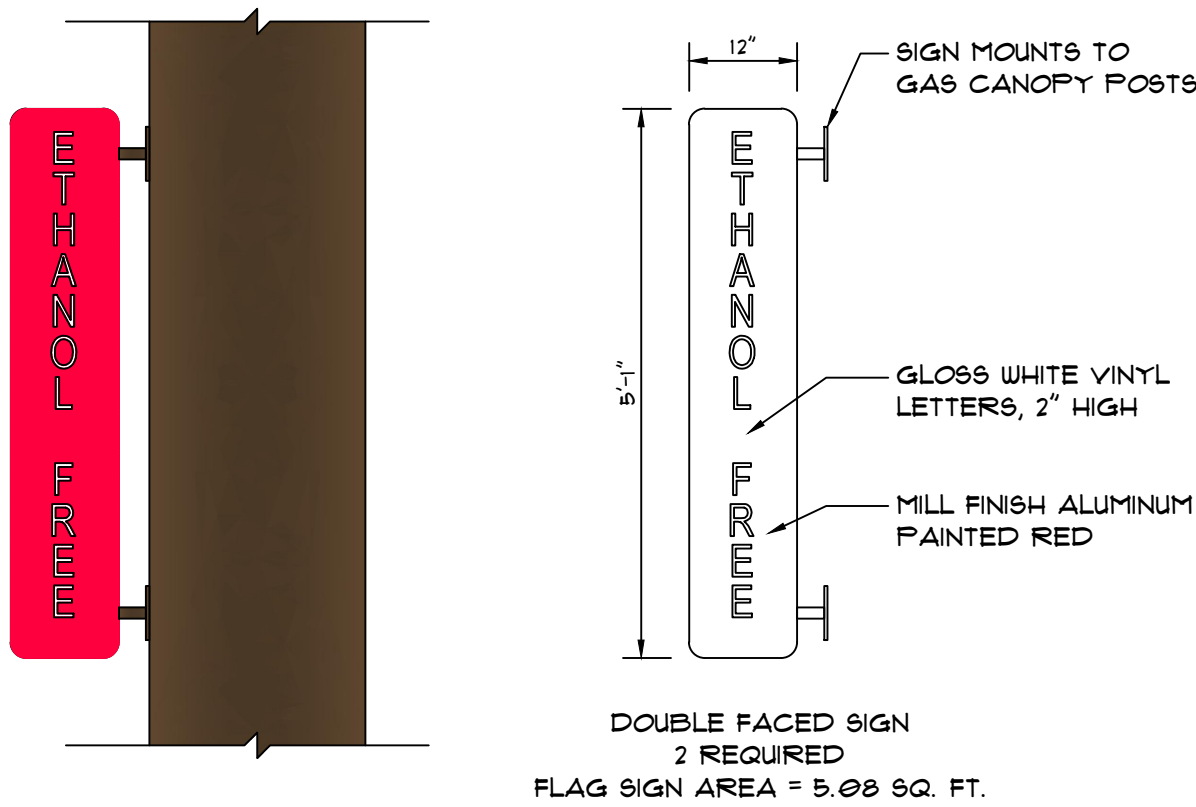
COLUMN ELEVATION
SCALE: 1/2" = 1'-0"



CANOPY MOUNTED SHEETZ SIGN DETAIL
SCALE: 1/2" = 1'-0"



STONE COLUMN BASE DETAIL
SCALE: 1/4" = 1'-0"



"ETHANOL FREE" FLAG SIGN ELEVATION AND DETAIL
SCALE: 1/4" = 1'-0"

OWNER:
SHEETZ, INC.

5700 SIXTH AVE.
ALTOONA, PA 16602

PROFESSIONAL

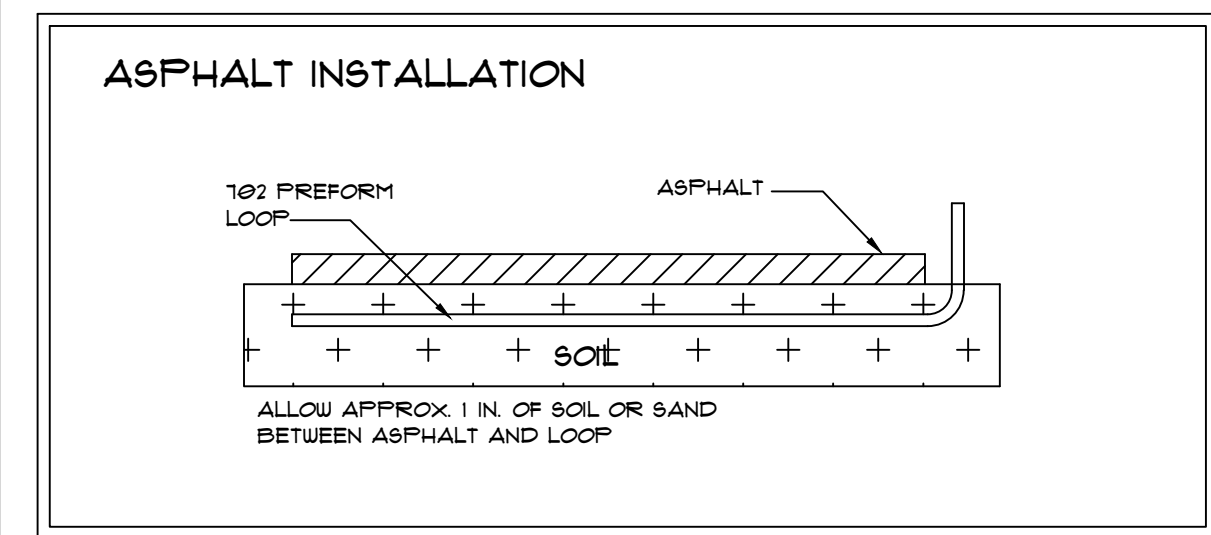
KEYPLAN

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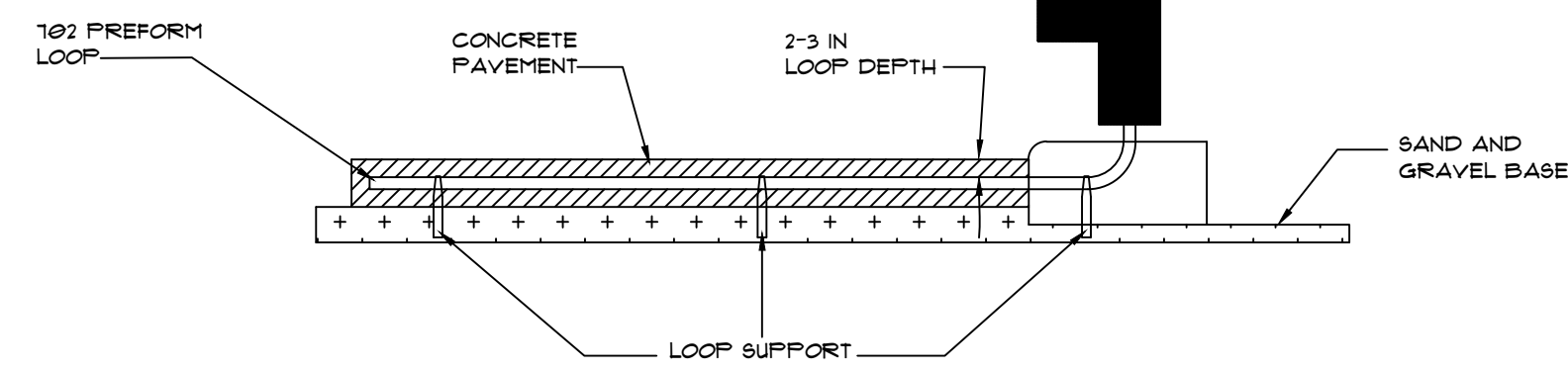
ISSUE:	04-27-22
PROJECT NO:	
AUTHOR BY:	NMI
REVIEW BY:	
SHEET TITLE	

DRIVE THRU SIGN DETAILS

DT-1



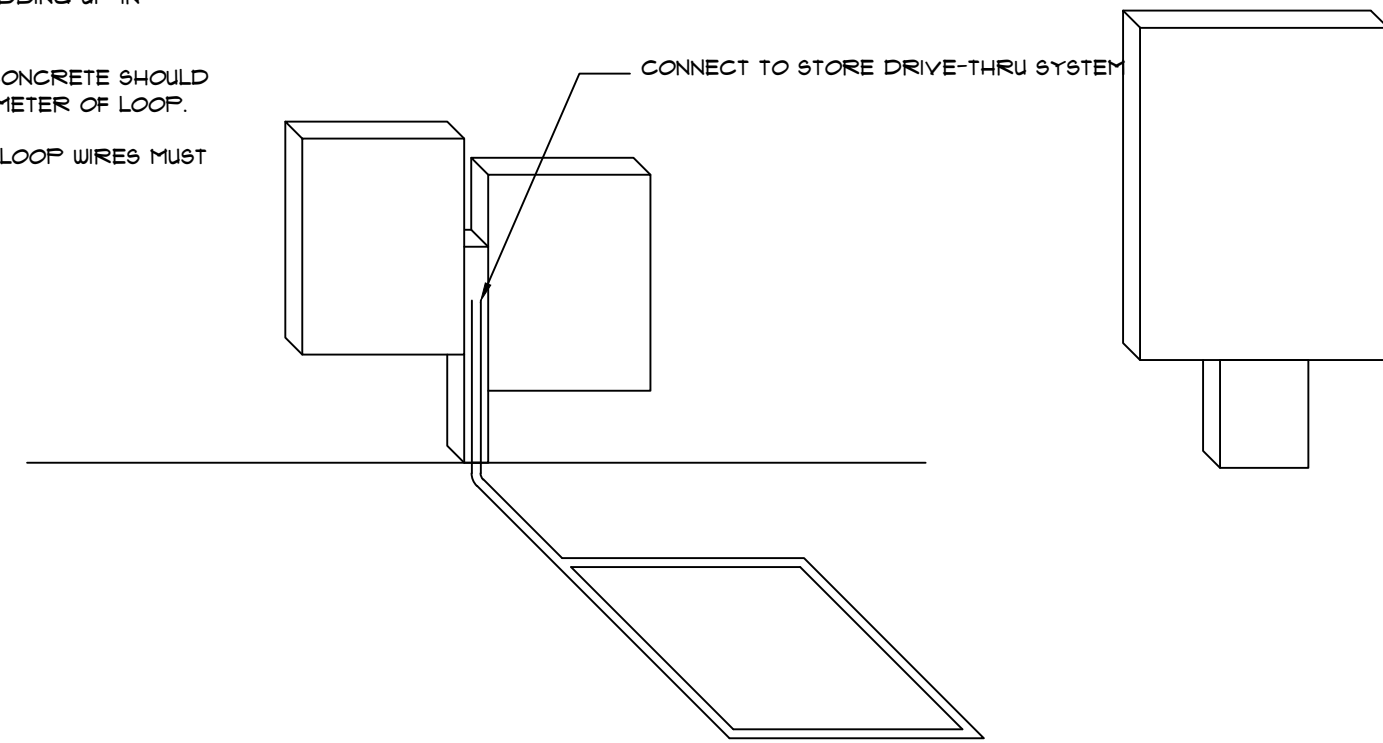
1. POSITION PREFORM LOOP APPROXIMATELY 1'-3" FROM CURB, ORIGINATED IN FRONT OF THE MENISCUS BOARD OR S/PEAKER POST.
2. LOOP SHOULD BE INSTALLED 2" - 3" BELOW THE SURFACE OF THE PAVEMENT. (8" MAX. DEPTH)
3. IF INSTALLED IN ASPHALT, COVER LOOP WITH 1" MIN. SOIL OR SAND TO PROTECT FROM HOT ASPHALT.
4. CONNECT LOOP TO 1/2" CONDUIT STUBBING UP IN MENISCUS BOARD/S/PEAKER POST.
5. WIRE NEAR OR REINFORCEMENT IN CONCRETE SHOULD BE CUT AWAY IN MIN. OF 6" FROM PERIMETER OF LOOP.
6. ALL CONNECTIONS AND SPICES TO LOOP WIRES MUST BE SOLDERED.



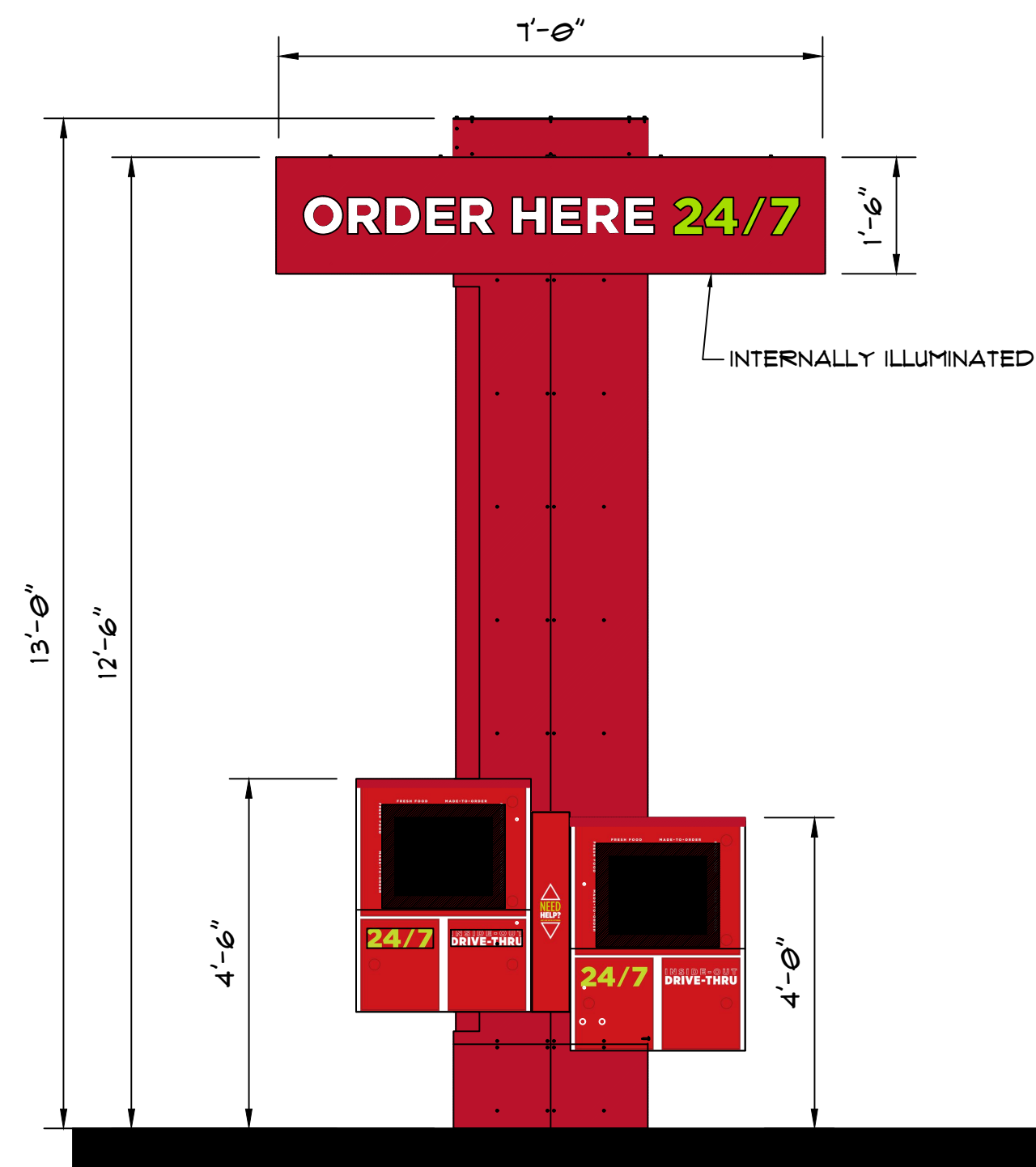
SIDE VIEW INSTALLED

CONCRETE INSTALLATION

NO SCALE



MENUBOARD W/ SPEAKER POST INSTALLATION
NO SCALE

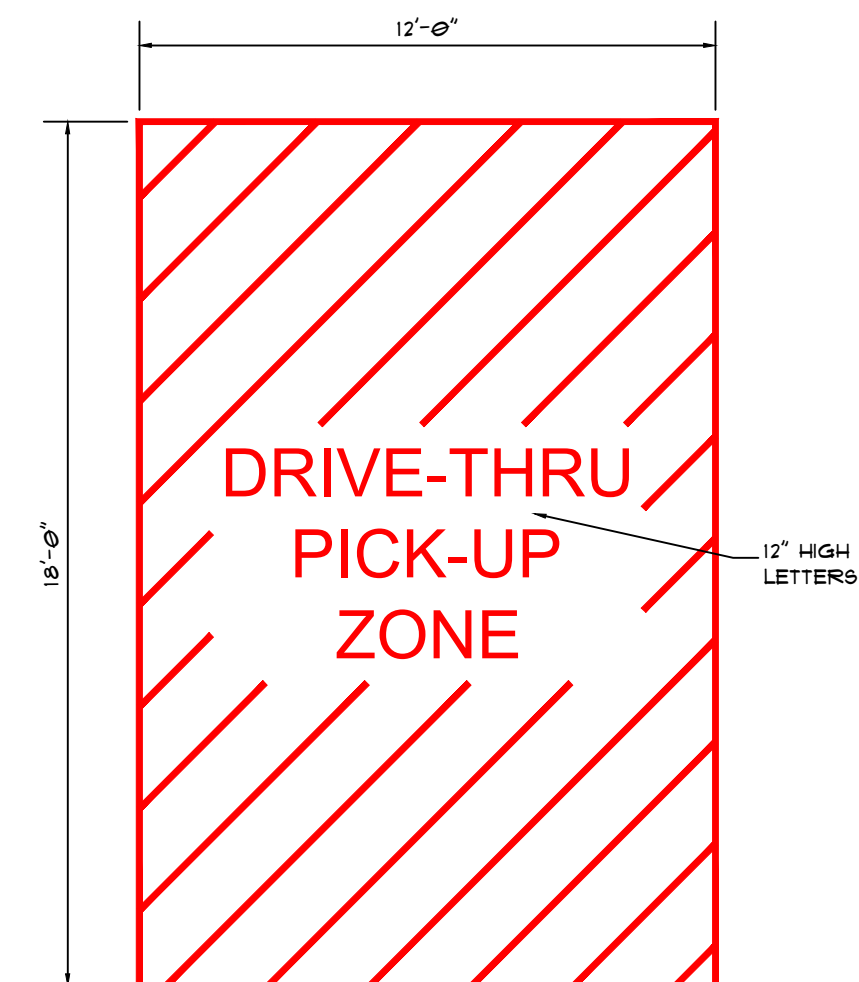


FRONT ELEVATION

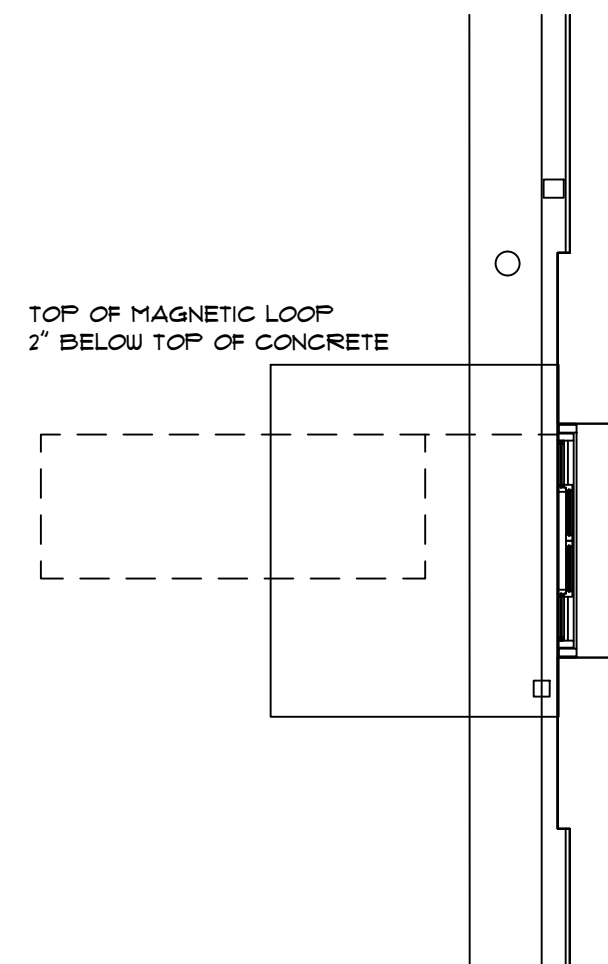
ORDER HERE 24/7 SIGN AREA = 2.99 SQ. FT.

24/7 ORDER POINT SIGN AREA = .41 X 2 = .82 SQ. FT.

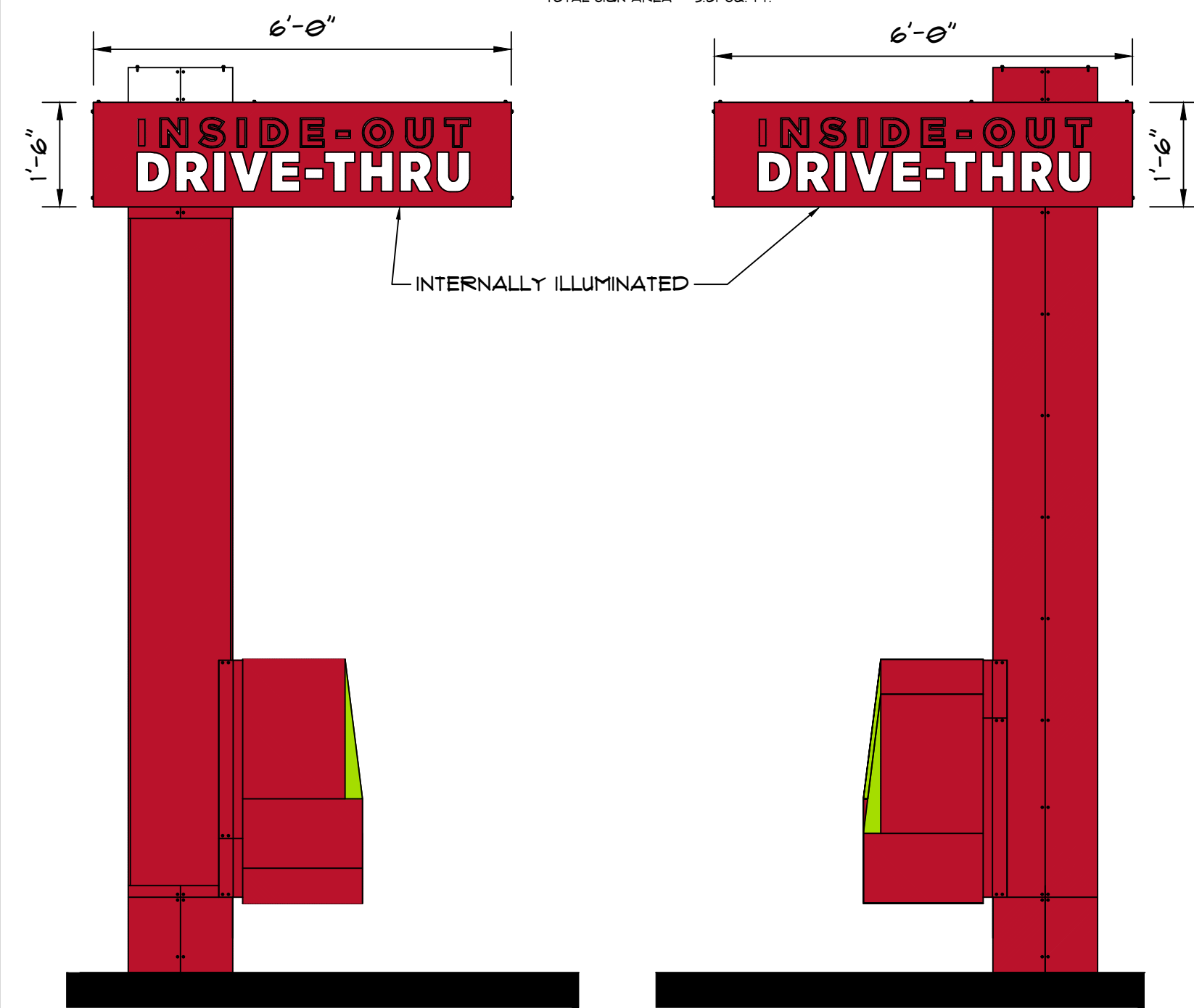
TOTAL SIGN AREA = 3.81 SQ. FT.



PARKING SPACE PAINTING DIAGRAM

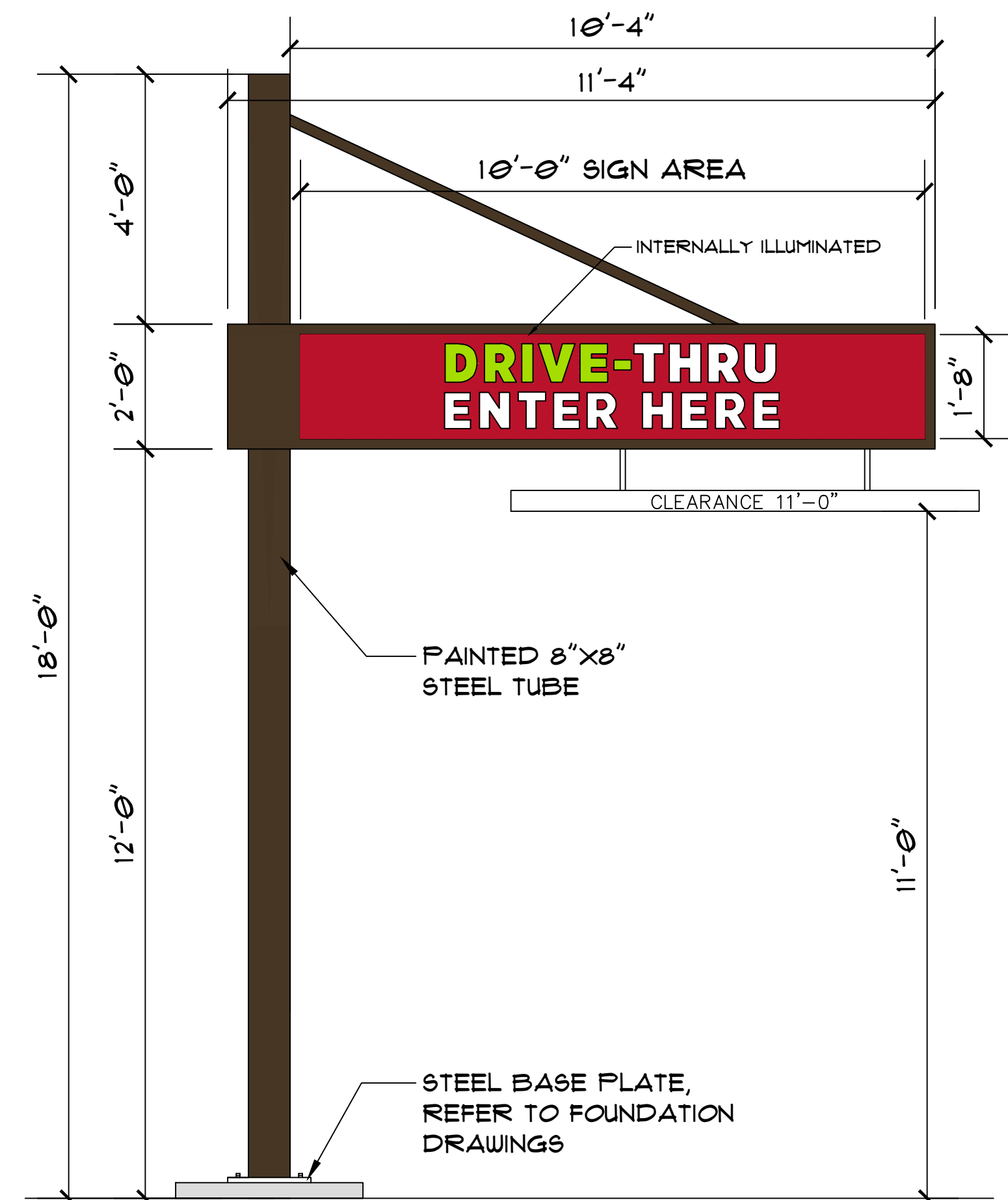


DRIVE THRU WINDOW DETAIL
SCALE: $\frac{1}{2}" = 1'-0"$



LEFT ELEVATION
SIGN AREA = 4.69 SQ. FT.

ORDER POINT ELEVATIONS
SCALE: 3/8"=1' @"



CANTILEVERED CLEARANCE BAR DETAILS
SIGN AREA = 6.36 SQ. FT.

HUBER HEIGHTS

OWNER:
SHEETZ, INC.

5700 SIXTH AVE.
ALTOONA, PA 16602

CONSULTANT

PROFESSIONAL

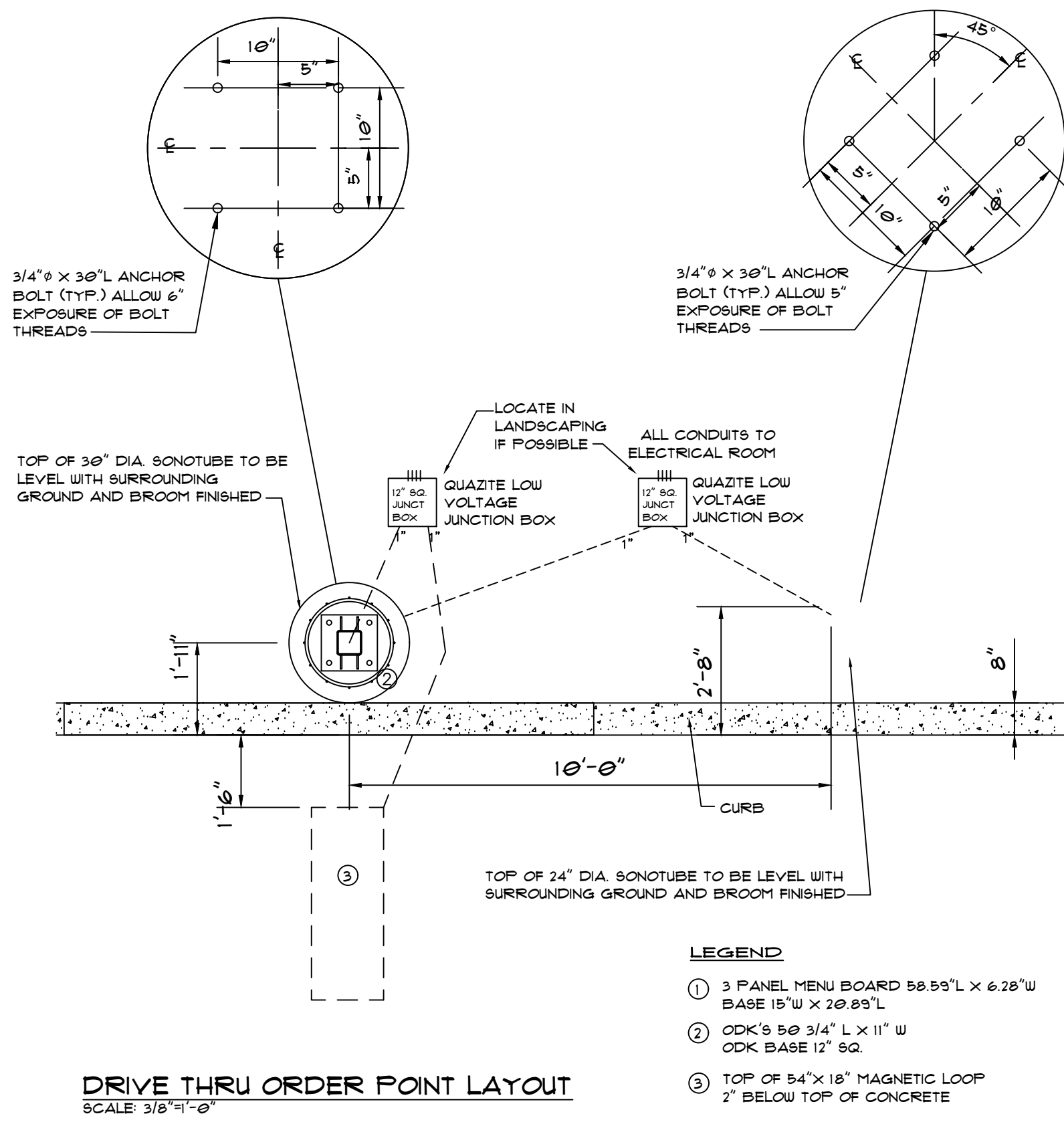
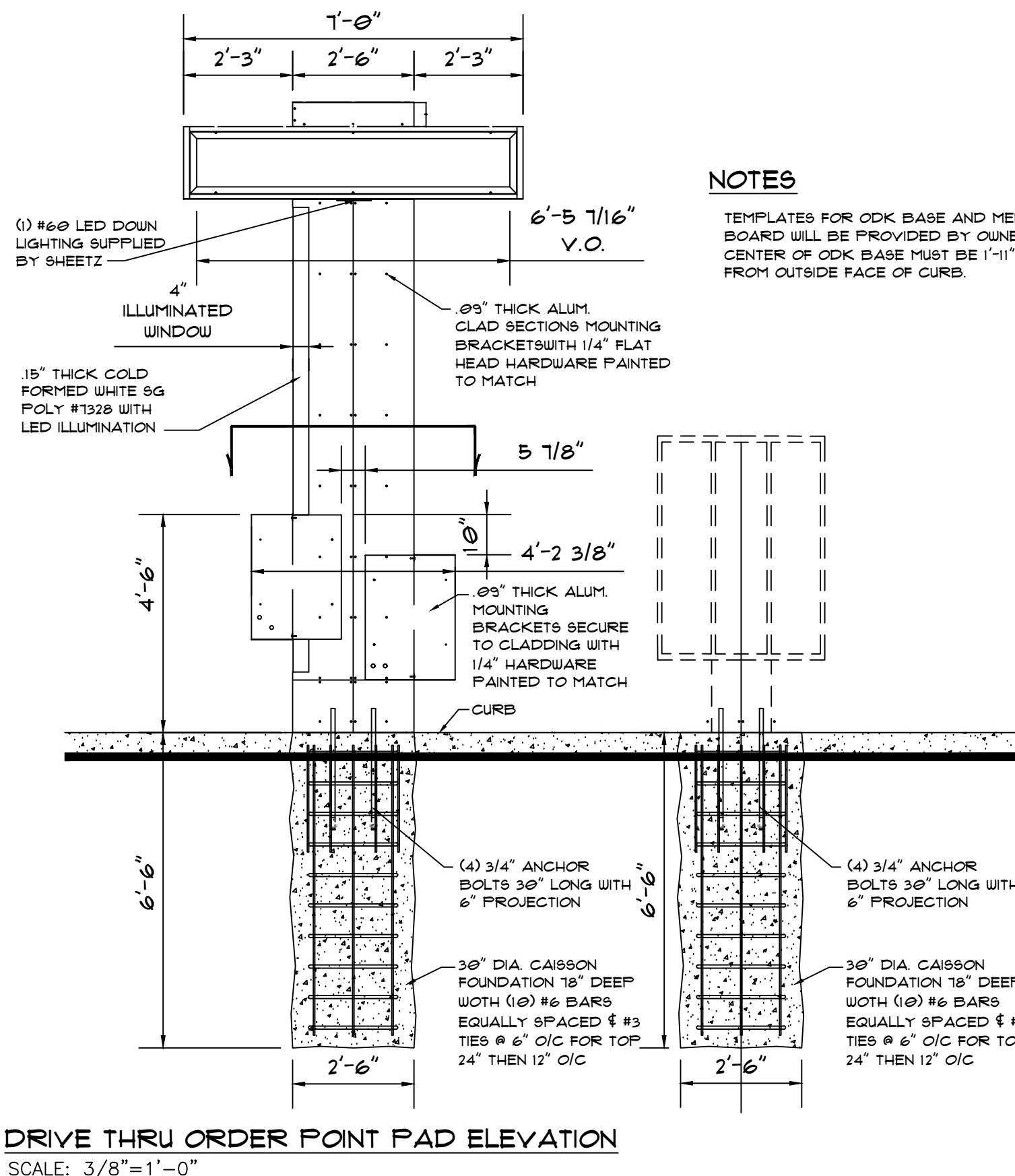
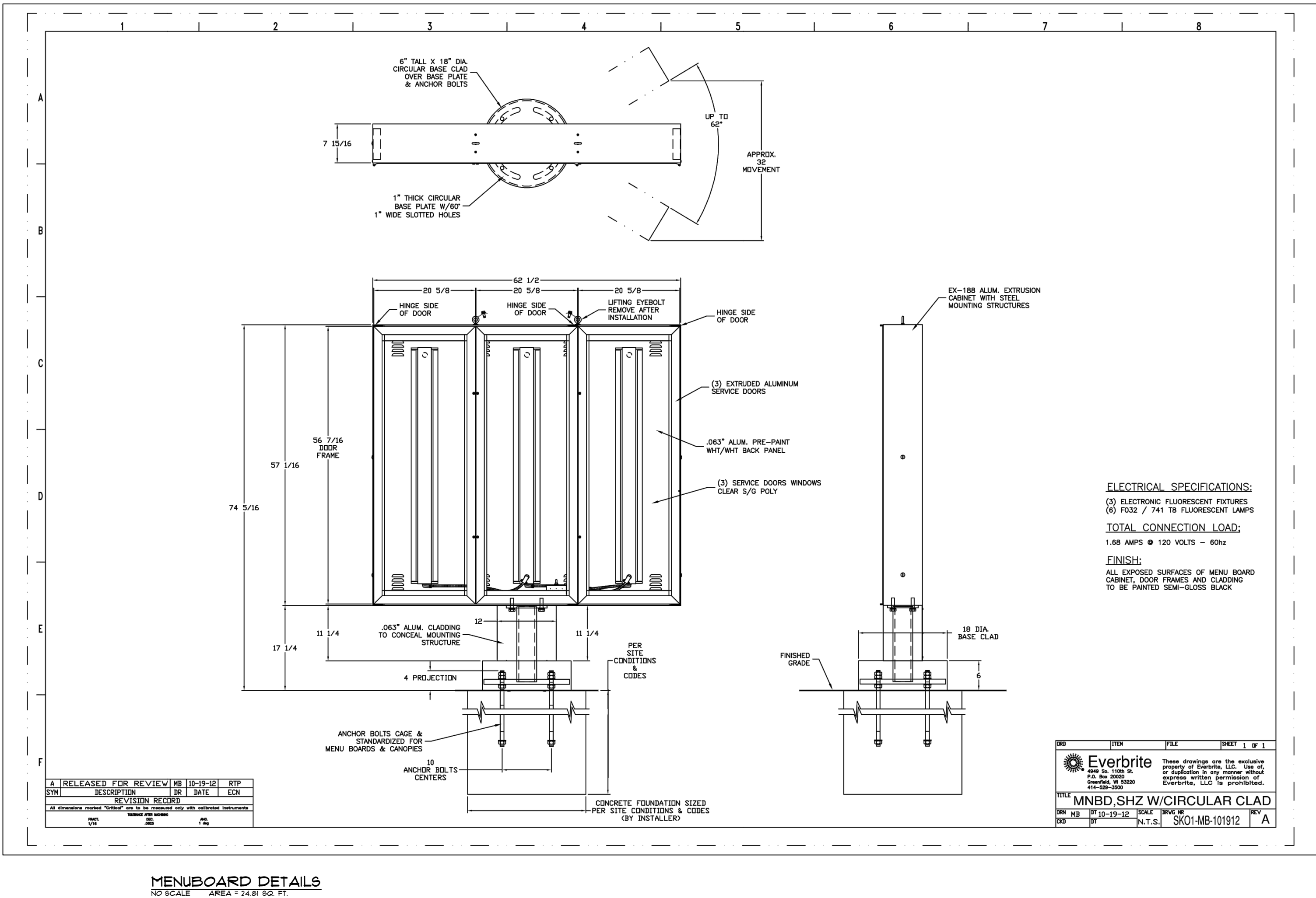
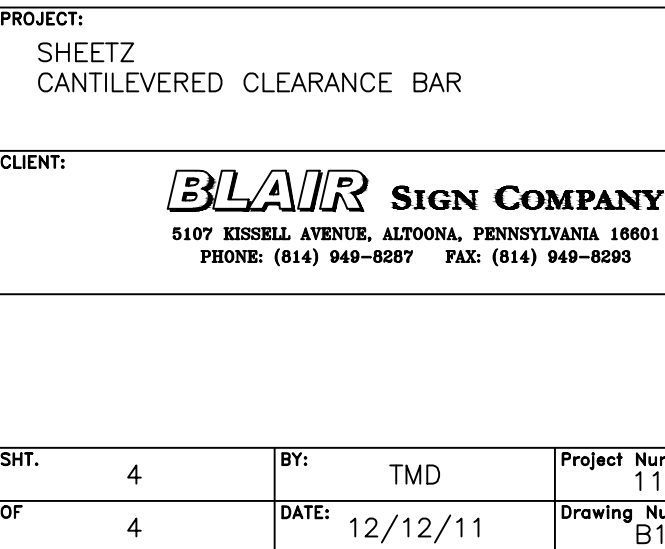
KEYPLAN

[illegible]

ISSUE:	04-27-22
PROJECT NO:	
AUTHOR BY:	NMI
REVIEW BY:	
SHEET TITLE	

DRIVE THRU SIGN DETAILS

DT-2



DRIVE THRU ORDER POINT ELEVATION
SCALE: 3/8"=1'-0"

HUBER HEIGHTS

OWNER:
SHEETZ, INC.

5700 SIXTH AVE.
ALTOONA, PA 16602

CONSULTANT

PROFESSIONAL

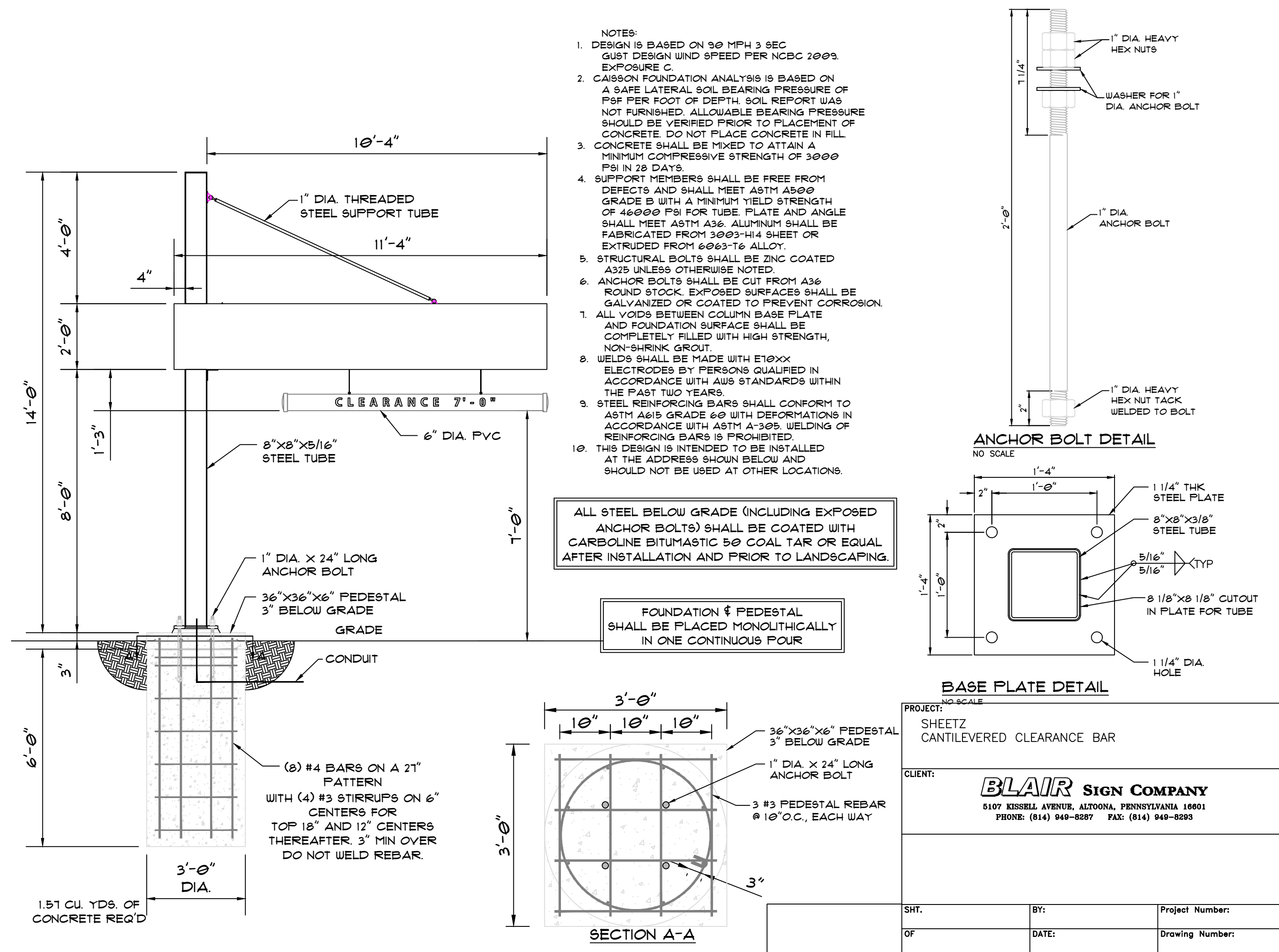
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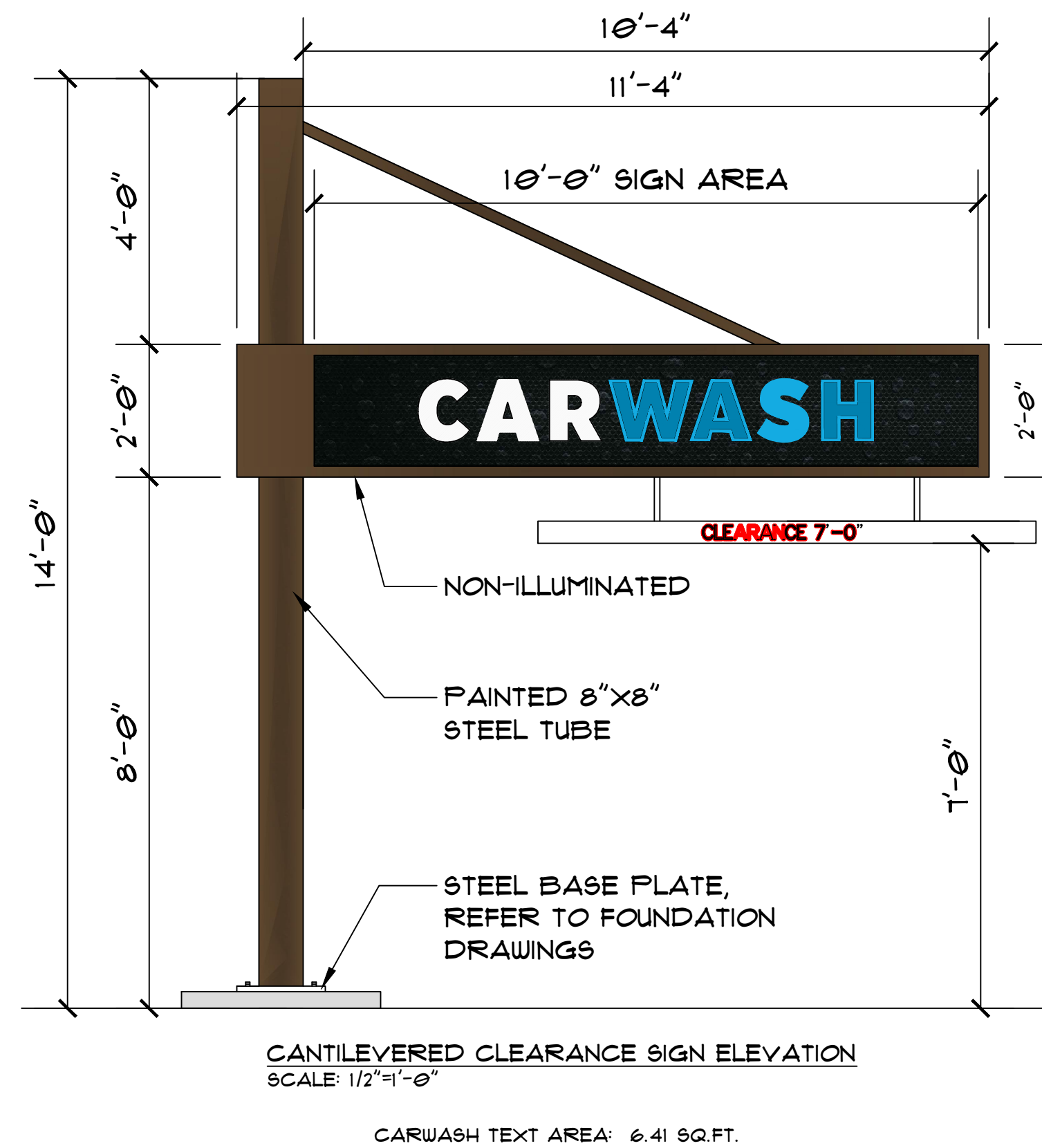
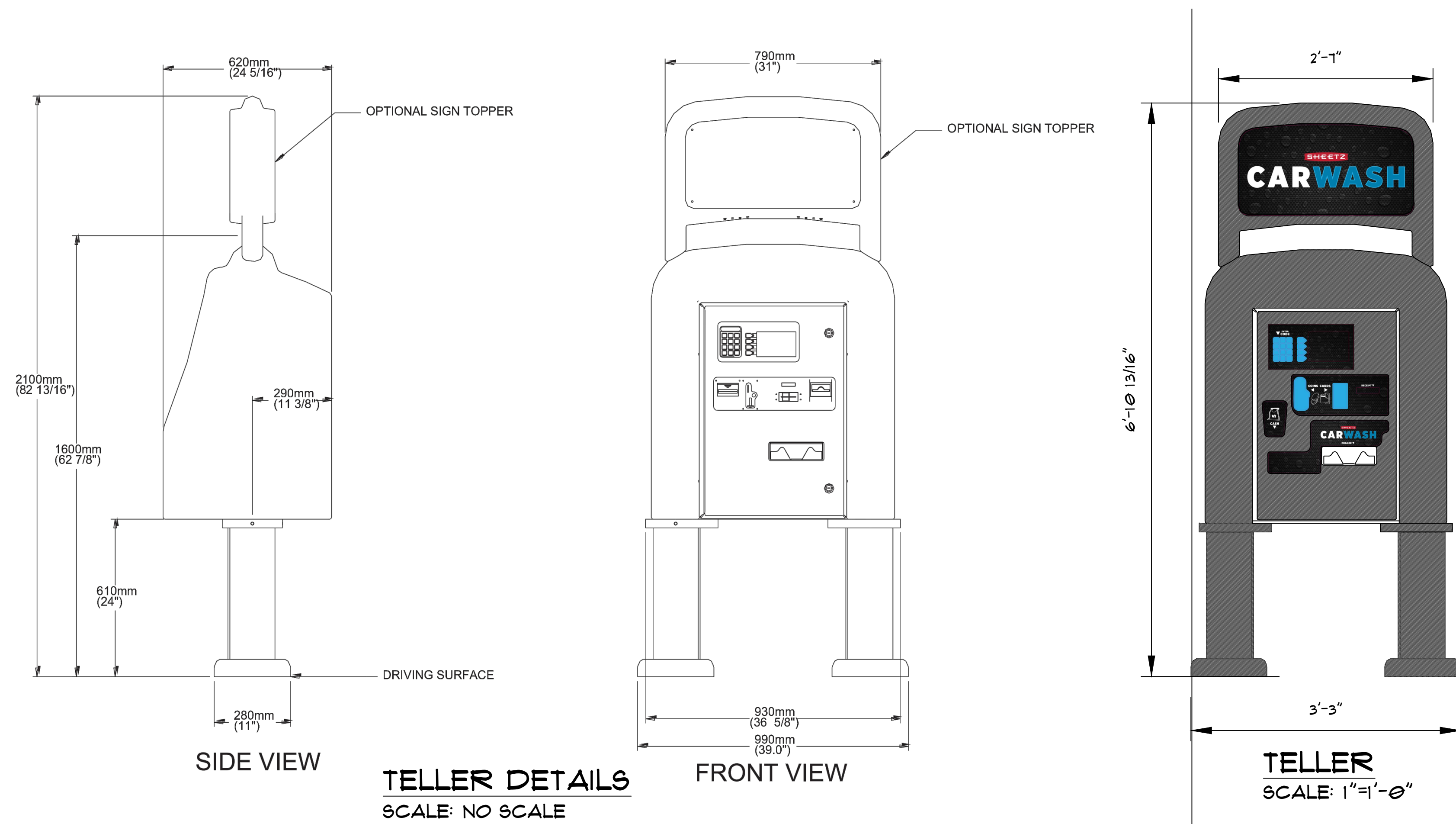
ISSUE:	04-30-20
PROJECT NO:	
AUTHOR BY:	NMI
REVIEW BY:	
SHEET TITLE	

CARWASH SIGN DETAILS

SIGN



CANTILEVERED CLEARANCE BAR DETAILS



HUBER HEIGHTS

OWNER:
SHEETZ, INC.

5700 SIXTH AVE.
ALTOONA, PA 16602

CONSULTANT

PROFESSIONAL

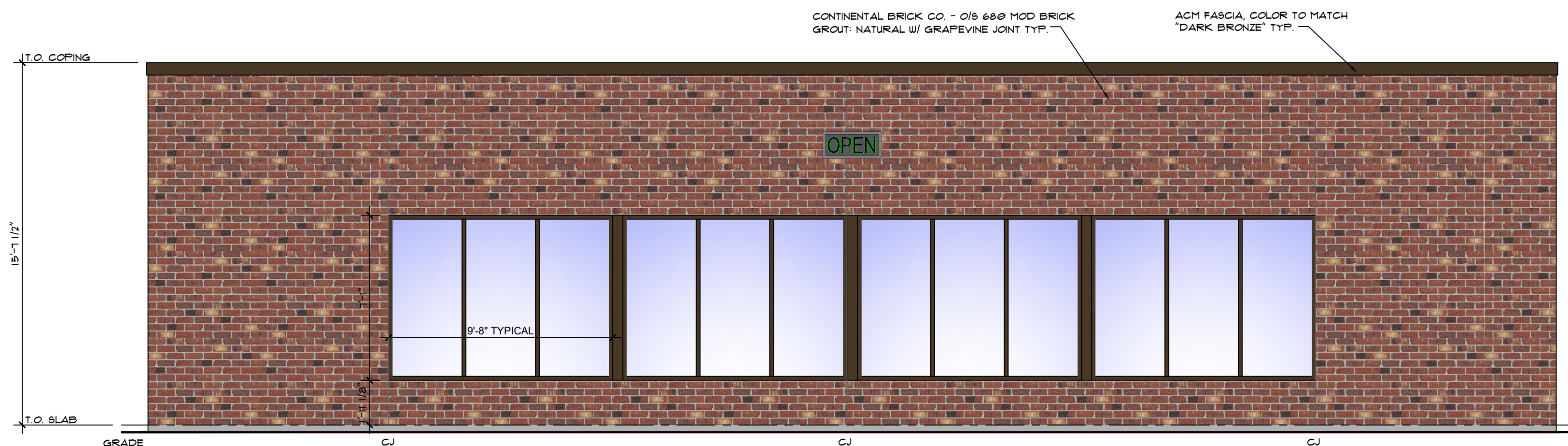
KEYPLAN

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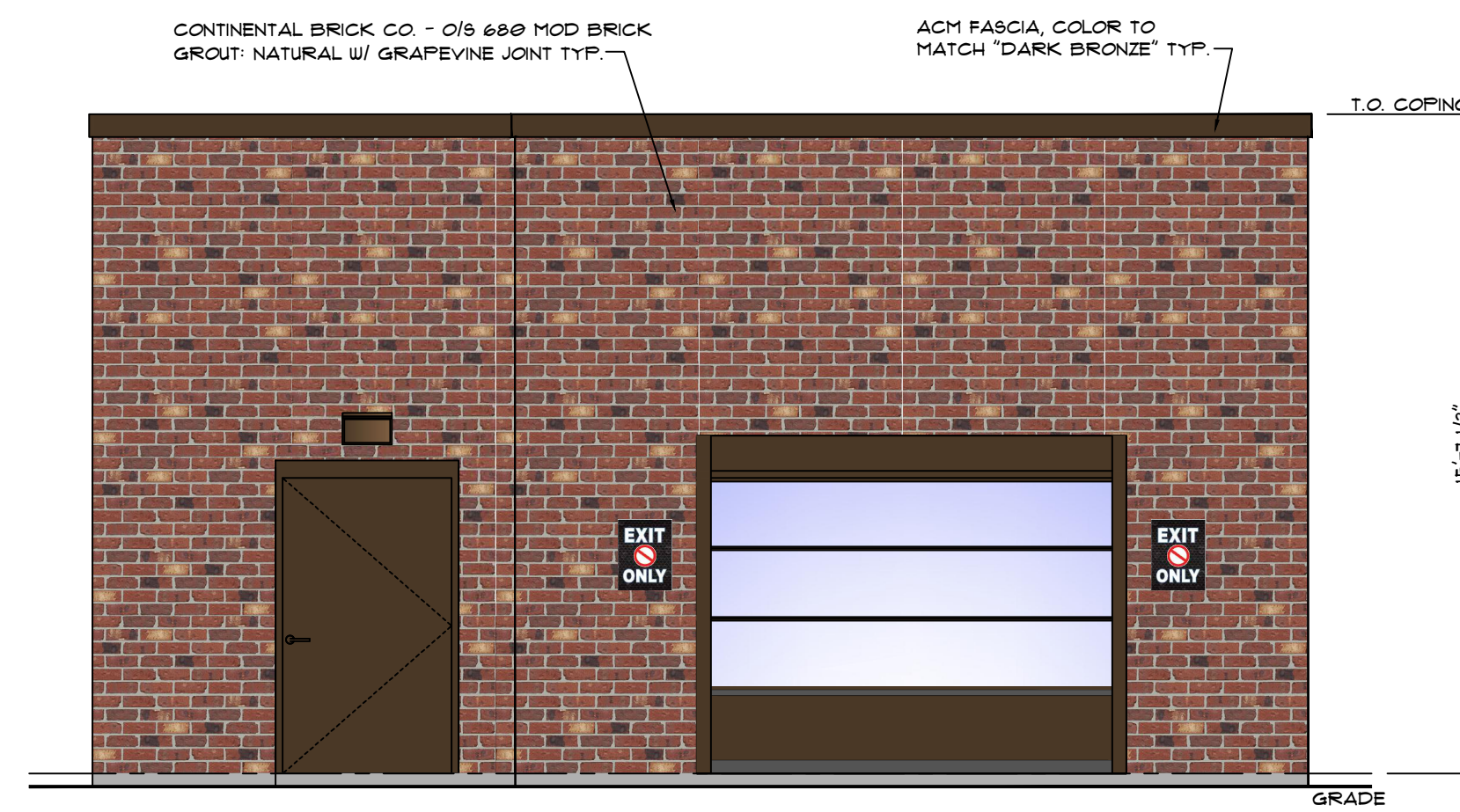
REVIEW BY:

CARWASH EXTERIOR ELEVATIONS

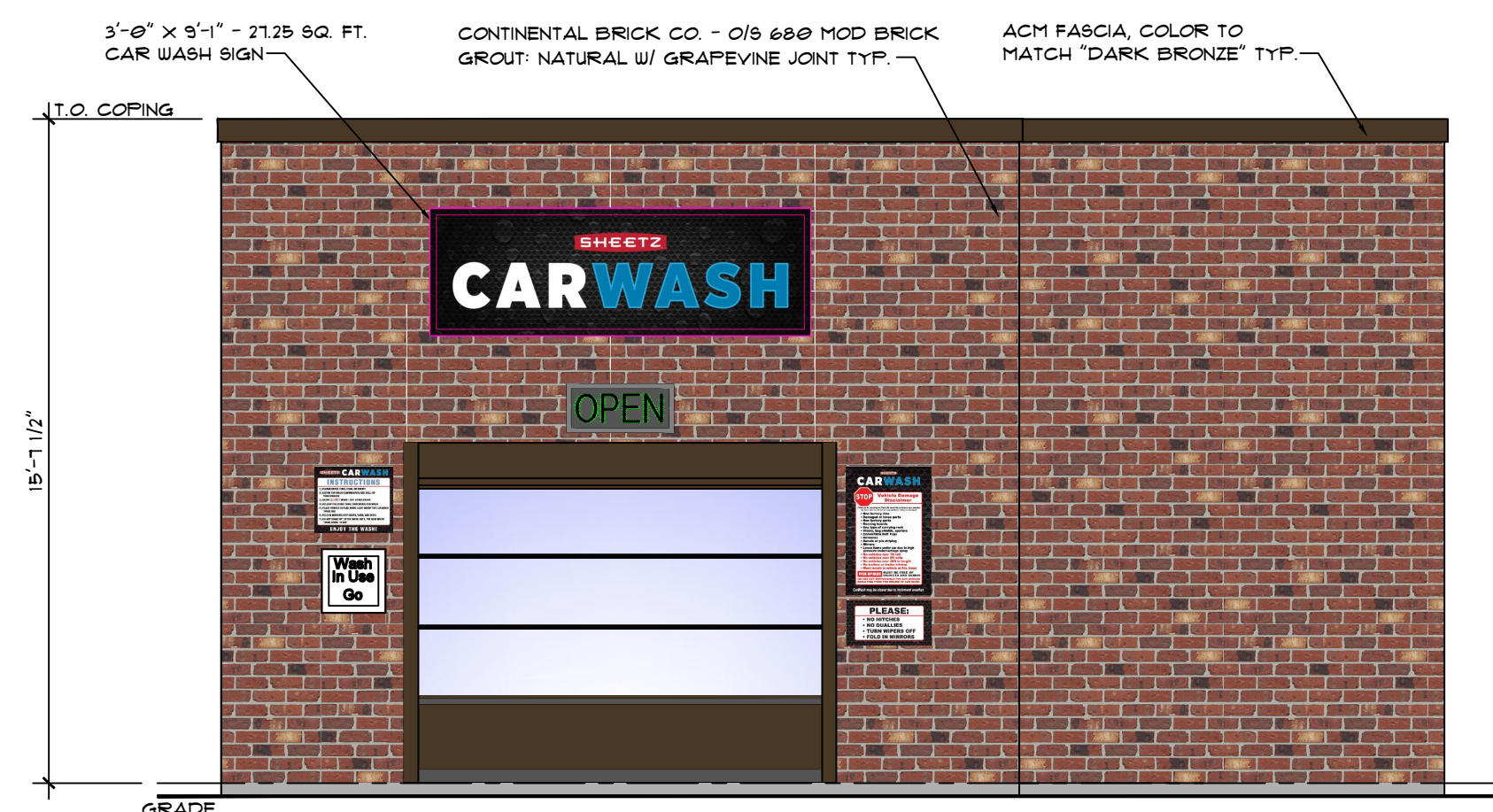
CEE-1



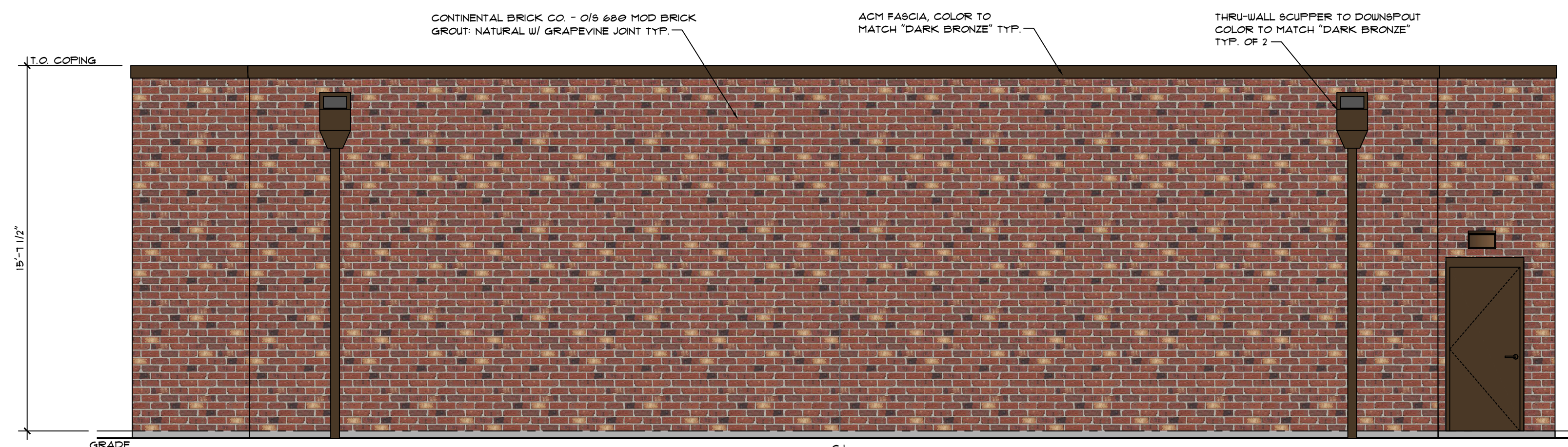
FRONT ELEVATION
SCALE: 1/4" = 1'-0"



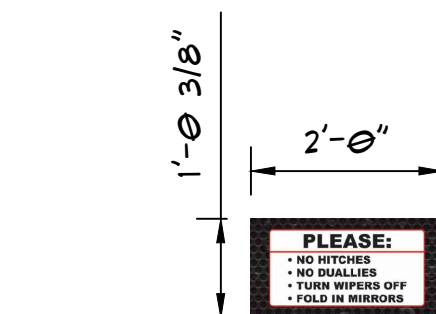
EXIT SIDE ELEVATION
SCALE: 1/4" = 1'-0"



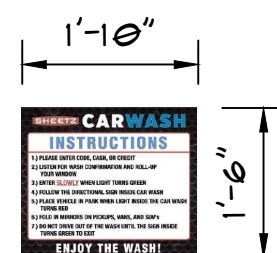
ENTRANCE SIDE ELEVATION
SCALE: 1/4" = 1'-0"



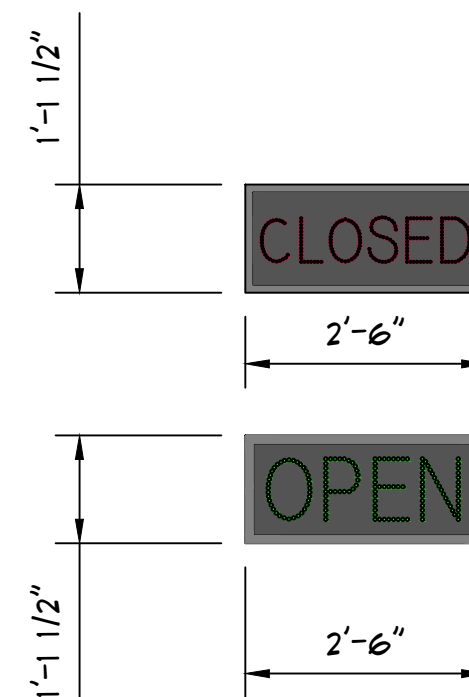
REAR ELEVATION
SCALE: 1/4" = 1'-0"



CARWASH WARNINGS WALL SIGN
SCALE: 1/2" = 1'-0" AREA = 2.06 SQ. FT.



CARWASH INSTRUCTIONS WALL SIGN
SCALE: 1/2" = 1'-0" AREA = 2.75 SQ. FT.



LED OPEN/CLOSED WALL SIGN
AREA = 2.81 SQ. FT.
TYPICAL OF 2

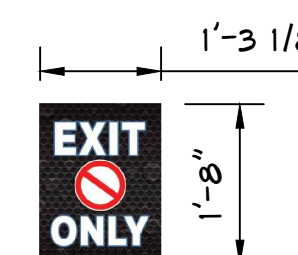


BUILDING WALL SIGN

AREA = 27.25 SQ. FT.
TYPICAL OF 1
CARWASH TEXT AREA = 8.36 SQ. FT.



CARWASH DISCLAIMER WALL SIGN
SCALE: 1"=1'-0" AREA = 6.00 SQ. FT.



CARWASH EXIT ONLY WALL SIGN
SCALE: 1"=1'-0" AREA = 2.09 SQ. FT.
TYPICAL OF TWO

TRIP GENERATION COMPARISON

TO: Russ Bergman, P.E., City Engineer, City of Huber Heights

CC: Josh Long, P.E., Project Manager, CESO, Inc.
Robert Matko, PE, PS, PTOE, Senior Engineering Manager, CESO, Inc.
Beth Cotner, Project Manager, Skilken Gold

FROM: Taylor Cline, P.E., Lead Project Engineer, CESO, Inc.

DATE: May 26, 2022

SUBJECT: Capacity Analysis for Proposed C-Store Development, City of Huber Heights, Miami County, Ohio

INTRODUCTION

This memo documents a preliminary analysis on the traffic related impacts associates with the proposed C-Store Development. The purpose of this document is to allow the city to review the changes from the initial Broad Reach Development plan to the proposed development plan.

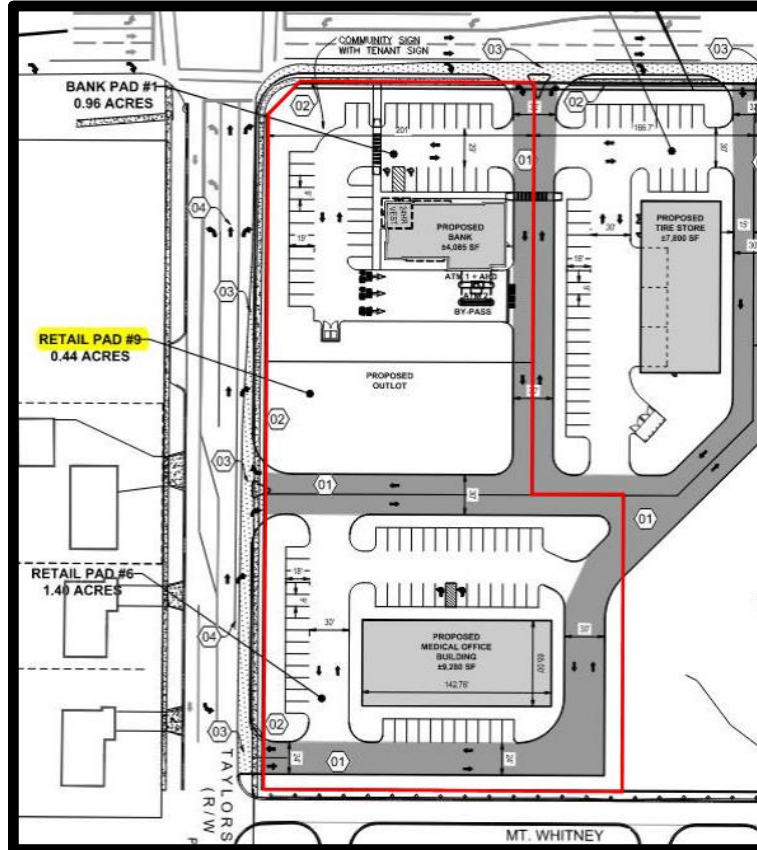
OVERVIEW

A preliminary transportation impact assessment was prepared by TEC Engineering, Inc. for the proposed Broad Reach Development site located in the northeast quadrant of the intersection of Taylorsville Road and Old Troy Pike within the City of Huber Heights, Miami County, OH.

The proposed multi-use development included a combination of restaurant, retail, and multi-family housing land uses. TEC Engineering evaluated the proposed land uses and sizes identified on the site plan using ITE Land Use Codes to estimate the peak hour generated trips associates with this development. Internal trip capture and pass-by trip capture data was utilized to define the final trip generation for the site including new trips and redirected existing trips.

Based upon conversations with the City of Huber Heights, changes were made to the existing multi-use development to include the substitution of three (3) lots that the proposed C-Store Development will be replacing. Figure 1 below illustrates the proposed location of the C-Store Development.

Figure 1
Proposed Location of C-Store Development



The three (3) existing lots consisted of:

- Existing Drive-In Bank occupying approximately 3,500 S.F.
- Existing Fast-Food Restaurant with Drive-Through Window occupying approximately 2,500 S.F.
- Existing Retail Shopping Center occupying approximately 9,280 S.F.

The proposed C-Store Development consists of:

- 6,138 S.F. convenience market
- 12 passenger car fueling stations
- Drive-through included as part of the convenience market
- Car wash including 1 service bay

TRIP GENERATION

Studies of similar developments throughout North America have shown that the amount of traffic generated will be functionally related to some unit of activity (i.e., number of dwelling units, vehicles, etc.). In development, site traffic fluctuates substantially on different days and hours throughout the year. Therefore, it is imperative to select an appropriate hourly volume on which to base the design of the external roadway and site access facilities. The Weekday AM and PM Peak Hours were selected based on the adjacent street traffic during this hour.

Utilizing the trip data from the preliminary transportation impact assessment prepared by TEC Engineering, Inc., CESO adjusted the generated trips to include the substitution of three (3) lots that the C-Store is taking over from the Broad Reach Development plan to determine the new Total Generated Trips.

Table 1
TEC Engineering Total Generated Trips

Land Use	Pass-by Trips				Non-Pass-by Trips			
	Weekday AM		Weekday PM		Weekday AM		Weekday PM	
	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit
Drive-in Bank	5	4	11	11	12	9	21	21
Tire Store	3	2	3	4	9	5	9	11
Outparcel – Fast Food Restaurant with Drive-Through Window	23	22	19	18	24	23	19	18
Retail – Shopping Center	30	18	14	15	58	35	27	29
Retail – Shopping Center	30	18	13	14	57	35	25	27
End Cap Drive-Through Coffee/Donut Shop with Drive-Through	50	48	24	24	52	50	24	24
Fast Food Restaurant with Drive-Through Window	29	28	24	23	30	29	24	23
Fast Food Restaurant with Drive-Through Window	18	18	16	14	19	18	16	14
Multi-Family Housing (Mid Rise)	0	0	0	0	15	43	45	29
Total Trips	188	158	124	123	276	247	210	196
Adjusted Total Trips	130	114	80	79	182	180	143	128

For analysis purposes, the base variable units for the trip-generation rates were KSF (3.4 KSF = 3,400 S.F.), number of fueling positions, and bays. The C-Store Development Weekday Generated Traffic Volumes (Table 2) were calculated by utilizing data contained in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition* in combination with methods outlined in the (ITE) *Trip Generation Handbook*. Pass-by trips were applied and based on percentages found in the Institute of Transportation Engineers (ITE) *Trip Generation Handbook, 3rd Edition*. CESO proposed a 76% pass-by rate for the AM and PM Peak Hours for ITE LUC Category 960. The C-Store Development Weekday Generated Traffic Volumes are presented below in Table 2.

Table 2
C-Store Development Weekday Generated Trips

ITE Land Use Description	ITE Cat.	Size	Unit	Total Generated Trips										
				Weekday			Weekday AM Peak Hour				Weekday PM Peak Hour			
				Trips			Trips				Trips			
				Tot	In	Out	^A Tot	In	Out	^B PB	^A Tot	In	Out	^B PB
Automated Car Wash	948	1	Bays	776	388	388	---	---	---	---	78	39	39	0
ITE Cat. 948 Entering (%)/Exiting (%)				100%	50%	50%	---	---	---	---	100%	50%	50%	^C 0%
Internal Capture Applied				---	---	---	---	---	---	---	20	10	10	
Internal Capture Rates				---	---	---	---	---	---	---	---	75%	75%	---
Gasoline/Service Station with Convenience Market	---	12	Fuel Pos.	2,766*	1,383	1,383	314	38	38	238	318	38	38	242
Entering (%) / Exiting (%)				100%	50%	50%	100%	50%	50%	^C 76%	100%	50%	50%	^C 76%
Internal Capture Applied				---	---	---	314	38	38	238	318	38	38	242
Internal Capture Rates				---	---	---	---	0%	0%	---	---	0%	0%	---
Total (No Internal Capture Applied)				3,542	1,771	1,771	314	38	38	238	396	77	77	242
Total (Internal Capture Subtracted)				3,542	1,771	1,771	314	38	38	238	338	48	48	242

^A – Primary Trips + Pass-by Trips, ^B – Pass-by Trips Generated, ^C – Percent (%) of ^ATot

* - Taken from ITE LUC 960 based on Vehicle Fueling Positions

** - No internal ITE capture rate. Internal Capture rate estimated at 75% since most car washes come directly from fueling customers.

Table 3
Total Development Weekday Peak Hour Generated Trips

Land Use	Pass-by Trips				Non-Pass-by Trips			
	Weekday AM		Weekday PM		Weekday AM		Weekday PM	
	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit
Broad Reach Development	130	114	80	79	182	180	143	128
C-Store Development	119	119	121	121	38	38	48	48
Total Trips	249	233	201	200	220	218	191	176

The proposed development is estimated to generate 920 trips during the Weekday AM Peak Hour (469 inbound and 451 outbound) and 768 trips will be generated during the Weekday PM Peak Hour (392 inbound and 376 outbound). The Trip Generation Resources and Calculations can be found in **Attachment A**.

TRIP DISTRIBUTION

The basis for the directional distribution of the proposed development was based upon existing traffic patterns in the area. CESO utilized the directional distribution percentages determined in the preliminary transportation impact assessment prepared by TEC Engineering, Inc. which are summarized below in Table 4.

Table 4
Directional Distribution Percentages

Route	Distribution Approach/Departure	
	Passenger Cars	
	AM Peak Hour	PM Peak Hour
Primary Trip Distribution - Cars (Figure 1.A)		
To/From the West via I-70	15%/15%	15%/15%
To/From the East via I-70	10%/10%	10%/10%
To/From the North via Old Troy Pike	40%/40%	40%/40%
To/From the South via Old Troy Pike	23%/23%	23%/23%
To/From the West via Taylorsville Road	4%/4%	4%/4%
To/From the East via Taylorsville Road	8%/8%	8%/8%
TOTAL	100%/100%	100%/100%
Pass-by Trip Distribution – Cars (Figures 1.B)		
Pass-by from the North/To the South via Old Troy Pike	50%/50%	50%/50%
Pass-by from the South/To the North via Old Troy Pike	50%/50%	50%/50%
TOTAL	100%/100%	100%/100%

Based upon the directional distributions illustrated on Figures 1.A-1.B, the estimated Total Development-Generated Weekday Peak Hour Traffic Volumes shown in Table 3 were distributed to the adjacent roadway system. The Total Development Generated Traffic Volumes are illustrated on Figures 2.A-2.B.

All Figures can be found in **Attachment B**.

CAPACITY ANALYSIS

The capacity of an intersection (signalized or unsignalized) can best be described by its corresponding Level of Service (LOS). The level of service of an intersection is a qualitative measure of the various attributes of an intersection. There are six levels of service ranging from “ideal” free flow conditions at LOS “A,” to forced or “breakdown” conditions at LOS “F.” The level of service for signalized intersections is based upon the average stopped delay per vehicle for various movements within the intersection. Although v/c affects delay, there are other parameters that more strongly affect it, such as the quality of progression, length of green phases, cycle lengths, and others. Thus, for any given v/c ratio, a range of delay values may result, and vice versa.

The level of service for unsignalized intersections is based upon total delay. Total delay is defined in the *Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis*, as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position. Table 4 summarizes the LOS definitions for unsignalized intersections. Throughout the memo, “unsignalized intersections” are commonly referred to as “stop sign controlled.”

Table 5
Level of Service Criteria (Unsignalized Intersections)

Level of Service	Delay per Vehicle (Sec.)	Description
A	≤ 10.0	Little or no delay.
B	> 10.0 and ≤ 15.0	Short traffic delays.
C	> 15.0 and ≤ 25.0	Average traffic delays.
D	> 25.0 and ≤ 35.0	Long traffic delays.
E	> 35.0 and ≤ 50.0	Very long traffic delays.
F	≥ 50.0	Extreme traffic delays.

Source: *Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis*. Transportation Research Board.

Highway Capacity Manual 2016 (HCM 6th Edition) methodology was used in the Traffic Impact Study to remain consistent with “state-of-the-practice” professional standards. It is important to note that the Level of Service Criteria for unsignalized intersections is different than for signalized intersections. For example, a delay of 18 seconds yields level of service C under the unsignalized LOS criteria (see Table 5) while yielding level of service B under the signalized intersection LOS criteria (see Table 6). Table 6 summarizes the LOS definitions for signalized intersections.

Table 6
Level of Service Criteria (Signalized Intersections)

Level of Service	Delay per Vehicle (Sec.)	Description
A	< 10.0	Most vehicles do not stop at all.
B	> 10.0 and ≤ 20.0	More vehicles stop than with LOS A.
C	> 20.0 and ≤ 35.0	The number of vehicles stopping is significant, although many pass through without stopping.
D	> 35.0 and ≤ 55.0	Many Vehicles stop. Individual cycle failures are noticeable.
E	> 55.0 and ≤ 80.0	Considered to be the limit of acceptable delay. Individual cycle failures are frequent.
F	> 80.0	Unacceptable delay.

Source: Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis. Transportation Research Board.

Synchro Version 11.0 was utilized to calculate delay and level of service values. Synchro 11 model parameters include traffic volumes, movements, heavy vehicle percentage, intersection traffic control, storage length, and lane widths. A peak hour factor (PHF) of 0.92 was used for all intersections.

Utilizing the 2022 Build Weekday Peak Hour Traffic Volumes illustrated on Figure 3, capacity calculations were performed for the Site driveways and key study intersections. Table 7 summarizes the capacity analyses results for the 2022 Build Traffic Scenario.

Table 7
Summary of 2022 Build Traffic Scenario Capacity Analysis

Intersection →	Year →	2022 AM and PM Peak Hours				
	Volume →	Build- Year 2022				
	Geometry →	Build				
	Direction	Movement	AM Peak Hour		PM Peak Hour	
Original Study			New Study	Original Study	New Study	
Old Troy Pike & Taylorsville Road (Signal Controlled)	Intersection Overall →		C (23.2)	C (23.2)	D (36.6)	D (36.0)
	Eastbound	EBL	C (23.9)	C (23.5)	D (42.2)	D (42.6)
		EBT	C (28.2)	C (27.8)	D (37.3)	D (37.3)
		EBR	C (23.6)	C (23.3)	C (26.0)	C (26.0)
	Westbound	WBL	C (23.9)	C (23.8)	C (27.8)	C (28.4)
		WBT	C (28.8)	C (28.4)	D (35.3)	D (35.3)
		WBR	C (26.0)	C (26.6)	C (28.0)	C (28.2)
	Northbound	NBL	B (16.3)	B (16.3)	C (28.4)	C (27.9)
		NBT	C (23.7)	C (23.5)	C (33.4)	C (32.8)
		NBR	B (15.7)	B (15.9)	B (19.5)	B (19.8)
	Southbound	SBL	B (17.0)	B (17.0)	D (37.6)	D (36.6)
		SBT	C (23.3)	C (23.4)	D (46.8)	D (45.6)
SBTR		C (23.3)	C (23.5)	D (46.8)	D (45.5)	
Old Troy Pike & Access #1 (Stop Sign Controlled)	Intersection Overall →		--	--	--	--
	Westbound	WBR	B (13.6)	B (13.5)	C (17.3)	C (16.8)
Old Troy Pike & IHOP Driveway/Access #2 (Stop Sign Controlled)	Intersection Overall →		--	--	--	--
	Eastbound	EBLTR	D (28.0)	D (27.5)	F (70.0)	F (120.3)
	Westbound	WBLTR	F (412.1)	F (78.5)	F (1059.7)	F (624.4)
	Northbound	NBL	A (9.4)	A (9.3)	B (12.8)	B (12.5)
	Southbound	SBL	C (21.3)	C (21.2)	D (30.0)	E (40.8)
Old Troy Pike & Burger King Driveway /Access #3 (Signal Controlled)	Intersection Overall →		B (18.2)	B (18.7)	B (18.9)	C (20.5)
	Eastbound	EBL	D (35.4)	D (35.4)	C (32.4)	C (32.4)
		EBTR	D (39.7)	D (39.8)	D (45.8)	D (45.9)
	Westbound	WBL	C (33.9)	C (33.8)	C (32.3)	C (32.6)
		WBTR	D (37.3)	D (36.1)	C (35.9)	C (34.2)
	Northbound	NBL	B (10.6)	B (10.7)	B (18.0)	B (19.1)
		NBT	B (16.5)	B (16.9)	A (3.8)	A (4.0)
		NBR	A (9.0)	A (8.9)	A (0.8)	A (0.8)
	Southbound	SBL	B (10.9)	B (11.1)	B (10.1)	B (10.8)
		SBT	B (16.8)	B (16.9)	C (29.1)	C (31.8)
SBTR		B (16.7)	B (16.9)	C (29.1)	C (31.8)	
Taylorsville Road & Access #4 (Stop Sign Controlled)	Intersection Overall →		--	--	--	--
	Southbound	SBR	B (10.5)	B (10.7)	B (11.2)	B (11.3)
Taylorsville Road & Access #5 (Stop Sign Controlled)	Intersection Overall →		--	--	--	--
	Eastbound	EBL	A (8.8)	A (8.8)	A (9.2)	A (9.3)
	Southbound	SBLR	C (15.4)	C (15.1)	C (19.0)	C (19.4)
*Delay in seconds L – Left T – Through R – Right						

*Delay in seconds L – Left T – Through R – Right

§ - Delay exceeds 300 seconds.

Utilizing the 2042 Build Weekday Peak Hour Traffic Volumes illustrated on Figure 4, capacity calculations were performed for the Site driveways and key study intersections. Table 8 summarizes the capacity analyses results for the 2042 Build Traffic Scenario.

Table 8
Summary of 2042 Build Traffic Scenario Capacity Analysis

Intersection →	Year →		2042 AM and PM Peak Hours			
	Volume →		Build- Year 2042			
	Geometry →		Build			
	Direction	Movement	AM Peak Hour		PM Peak Hour	
Original Study			New Study	Original Study	New Study	
Old Troy Pike & Taylorsville Road (Signal Controlled)	Intersection Overall →		C (29.2)	C (28.9)	E (77.9)	E (75.4)
	Eastbound	EBL	C (22.3)	C (22.1)	F (121.7)	F (123.2)
		EBT	C (26.2)	C (26.0)	D (49.8)	D (49.8)
		EBR	C (21.5)	C (21.3)	C (26.7)	C (26.7)
	Westbound	WBL	C (22.5)	C (22.6)	D (38.0)	D (40.7)
		WBT	C (27.3)	C (27.1)	D (42.9)	D (42.9)
		WBR	C (25.1)	C (25.2)	D (35.9)	D (36.3)
	Northbound	NBL	C (20.1)	C (20.2)	E (65.0)	E (65.0)
		NBT	C (32.6)	C (32.5)	E (56.1)	D (52.5)
		NBR	B (19.1)	B (19.5)	C (20.6)	C (20.9)
	Southbound	SBL	C (27.6)	C (25.8)	F (144.5)	F (140.8)
		SBT	D (36.2)	D (36.1)	F (112.3)	F (107.4)
		SBTR	D (36.3)	D (36.2)	F (116.1)	F (110.8)
Old Troy Pike & Access #1 (Stop Sign Controlled)	Intersection Overall →		--	--	--	--
	Westbound	WBR	C (15.4)	C (15.4)	C (22.0)	C (21.0)
Old Troy Pike & IHOP Driveway/Access #2 (Stop Sign Controlled)	Intersection Overall →		--	--	--	--
	Eastbound	EBLTR	F (62.3)	F (60.2)	F (\$)	F (\$)
	Westbound	WBLTR	F (\$)	F (\$)	F (\$)	F (\$)
	Northbound	NBL	B (10.4)	B (10.2)	C (16.3)	C (15.9)
	Southbound	SBL	D (32.9)	D (32.8)	F (61.3)	F (114.6)
Old Troy Pike & Burger King Driveway /Access #3 (Signal Controlled)	Intersection Overall →		B (16.6)	B (16.6)	E (57.6)	E (61.4)
	Eastbound	EBL	C (28.8)	C (28.8)	C (30.0)	C (29.9)
		EBTR	D (33.4)	D (33.4)	D (51.0)	D (51.0)
	Westbound	WBL	C (27.5)	C (27.8)	C (30.5)	C (30.8)
		WBTR	C (30.8)	C (29.9)	C (34.1)	C (32.6)
	Northbound	NBL	B (12.7)	B (12.6)	D (39.9)	D (39.9)
		NBT	A (7.6)	A (7.7)	C (30.1)	C (24.4)
		NBR	A (2.6)	A (2.6)	A (2.1)	A (1.9)
	Southbound	SBL	B (11.5)	B (11.8)	C (22.1)	C (20.8)
		SBT	C (24.3)	C (23.9)	F (86.6)	F (100.3)
SBTR		C (24.1)	C (23.7)	F (94.8)	F (106.9)	
Taylorsville Road & Access #4 (Stop Sign Controlled)	Intersection Overall →		--	--	--	--
	Southbound	SBR	B (11.1)	B (11.4)	B (12.2)	B (12.4)
Taylorsville Road & Access #5 (Stop Sign Controlled)	Intersection Overall →		--	--	--	--
	Eastbound	EBL	A (9.3)	A (9.3)	B (10.0)	B (10.1)
	Southbound	SBLR	C (17.6)	C (17.3)	C (23.8)	C (24.1)
*Delay in seconds L – Left T – Through R – Right						

*Delay in seconds L – Left T – Through R – Right

\$ - Delay exceeds 300 seconds.

CONCLUSIONS

The recommendations identified in the preliminary transportation impact assessment prepared by TEC Engineering, Inc. were found to be suitable for the substitution of three (3) lots of the existing Broad Reach Development. Based upon the capacity analysis results of the initial development plan in comparison to the proposed development plan, there were minimal changes in level of service and delay. Therefore, CESO determined no further improvements will be required at the study locations.

ATTACHMENTS INCLUDED:

- A. Trip Generation Resources and Calculations**
- B. Study Figures**
- C. Capacity Analysis Summary Sheets**

ATTACHMENT A
TRIP GENERATION RESOURCES AND CALCULATIONS

April 13, 2022

Traffic Impact Study – Proposed C-Store Development

City of Huber Heights, OH

CESO Trip Generation Calculations

ITE 948 – Automated Car Wash

For AM Peak Hour → 50% Enter/50% Exit

77.50 x 1 Car Wash Tunnels = 77.50 ≈ 78 Trips

78 Trips x 0.50 (50%) = 39 Trips Enter/39 Trips Exit

ITE 960 – Super Convenience Market/Gas Station

For Weekday → 50% Enter/50% Exit

230.52 x 12 Fueling Positions = 2,766.24 ≈ 2,766 Trips

2,766 Trips x 0.50 (50%) = 1,383 Trips Enter/1,383 Trips Exit

Independent Study:

For AM Peak Hour → 50% Enter/50% Exit

26.18 x 12 Fueling Positions = 314.16 ≈ 314 Trips

Pass-by Trips = 314 Trips x 0.76 (76%) = 238 Trips for Even Number

Pass-by Trips = 238 Trips x 0.50 (50%) = 119 Trips Enter/119 Trips Exit

Primary Trips = 314 – 238 = 76 Trips

Primary Trips = 76 x 0.50 (50%) = 38 Trips Enter/38 Trips Exit

For PM Peak Hour → 50% Enter/50% Exit

26.55 x 12 Fueling Positions = 318.60 ≈ 318 Trips

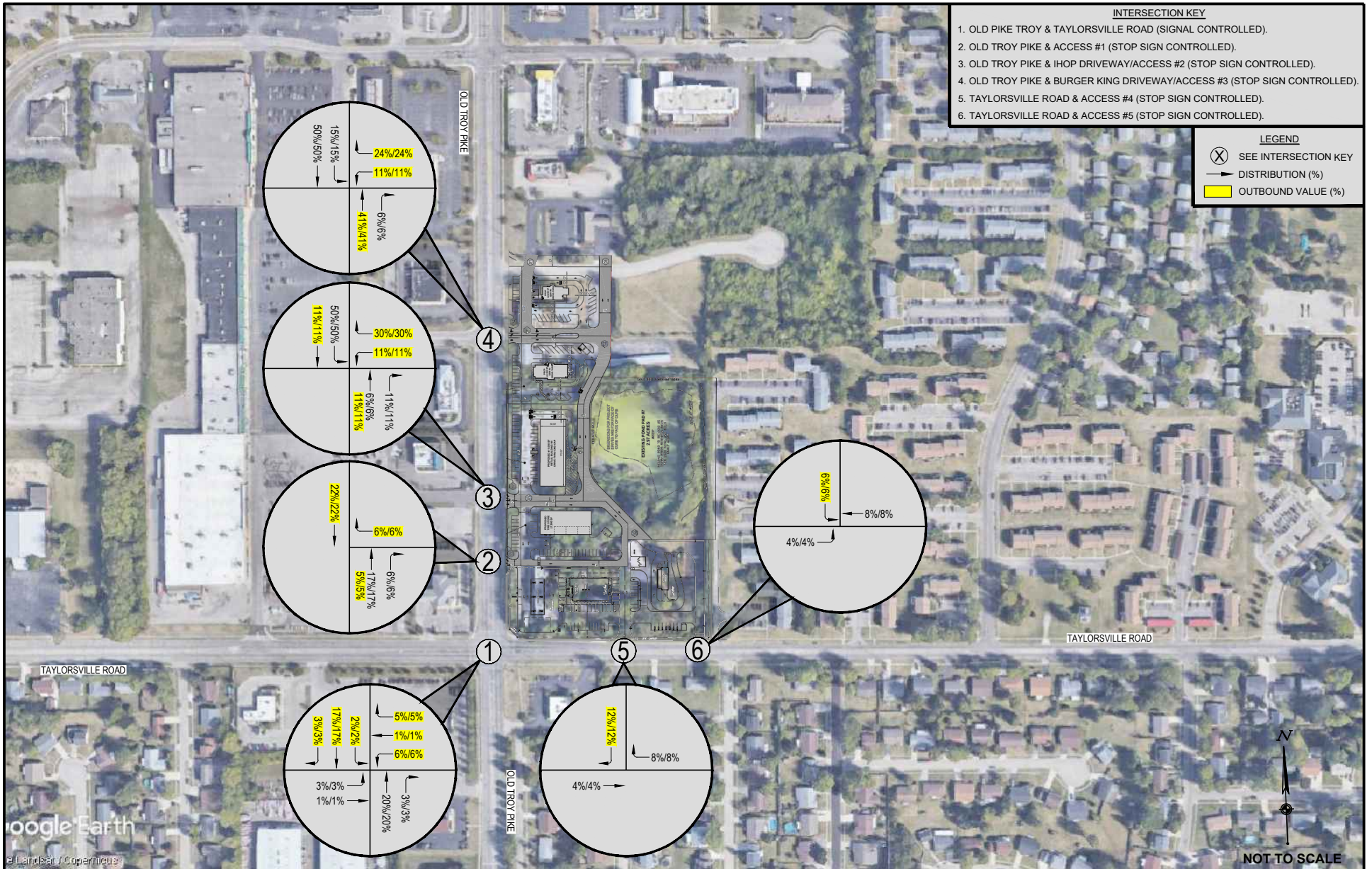
Pass-by Trips = 318 Trips x 0.76 (76%) = 242 Trips for Even Number

Pass-by Trips = 242 Trips x 0.50 (50%) = 121 Trips Enter/121 Trips Exit

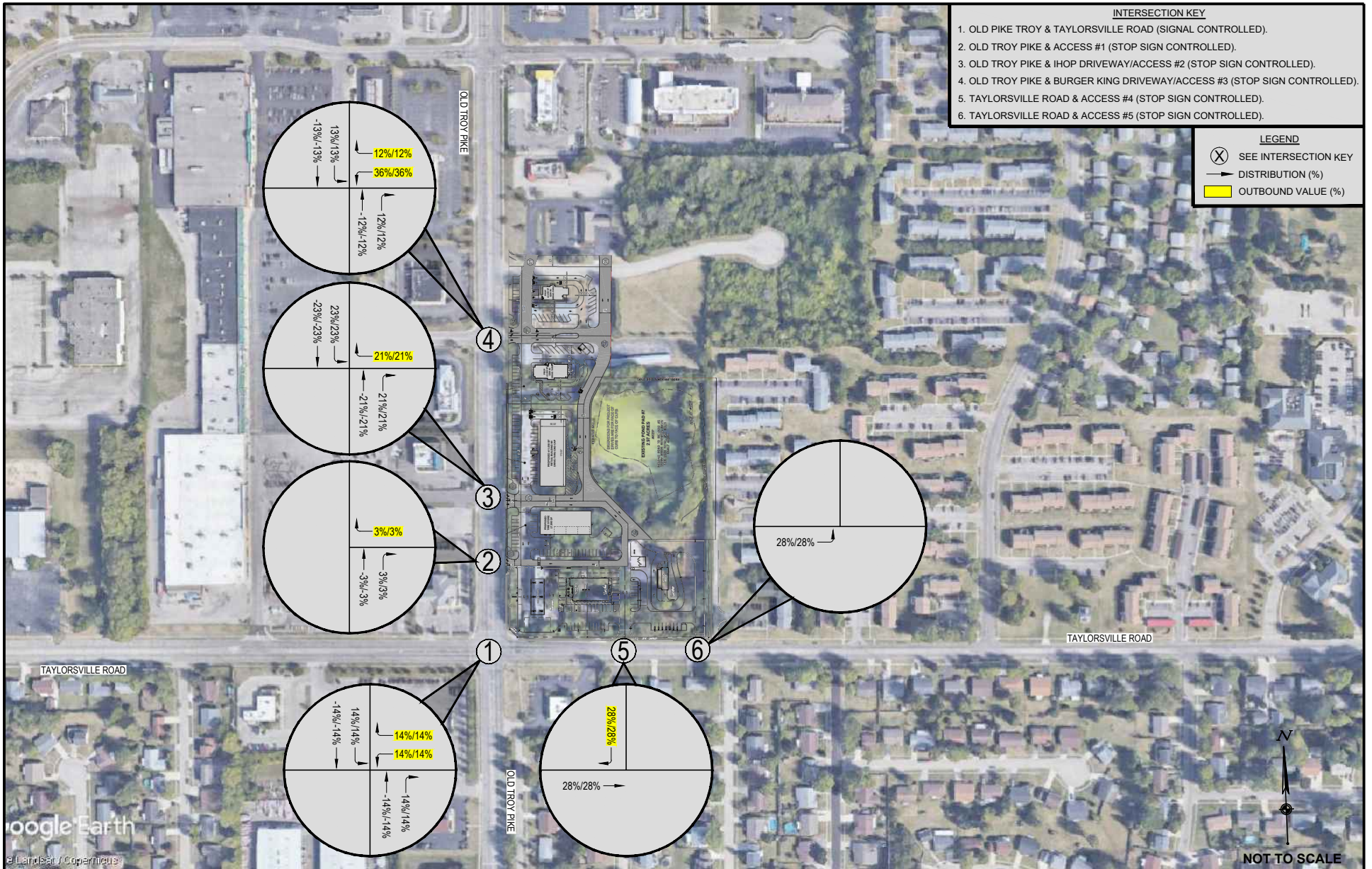
Primary Trips = 318 – 242 = 76 Trips

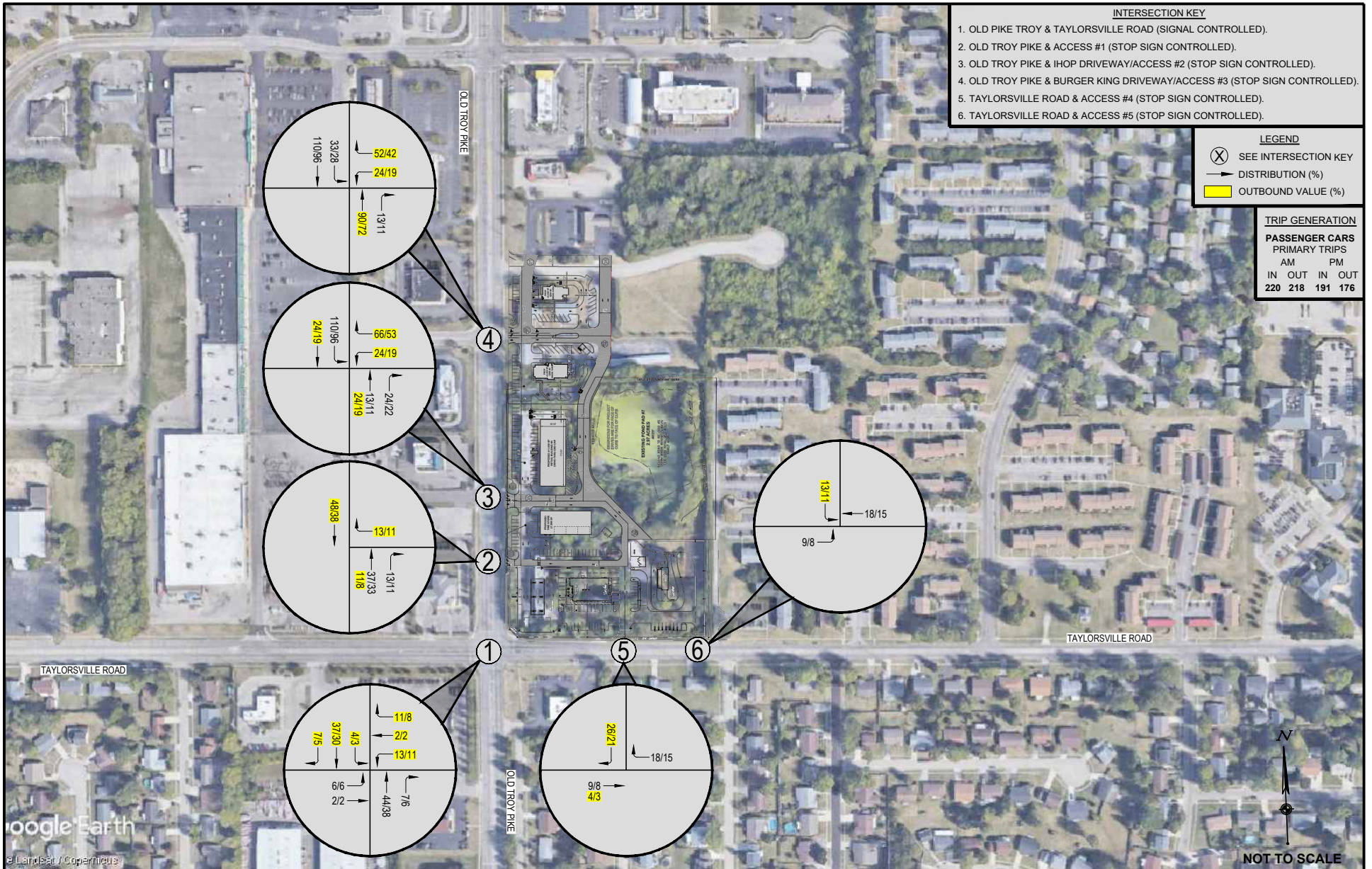
Primary Trips = 76 x 0.50 (50%) = 38 Trips Enter/38 Trips Exit

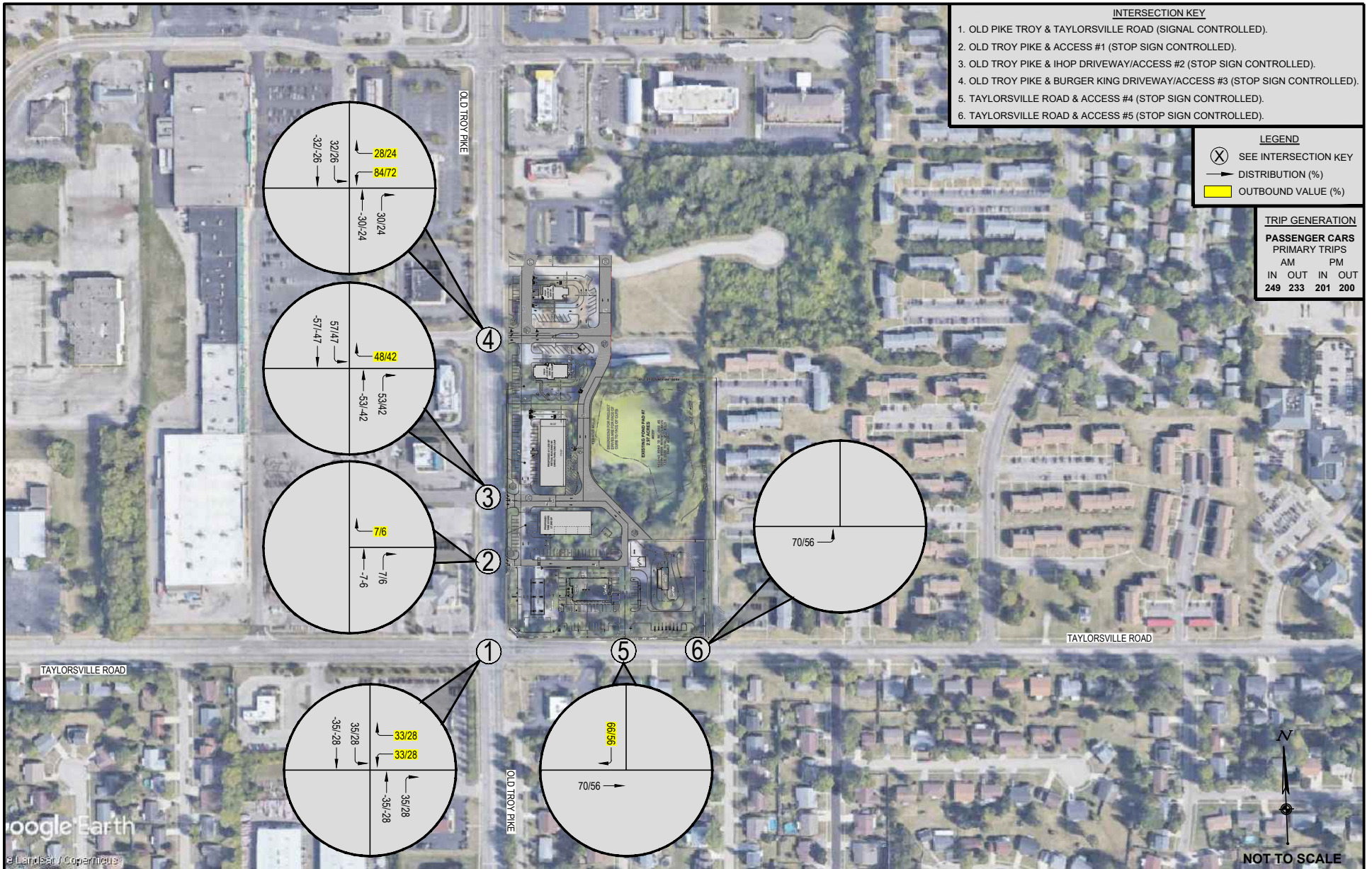
ATTACHMENT B
STUDY FIGURES

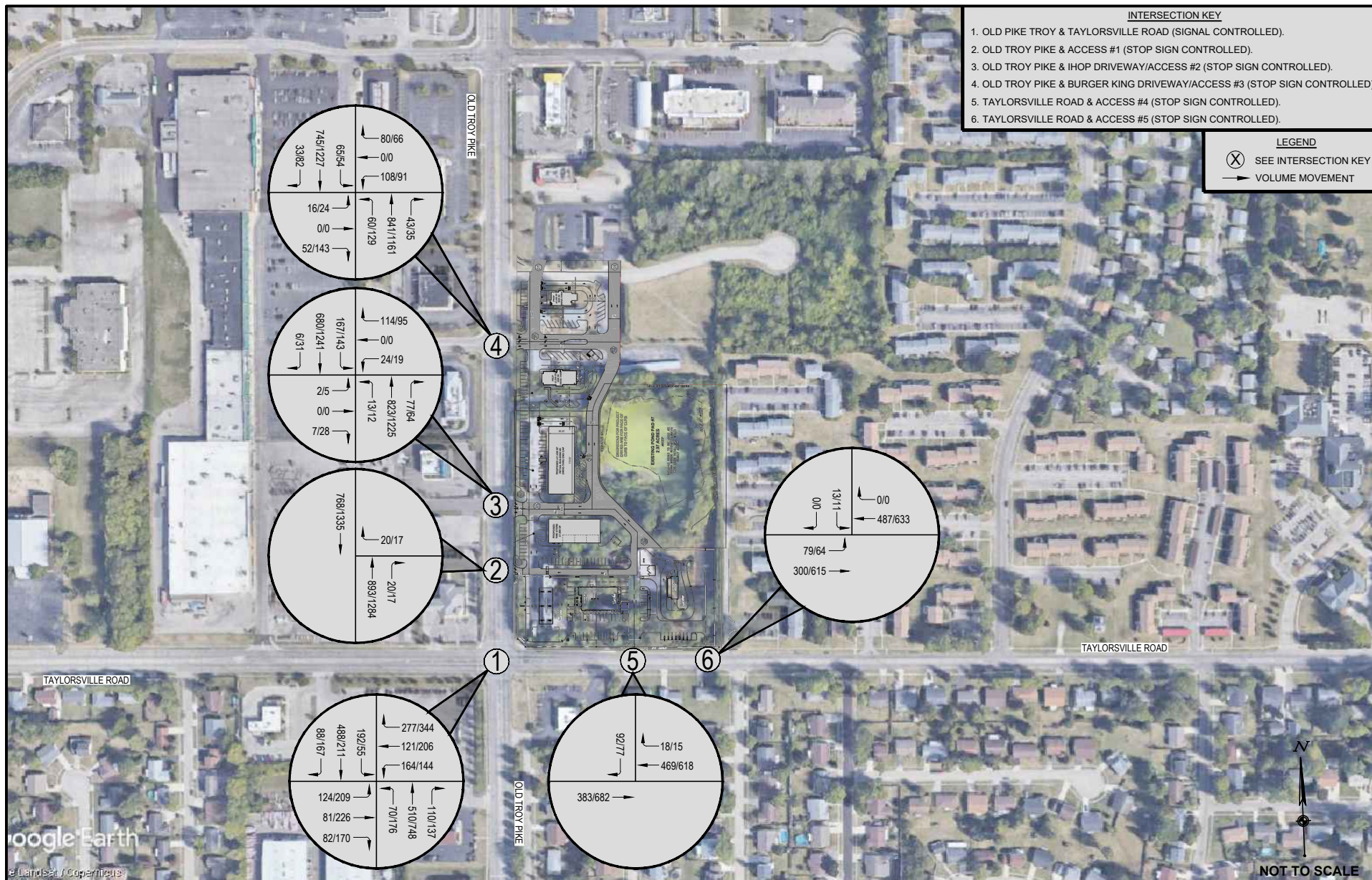


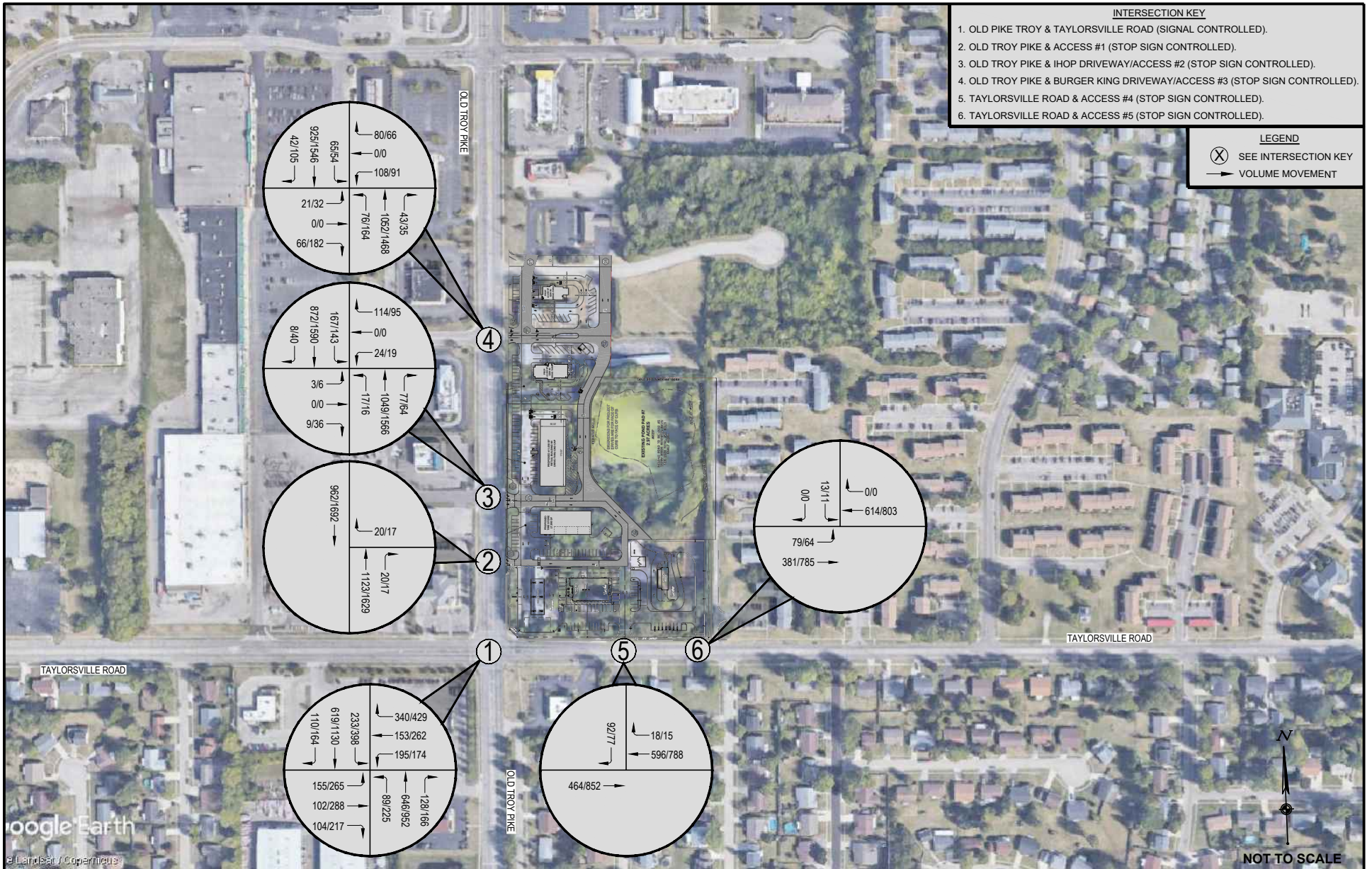
 CESO WWW.CESOINC.COM	DIRECTIONAL DISTRIBUTION OF MULTI-USE DEV. GENERATED TRAFFIC VOLUMES (CARS - PRIMARY)		FIGURE 1.A	
	C-STORE DEVELOPMENT		DATE: 05/26/2022	
			JOB NO.: 760396-01	
	CITY OF HUBER HEIGHTS		DESIGN: TMC	
			DRAWN: TMC	
	MIAMI COUNTY, OHIO		CHECKED: REM	
			PAGE: XX	











ATTACHMENT C
CAPACITY ANALYSIS SUMMARY SHEETS

Lanes, Volumes, Timings

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	82	82	153	121	269	70	529	102	203	504	88
Future Volume (vph)	124	82	82	153	121	269	70	529	102	203	504	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	265		215	160		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	50			65			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3461	0
Flt Permitted	0.673			0.699			0.398			0.323		
Satd. Flow (perm)	1254	1863	1583	1302	1863	1583	741	3539	1583	602	3461	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			179			123		25	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		978			357			1156			241	
Travel Time (s)		19.1			7.0			22.5			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	135	89	89	166	132	292	76	575	111	221	548	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	89	89	166	132	292	76	575	111	221	644	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	
Permitted Phases	4		4	8		8	2		2	6		

Lanes, Volumes, Timings

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	7.0	7.0	20.0	7.0	7.0	20.0	
Minimum Split (s)	13.0	24.0	13.0	13.0	24.0	13.0	13.0	26.0	13.0	13.0	26.0	
Total Split (s)	13.0	24.0	13.0	13.0	24.0	16.0	13.0	27.0	13.0	16.0	30.0	
Total Split (%)	16.3%	30.0%	16.3%	16.3%	30.0%	20.0%	16.3%	33.8%	16.3%	20.0%	37.5%	
Maximum Green (s)	7.0	18.0	7.0	7.0	18.0	10.0	7.0	21.0	7.0	10.0	24.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	16.7	11.7	22.2	16.7	11.7	24.9	37.7	30.1	43.1	44.4	35.4	
Actuated g/C Ratio	0.21	0.15	0.28	0.21	0.15	0.31	0.47	0.38	0.54	0.56	0.44	
v/c Ratio	0.44	0.33	0.17	0.53	0.49	0.47	0.17	0.43	0.12	0.46	0.42	
Control Delay	26.1	33.4	2.4	28.9	37.2	9.7	11.1	22.2	2.8	13.0	18.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	26.1	33.4	2.4	28.9	37.2	9.7	11.1	22.2	2.8	13.0	18.6	
LOS	C	C	A	C	D	A	B	C	A	B	B	
Approach Delay		21.4			21.3			18.3			17.2	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 19.0

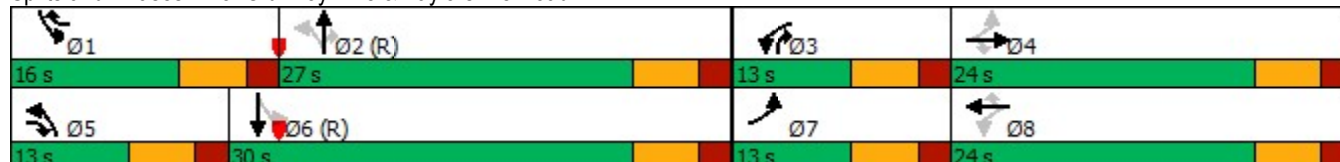
Intersection LOS: B

Intersection Capacity Utilization 64.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Old Troy Pike & Taylorsville Road



HCM 6th Signalized Intersection Summary

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	82	82	153	121	269	70	529	102	203	504	88
Future Volume (veh/h)	124	82	82	153	121	269	70	529	102	203	504	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	135	89	89	166	132	292	76	575	111	221	548	96
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	363	349	409	422	357	472	383	1134	645	422	1072	187
Arrive On Green	0.08	0.19	0.19	0.09	0.19	0.19	0.07	0.32	0.32	0.11	0.35	0.35
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3024	528
Grp Volume(v), veh/h	135	89	89	166	132	292	76	575	111	221	321	323
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1775
Q Serve(g_s), s	4.8	3.3	3.5	6.0	4.9	12.7	2.2	10.5	3.6	6.5	11.4	11.5
Cycle Q Clear(g_c), s	4.8	3.3	3.5	6.0	4.9	12.7	2.2	10.5	3.6	6.5	11.4	11.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	363	349	409	422	357	472	383	1134	645	422	630	630
V/C Ratio(X)	0.37	0.26	0.22	0.39	0.37	0.62	0.20	0.51	0.17	0.52	0.51	0.51
Avail Cap(c_a), veh/h	371	421	470	422	421	526	412	1134	645	455	630	630
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.2	27.8	23.3	23.3	28.2	24.2	16.0	22.1	15.1	16.0	20.3	20.4
Incr Delay (d2), s/veh	0.6	0.4	0.3	0.6	0.6	1.9	0.3	1.6	0.6	1.0	2.9	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	1.4	1.3	2.4	2.2	4.7	0.9	4.4	1.3	2.5	4.9	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.9	28.2	23.6	23.9	28.8	26.0	16.3	23.7	15.7	17.0	23.3	23.3
LnGrp LOS	C	C	C	C	C	C	B	C	B	B	C	C
Approach Vol, veh/h		313			590			762			865	
Approach Delay, s/veh		25.0			26.1			21.8			21.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.5	31.5	13.0	20.9	11.7	34.4	12.7	21.3				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	10.0	21.0	7.0	18.0	7.0	24.0	7.0	18.0				
Max Q Clear Time (g_c+I1), s	8.5	12.5	8.0	5.5	4.2	13.5	6.8	14.7				
Green Ext Time (p_c), s	0.1	2.7	0.0	0.5	0.0	2.8	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			23.2									
HCM 6th LOS			C									

Lanes, Volumes, Timings
7: Old Troy Pike & IHOP Driveway/Access #2

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	7	60	0	107	13	845	69	162	719	6
Future Volume (vph)	2	0	7	60	0	107	13	845	69	162	719	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			50			65		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	0.95
Frt		0.892			0.913			0.989			0.999	
Flt Protected		0.990			0.982		0.950			0.950		
Satd. Flow (prot)	0	1645	0	0	1670	0	1770	5029	0	1770	3536	0
Flt Permitted		0.990			0.982		0.950			0.950		
Satd. Flow (perm)	0	1645	0	0	1670	0	1770	5029	0	1770	3536	0
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		336			329			158			423	
Travel Time (s)		7.6			7.5			3.1			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	0	8	65	0	116	14	918	75	176	782	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	0	0	181	0	14	993	0	176	789	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	60		60	15		60	60		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	53.1%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	36.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕ ↕ ↕			↕	↕ ↕	
Traffic Vol, veh/h	2	0	7	60	0	107	13	845	69	162	719	6
Future Vol, veh/h	2	0	7	60	0	107	13	845	69	162	719	6
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	8	65	0	116	14	918	75	176	782	7

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1533	2159	395	1727	2125	497	789	0	0	993	0	0
Stage 1	1138	1138	-	984	984	-	-	-	-	-	-	-
Stage 2	395	1021	-	743	1141	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	6.94	6.99	6.54	7.14	4.14	-	-	5.34	-	-
Critical Hdwy Stg 1	6.54	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.32	3.67	4.02	3.92	2.22	-	-	3.12	-	-
Pot Cap-1 Maneuver	99	47	604	73	49	444	827	-	-	394	-	-
Stage 1	210	275	-	209	325	-	-	-	-	-	-	-
Stage 2	569	312	-	363	274	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	47	26	604	~ 46	27	444	827	-	-	394	-	-
Mov Cap-2 Maneuver	47	26	-	~ 46	27	-	-	-	-	-	-	-
Stage 1	206	152	-	205	319	-	-	-	-	-	-	-
Stage 2	413	307	-	198	152	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	28	\$ 412.1	0.1	3.9
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	827	-	-	166 108	394	-	-
HCM Lane V/C Ratio	0.017	-	-	0.059 1.681	0.447	-	-
HCM Control Delay (s)	9.4	-	-	28 \$ 412.1	21.3	-	-
HCM Lane LOS	A	-	-	D F	C	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2 14	2.2	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	0	52	69	0	85	60	864	50	74	801	33
Future Volume (vph)	16	0	52	69	0	85	60	864	50	74	801	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	110		0	100		0	0		50
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.850			0.850				0.850		0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1583	0	1770	3539	1583	1770	3518	0
Flt Permitted	0.697			0.567			0.245			0.229		
Satd. Flow (perm)	1298	1583	0	1056	1583	0	456	3539	1583	427	3518	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		349			393				106		4	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		353			430			423			803	
Travel Time (s)		8.0			9.8			8.2			15.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	0	57	75	0	92	65	939	54	80	871	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	57	0	75	92	0	65	939	54	80	907	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	60		60	15		60	60		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases	4			8			2		2	6		

Lanes, Volumes, Timings

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	20.0	7.0	7.0	20.0	
Minimum Split (s)	13.0	24.0		13.0	24.0		13.0	26.0	13.0	13.0	26.0	
Total Split (s)	13.0	24.0		13.0	37.0		13.0	30.0	13.0	13.0	30.0	
Total Split (%)	14.0%	25.8%		14.0%	39.8%		14.0%	32.3%	14.0%	14.0%	32.3%	
Maximum Green (s)	7.0	18.0		7.0	31.0		7.0	24.0	7.0	7.0	24.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
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)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	15.0	10.0		17.4	15.2		58.8	54.1	64.5	59.2	54.3	
Actuated g/C Ratio	0.16	0.11		0.19	0.16		0.63	0.58	0.69	0.64	0.58	
v/c Ratio	0.07	0.12		0.30	0.16		0.17	0.46	0.05	0.21	0.44	
Control Delay	27.6	0.5		31.4	0.6		8.1	16.1	0.3	8.4	15.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	27.6	0.5		31.4	0.6		8.1	16.1	0.3	8.4	15.6	
LOS	C	A		C	A		A	B	A	A	B	
Approach Delay		6.7			14.4			14.8			15.0	
Approach LOS		A			B			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 93

Actuated Cycle Length: 93

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 14.6

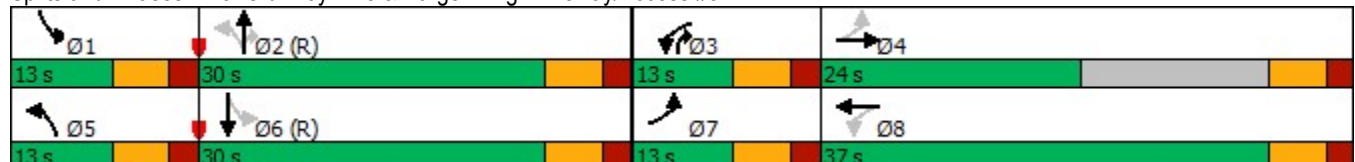
Intersection LOS: B

Intersection Capacity Utilization 55.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 8: Old Troy Pike & Burger King Driveway/Access #3



HCM 6th Signalized Intersection Summary

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	0	52	69	0	85	60	864	50	74	801	33
Future Volume (veh/h)	16	0	52	69	0	85	60	864	50	74	801	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	0	57	75	0	92	65	939	54	80	871	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	244	0	168	290	0	228	400	1797	904	390	1774	73
Arrive On Green	0.03	0.00	0.11	0.06	0.00	0.14	0.06	0.51	0.51	0.07	0.51	0.51
Sat Flow, veh/h	1781	0	1585	1781	0	1585	1781	3554	1585	1781	3478	144
Grp Volume(v), veh/h	17	0	57	75	0	92	65	939	54	80	445	462
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1585	1781	1777	1585	1781	1777	1844
Q Serve(g_s), s	0.8	0.0	3.1	3.4	0.0	4.9	1.5	16.5	1.4	1.9	15.2	15.2
Cycle Q Clear(g_c), s	0.8	0.0	3.1	3.4	0.0	4.9	1.5	16.5	1.4	1.9	15.2	15.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	244	0	168	290	0	228	400	1797	904	390	907	941
V/C Ratio(X)	0.07	0.00	0.34	0.26	0.00	0.40	0.16	0.52	0.06	0.20	0.49	0.49
Avail Cap(c_a), veh/h	330	0	307	309	0	528	425	1797	904	407	907	941
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	0.0	38.5	33.5	0.0	36.2	10.4	15.4	8.9	10.6	14.9	14.9
Incr Delay (d2), s/veh	0.1	0.0	1.2	0.5	0.0	1.2	0.2	1.1	0.1	0.3	1.9	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.3	1.5	0.0	2.0	0.6	6.4	0.5	0.7	6.1	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.4	0.0	39.7	33.9	0.0	37.3	10.6	16.5	9.0	10.9	16.8	16.7
LnGrp LOS	D	A	D	C	A	D	B	B	A	B	B	B
Approach Vol, veh/h	74			167			1058			987		
Approach Delay, s/veh	38.7			35.8			15.8			16.3		
Approach LOS	D			D			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.1	53.0	12.0	15.9	11.7	53.5	8.5	19.4				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	24.0	7.0	18.0	7.0	24.0	7.0	31.0				
Max Q Clear Time (g_c+I1), s	3.9	18.5	5.4	5.1	3.5	17.2	2.8	6.9				
Green Ext Time (p_c), s	0.0	2.9	0.0	0.2	0.0	3.0	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay	18.2											
HCM 6th LOS	B											

Lanes, Volumes, Timings
12: Old Troy Pike & Access #1

05/26/2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	17	908	21	0	795
Future Volume (vph)	0	17	908	21	0	795
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	25	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.95
Frt		0.865	0.997			
Flt Protected						
Satd. Flow (prot)	0	1611	5070	0	1863	3539
Flt Permitted						
Satd. Flow (perm)	0	1611	5070	0	1863	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	296		241			158
Travel Time (s)	6.7		5.5			3.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	18	987	23	0	864
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	18	1010	0	0	864
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60		60	60	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	28.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM 6th TWSC
12: Old Troy Pike & Access #1

05/26/2022

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↘ ↘ ↘	↗ ↘ ↘ ↘		↗ ↘	↗ ↘
Traffic Vol, veh/h	0	17	908	21	0	795
Future Vol, veh/h	0	17	908	21	0	795
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	-	-	25	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	987	23	0	864

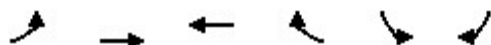
Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	505	0 0 1010 0
Stage 1	-	-	- - - -
Stage 2	-	-	- - - -
Critical Hdwy	-	7.14	- - 5.34 -
Critical Hdwy Stg 1	-	-	- - - -
Critical Hdwy Stg 2	-	-	- - - -
Follow-up Hdwy	-	3.92	- - 3.12 -
Pot Cap-1 Maneuver	0	439	- - 387 -
Stage 1	0	-	- - - -
Stage 2	0	-	- - - -
Platoon blocked, %		-	- - -
Mov Cap-1 Maneuver	-	439	- - 387 -
Mov Cap-2 Maneuver	-	-	- - - -
Stage 1	-	-	- - - -
Stage 2	-	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 439	387	-
HCM Lane V/C Ratio	-	- 0.042	-	-
HCM Control Delay (s)	-	- 13.6	0	-
HCM Lane LOS	-	- B	A	-
HCM 95th %tile Q(veh)	-	- 0.1	0	-

Lanes, Volumes, Timings
14: Taylorsville Road & Access #5

05/26/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	84	303	485	5	16	0
Future Volume (vph)	84	303	485	5	16	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	65			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1863	1861	0	1770	0
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1863	1861	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		194	1330		345	
Travel Time (s)		4.4	30.2		7.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	329	527	5	17	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	91	329	532	0	17	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60			60	60	60
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	43.8%			ICU Level of Service A		
Analysis Period (min)	15					

HCM 6th TWSC
14: Taylorsville Road & Access #5

05/26/2022

Intersection

Int Delay, s/veh 1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	84	303	485	5	16	0
Future Vol, veh/h	84	303	485	5	16	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	65	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	91	329	527	5	17	0

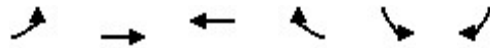
Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	532	0	0 1041 530
Stage 1	-	-	- 530 -
Stage 2	-	-	- 511 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1036	-	- 255 549
Stage 1	-	-	- 590 -
Stage 2	-	-	- 602 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1036	-	- 233 549
Mov Cap-2 Maneuver	-	-	- 365 -
Stage 1	-	-	- 538 -
Stage 2	-	-	- 602 -

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	15.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1036	-	-	-	365
HCM Lane V/C Ratio	0.088	-	-	-	0.048
HCM Control Delay (s)	8.8	-	-	-	15.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1

Lanes, Volumes, Timings
16: Taylorsville Road & Access #4

05/26/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑↑			↗
Traffic Volume (vph)	0	387	470	15	0	72
Future Volume (vph)	0	387	470	15	0	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt			0.995			0.865
Flt Protected						
Satd. Flow (prot)	0	1863	3522	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	1863	3522	0	0	1611
Link Speed (mph)		30	30		30	
Link Distance (ft)		357	194		328	
Travel Time (s)		8.1	4.4		7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	421	511	16	0	78
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	421	527	0	0	78
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60			60	60	60
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 24.6%						
ICU Level of Service A						
Analysis Period (min) 15						

HCM 6th TWSC
16: Taylorsville Road & Access #4

05/26/2022

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑↑			↑
Traffic Vol, veh/h	0	387	470	15	0	72
Future Vol, veh/h	0	387	470	15	0	72
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	421	511	16	0	78

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	- 0 - 264
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - 6.93
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - 3.319
Pot Cap-1 Maneuver	0	-	- 0 735
Stage 1	0	-	- 0 -
Stage 2	0	-	- 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - 735
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	735
HCM Lane V/C Ratio	-	-	-	0.106
HCM Control Delay (s)	-	-	-	10.5
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.4

Lanes, Volumes, Timings

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	81	82	164	121	277	70	510	110	192	488	88
Future Volume (vph)	124	81	82	164	121	277	70	510	110	192	488	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	265		215	160		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	50			65			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3458	0
Flt Permitted	0.673			0.700			0.407			0.339		
Satd. Flow (perm)	1254	1863	1583	1304	1863	1583	758	3539	1583	631	3458	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			184			123		26	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		978			357			1156			241	
Travel Time (s)		19.1			7.0			22.5			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	135	88	89	178	132	301	76	554	120	209	530	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	88	89	178	132	301	76	554	120	209	626	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	
Permitted Phases	4		4	8		8	2		2	6		

Lanes, Volumes, Timings

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	7.0	7.0	20.0	7.0	7.0	20.0	
Minimum Split (s)	13.0	24.0	13.0	13.0	24.0	13.0	13.0	26.0	13.0	13.0	26.0	
Total Split (s)	13.0	24.0	13.0	13.0	24.0	16.0	13.0	27.0	13.0	16.0	30.0	
Total Split (%)	16.3%	30.0%	16.3%	16.3%	30.0%	20.0%	16.3%	33.8%	16.3%	20.0%	37.5%	
Maximum Green (s)	7.0	18.0	7.0	7.0	18.0	10.0	7.0	21.0	7.0	10.0	24.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	16.7	11.7	22.2	16.7	11.7	24.7	37.9	30.3	43.3	44.2	35.4	
Actuated g/C Ratio	0.21	0.15	0.28	0.21	0.15	0.31	0.47	0.38	0.54	0.55	0.44	
v/c Ratio	0.44	0.32	0.17	0.57	0.49	0.49	0.17	0.41	0.13	0.42	0.40	
Control Delay	26.1	33.3	2.4	30.3	37.2	9.9	11.1	21.9	3.1	12.5	18.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	26.1	33.3	2.4	30.3	37.2	9.9	11.1	21.9	3.1	12.5	18.4	
LOS	C	C	A	C	D	A	B	C	A	B	B	
Approach Delay		21.4			21.8			17.8			17.0	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 18.9

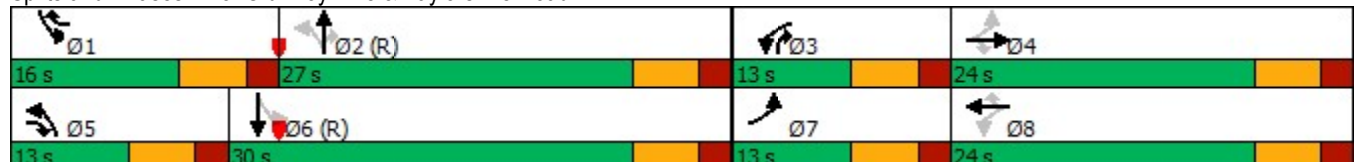
Intersection LOS: B

Intersection Capacity Utilization 64.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Old Troy Pike & Taylorsville Road



HCM 6th Signalized Intersection Summary

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	81	82	164	121	277	70	510	110	192	488	88
Future Volume (veh/h)	124	81	82	164	121	277	70	510	110	192	488	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	135	88	89	178	132	301	76	554	120	209	530	96
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	367	359	417	429	367	473	385	1132	643	419	1051	190
Arrive On Green	0.08	0.19	0.19	0.09	0.20	0.20	0.07	0.32	0.32	0.10	0.35	0.35
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3007	543
Grp Volume(v), veh/h	135	88	89	178	132	301	76	554	120	209	312	314
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1773
Q Serve(g_s), s	4.8	3.2	3.5	6.4	4.9	13.2	2.2	10.1	3.9	6.2	11.1	11.2
Cycle Q Clear(g_c), s	4.8	3.2	3.5	6.4	4.9	13.2	2.2	10.1	3.9	6.2	11.1	11.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	367	359	417	429	367	473	385	1132	643	419	621	619
V/C Ratio(X)	0.37	0.25	0.21	0.41	0.36	0.64	0.20	0.49	0.19	0.50	0.50	0.51
Avail Cap(c_a), veh/h	375	421	470	429	421	519	413	1132	643	460	621	619
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.9	27.4	23.0	23.2	27.8	24.3	16.1	22.0	15.3	16.1	20.5	20.6
Incr Delay (d2), s/veh	0.6	0.4	0.3	0.6	0.6	2.2	0.2	1.5	0.6	0.9	2.9	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	1.4	1.3	2.6	2.2	4.9	0.9	4.2	1.4	2.4	4.8	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.5	27.8	23.3	23.8	28.4	26.6	16.3	23.5	15.9	17.0	23.4	23.5
LnGrp LOS	C	C	C	C	C	C	B	C	B	B	C	C
Approach Vol, veh/h	312			611			750			835		
Approach Delay, s/veh	24.6			26.2			21.6			21.9		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.2	31.5	13.0	21.3	11.7	34.0	12.7	21.7				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	10.0	21.0	7.0	18.0	7.0	24.0	7.0	18.0				
Max Q Clear Time (g_c+l1), s	8.2	12.1	8.4	5.5	4.2	13.2	6.8	15.2				
Green Ext Time (p_c), s	0.1	2.7	0.0	0.5	0.0	2.8	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay	23.2											
HCM 6th LOS	C											

Lanes, Volumes, Timings

7: Old Troy Pike & IHOP Driveway/Access #2

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			  	
Traffic Volume (vph)	2	0	7	24	0	114	13	823	77	167	680	6
Future Volume (vph)	2	0	7	24	0	114	13	823	77	167	680	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			50			65		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	0.95
Frt		0.892			0.888			0.987			0.999	
Flt Protected		0.990			0.991		0.950			0.950		
Satd. Flow (prot)	0	1645	0	0	1639	0	1770	5019	0	1770	3536	0
Flt Permitted		0.990			0.991		0.950			0.950		
Satd. Flow (perm)	0	1645	0	0	1639	0	1770	5019	0	1770	3536	0
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		336			329			158			423	
Travel Time (s)		7.6			7.5			3.1			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	0	8	26	0	124	14	895	84	182	739	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	0	0	150	0	14	979	0	182	746	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	60		60	15		60	60		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	47.3%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	7.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	7	24	0	114	13	823	77	167	680	6
Future Vol, veh/h	2	0	7	24	0	114	13	823	77	167	680	6
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	8	26	0	124	14	895	84	182	739	7
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1493	2114	373	1699	2075	490	746	0	0	979	0	0
Stage 1	1107	1107	-	965	965	-	-	-	-	-	-	-
Stage 2	386	1007	-	734	1110	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	6.94	6.99	6.54	7.14	4.14	-	-	5.34	-	-
Critical Hdwy Stg 1	6.54	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.32	3.67	4.02	3.92	2.22	-	-	3.12	-	-
Pot Cap-1 Maneuver	105	50	624	76	53	448	858	-	-	401	-	-
Stage 1	219	284	-	215	331	-	-	-	-	-	-	-
Stage 2	576	317	-	367	283	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	48	27	624	48	28	448	858	-	-	401	-	-
Mov Cap-2 Maneuver	48	27	-	48	28	-	-	-	-	-	-	-
Stage 1	215	155	-	212	326	-	-	-	-	-	-	-
Stage 2	410	312	-	198	155	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	27.5		78.5		0.1		4.1					
HCM LOS	D		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	858	-	-	170	183	401	-	-				
HCM Lane V/C Ratio	0.016	-	-	0.058	0.82	0.453	-	-				
HCM Control Delay (s)	9.3	-	-	27.5	78.5	21.2	-	-				
HCM Lane LOS	A	-	-	D	F	C	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.2	5.7	2.3	-	-				

Lanes, Volumes, Timings

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	0	52	108	0	80	60	841	43	65	745	33
Future Volume (vph)	16	0	52	108	0	80	60	841	43	65	745	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	110		0	100		0	0		50
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.850			0.850				0.850		0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1583	0	1770	3539	1583	1770	3518	0
Flt Permitted	0.701			0.493			0.262			0.232		
Satd. Flow (perm)	1306	1583	0	918	1583	0	488	3539	1583	432	3518	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		320			394				106		5	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		353			430			423			803	
Travel Time (s)		8.0			9.8			8.2			15.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	0	57	117	0	87	65	914	47	71	810	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	57	0	117	87	0	65	914	47	71	846	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	60		60	15		60	60		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases	4			8			2		2	6		

Lanes, Volumes, Timings

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	20.0	7.0	7.0	20.0	
Minimum Split (s)	13.0	24.0		13.0	24.0		13.0	26.0	13.0	13.0	26.0	
Total Split (s)	13.0	24.0		13.0	37.0		13.0	30.0	13.0	13.0	30.0	
Total Split (%)	14.0%	25.8%		14.0%	39.8%		14.0%	32.3%	14.0%	14.0%	32.3%	
Maximum Green (s)	7.0	18.0		7.0	31.0		7.0	24.0	7.0	7.0	24.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
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)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	15.0	10.0		18.0	15.2		55.7	49.8	64.6	55.9	49.9	
Actuated g/C Ratio	0.16	0.11		0.19	0.16		0.60	0.54	0.69	0.60	0.54	
v/c Ratio	0.07	0.13		0.47	0.15		0.17	0.48	0.04	0.19	0.45	
Control Delay	27.6	0.6		36.4	0.5		8.1	16.4	0.1	8.4	15.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	27.6	0.6		36.4	0.5		8.1	16.4	0.1	8.4	15.8	
LOS	C	A		D	A		A	B	A	A	B	
Approach Delay		6.8			21.1			15.1			15.2	
Approach LOS		A			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 93

Actuated Cycle Length: 93

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 15.4

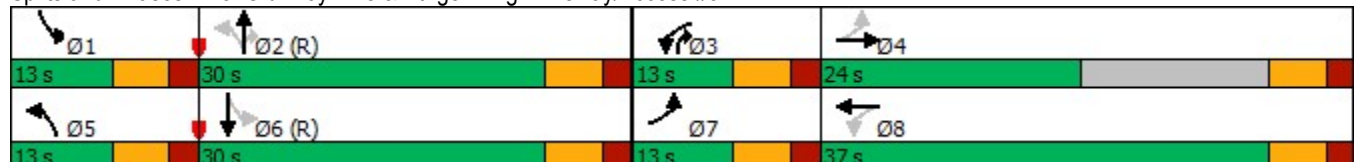
Intersection LOS: B

Intersection Capacity Utilization 56.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 8: Old Troy Pike & Burger King Driveway/Access #3



HCM 6th Signalized Intersection Summary

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	0	52	108	0	80	60	841	43	65	745	33
Future Volume (veh/h)	16	0	52	108	0	80	60	841	43	65	745	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	0	57	117	0	87	65	914	47	71	810	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	262	0	168	308	0	244	413	1770	908	388	1733	77
Arrive On Green	0.03	0.00	0.11	0.07	0.00	0.15	0.06	0.50	0.50	0.06	0.50	0.50
Sat Flow, veh/h	1781	0	1585	1781	0	1585	1781	3554	1585	1781	3465	154
Grp Volume(v), veh/h	17	0	57	117	0	87	65	914	47	71	415	431
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1585	1781	1777	1585	1781	1777	1843
Q Serve(g_s), s	0.8	0.0	3.1	5.3	0.0	4.6	1.6	16.2	1.2	1.7	14.2	14.2
Cycle Q Clear(g_c), s	0.8	0.0	3.1	5.3	0.0	4.6	1.6	16.2	1.2	1.7	14.2	14.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	262	0	168	308	0	244	413	1770	908	388	888	921
V/C Ratio(X)	0.06	0.00	0.34	0.38	0.00	0.36	0.16	0.52	0.05	0.18	0.47	0.47
Avail Cap(c_a), veh/h	349	0	307	309	0	528	438	1770	908	409	888	921
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	0.0	38.6	33.1	0.0	35.2	10.5	15.8	8.7	10.9	15.2	15.2
Incr Delay (d2), s/veh	0.1	0.0	1.2	0.8	0.0	0.9	0.2	1.1	0.1	0.2	1.8	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.3	2.3	0.0	1.8	0.6	6.3	0.4	0.6	5.8	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.4	0.0	39.8	33.8	0.0	36.1	10.7	16.9	8.9	11.1	16.9	16.9
LnGrp LOS	D	A	D	C	A	D	B	B	A	B	B	B
Approach Vol, veh/h	74			204			1026			917		
Approach Delay, s/veh	38.8			34.8			16.1			16.5		
Approach LOS	D			C			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.9	52.3	13.0	15.8	11.7	52.5	8.5	20.3				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	24.0	7.0	18.0	7.0	24.0	7.0	31.0				
Max Q Clear Time (g_c+I1), s	3.7	18.2	7.3	5.1	3.6	16.2	2.8	6.6				
Green Ext Time (p_c), s	0.0	3.0	0.0	0.2	0.0	3.1	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay	18.7											
HCM 6th LOS	B											

Lanes, Volumes, Timings

12: Old Troy Pike & Access #1

05/26/2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			  			 
Traffic Volume (vph)	0	20	893	20	0	768
Future Volume (vph)	0	20	893	20	0	768
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	25	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.95
Frt		0.865	0.997			
Flt Protected						
Satd. Flow (prot)	0	1611	5070	0	1863	3539
Flt Permitted						
Satd. Flow (perm)	0	1611	5070	0	1863	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	296		241			158
Travel Time (s)	6.7		5.5			3.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	22	971	22	0	835
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	22	993	0	0	835
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60		60	60	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	27.7%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↘ ↘ ↘	↗ ↘ ↘ ↘		↗ ↘	↗ ↘
Traffic Vol, veh/h	0	20	893	20	0	768
Future Vol, veh/h	0	20	893	20	0	768
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	-	-	25	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	22	971	22	0	835
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	497	0	0	993	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	0	444	-	-	394	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	444	-	-	394	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	13.5	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	444	394	-	
HCM Lane V/C Ratio	-	-	0.049	-	-	
HCM Control Delay (s)	-	-	13.5	0	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.2	0	-	

Lanes, Volumes, Timings
14: Taylorsville Road & Access #5

05/26/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	79	300	487	0	13	0
Future Volume (vph)	79	300	487	0	13	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	65			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1863	1863	0	1770	0
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1863	1863	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		194	1330		345	
Travel Time (s)		4.4	30.2		7.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	86	326	529	0	14	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	86	326	529	0	14	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60			60	60	60
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type: Other						
Control Type: Unsignalized						
Intersection Capacity Utilization 43.3%						
ICU Level of Service A						
Analysis Period (min) 15						

HCM 6th TWSC
14: Taylorsville Road & Access #5

05/26/2022

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	79	300	487	0	13	0
Future Vol, veh/h	79	300	487	0	13	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	65	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	86	326	529	0	14	0

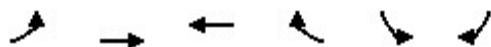
Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	529	0	0 1027 529
Stage 1	-	-	- 529 -
Stage 2	-	-	- 498 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1038	-	- 260 550
Stage 1	-	-	- 591 -
Stage 2	-	-	- 611 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1038	-	- 238 550
Mov Cap-2 Maneuver	-	-	- 370 -
Stage 1	-	-	- 542 -
Stage 2	-	-	- 611 -

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	15.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1038	-	-	-	370
HCM Lane V/C Ratio	0.083	-	-	-	0.038
HCM Control Delay (s)	8.8	-	-	-	15.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1

Lanes, Volumes, Timings
16: Taylorsville Road & Access #4

05/26/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑↑			↗
Traffic Volume (vph)	0	383	469	18	0	92
Future Volume (vph)	0	383	469	18	0	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt			0.994			0.865
Flt Protected						
Satd. Flow (prot)	0	1863	3518	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	1863	3518	0	0	1611
Link Speed (mph)		30	30		30	
Link Distance (ft)		357	194		328	
Travel Time (s)		8.1	4.4		7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	416	510	20	0	100
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	416	530	0	0	100
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60			60	60	60
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 25.9%				ICU Level of Service A		
Analysis Period (min) 15						

HCM 6th TWSC
16: Taylorsville Road & Access #4

05/26/2022

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑↑			↑
Traffic Vol, veh/h	0	383	469	18	0	92
Future Vol, veh/h	0	383	469	18	0	92
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	416	510	20	0	100

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	734
HCM Lane V/C Ratio	-	-	-	0.136
HCM Control Delay (s)	-	-	-	10.7
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.5

Lanes, Volumes, Timings

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	208	226	170	137	206	341	176	765	123	318	902	130
Future Volume (vph)	208	226	170	137	206	341	176	765	123	318	902	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	265		215	160		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	50			65			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3472	0
Flt Permitted	0.439			0.384			0.141			0.143		
Satd. Flow (perm)	818	1863	1583	715	1863	1583	263	3539	1583	266	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			109			134		19	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		978			357			1156			241	
Travel Time (s)		19.1			7.0			22.5			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	226	246	185	149	224	371	191	832	134	346	980	141
Shared Lane Traffic (%)												
Lane Group Flow (vph)	226	246	185	149	224	371	191	832	134	346	1121	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	
Permitted Phases	4		4	8		8	2		2	6		

Lanes, Volumes, Timings

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	7.0	7.0	20.0	7.0	7.0	20.0	
Minimum Split (s)	13.0	24.0	13.0	13.0	24.0	13.0	13.0	26.0	13.0	13.0	26.0	
Total Split (s)	13.0	24.0	15.0	13.0	24.0	20.0	15.0	33.0	13.0	20.0	38.0	
Total Split (%)	14.4%	26.7%	16.7%	14.4%	26.7%	22.2%	16.7%	36.7%	14.4%	22.2%	42.2%	
Maximum Green (s)	7.0	18.0	9.0	7.0	18.0	14.0	9.0	27.0	7.0	14.0	32.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	22.7	15.7	30.8	22.7	15.7	36.7	37.3	28.3	41.3	48.7	34.2	
Actuated g/C Ratio	0.25	0.17	0.34	0.25	0.17	0.41	0.41	0.31	0.46	0.54	0.38	
v/c Ratio	0.81	0.76	0.30	0.57	0.69	0.52	0.73	0.75	0.17	0.88	0.84	
Control Delay	48.7	50.3	10.2	32.1	46.0	16.4	35.8	33.2	3.3	52.4	32.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	48.7	50.3	10.2	32.1	46.0	16.4	35.8	33.2	3.3	52.4	32.4	
LOS	D	D	B	C	D	B	D	C	A	D	C	
Approach Delay		38.5			28.5			30.1			37.1	
Approach LOS		D			C			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 33.7

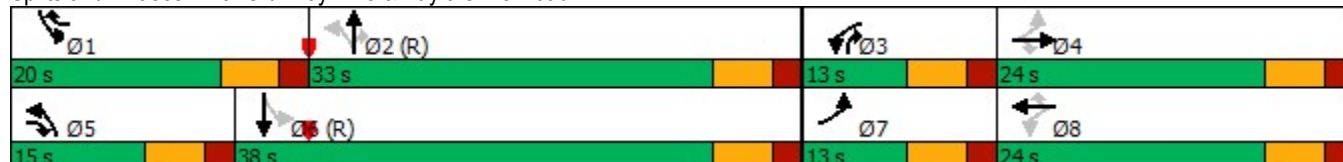
Intersection LOS: C

Intersection Capacity Utilization 81.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Old Troy Pike & Taylorsville Road



HCM 6th Signalized Intersection Summary

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	226	170	137	206	341	176	765	123	318	902	130
Future Volume (veh/h)	208	226	170	137	206	341	176	765	123	318	902	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	226	246	185	149	224	371	191	832	134	346	980	141
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	374	466	294	374	553	277	1089	609	401	1128	162
Arrive On Green	0.08	0.20	0.20	0.08	0.20	0.20	0.09	0.31	0.31	0.10	0.24	0.24
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3118	448
Grp Volume(v), veh/h	226	246	185	149	224	371	191	832	134	346	558	563
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1790
Q Serve(g_s), s	7.0	10.9	8.4	5.9	9.8	17.9	6.5	19.1	5.1	11.3	27.1	27.2
Cycle Q Clear(g_c), s	7.0	10.9	8.4	5.9	9.8	17.9	6.5	19.1	5.1	11.3	27.1	27.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	294	374	466	294	374	553	277	1089	609	401	643	647
V/C Ratio(X)	0.77	0.66	0.40	0.51	0.60	0.67	0.69	0.76	0.22	0.86	0.87	0.87
Avail Cap(c_a), veh/h	294	374	466	294	374	553	288	1089	609	412	643	647
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	33.2	25.4	26.4	32.7	24.9	21.9	28.3	18.6	20.9	32.0	32.0
Incr Delay (d2), s/veh	11.8	4.2	0.5	1.4	2.6	3.1	6.5	5.1	0.8	16.8	14.8	14.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	5.2	3.1	2.5	4.6	6.8	3.0	8.5	1.9	6.6	14.6	14.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.2	37.3	26.0	27.8	35.3	28.0	28.4	33.4	19.5	37.6	46.8	46.8
LnGrp LOS	D	D	C	C	D	C	C	C	B	D	D	D
Approach Vol, veh/h	657			744			1157			1467		
Approach Delay, s/veh	35.8			30.2			30.9			44.6		
Approach LOS	D			C			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.4	33.6	13.0	24.0	14.4	38.6	13.0	24.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	14.0	27.0	7.0	18.0	9.0	32.0	7.0	18.0				
Max Q Clear Time (g_c+l1), s	13.3	21.1	7.9	12.9	8.5	29.2	9.0	19.9				
Green Ext Time (p_c), s	0.1	2.9	0.0	0.9	0.0	1.8	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	36.6											
HCM 6th LOS	D											

Lanes, Volumes, Timings

7: Old Troy Pike & IHOP Driveway/Access #2

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	28	42	0	73	12	1276	32	94	1277	31
Future Volume (vph)	5	0	28	42	0	73	12	1276	32	94	1277	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			50			65		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	0.95
Frt		0.884			0.915			0.996			0.996	
Flt Protected		0.993			0.982		0.950			0.950		
Satd. Flow (prot)	0	1635	0	0	1674	0	1770	5065	0	1770	3525	0
Flt Permitted		0.993			0.982		0.950			0.950		
Satd. Flow (perm)	0	1635	0	0	1674	0	1770	5065	0	1770	3525	0
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		336			329			158			423	
Travel Time (s)		7.6			7.5			3.1			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	0	30	46	0	79	13	1387	35	102	1388	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	35	0	0	125	0	13	1422	0	102	1422	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	63.1%						ICU Level of Service B					
Analysis Period (min)	15											

HCM 6th TWSC
7: Old Troy Pike & IHOP Driveway/Access #2

05/26/2022

Intersection												
Int Delay, s/veh	44.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙↑↑↑	↑↑↑		↙	↑↑	
Traffic Vol, veh/h	5	0	28	42	0	73	12	1276	32	94	1277	31
Future Vol, veh/h	5	0	28	42	0	73	12	1276	32	94	1277	31
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	30	46	0	79	13	1387	35	102	1388	34
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2190	3057	711	2329	3057	711	1422	0	0	1422	0	0
Stage 1	1609	1609	-	1431	1431	-	-	-	-	-	-	-
Stage 2	581	1448	-	898	1626	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	6.94	6.99	6.54	7.14	4.14	-	-	5.34	-	-
Critical Hdwy Stg 1	6.54	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.32	3.67	4.02	3.92	2.22	-	-	3.12	-	-
Pot Cap-1 Maneuver	35	12	375	~ 28	12	322	475	-	-	244	-	-
Stage 1	107	162	-	101	198	-	-	-	-	-	-	-
Stage 2	438	195	-	293	159	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	17	7	375	~ 17	7	322	475	-	-	244	-	-
Mov Cap-2 Maneuver	17	7	-	~ 17	7	-	-	-	-	-	-	-
Stage 1	104	94	-	98	193	-	-	-	-	-	-	-
Stage 2	321	190	-	157	93	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	70.4		\$ 1059.7		0.1		2					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	475	-	-	89	43	244	-	-				
HCM Lane V/C Ratio	0.027	-	-	0.403	2.907	0.419	-	-				
HCM Control Delay (s)	12.8	-	-	70.4	\$ 1059.7	30	-	-				
HCM Lane LOS	B	-	-	F	F	D	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	1.6	13.7	1.9	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Lanes, Volumes, Timings

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	143	49	0	74	129	1168	57	95	1230	82
Future Volume (vph)	25	0	143	49	0	74	129	1168	57	95	1230	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	110		0	100		0	0		50
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.850			0.850				0.850		0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1583	0	1770	3539	1583	1770	3507	0
Flt Permitted	0.705			0.480			0.097			0.104		
Satd. Flow (perm)	1313	1583	0	894	1583	0	181	3539	1583	194	3507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		274			304				109			9
Link Speed (mph)		30			30			35				35
Link Distance (ft)		353			430			423				803
Travel Time (s)		8.0			9.8			8.2				15.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	0	155	53	0	80	140	1270	62	103	1337	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	155	0	53	80	0	140	1270	62	103	1426	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane								Yes				Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt		NA
Protected Phases	7	4		3	8		5	2	3	1		6
Permitted Phases	4			8			2		2	6		

Lanes, Volumes, Timings

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	20.0	7.0	7.0	20.0	
Minimum Split (s)	13.0	24.0		13.0	24.0		13.0	26.0	13.0	13.0	26.0	
Total Split (s)	13.0	24.0		13.0	24.0		13.0	40.0	13.0	13.0	40.0	
Total Split (%)	14.4%	26.7%		14.4%	26.7%		14.4%	44.4%	14.4%	14.4%	44.4%	
Maximum Green (s)	7.0	18.0		7.0	18.0		7.0	34.0	7.0	7.0	34.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
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)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	15.6	10.0		18.0	15.2		53.8	46.1	59.1	50.6	42.6	
Actuated g/C Ratio	0.17	0.11		0.20	0.17		0.60	0.51	0.66	0.56	0.47	
v/c Ratio	0.10	0.37		0.21	0.15		0.52	0.70	0.06	0.41	0.86	
Control Delay	26.6	2.5		28.3	0.6		22.7	17.1	0.5	14.6	29.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	26.6	2.5		28.3	0.6		22.7	17.1	0.5	14.6	29.1	
LOS	C	A		C	A		C	B	A	B	C	
Approach Delay		6.1			11.7			17.0			28.2	
Approach LOS		A			B			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 21.3

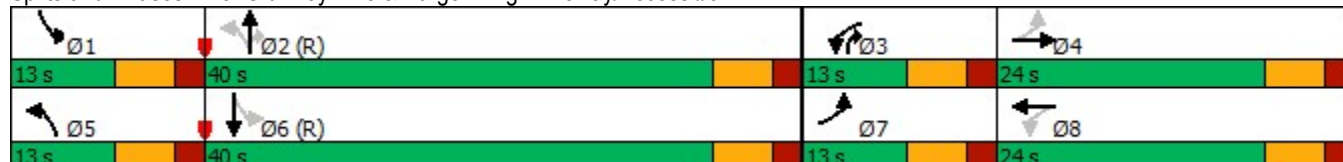
Intersection LOS: C

Intersection Capacity Utilization 78.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 8: Old Troy Pike & Burger King Driveway/Access #3



HCM 6th Signalized Intersection Summary

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	0	143	49	0	74	129	1168	57	95	1230	82
Future Volume (veh/h)	25	0	143	49	0	74	129	1168	57	95	1230	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	0	155	53	0	80	140	1270	62	103	1337	89
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	274	0	194	215	0	224	266	1713	855	388	1619	107
Arrive On Green	0.04	0.00	0.12	0.06	0.00	0.14	0.15	0.96	0.96	0.07	0.48	0.48
Sat Flow, veh/h	1781	0	1585	1781	0	1585	1781	3554	1585	1781	3382	225
Grp Volume(v), veh/h	27	0	155	53	0	80	140	1270	62	103	701	725
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1585	1781	1777	1585	1781	1777	1830
Q Serve(g_s), s	1.2	0.0	8.6	2.3	0.0	4.1	3.4	4.0	0.1	2.5	30.6	30.8
Cycle Q Clear(g_c), s	1.2	0.0	8.6	2.3	0.0	4.1	3.4	4.0	0.1	2.5	30.6	30.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	274	0	194	215	0	224	266	1713	855	388	850	876
V/C Ratio(X)	0.10	0.00	0.80	0.25	0.00	0.36	0.53	0.74	0.07	0.27	0.82	0.83
Avail Cap(c_a), veh/h	345	0	317	252	0	317	270	1713	855	398	850	876
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	0.0	38.4	31.7	0.0	35.0	16.1	0.9	0.7	9.8	20.2	20.3
Incr Delay (d2), s/veh	0.2	0.0	7.4	0.6	0.0	1.0	1.8	2.9	0.2	0.4	8.9	8.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	3.7	1.0	0.0	1.6	1.2	1.1	0.1	0.9	13.6	14.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	0.0	45.8	32.3	0.0	35.9	18.0	3.8	0.8	10.1	29.1	29.1
LnGrp LOS	C	A	D	C	A	D	B	A	A	B	C	C
Approach Vol, veh/h	182			133			1472			1529		
Approach Delay, s/veh	43.8			34.5			5.1			27.9		
Approach LOS	D			C			A			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	49.4	11.1	17.0	12.8	49.1	9.4	18.7				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	34.0	7.0	18.0	7.0	34.0	7.0	18.0				
Max Q Clear Time (g_c+I1), s	4.5	6.0	4.3	10.6	5.4	32.8	3.2	6.1				
Green Ext Time (p_c), s	0.0	11.2	0.0	0.5	0.0	0.9	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay	18.9											
HCM 6th LOS	B											

Lanes, Volumes, Timings

12: Old Troy Pike & Access #1

05/26/2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			  			 
Traffic Volume (vph)	0	27	1291	23	0	1350
Future Volume (vph)	0	27	1291	23	0	1350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	25	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.95
Frt		0.865	0.997			
Flt Protected						
Satd. Flow (prot)	0	1611	5070	0	1863	3539
Flt Permitted						
Satd. Flow (perm)	0	1611	5070	0	1863	3539
Link Speed (mph)	30		35			35
Link Distance (ft)	296		241			158
Travel Time (s)	6.7		4.7			3.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	29	1403	25	0	1467
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	29	1428	0	0	1467
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	40.7%			ICU Level of Service A		
Analysis Period (min)	15					

HCM 6th TWSC
12: Old Troy Pike & Access #1

05/26/2022

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↘ ↘	↗ ↘ ↘		↗ ↘	↗ ↘
Traffic Vol, veh/h	0	27	1291	23	0	1350
Future Vol, veh/h	0	27	1291	23	0	1350
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	-	-	25	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	29	1403	25	0	1467

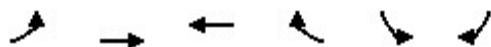
Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	714	0 0 1428 0
Stage 1	-	-	- - - -
Stage 2	-	-	- - - -
Critical Hdwy	-	7.14	- - 5.34 -
Critical Hdwy Stg 1	-	-	- - - -
Critical Hdwy Stg 2	-	-	- - - -
Follow-up Hdwy	-	3.92	- - 3.12 -
Pot Cap-1 Maneuver	0	321	- - 242 -
Stage 1	0	-	- - - -
Stage 2	0	-	- - - -
Platoon blocked, %		-	- - -
Mov Cap-1 Maneuver	-	321	- - 242 -
Mov Cap-2 Maneuver	-	-	- - - -
Stage 1	-	-	- - - -
Stage 2	-	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	17.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 321	242	-
HCM Lane V/C Ratio	-	- 0.091	-	-
HCM Control Delay (s)	-	- 17.3	0	-
HCM Lane LOS	-	- C	A	-
HCM 95th %tile Q(veh)	-	- 0.3	0	-

Lanes, Volumes, Timings
14: Taylorsville Road & Access #5

05/26/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	50	617	633	2	13	0
Future Volume (vph)	50	617	633	2	13	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	65			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1863	1863	0	1770	0
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1863	1863	0	1770	0
Link Speed (mph)		30	35		30	
Link Distance (ft)		194	1330		345	
Travel Time (s)		4.4	25.9		7.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	671	688	2	14	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	671	690	0	14	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 50.1% ICU Level of Service A

Analysis Period (min) 15

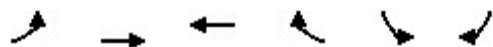
HCM 6th TWSC
14: Taylorsville Road & Access #5

05/26/2022

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	617	633	2	13	0
Future Vol, veh/h	50	617	633	2	13	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	65	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	671	688	2	14	0
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	690	0	-	0	1468	689
Stage 1	-	-	-	-	689	-
Stage 2	-	-	-	-	779	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	905	-	-	-	141	446
Stage 1	-	-	-	-	498	-
Stage 2	-	-	-	-	452	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	905	-	-	-	133	446
Mov Cap-2 Maneuver	-	-	-	-	271	-
Stage 1	-	-	-	-	468	-
Stage 2	-	-	-	-	452	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.7	0		19		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	905	-	-	-	271	
HCM Lane V/C Ratio	0.06	-	-	-	0.052	
HCM Control Delay (s)	9.2	-	-	-	19	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	

Lanes, Volumes, Timings
16: Taylorsville Road & Access #4

05/26/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑↑			↗
Traffic Volume (vph)	0	667	622	11	0	63
Future Volume (vph)	0	667	622	11	0	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt			0.997			0.865
Flt Protected						
Satd. Flow (prot)	0	1863	3529	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	1863	3529	0	0	1611
Link Speed (mph)		30	35		30	
Link Distance (ft)		357	194		328	
Travel Time (s)		8.1	3.8		7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	725	676	12	0	68
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	725	688	0	0	68
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 38.4%				ICU Level of Service A		
Analysis Period (min) 15						

HCM 6th TWSC
16: Taylorsville Road & Access #4

05/26/2022

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑↑			↗
Traffic Vol, veh/h	0	667	622	11	0	63
Future Vol, veh/h	0	667	622	11	0	63
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	725	676	12	0	68
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	-	0	-	0	-	344
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.319
Pot Cap-1 Maneuver	0	-	-	-	0	653
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	653
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		11.2		
HCM LOS	B					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	653		
HCM Lane V/C Ratio	-	-	-	0.105		
HCM Control Delay (s)	-	-	-	11.2		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0.3		

Lanes, Volumes, Timings

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	209	226	170	144	206	344	176	748	137	319	886	130
Future Volume (vph)	209	226	170	144	206	344	176	748	137	319	886	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	265		215	160		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	50			65			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3472	0
Flt Permitted	0.439			0.384			0.141			0.153		
Satd. Flow (perm)	818	1863	1583	715	1863	1583	263	3539	1583	285	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			109			149		20	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		978			357			1156			241	
Travel Time (s)		19.1			7.0			22.5			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	227	246	185	157	224	374	191	813	149	347	963	141
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	246	185	157	224	374	191	813	149	347	1104	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	
Permitted Phases	4		4	8		8	2		2	6		

Lanes, Volumes, Timings

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	7.0	7.0	20.0	7.0	7.0	20.0	
Minimum Split (s)	13.0	24.0	13.0	13.0	24.0	13.0	13.0	26.0	13.0	13.0	26.0	
Total Split (s)	13.0	24.0	15.0	13.0	24.0	20.0	15.0	33.0	13.0	20.0	38.0	
Total Split (%)	14.4%	26.7%	16.7%	14.4%	26.7%	22.2%	16.7%	36.7%	14.4%	22.2%	42.2%	
Maximum Green (s)	7.0	18.0	9.0	7.0	18.0	14.0	9.0	27.0	7.0	14.0	32.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	22.7	15.7	30.8	22.7	15.7	36.6	37.4	28.4	41.4	48.7	34.2	
Actuated g/C Ratio	0.25	0.17	0.34	0.25	0.17	0.41	0.42	0.32	0.46	0.54	0.38	
v/c Ratio	0.81	0.76	0.30	0.60	0.69	0.53	0.73	0.73	0.18	0.87	0.83	
Control Delay	49.1	50.3	10.2	33.5	46.0	16.6	35.7	32.5	3.3	49.7	32.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	49.1	50.3	10.2	33.5	46.0	16.6	35.7	32.5	3.3	49.7	32.1	
LOS	D	D	B	C	D	B	D	C	A	D	C	
Approach Delay		38.6			28.8			29.2			36.3	
Approach LOS		D			C			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 33.2

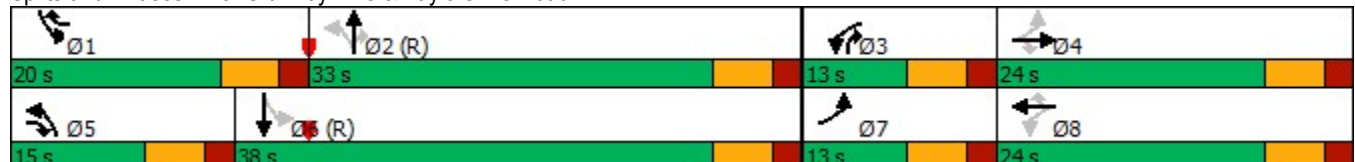
Intersection LOS: C

Intersection Capacity Utilization 80.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Old Troy Pike & Taylorsville Road



HCM 6th Signalized Intersection Summary

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	209	226	170	144	206	344	176	748	137	319	886	130
Future Volume (veh/h)	209	226	170	144	206	344	176	748	137	319	886	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	227	246	185	157	224	374	191	813	149	347	963	141
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	293	374	466	294	374	554	281	1088	608	405	1125	165
Arrive On Green	0.08	0.20	0.20	0.08	0.20	0.20	0.09	0.31	0.31	0.10	0.24	0.24
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3110	455
Grp Volume(v), veh/h	227	246	185	157	224	374	191	813	149	347	550	554
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1788
Q Serve(g_s), s	7.0	10.9	8.4	6.3	9.8	18.0	6.5	18.5	5.8	11.4	26.6	26.7
Cycle Q Clear(g_c), s	7.0	10.9	8.4	6.3	9.8	18.0	6.5	18.5	5.8	11.4	26.6	26.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	293	374	466	294	374	554	281	1088	608	405	643	647
V/C Ratio(X)	0.77	0.66	0.40	0.53	0.60	0.68	0.68	0.75	0.24	0.86	0.86	0.86
Avail Cap(c_a), veh/h	293	374	466	294	374	554	292	1088	608	416	643	647
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	33.2	25.4	26.5	32.7	24.9	21.9	28.1	18.9	20.8	31.8	31.9
Incr Delay (d2), s/veh	12.1	4.2	0.5	1.9	2.6	3.2	6.0	4.7	1.0	15.9	13.7	13.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	5.2	3.1	2.7	4.6	6.9	3.0	8.2	2.2	6.5	14.2	14.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.6	37.3	26.0	28.4	35.3	28.2	27.9	32.8	19.8	36.6	45.6	45.5
LnGrp LOS	D	D	C	C	D	C	C	C	B	D	D	D
Approach Vol, veh/h	658			755			1153			1451		
Approach Delay, s/veh	36.0			30.3			30.3			43.4		
Approach LOS	D			C			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.5	33.5	13.0	24.0	14.4	38.6	13.0	24.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	14.0	27.0	7.0	18.0	9.0	32.0	7.0	18.0				
Max Q Clear Time (g_c+I1), s	13.4	20.5	8.3	12.9	8.5	28.7	9.0	20.0				
Green Ext Time (p_c), s	0.1	3.1	0.0	0.9	0.0	2.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	36.0											
HCM 6th LOS	D											

Lanes, Volumes, Timings

7: Old Troy Pike & IHOP Driveway/Access #2

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	28	19	0	95	12	1225	64	143	1241	31
Future Volume (vph)	5	0	28	19	0	95	12	1225	64	143	1241	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			50			65		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	0.95
Frt		0.884			0.888			0.993			0.996	
Flt Protected		0.993			0.992		0.950			0.950		
Satd. Flow (prot)	0	1635	0	0	1641	0	1770	5050	0	1770	3525	0
Flt Permitted		0.993			0.992		0.950			0.950		
Satd. Flow (perm)	0	1635	0	0	1641	0	1770	5050	0	1770	3525	0
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		336			329			158			423	
Travel Time (s)		7.6			7.5			3.1			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	0	30	21	0	103	13	1332	70	155	1349	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	35	0	0	124	0	13	1402	0	155	1383	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	58.2%						ICU Level of Service B					
Analysis Period (min)	15											

HCM 6th TWSC
7: Old Troy Pike & IHOP Driveway/Access #2

05/26/2022

Intersection												
Int Delay, s/veh	28.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	28	19	0	95	12	1225	64	143	1241	31
Future Vol, veh/h	5	0	28	19	0	95	12	1225	64	143	1241	31
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	30	21	0	103	13	1332	70	155	1349	34
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2235	3104	692	2378	3086	701	1383	0	0	1402	0	0
Stage 1	1676	1676	-	1393	1393	-	-	-	-	-	-	-
Stage 2	559	1428	-	985	1693	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	6.94	6.99	6.54	7.14	4.14	-	-	5.34	-	-
Critical Hdwy Stg 1	6.54	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.32	3.67	4.02	3.92	2.22	-	-	3.12	-	-
Pot Cap-1 Maneuver	32	11	386	26	12	327	491	-	-	249	-	-
Stage 1	97	150	-	107	207	-	-	-	-	-	-	-
Stage 2	452	199	-	260	147	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	11	4	386	~ 12	4	327	491	-	-	249	-	-
Mov Cap-2 Maneuver	11	4	-	~ 12	4	-	-	-	-	-	-	-
Stage 1	94	57	-	104	202	-	-	-	-	-	-	-
Stage 2	301	194	-	90	56	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	120.3		\$ 624.4		0.1		4.1					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	491	-	-	63 61	249	-	-					
HCM Lane V/C Ratio	0.027	-	-	0.569 2.031	0.624	-	-					
HCM Control Delay (s)	12.5	-	-	120.3\$ 624.4	40.8	-	-					
HCM Lane LOS	B	-	-	F F	E	-	-					
HCM 95th %tile Q(veh)	0.1	-	-	2.3 11.8	3.8	-	-					
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Lanes, Volumes, Timings

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	0	143	91	0	66	129	1161	35	54	1227	82
Future Volume (vph)	24	0	143	91	0	66	129	1161	35	54	1227	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	110		0	100		0	0		50
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.850			0.850				0.850		0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1583	0	1770	3539	1583	1770	3507	0
Flt Permitted	0.710			0.480			0.095			0.114		
Satd. Flow (perm)	1323	1583	0	894	1583	0	177	3539	1583	212	3507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		243			305				109			9
Link Speed (mph)		30			30			35				35
Link Distance (ft)		353			430			423				803
Travel Time (s)		8.0			9.8			8.2				15.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	0	155	99	0	72	140	1262	38	59	1334	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	155	0	99	72	0	140	1262	38	59	1423	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane								Yes				Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt		NA
Protected Phases	7	4		3	8		5	2	3	1		6
Permitted Phases	4			8			2		2	6		

Lanes, Volumes, Timings

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	20.0	7.0	7.0	20.0	
Minimum Split (s)	13.0	24.0		13.0	24.0		13.0	26.0	13.0	13.0	26.0	
Total Split (s)	13.0	24.0		13.0	24.0		13.0	40.0	13.0	13.0	40.0	
Total Split (%)	14.4%	26.7%		14.4%	26.7%		14.4%	44.4%	14.4%	14.4%	44.4%	
Maximum Green (s)	7.0	18.0		7.0	18.0		7.0	34.0	7.0	7.0	34.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
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)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	15.6	10.0		18.0	15.2		54.5	47.0	60.0	49.9	42.6	
Actuated g/C Ratio	0.17	0.11		0.20	0.17		0.61	0.52	0.67	0.55	0.47	
v/c Ratio	0.10	0.40		0.40	0.14		0.53	0.68	0.03	0.24	0.85	
Control Delay	26.6	3.6		32.4	0.6		22.9	15.9	0.1	10.3	28.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	26.6	3.6		32.4	0.6		22.9	15.9	0.1	10.3	28.9	
LOS	C	A		C	A		C	B	A	B	C	
Approach Delay		6.9			19.0			16.1			28.1	
Approach LOS		A			B			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 21.2

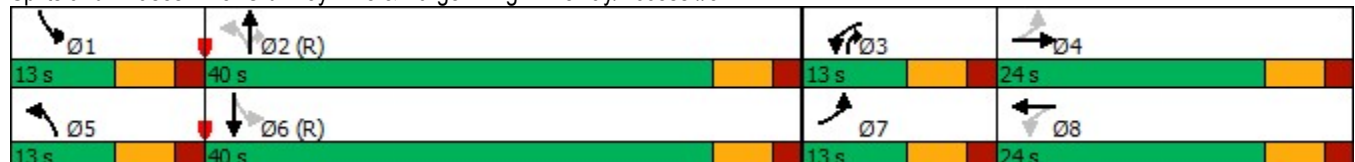
Intersection LOS: C

Intersection Capacity Utilization 78.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 8: Old Troy Pike & Burger King Driveway/Access #3



HCM 6th Signalized Intersection Summary

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	0	143	91	0	66	129	1161	35	54	1227	82
Future Volume (veh/h)	24	0	143	91	0	66	129	1161	35	54	1227	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	0	155	99	0	72	140	1262	38	59	1334	89
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	300	0	194	240	0	248	257	1705	874	369	1571	105
Arrive On Green	0.04	0.00	0.12	0.07	0.00	0.16	0.15	0.96	0.96	0.06	0.46	0.46
Sat Flow, veh/h	1781	0	1585	1781	0	1585	1781	3554	1585	1781	3382	225
Grp Volume(v), veh/h	26	0	155	99	0	72	140	1262	38	59	699	724
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1585	1781	1777	1585	1781	1777	1830
Q Serve(g_s), s	1.1	0.0	8.6	4.3	0.0	3.6	3.5	4.4	0.1	1.5	31.3	31.5
Cycle Q Clear(g_c), s	1.1	0.0	8.6	4.3	0.0	3.6	3.5	4.4	0.1	1.5	31.3	31.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	300	0	194	240	0	248	257	1705	874	369	825	850
V/C Ratio(X)	0.09	0.00	0.80	0.41	0.00	0.29	0.54	0.74	0.04	0.16	0.85	0.85
Avail Cap(c_a), veh/h	373	0	317	252	0	317	262	1705	874	401	825	850
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.3	0.0	38.4	31.4	0.0	33.6	16.8	1.0	0.7	10.6	21.3	21.3
Incr Delay (d2), s/veh	0.1	0.0	7.4	1.1	0.0	0.6	2.2	2.9	0.1	0.2	10.5	10.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	3.7	1.9	0.0	1.4	1.3	1.2	0.0	0.6	14.3	14.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	0.0	45.9	32.6	0.0	34.2	19.1	4.0	0.8	10.8	31.8	31.8
LnGrp LOS	C	A	D	C	A	C	B	A	A	B	C	C
Approach Vol, veh/h	181		171				1440		1482			
Approach Delay, s/veh	43.9		33.3				5.3		31.0			
Approach LOS	D		C				A		C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	49.2	12.4	17.0	12.8	47.8	9.3	20.1				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	34.0	7.0	18.0	7.0	34.0	7.0	18.0				
Max Q Clear Time (g_c+I1), s	3.5	6.4	6.3	10.6	5.5	33.5	3.1	5.6				
Green Ext Time (p_c), s	0.0	10.9	0.0	0.5	0.0	0.4	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay	20.5											
HCM 6th LOS	C											

Lanes, Volumes, Timings
12: Old Troy Pike & Access #1

05/26/2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			  			 
Traffic Volume (vph)	0	17	1284	17	0	1335
Future Volume (vph)	0	17	1284	17	0	1335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	25	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.95
Frt		0.865	0.998			
Flt Protected						
Satd. Flow (prot)	0	1611	5075	0	1863	3539
Flt Permitted						
Satd. Flow (perm)	0	1611	5075	0	1863	3539
Link Speed (mph)	30		35			35
Link Distance (ft)	296		241			158
Travel Time (s)	6.7		4.7			3.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	18	1396	18	0	1451
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	18	1414	0	0	1451
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	40.2%			ICU Level of Service A		
Analysis Period (min)	15					

HCM 6th TWSC
12: Old Troy Pike & Access #1

05/26/2022

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↘ ↘ ↘	↗ ↘ ↘ ↘		↗ ↘	↗ ↘
Traffic Vol, veh/h	0	17	1284	17	0	1335
Future Vol, veh/h	0	17	1284	17	0	1335
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	-	-	25	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	1396	18	0	1451

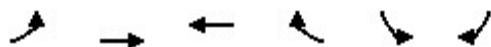
Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	707	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	7.14	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.92	-
Pot Cap-1 Maneuver	0	324	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	324	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	324	246
HCM Lane V/C Ratio	-	-	0.057	-
HCM Control Delay (s)	-	-	16.8	0
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.2	0

Lanes, Volumes, Timings
14: Taylorsville Road & Access #5

05/26/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	64	615	633	0	11	0
Future Volume (vph)	64	615	633	0	11	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	65			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr						
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1863	1863	0	1770	0
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1863	1863	0	1770	0
Link Speed (mph)		30	35		30	
Link Distance (ft)		194	1330		345	
Travel Time (s)		4.4	25.9		7.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	70	668	688	0	12	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	70	668	688	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 50.2% ICU Level of Service A

Analysis Period (min) 15

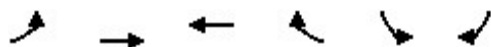
HCM 6th TWSC
14: Taylorsville Road & Access #5

05/26/2022

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	64	615	633	0	11	0
Future Vol, veh/h	64	615	633	0	11	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	65	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	70	668	688	0	12	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	688	0	-	0	1496	688
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	808	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	906	-	-	-	135	446
Stage 1	-	-	-	-	499	-
Stage 2	-	-	-	-	438	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	906	-	-	-	125	446
Mov Cap-2 Maneuver	-	-	-	-	262	-
Stage 1	-	-	-	-	461	-
Stage 2	-	-	-	-	438	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.9	0		19.4		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	906	-	-	-	262	
HCM Lane V/C Ratio	0.077	-	-	-	0.046	
HCM Control Delay (s)	9.3	-	-	-	19.4	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	

Lanes, Volumes, Timings
16: Taylorsville Road & Access #4

05/26/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑↑			↗
Traffic Volume (vph)	0	682	618	15	0	77
Future Volume (vph)	0	682	618	15	0	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt			0.997			0.865
Flt Protected						
Satd. Flow (prot)	0	1863	3529	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	1863	3529	0	0	1611
Link Speed (mph)		30	35		30	
Link Distance (ft)		357	194		328	
Travel Time (s)		8.1	3.8		7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	741	672	16	0	84
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	741	688	0	0	84
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 39.2%				ICU Level of Service A		
Analysis Period (min) 15						

HCM 6th TWSC
16: Taylorsville Road & Access #4

05/26/2022

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑↑			↑
Traffic Vol, veh/h	0	682	618	15	0	77
Future Vol, veh/h	0	682	618	15	0	77
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	741	672	16	0	84

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	- 0 - 344
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - 6.93
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - 3.319
Pot Cap-1 Maneuver	0	-	- - 0 653
Stage 1	0	-	- - 0 -
Stage 2	0	-	- - 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - 653
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	653
HCM Lane V/C Ratio	-	-	-	0.128
HCM Control Delay (s)	-	-	-	11.3
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.4

Lanes, Volumes, Timings

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	103	104	184	153	332	89	664	120	244	635	110
Future Volume (vph)	155	103	104	184	153	332	89	664	120	244	635	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	265		215	160		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	50			65			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3461	0
Flt Permitted	0.652			0.528			0.255			0.190		
Satd. Flow (perm)	1215	1863	1583	984	1863	1583	475	3539	1583	354	3461	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			131			130		25	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		978			357			1156			241	
Travel Time (s)		19.1			7.0			22.5			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	168	112	113	200	166	361	97	722	130	265	690	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	112	113	200	166	361	97	722	130	265	810	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	
Permitted Phases	4		4	8		8	2		2	6		

Lanes, Volumes, Timings

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	7.0	7.0	20.0	7.0	7.0	20.0	
Minimum Split (s)	13.0	24.0	13.0	13.0	24.0	13.0	13.0	26.0	13.0	13.0	26.0	
Total Split (s)	13.0	24.0	13.0	13.0	24.0	16.0	13.0	27.0	13.0	16.0	30.0	
Total Split (%)	16.3%	30.0%	16.3%	16.3%	30.0%	20.0%	16.3%	33.8%	16.3%	20.0%	37.5%	
Maximum Green (s)	7.0	18.0	7.0	7.0	18.0	10.0	7.0	21.0	7.0	10.0	24.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	17.8	12.8	23.3	21.0	12.8	30.8	31.9	24.2	40.4	40.5	28.5	
Actuated g/C Ratio	0.22	0.16	0.29	0.26	0.16	0.38	0.40	0.30	0.50	0.51	0.36	
v/c Ratio	0.53	0.38	0.21	0.56	0.56	0.52	0.31	0.67	0.15	0.68	0.65	
Control Delay	27.7	33.0	3.9	28.0	37.9	14.1	14.0	29.2	3.3	36.1	28.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	27.7	33.0	3.9	28.0	37.9	14.1	14.0	29.2	3.3	36.1	28.1	
LOS	C	C	A	C	D	B	B	C	A	D	C	
Approach Delay		22.4			23.4			24.1			30.1	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 25.7

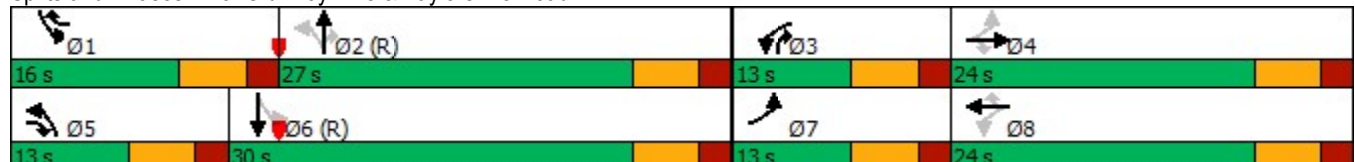
Intersection LOS: C

Intersection Capacity Utilization 70.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Old Troy Pike & Taylorsville Road



HCM 6th Signalized Intersection Summary

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	103	104	184	153	332	89	664	120	244	635	110
Future Volume (veh/h)	155	103	104	184	153	332	89	664	120	244	635	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	112	113	200	166	361	97	722	130	265	690	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	372	412	471	443	412	547	297	951	563	365	954	166
Arrive On Green	0.09	0.22	0.22	0.09	0.22	0.22	0.08	0.27	0.27	0.08	0.21	0.21
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3027	526
Grp Volume(v), veh/h	168	112	113	200	166	361	97	722	130	265	405	405
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1776
Q Serve(g_s), s	5.8	4.0	4.3	7.0	6.1	15.5	3.0	14.9	4.6	8.4	17.0	17.0
Cycle Q Clear(g_c), s	5.8	4.0	4.3	7.0	6.1	15.5	3.0	14.9	4.6	8.4	17.0	17.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	372	412	471	443	412	547	297	951	563	365	560	560
V/C Ratio(X)	0.45	0.27	0.24	0.45	0.40	0.66	0.33	0.76	0.23	0.73	0.72	0.72
Avail Cap(c_a), veh/h	372	421	479	443	421	555	315	951	563	365	560	560
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.5	25.9	21.3	21.7	26.7	22.2	19.4	26.9	18.1	20.5	28.3	28.3
Incr Delay (d2), s/veh	0.9	0.4	0.3	0.7	0.6	2.8	0.6	5.7	1.0	7.1	7.9	7.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	1.7	1.6	2.8	2.7	5.8	1.2	6.7	1.7	4.1	8.6	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.3	26.2	21.5	22.5	27.3	25.1	20.1	32.6	19.1	27.6	36.2	36.3
LnGrp LOS	C	C	C	C	C	C	C	C	B	C	D	D
Approach Vol, veh/h		393			727			949			1075	
Approach Delay, s/veh		23.2			24.9			29.5			34.1	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	27.4	13.0	23.6	12.2	31.2	13.0	23.6				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	10.0	21.0	7.0	18.0	7.0	24.0	7.0	18.0				
Max Q Clear Time (g_c+I1), s	10.4	16.9	9.0	6.3	5.0	19.0	7.8	17.5				
Green Ext Time (p_c), s	0.0	1.9	0.0	0.7	0.0	2.2	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay			29.2									
HCM 6th LOS			C									

Lanes, Volumes, Timings
7: Old Troy Pike & IHOP Driveway/Access #2

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	9	60	0	107	17	1072	69	162	911	8
Future Volume (vph)	3	0	9	60	0	107	17	1072	69	162	911	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			50			65		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	0.95
Frt		0.896			0.913			0.991			0.999	
Flt Protected		0.989			0.982		0.950			0.950		
Satd. Flow (prot)	0	1651	0	0	1670	0	1770	5040	0	1770	3536	0
Flt Permitted		0.989			0.982		0.950			0.950		
Satd. Flow (perm)	0	1651	0	0	1670	0	1770	5040	0	1770	3536	0
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		336			329			158			423	
Travel Time (s)		7.6			7.5			3.1			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	0	10	65	0	116	18	1165	75	176	990	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	13	0	0	181	0	18	1240	0	176	999	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	60		60	15		60	60		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	56.6%						ICU Level of Service B					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	89.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Vol, veh/h	3	0	9	60	0	107	17	1072	69	162	911	8
Future Vol, veh/h	3	0	9	60	0	107	17	1072	69	162	911	8
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	10	65	0	116	18	1165	75	176	990	9

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1849	2623	500	2086	2590	620	999	0	0	1240	0	0
Stage 1	1347	1347	-	1239	1239	-	-	-	-	-	-	-
Stage 2	502	1276	-	847	1351	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	6.94	6.99	6.54	7.14	4.14	-	-	5.34	-	-
Critical Hdwy Stg 1	6.54	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.32	3.67	4.02	3.92	2.22	-	-	3.12	-	-
Pot Cap-1 Maneuver	60	24	516	~ 41	25	369	689	-	-	299	-	-
Stage 1	156	218	-	138	246	-	-	-	-	-	-	-
Stage 2	490	236	-	314	217	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	21	10	516	~ 21	10	369	689	-	-	299	-	-
Mov Cap-2 Maneuver	21	10	-	~ 21	10	-	-	-	-	-	-	-
Stage 1	152	90	-	134	240	-	-	-	-	-	-	-
Stage 2	327	230	-	127	89	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	62.8	\$ 1252.9	0.2	4.9
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	689	-	-	75 53	299	-	-
HCM Lane V/C Ratio	0.027	-	-	0.174 3.425	0.589	-	-
HCM Control Delay (s)	10.4	-	-	62.8 \$ 1252.9	32.9	-	-
HCM Lane LOS	B	-	-	F F	D	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6 19.5	3.5	-	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lanes, Volumes, Timings

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	0	66	74	0	86	76	1075	53	76	981	42
Future Volume (vph)	21	0	66	74	0	86	76	1075	53	76	981	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	110		0	100		0	0		150
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.850			0.850				0.850		0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1583	0	1770	3539	1583	1770	3518	0
Flt Permitted	0.697			0.559			0.133			0.118		
Satd. Flow (perm)	1298	1583	0	1041	1583	0	248	3539	1583	220	3518	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		332			383				123		5	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		352			430			423			803	
Travel Time (s)		8.0			9.8			8.2			15.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	0	72	80	0	93	83	1168	58	83	1066	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	72	0	80	93	0	83	1168	58	83	1112	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	60		60	15		60	60		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases	4			8			2		2	6		

Lanes, Volumes, Timings

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	20.0	7.0	7.0	20.0	
Minimum Split (s)	13.0	24.0		13.0	24.0		13.0	26.0	13.0	13.0	26.0	
Total Split (s)	13.0	24.0		13.0	24.0		13.0	30.0	13.0	13.0	30.0	
Total Split (%)	16.3%	30.0%		16.3%	30.0%		16.3%	37.5%	16.3%	16.3%	37.5%	
Maximum Green (s)	7.0	18.0		7.0	18.0		7.0	24.0	7.0	7.0	24.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
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)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	15.0	10.0		17.4	15.2		46.0	41.0	51.4	46.0	41.0	
Actuated g/C Ratio	0.19	0.12		0.22	0.19		0.58	0.51	0.64	0.58	0.51	
v/c Ratio	0.08	0.15		0.28	0.15		0.29	0.64	0.05	0.30	0.62	
Control Delay	21.6	0.6		24.3	0.5		14.6	22.9	0.3	11.5	21.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	21.6	0.6		24.3	0.5		14.6	22.9	0.3	11.5	21.2	
LOS	C	A		C	A		B	C	A	B	C	
Approach Delay		5.7			11.5			21.4			20.5	
Approach LOS		A			B			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 19.8

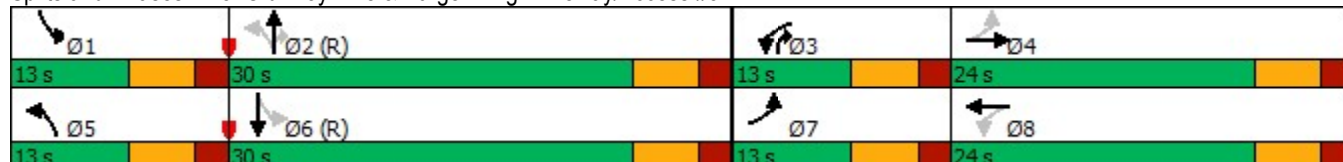
Intersection LOS: B

Intersection Capacity Utilization 61.3%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 8: Old Troy Pike & Burger King Driveway/Access #3



HCM 6th Signalized Intersection Summary

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	0	66	74	0	86	76	1075	53	76	981	42
Future Volume (veh/h)	21	0	66	74	0	86	76	1075	53	76	981	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	0	72	80	0	93	83	1168	58	83	1066	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	0	195	328	0	255	311	1530	798	364	1494	64
Arrive On Green	0.04	0.00	0.12	0.07	0.00	0.16	0.15	0.86	0.86	0.07	0.43	0.43
Sat Flow, veh/h	1781	0	1585	1781	0	1585	1781	3554	1585	1781	3471	150
Grp Volume(v), veh/h	23	0	72	80	0	93	83	1168	58	83	546	566
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1585	1781	1777	1585	1781	1777	1843
Q Serve(g_s), s	0.9	0.0	3.3	3.0	0.0	4.2	1.9	10.7	0.4	1.9	20.2	20.2
Cycle Q Clear(g_c), s	0.9	0.0	3.3	3.0	0.0	4.2	1.9	10.7	0.4	1.9	20.2	20.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	294	0	195	328	0	255	311	1530	798	364	765	794
V/C Ratio(X)	0.08	0.00	0.37	0.24	0.00	0.36	0.27	0.76	0.07	0.23	0.71	0.71
Avail Cap(c_a), veh/h	387	0	357	354	0	357	336	1530	798	389	765	794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	0.0	32.2	27.2	0.0	29.9	12.2	3.9	2.4	11.2	18.7	18.7
Incr Delay (d2), s/veh	0.1	0.0	1.2	0.4	0.0	0.9	0.5	3.7	0.2	0.3	5.6	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.3	1.3	0.0	1.6	0.7	2.3	0.2	0.7	8.7	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.8	0.0	33.4	27.5	0.0	30.8	12.7	7.6	2.6	11.5	24.3	24.1
LnGrp LOS	C	A	C	C	A	C	B	A	A	B	C	C
Approach Vol, veh/h	95			173			1309			1195		
Approach Delay, s/veh	32.3			29.3			7.7			23.4		
Approach LOS	C			C			A			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.9	40.4	11.8	15.8	11.9	40.4	8.8	18.9				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	24.0	7.0	18.0	7.0	24.0	7.0	18.0				
Max Q Clear Time (g_c+I1), s	3.9	12.7	5.0	5.3	3.9	22.2	2.9	6.2				
Green Ext Time (p_c), s	0.0	6.2	0.0	0.2	0.0	1.2	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay	16.6											
HCM 6th LOS	B											

Lanes, Volumes, Timings
12: Old Troy Pike & Access #1

05/26/2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	17	1138	21	0	989
Future Volume (vph)	0	17	1138	21	0	989
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	25	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.95
Frt		0.865	0.997			
Flt Protected						
Satd. Flow (prot)	0	1611	5070	0	1863	3539
Flt Permitted						
Satd. Flow (perm)	0	1611	5070	0	1863	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	296		241			158
Travel Time (s)	6.7		5.5			3.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	18	1237	23	0	1075
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	18	1260	0	0	1075
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60		60	60	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	32.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM 6th TWSC
12: Old Troy Pike & Access #1

05/26/2022

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↘ ↘ ↘	↗ ↘ ↘ ↘		↗ ↘	↗ ↘
Traffic Vol, veh/h	0	17	1138	21	0	989
Future Vol, veh/h	0	17	1138	21	0	989
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	-	-	25	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	1237	23	0	1075

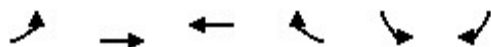
Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	630	0 0 1260 0
Stage 1	-	-	- - - -
Stage 2	-	-	- - - -
Critical Hdwy	-	7.14	- - 5.34 -
Critical Hdwy Stg 1	-	-	- - - -
Critical Hdwy Stg 2	-	-	- - - -
Follow-up Hdwy	-	3.92	- - 3.12 -
Pot Cap-1 Maneuver	0	364	- - 293 -
Stage 1	0	-	- - - -
Stage 2	0	-	- - - -
Platoon blocked, %		-	- - -
Mov Cap-1 Maneuver	-	364	- - 293 -
Mov Cap-2 Maneuver	-	-	- - - -
Stage 1	-	-	- - - -
Stage 2	-	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	15.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 364	293	-
HCM Lane V/C Ratio	-	- 0.051	-	-
HCM Control Delay (s)	-	- 15.4	0	-
HCM Lane LOS	-	- C	A	-
HCM 95th %tile Q(veh)	-	- 0.2	0	-

Lanes, Volumes, Timings
14: Taylorsville Road & Access #5

05/26/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	84	384	612	5	16	0
Future Volume (vph)	84	384	612	5	16	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	65			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1863	1861	0	1770	0
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1863	1861	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		194	1330		345	
Travel Time (s)		4.4	30.2		7.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	417	665	5	17	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	91	417	670	0	17	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60			60	60	60
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	50.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM 6th TWSC
14: Taylorsville Road & Access #5

05/26/2022

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	84	384	612	5	16	0
Future Vol, veh/h	84	384	612	5	16	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	65	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	91	417	665	5	17	0

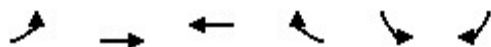
Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	670	0	0 1267 668
Stage 1	-	-	- 668 -
Stage 2	-	-	- 599 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	920	-	- 186 458
Stage 1	-	-	- 510 -
Stage 2	-	-	- 549 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	920	-	- 168 458
Mov Cap-2 Maneuver	-	-	- 304 -
Stage 1	-	-	- 460 -
Stage 2	-	-	- 549 -

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	17.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	920	-	-	-	304
HCM Lane V/C Ratio	0.099	-	-	-	0.057
HCM Control Delay (s)	9.3	-	-	-	17.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	0.2

Lanes, Volumes, Timings
16: Taylorsville Road & Access #4

05/26/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑↑			↗
Traffic Volume (vph)	0	468	597	15	0	72
Future Volume (vph)	0	468	597	15	0	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt			0.996			0.865
Flt Protected						
Satd. Flow (prot)	0	1863	3525	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	1863	3525	0	0	1611
Link Speed (mph)		30	30		30	
Link Distance (ft)		357	194		328	
Travel Time (s)		8.1	4.4		7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	509	649	16	0	78
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	509	665	0	0	78
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60			60	60	60
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 28.1%				ICU Level of Service A		
Analysis Period (min) 15						

HCM 6th TWSC
16: Taylorsville Road & Access #4

05/26/2022

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑↑			↑
Traffic Vol, veh/h	0	468	597	15	0	72
Future Vol, veh/h	0	468	597	15	0	72
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	509	649	16	0	78

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	664
HCM Lane V/C Ratio	-	-	-	0.118
HCM Control Delay (s)	-	-	-	11.1
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.4

Lanes, Volumes, Timings

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	102	104	195	153	340	89	646	128	233	619	110
Future Volume (vph)	155	102	104	195	153	340	89	646	128	233	619	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	265		215	160		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	50			65			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3458	0
Flt Permitted	0.652			0.529			0.259			0.212		
Satd. Flow (perm)	1215	1863	1583	985	1863	1583	482	3539	1583	395	3458	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			133			139		26	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		978			357			1156			241	
Travel Time (s)		19.1			7.0			22.5			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	168	111	113	212	166	370	97	702	139	253	673	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	111	113	212	166	370	97	702	139	253	793	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	
Permitted Phases	4		4	8		8	2		2	6		

Lanes, Volumes, Timings

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	7.0	7.0	20.0	7.0	7.0	20.0	
Minimum Split (s)	13.0	24.0	13.0	13.0	24.0	13.0	13.0	26.0	13.0	13.0	26.0	
Total Split (s)	13.0	24.0	13.0	13.0	24.0	16.0	13.0	27.0	13.0	16.0	30.0	
Total Split (%)	16.3%	30.0%	16.3%	16.3%	30.0%	20.0%	16.3%	33.8%	16.3%	20.0%	37.5%	
Maximum Green (s)	7.0	18.0	7.0	7.0	18.0	10.0	7.0	21.0	7.0	10.0	24.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	17.8	12.8	23.3	21.0	12.8	30.2	32.5	24.8	41.0	39.9	28.5	
Actuated g/C Ratio	0.22	0.16	0.29	0.26	0.16	0.38	0.41	0.31	0.51	0.50	0.36	
v/c Ratio	0.53	0.37	0.21	0.59	0.56	0.54	0.30	0.64	0.16	0.65	0.63	
Control Delay	27.7	32.9	3.9	29.3	37.9	14.7	13.8	27.9	3.3	32.7	27.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	27.7	32.9	3.9	29.3	37.9	14.7	13.8	27.9	3.3	32.7	27.3	
LOS	C	C	A	C	D	B	B	C	A	C	C	
Approach Delay		22.3			24.0			22.8			28.6	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 25.0

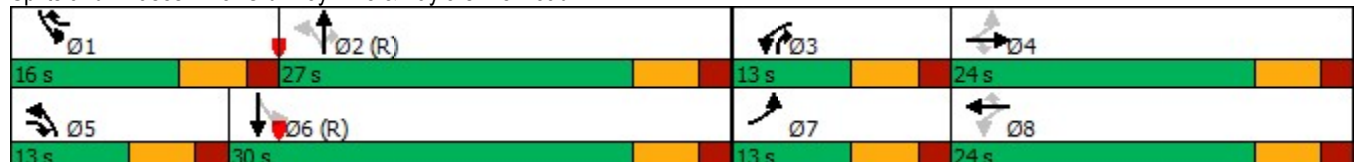
Intersection LOS: C

Intersection Capacity Utilization 69.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Old Troy Pike & Taylorsville Road



HCM 6th Signalized Intersection Summary

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	102	104	195	153	340	89	646	128	233	619	110
Future Volume (veh/h)	155	102	104	195	153	340	89	646	128	233	619	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	111	113	212	166	370	97	702	139	253	673	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	375	419	477	448	419	553	298	937	557	367	938	167
Arrive On Green	0.09	0.22	0.22	0.09	0.22	0.22	0.08	0.26	0.26	0.08	0.21	0.21
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3014	537
Grp Volume(v), veh/h	168	111	113	212	166	370	97	702	139	253	396	397
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1774
Q Serve(g_s), s	5.7	3.9	4.3	7.0	6.0	15.9	3.0	14.5	5.0	8.0	16.6	16.6
Cycle Q Clear(g_c), s	5.7	3.9	4.3	7.0	6.0	15.9	3.0	14.5	5.0	8.0	16.6	16.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	375	419	477	448	419	553	298	937	557	367	553	552
V/C Ratio(X)	0.45	0.27	0.24	0.47	0.40	0.67	0.32	0.75	0.25	0.69	0.72	0.72
Avail Cap(c_a), veh/h	375	421	479	448	421	555	317	937	557	367	553	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.2	25.6	21.0	21.9	26.4	22.1	19.6	27.0	18.5	20.4	28.4	28.4
Incr Delay (d2), s/veh	0.8	0.3	0.3	0.8	0.6	3.1	0.6	5.5	1.1	5.4	7.8	7.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	1.7	1.5	3.0	2.6	6.0	1.2	6.5	1.9	3.8	8.4	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.1	26.0	21.3	22.6	27.1	25.2	20.2	32.5	19.5	25.8	36.1	36.2
LnGrp LOS	C	C	C	C	C	C	C	C	B	C	D	D
Approach Vol, veh/h		392			748			938			1046	
Approach Delay, s/veh		22.9			24.9			29.3			33.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	27.1	13.0	23.9	12.2	30.9	13.0	23.9				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	10.0	21.0	7.0	18.0	7.0	24.0	7.0	18.0				
Max Q Clear Time (g_c+I1), s	10.0	16.5	9.0	6.3	5.0	18.6	7.7	17.9				
Green Ext Time (p_c), s	0.0	2.0	0.0	0.7	0.0	2.2	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			28.9									
HCM 6th LOS			C									

Lanes, Volumes, Timings
7: Old Troy Pike & IHOP Driveway/Access #2

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	9	24	0	114	17	1049	77	167	872	8
Future Volume (vph)	3	0	9	24	0	114	17	1049	77	167	872	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			50			65		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	0.95
Frt		0.896			0.888			0.990			0.999	
Flt Protected		0.989			0.991		0.950			0.950		
Satd. Flow (prot)	0	1651	0	0	1639	0	1770	5034	0	1770	3536	0
Flt Permitted		0.989			0.991		0.950			0.950		
Satd. Flow (perm)	0	1651	0	0	1639	0	1770	5034	0	1770	3536	0
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		336			329			158			423	
Travel Time (s)		7.6			7.5			3.1			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	0	10	26	0	124	18	1140	84	182	948	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	13	0	0	150	0	18	1224	0	182	957	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	60		60	15		60	60		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	51.3%						ICU Level of Service A					
Analysis Period (min)	15											

HCM 6th TWSC
7: Old Troy Pike & IHOP Driveway/Access #2

05/26/2022

Intersection												
Int Delay, s/veh	23.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙↑↑↑	↑↑↑		↙	↑↑	
Traffic Vol, veh/h	3	0	9	24	0	114	17	1049	77	167	872	8
Future Vol, veh/h	3	0	9	24	0	114	17	1049	77	167	872	8
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	10	26	0	124	18	1140	84	182	948	9
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1809	2577	479	2056	2539	612	957	0	0	1224	0	0
Stage 1	1317	1317	-	1218	1218	-	-	-	-	-	-	-
Stage 2	492	1260	-	838	1321	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	6.94	6.99	6.54	7.14	4.14	-	-	5.34	-	-
Critical Hdwy Stg 1	6.54	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.32	3.67	4.02	3.92	2.22	-	-	3.12	-	-
Pot Cap-1 Maneuver	64	25	533	43	27	374	714	-	-	305	-	-
Stage 1	163	225	-	143	251	-	-	-	-	-	-	-
Stage 2	497	240	-	318	224	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	22	10	533	~ 22	11	374	714	-	-	305	-	-
Mov Cap-2 Maneuver	22	10	-	~ 22	11	-	-	-	-	-	-	-
Stage 1	159	91	-	139	245	-	-	-	-	-	-	-
Stage 2	324	234	-	126	90	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	60.2		\$ 352.8		0.2		5.2					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	714	-	-	78 99	305	-	-					
HCM Lane V/C Ratio	0.026	-	-	0.167 1.515	0.595	-	-					
HCM Control Delay (s)	10.2	-	-	60.2\$ 352.8	32.8	-	-					
HCM Lane LOS	B	-	-	F F	D	-	-					
HCM 95th %tile Q(veh)	0.1	-	-	0.6 11.3	3.6	-	-					
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

Lanes, Volumes, Timings

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	0	66	108	0	80	76	1052	43	65	925	42
Future Volume (vph)	21	0	66	108	0	80	76	1052	43	65	925	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	110		0	100		0	0		150
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.850			0.850				0.850		0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1583	0	1770	3539	1583	1770	3514	0
Flt Permitted	0.701			0.559			0.155			0.124		
Satd. Flow (perm)	1306	1583	0	1041	1583	0	289	3539	1583	231	3514	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		309			384				123		6	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		354			430			423			803	
Travel Time (s)		8.0			9.8			8.2			15.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	0	72	117	0	87	83	1143	47	71	1005	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	72	0	117	87	0	83	1143	47	71	1051	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	60		60	15		60	60		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases	4			8			2		2	6		

Lanes, Volumes, Timings

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	20.0	7.0	7.0	20.0	
Minimum Split (s)	13.0	24.0		13.0	24.0		13.0	26.0	13.0	13.0	26.0	
Total Split (s)	13.0	24.0		13.0	24.0		13.0	30.0	13.0	13.0	30.0	
Total Split (%)	16.3%	30.0%		16.3%	30.0%		16.3%	37.5%	16.3%	16.3%	37.5%	
Maximum Green (s)	7.0	18.0		7.0	18.0		7.0	24.0	7.0	7.0	24.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
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)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	15.0	10.0		17.4	15.2		46.2	41.2	51.6	45.8	41.0	
Actuated g/C Ratio	0.19	0.12		0.22	0.19		0.58	0.52	0.64	0.57	0.51	
v/c Ratio	0.08	0.15		0.40	0.14		0.27	0.63	0.04	0.26	0.58	
Control Delay	21.6	0.7		27.2	0.5		13.2	21.7	0.1	10.9	20.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	21.6	0.7		27.2	0.5		13.2	21.7	0.1	10.9	20.2	
LOS	C	A		C	A		B	C	A	B	C	
Approach Delay		5.8			15.8			20.3			19.6	
Approach LOS		A			B			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 19.2

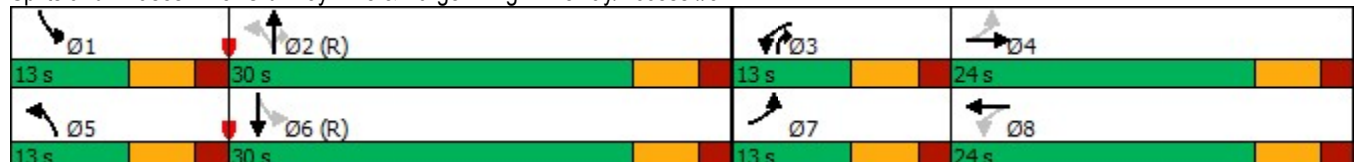
Intersection LOS: B

Intersection Capacity Utilization 62.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 8: Old Troy Pike & Burger King Driveway/Access #3



HCM 6th Signalized Intersection Summary

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	0	66	108	0	80	76	1052	43	65	925	42
Future Volume (veh/h)	21	0	66	108	0	80	76	1052	43	65	925	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	0	72	117	0	87	83	1143	47	71	1005	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	310	0	195	342	0	268	321	1517	805	359	1462	67
Arrive On Green	0.04	0.00	0.12	0.08	0.00	0.17	0.15	0.85	0.85	0.07	0.42	0.42
Sat Flow, veh/h	1781	0	1585	1781	0	1585	1781	3554	1585	1781	3460	158
Grp Volume(v), veh/h	23	0	72	117	0	87	83	1143	47	71	516	535
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1585	1781	1777	1585	1781	1777	1842
Q Serve(g_s), s	0.9	0.0	3.3	4.5	0.0	3.9	1.9	10.6	0.3	1.7	18.9	18.9
Cycle Q Clear(g_c), s	0.9	0.0	3.3	4.5	0.0	3.9	1.9	10.6	0.3	1.7	18.9	18.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	310	0	195	342	0	268	321	1517	805	359	751	778
V/C Ratio(X)	0.07	0.00	0.37	0.34	0.00	0.33	0.26	0.75	0.06	0.20	0.69	0.69
Avail Cap(c_a), veh/h	404	0	357	354	0	357	346	1517	805	391	751	778
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	0.0	32.2	27.2	0.0	29.2	12.2	4.1	2.5	11.5	18.8	18.8
Incr Delay (d2), s/veh	0.1	0.0	1.2	0.6	0.0	0.7	0.4	3.5	0.1	0.3	5.1	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.3	1.9	0.0	1.5	0.7	2.3	0.1	0.6	8.1	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.8	0.0	33.4	27.8	0.0	29.9	12.6	7.7	2.6	11.8	23.9	23.7
LnGrp LOS	C	A	C	C	A	C	B	A	A	B	C	C
Approach Vol, veh/h	95			204			1273			1122		
Approach Delay, s/veh	32.3			28.7			7.8			23.0		
Approach LOS	C			C			A			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.6	40.1	12.5	15.8	11.9	39.8	8.8	19.5				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	24.0	7.0	18.0	7.0	24.0	7.0	18.0				
Max Q Clear Time (g_c+I1), s	3.7	12.6	6.5	5.3	3.9	20.9	2.9	5.9				
Green Ext Time (p_c), s	0.0	6.0	0.0	0.2	0.0	1.8	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay	16.6											
HCM 6th LOS	B											

Lanes, Volumes, Timings
12: Old Troy Pike & Access #1

05/26/2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	20	1123	20	0	962
Future Volume (vph)	0	20	1123	20	0	962
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	25	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.95
Frt		0.865	0.997			
Flt Protected						
Satd. Flow (prot)	0	1611	5070	0	1863	3539
Flt Permitted						
Satd. Flow (perm)	0	1611	5070	0	1863	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	296		241			158
Travel Time (s)	6.7		5.5			3.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	22	1221	22	0	1046
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	22	1243	0	0	1046
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60		60	60	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	32.1%			ICU Level of Service A		
Analysis Period (min)	15					

HCM 6th TWSC
12: Old Troy Pike & Access #1

05/26/2022

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↘ ↘ ↘	↗ ↘ ↘ ↘		↗ ↘	↗ ↘
Traffic Vol, veh/h	0	20	1123	20	0	962
Future Vol, veh/h	0	20	1123	20	0	962
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	-	-	25	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	22	1221	22	0	1046

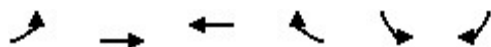
Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	622	0 0 1243 0
Stage 1	-	-	- - - -
Stage 2	-	-	- - - -
Critical Hdwy	-	7.14	- - 5.34 -
Critical Hdwy Stg 1	-	-	- - - -
Critical Hdwy Stg 2	-	-	- - - -
Follow-up Hdwy	-	3.92	- - 3.12 -
Pot Cap-1 Maneuver	0	368	- - 298 -
Stage 1	0	-	- - - -
Stage 2	0	-	- - - -
Platoon blocked, %		-	- - -
Mov Cap-1 Maneuver	-	368	- - 298 -
Mov Cap-2 Maneuver	-	-	- - - -
Stage 1	-	-	- - - -
Stage 2	-	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	15.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 368	298	-
HCM Lane V/C Ratio	-	- 0.059	-	-
HCM Control Delay (s)	-	- 15.4	0	-
HCM Lane LOS	-	- C	A	-
HCM 95th %tile Q(veh)	-	- 0.2	0	-

Lanes, Volumes, Timings
14: Taylorsville Road & Access #5

05/26/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	79	381	614	0	13	0
Future Volume (vph)	79	381	614	0	13	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	65			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1863	1863	0	1770	0
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1863	1863	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		194	1330		345	
Travel Time (s)		4.4	30.2		7.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	86	414	667	0	14	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	86	414	667	0	14	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60			60	60	60
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	50.0%			ICU Level of Service A		
Analysis Period (min)	15					

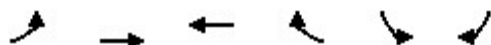
HCM 6th TWSC
14: Taylorsville Road & Access #5

05/26/2022

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	79	381	614	0	13	0
Future Vol, veh/h	79	381	614	0	13	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	65	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	86	414	667	0	14	0
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	667	0	-	0	1253	667
Stage 1	-	-	-	-	667	-
Stage 2	-	-	-	-	586	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	923	-	-	-	190	459
Stage 1	-	-	-	-	510	-
Stage 2	-	-	-	-	556	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	923	-	-	-	172	459
Mov Cap-2 Maneuver	-	-	-	-	308	-
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	556	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.6	0		17.3		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	923	-	-	-	308	
HCM Lane V/C Ratio	0.093	-	-	-	0.046	
HCM Control Delay (s)	9.3	-	-	-	17.3	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	

Lanes, Volumes, Timings
16: Taylorsville Road & Access #4

05/26/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑↑			↗
Traffic Volume (vph)	0	464	596	18	0	92
Future Volume (vph)	0	464	596	18	0	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt			0.996			0.865
Flt Protected						
Satd. Flow (prot)	0	1863	3525	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	1863	3525	0	0	1611
Link Speed (mph)		30	30		30	
Link Distance (ft)		357	194		328	
Travel Time (s)		8.1	4.4		7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	504	648	20	0	100
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	504	668	0	0	100
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60			60	60	60
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 29.4%				ICU Level of Service A		
Analysis Period (min) 15						

HCM 6th TWSC
16: Taylorsville Road & Access #4

05/26/2022

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑↑			↑
Traffic Vol, veh/h	0	464	596	18	0	92
Future Vol, veh/h	0	464	596	18	0	92
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	504	648	20	0	100

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	663
HCM Lane V/C Ratio	-	-	-	0.151
HCM Control Delay (s)	-	-	-	11.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.5

Lanes, Volumes, Timings

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	264	288	217	167	262	426	225	969	152	397	1146	164
Future Volume (vph)	264	288	217	167	262	426	225	969	152	397	1146	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	265		215	160		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	50			65			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3472	0
Flt Permitted	0.328			0.266			0.148			0.125		
Satd. Flow (perm)	611	1863	1583	495	1863	1583	276	3539	1583	233	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			109			113		19	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		978			357			1156			241	
Travel Time (s)		19.1			7.0			22.5			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	287	313	236	182	285	463	245	1053	165	432	1246	178
Shared Lane Traffic (%)												
Lane Group Flow (vph)	287	313	236	182	285	463	245	1053	165	432	1424	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	
Permitted Phases	4		4	8		8	2		2	6		

Lanes, Volumes, Timings

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	7.0	7.0	20.0	7.0	7.0	20.0	
Minimum Split (s)	13.0	24.0	13.0	13.0	24.0	13.0	13.0	26.0	13.0	13.0	26.0	
Total Split (s)	13.0	24.0	15.0	13.0	24.0	20.0	15.0	33.0	13.0	20.0	38.0	
Total Split (%)	14.4%	26.7%	16.7%	14.4%	26.7%	22.2%	16.7%	36.7%	14.4%	22.2%	42.2%	
Maximum Green (s)	7.0	18.0	9.0	7.0	18.0	14.0	9.0	27.0	7.0	14.0	32.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	24.4	17.4	33.0	24.4	17.4	38.0	36.6	27.0	40.0	46.6	32.0	
Actuated g/C Ratio	0.27	0.19	0.37	0.27	0.19	0.42	0.41	0.30	0.44	0.52	0.36	
v/c Ratio	1.13	0.87	0.36	0.78	0.79	0.63	0.90	0.99	0.22	1.16	1.14	
Control Delay	123.2	60.5	12.7	48.2	52.0	20.0	57.7	58.5	6.3	118.3	98.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	123.2	60.5	12.7	48.2	52.0	20.0	57.7	58.5	6.3	118.3	98.0	
LOS	F	E	B	D	D	B	E	E	A	F	F	
Approach Delay		68.5			35.3			52.5			102.7	
Approach LOS		E			D			D			F	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.16

Intersection Signal Delay: 70.3

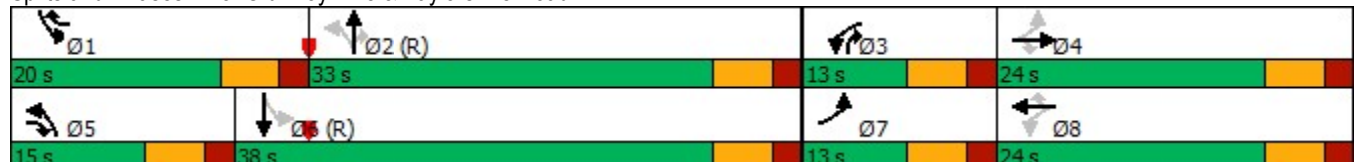
Intersection LOS: E

Intersection Capacity Utilization 97.8%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 3: Old Troy Pike & Taylorsville Road



HCM 6th Signalized Intersection Summary

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	264	288	217	167	262	426	225	969	152	397	1146	164
Future Volume (veh/h)	264	288	217	167	262	426	225	969	152	397	1146	164
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	287	313	236	182	285	463	245	1053	165	432	1246	178
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	374	476	252	374	564	258	1066	599	359	1111	158
Arrive On Green	0.08	0.20	0.20	0.08	0.20	0.20	0.10	0.30	0.30	0.05	0.12	0.12
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3123	444
Grp Volume(v), veh/h	287	313	236	182	285	463	245	1053	165	432	706	718
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1790
Q Serve(g_s), s	7.0	14.5	11.0	7.0	12.9	18.0	8.6	26.5	6.5	14.0	32.0	32.0
Cycle Q Clear(g_c), s	7.0	14.5	11.0	7.0	12.9	18.0	8.6	26.5	6.5	14.0	32.0	32.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	259	374	476	252	374	564	258	1066	599	359	632	637
V/C Ratio(X)	1.11	0.84	0.50	0.72	0.76	0.82	0.95	0.99	0.28	1.20	1.12	1.13
Avail Cap(c_a), veh/h	259	374	476	252	374	564	258	1066	599	359	632	637
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.1	34.6	25.9	28.3	34.0	26.4	22.8	31.3	19.4	30.1	39.7	39.7
Incr Delay (d2), s/veh	88.6	15.2	0.8	9.7	8.9	9.5	42.1	24.8	1.1	114.4	72.6	76.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	7.9	4.1	3.7	6.6	10.0	6.4	14.4	2.5	18.0	27.8	28.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	121.7	49.8	26.7	38.0	42.9	35.9	65.0	56.1	20.6	144.5	112.3	116.1
LnGrp LOS	F	D	C	D	D	D	E	E	C	F	F	F
Approach Vol, veh/h	836			930			1463			1856		
Approach Delay, s/veh	68.0			38.4			53.6			121.3		
Approach LOS	E			D			D			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	33.0	13.0	24.0	15.0	38.0	13.0	24.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	14.0	27.0	7.0	18.0	9.0	32.0	7.0	18.0				
Max Q Clear Time (g_c+I1), s	16.0	28.5	9.0	16.5	10.6	34.0	9.0	20.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	77.9											
HCM 6th LOS	E											

Lanes, Volumes, Timings

7: Old Troy Pike & IHOP Driveway/Access #2

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			 	
Traffic Volume (vph)	6	0	36	42	0	73	16	1618	32	94	1627	40
Future Volume (vph)	6	0	36	42	0	73	16	1618	32	94	1627	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			50			65		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	0.95
Frt		0.886			0.915			0.997			0.996	
Flt Protected		0.992			0.982		0.950			0.950		
Satd. Flow (prot)	0	1637	0	0	1674	0	1770	5070	0	1770	3525	0
Flt Permitted		0.992			0.982		0.950			0.950		
Satd. Flow (perm)	0	1637	0	0	1674	0	1770	5070	0	1770	3525	0
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		336			329			158			423	
Travel Time (s)		7.6			7.5			3.1			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	0	39	46	0	79	17	1759	35	102	1768	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	0	0	125	0	17	1794	0	102	1811	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	73.1%						ICU Level of Service D					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	180.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	0	36	42	0	73	16	1618	32	94	1627	40
Future Vol, veh/h	6	0	36	42	0	73	16	1618	32	94	1627	40
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	0	39	46	0	79	17	1759	35	102	1768	43
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2732	3822	906	2899	3826	897	1811	0	0	1794	0	0
Stage 1	1994	1994	-	1811	1811	-	-	-	-	-	-	-
Stage 2	738	1828	-	1088	2015	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	6.94	6.99	6.54	7.14	4.14	-	-	5.34	-	-
Critical Hdwy Stg 1	6.54	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.32	3.67	4.02	3.92	2.22	-	-	3.12	-	-
Pot Cap-1 Maneuver	14	4	279	~ 11	4	243	335	-	-	159	-	-
Stage 1	61	104	-	54	129	-	-	-	-	-	-	-
Stage 2	351	126	-	225	101	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 4	1	279	~ 4	1	243	335	-	-	159	-	-
Mov Cap-2 Maneuver	~ 4	1	-	~ 4	1	-	-	-	-	-	-	-
Stage 1	58	37	-	51	122	-	-	-	-	-	-	-
Stage 2	224	120	-	69	36	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	\$ 685.5		\$ 5330.7		0.2		3.3					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	335	-	-	26 11	159	-	-					
HCM Lane V/C Ratio	0.052	-	-	1.756 11.364	0.643	-	-					
HCM Control Delay (s)	16.3	-	-	\$ 685.5 \$ 5330.7	61.3	-	-					
HCM Lane LOS	C	-	-	F F	F	-	-					
HCM 95th %tile Q(veh)	0.2	-	-	5.5 17	3.6	-	-					
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Lanes, Volumes, Timings

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	0	182	52	0	78	164	1500	61	101	1549	105
Future Volume (vph)	32	0	182	52	0	78	164	1500	61	101	1549	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	110		0	100		0	0		150
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.850			0.850				0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1583	0	1770	3539	1583	1770	3504	0
Flt Permitted	0.702			0.375			0.094			0.104		
Satd. Flow (perm)	1308	1583	0	699	1583	0	175	3539	1583	194	3504	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		261			292				109			9
Link Speed (mph)		30			30			35				35
Link Distance (ft)		352			430			423				803
Travel Time (s)		8.0			9.8			8.2				15.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	0	198	57	0	85	178	1630	66	110	1684	114
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	198	0	57	85	0	178	1630	66	110	1798	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane								Yes				Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt		NA
Protected Phases	7	4		3	8		5	2	3	1		6
Permitted Phases	4			8			2		2	6		

Lanes, Volumes, Timings

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	20.0	7.0	7.0	20.0	
Minimum Split (s)	13.0	24.0		13.0	24.0		13.0	26.0	13.0	13.0	26.0	
Total Split (s)	13.0	24.0		13.0	24.0		13.0	40.0	13.0	13.0	40.0	
Total Split (%)	14.4%	26.7%		14.4%	26.7%		14.4%	44.4%	14.4%	14.4%	44.4%	
Maximum Green (s)	7.0	18.0		7.0	18.0		7.0	34.0	7.0	7.0	34.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
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)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	15.6	10.0		16.8	12.6		55.3	46.0	59.0	48.9	40.7	
Actuated g/C Ratio	0.17	0.11		0.19	0.14		0.61	0.51	0.66	0.54	0.45	
v/c Ratio	0.13	0.49		0.27	0.18		0.59	0.90	0.06	0.44	1.13	
Control Delay	27.1	6.0		29.5	0.8		23.0	25.7	0.3	16.7	94.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	27.1	6.0		29.5	0.8		23.0	25.7	0.3	16.7	94.5	
LOS	C	A		C	A		C	C	A	B	F	
Approach Delay		9.2			12.3			24.5			90.0	
Approach LOS		A			B			C			F	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 53.3

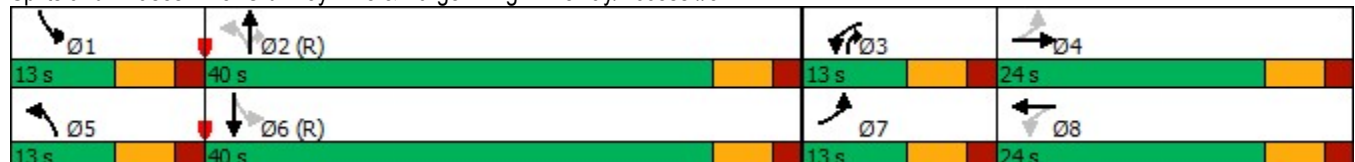
Intersection LOS: D

Intersection Capacity Utilization 92.3%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 8: Old Troy Pike & Burger King Driveway/Access #3



HCM 6th Signalized Intersection Summary

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	0	182	52	0	78	164	1500	61	101	1549	105
Future Volume (veh/h)	32	0	182	52	0	78	164	1500	61	101	1549	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	0	198	57	0	85	178	1630	66	110	1684	114
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	312	0	236	218	0	258	217	1608	811	210	1516	102
Arrive On Green	0.05	0.00	0.15	0.06	0.00	0.16	0.15	0.91	0.91	0.07	0.45	0.45
Sat Flow, veh/h	1781	0	1585	1781	0	1585	1781	3554	1585	1781	3379	227
Grp Volume(v), veh/h	35	0	198	57	0	85	178	1630	66	110	879	919
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1585	1781	1777	1585	1781	1777	1830
Q Serve(g_s), s	1.5	0.0	10.9	2.4	0.0	4.3	4.9	40.7	0.3	2.8	40.4	40.4
Cycle Q Clear(g_c), s	1.5	0.0	10.9	2.4	0.0	4.3	4.9	40.7	0.3	2.8	40.4	40.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	312	0	236	218	0	258	217	1608	811	210	797	821
V/C Ratio(X)	0.11	0.00	0.84	0.26	0.00	0.33	0.82	1.01	0.08	0.52	1.10	1.12
Avail Cap(c_a), veh/h	370	0	317	251	0	317	219	1608	811	219	797	821
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.9	0.0	37.2	29.9	0.0	33.3	18.7	4.3	1.9	20.0	24.8	24.8
Incr Delay (d2), s/veh	0.2	0.0	13.7	0.6	0.0	0.7	21.3	25.8	0.2	2.1	63.8	70.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	5.1	1.0	0.0	1.7	2.8	7.4	0.2	1.2	29.6	31.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.0	0.0	51.0	30.5	0.0	34.1	39.9	30.1	2.1	22.1	88.6	94.8
LnGrp LOS	C	A	D	C	A	C	D	F	A	C	F	F
Approach Vol, veh/h	233			142			1874			1908		
Approach Delay, s/veh	47.8			32.6			30.1			87.7		
Approach LOS	D			C			C			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.6	46.7	11.3	19.4	12.9	46.4	10.1	20.6				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	34.0	7.0	18.0	7.0	34.0	7.0	18.0				
Max Q Clear Time (g_c+l1), s	4.8	42.7	4.4	12.9	6.9	42.4	3.5	6.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay	57.6											
HCM 6th LOS	E											

Lanes, Volumes, Timings
12: Old Troy Pike & Access #1

05/26/2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	27	1636	23	0	1708
Future Volume (vph)	0	27	1636	23	0	1708
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	25	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.95
Frt		0.865	0.998			
Flt Protected						
Satd. Flow (prot)	0	1611	5075	0	1863	3539
Flt Permitted						
Satd. Flow (perm)	0	1611	5075	0	1863	3539
Link Speed (mph)	30		35			35
Link Distance (ft)	296		241			158
Travel Time (s)	6.7		4.7			3.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	29	1778	25	0	1857
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	29	1803	0	0	1857
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	50.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM 6th TWSC
12: Old Troy Pike & Access #1

05/26/2022

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	27	1636	23	0	1708
Future Vol, veh/h	0	27	1636	23	0	1708
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	-	-	25	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	29	1778	25	0	1857

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	902	0 0 1803 0
Stage 1	-	-	- - - -
Stage 2	-	-	- - - -
Critical Hdwy	-	7.14	- - 5.34 -
Critical Hdwy Stg 1	-	-	- - - -
Critical Hdwy Stg 2	-	-	- - - -
Follow-up Hdwy	-	3.92	- - 3.12 -
Pot Cap-1 Maneuver	0	241	- - 157 -
Stage 1	0	-	- - - -
Stage 2	0	-	- - - -
Platoon blocked, %		-	- - -
Mov Cap-1 Maneuver	-	241	- - 157 -
Mov Cap-2 Maneuver	-	-	- - - -
Stage 1	-	-	- - - -
Stage 2	-	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	22	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 241	157	-
HCM Lane V/C Ratio	-	- 0.122	-	-
HCM Control Delay (s)	-	- 22	0	-
HCM Lane LOS	-	- C	A	-
HCM 95th %tile Q(veh)	-	- 0.4	0	-

Lanes, Volumes, Timings
14: Taylorsville Road & Access #5

05/26/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	50	787	803	2	13	0
Future Volume (vph)	50	787	803	2	13	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	65			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1863	1863	0	1770	0
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1863	1863	0	1770	0
Link Speed (mph)		30	35		30	
Link Distance (ft)		194	1330		345	
Travel Time (s)		4.4	25.9		7.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	855	873	2	14	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	855	875	0	14	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 52.4%				ICU Level of Service A		
Analysis Period (min) 15						

HCM 6th TWSC
14: Taylorsville Road & Access #5

05/26/2022

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	787	803	2	13	0
Future Vol, veh/h	50	787	803	2	13	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	65	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	855	873	2	14	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	875	0	-	0	1837	874
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	963	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	771	-	-	-	83	349
Stage 1	-	-	-	-	408	-
Stage 2	-	-	-	-	370	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	771	-	-	-	77	349
Mov Cap-2 Maneuver	-	-	-	-	206	-
Stage 1	-	-	-	-	379	-
Stage 2	-	-	-	-	370	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.6	0		23.8		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	771	-	-	-	206	
HCM Lane V/C Ratio	0.07	-	-	-	0.069	
HCM Control Delay (s)	10	-	-	-	23.8	
HCM Lane LOS	B	-	-	-	C	
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	

Lanes, Volumes, Timings
16: Taylorsville Road & Access #4

05/26/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑↑			↗
Traffic Volume (vph)	0	837	792	11	0	63
Future Volume (vph)	0	837	792	11	0	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Fr _t			0.998			0.865
Fl _t Protected						
Satd. Flow (prot)	0	1863	3532	0	0	1611
Fl _t Permitted						
Satd. Flow (perm)	0	1863	3532	0	0	1611
Link Speed (mph)		30	35		30	
Link Distance (ft)		357	194		328	
Travel Time (s)		8.1	3.8		7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	910	861	12	0	68
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	910	873	0	0	68
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 47.4%				ICU Level of Service A		
Analysis Period (min) 15						

HCM 6th TWSC
16: Taylorsville Road & Access #4

05/26/2022

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑↑			↑
Traffic Vol, veh/h	0	837	792	11	0	63
Future Vol, veh/h	0	837	792	11	0	63
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	910	861	12	0	68

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	568
HCM Lane V/C Ratio	-	-	-	0.121
HCM Control Delay (s)	-	-	-	12.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.4

Lanes, Volumes, Timings

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	265	288	217	174	262	429	225	952	166	398	1130	164
Future Volume (vph)	265	288	217	174	262	429	225	952	166	398	1130	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	265		215	160		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	50			65			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3472	0
Flt Permitted	0.328			0.266			0.148			0.125		
Satd. Flow (perm)	611	1863	1583	495	1863	1583	276	3539	1583	233	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			109			113		20	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		978			357			1156			241	
Travel Time (s)		19.1			7.0			22.5			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	288	313	236	189	285	466	245	1035	180	433	1228	178
Shared Lane Traffic (%)												
Lane Group Flow (vph)	288	313	236	189	285	466	245	1035	180	433	1406	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	
Permitted Phases	4		4	8		8	2		2	6		

Lanes, Volumes, Timings

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	7.0	7.0	20.0	7.0	7.0	20.0	
Minimum Split (s)	13.0	24.0	13.0	13.0	24.0	13.0	13.0	26.0	13.0	13.0	26.0	
Total Split (s)	13.0	24.0	15.0	13.0	24.0	20.0	15.0	33.0	13.0	20.0	38.0	
Total Split (%)	14.4%	26.7%	16.7%	14.4%	26.7%	22.2%	16.7%	36.7%	14.4%	22.2%	42.2%	
Maximum Green (s)	7.0	18.0	9.0	7.0	18.0	14.0	9.0	27.0	7.0	14.0	32.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	24.4	17.4	33.0	24.4	17.4	38.0	36.6	27.0	40.0	46.6	32.0	
Actuated g/C Ratio	0.27	0.19	0.37	0.27	0.19	0.42	0.41	0.30	0.44	0.52	0.36	
v/c Ratio	1.13	0.87	0.36	0.81	0.79	0.64	0.90	0.98	0.23	1.17	1.13	
Control Delay	124.5	60.5	12.7	51.8	52.0	20.1	57.7	54.7	7.1	119.8	92.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	124.5	60.5	12.7	51.8	52.0	20.1	57.7	54.7	7.1	119.8	92.1	
LOS	F	E	B	D	D	C	E	D	A	F	F	
Approach Delay		69.1			36.2			49.3			98.6	
Approach LOS		E			D			D			F	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.17

Intersection Signal Delay: 68.0

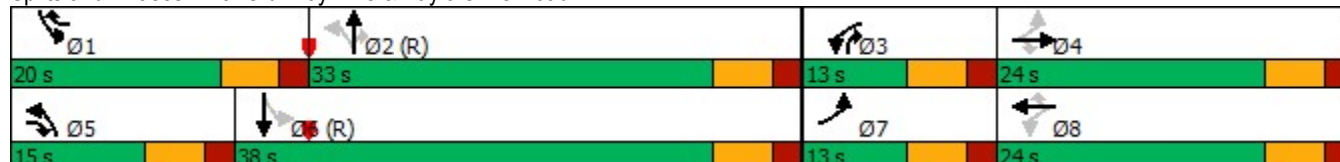
Intersection LOS: E

Intersection Capacity Utilization 97.4%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 3: Old Troy Pike & Taylorsville Road



HCM 6th Signalized Intersection Summary

3: Old Troy Pike & Taylorsville Road

05/26/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	288	217	174	262	429	225	952	166	398	1130	164
Future Volume (veh/h)	265	288	217	174	262	429	225	952	166	398	1130	164
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	288	313	236	189	285	466	245	1035	180	433	1228	178
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	374	476	252	374	564	258	1066	599	363	1108	160
Arrive On Green	0.08	0.20	0.20	0.08	0.20	0.20	0.10	0.30	0.30	0.05	0.12	0.12
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3117	450
Grp Volume(v), veh/h	288	313	236	189	285	466	245	1035	180	433	697	709
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1789
Q Serve(g_s), s	7.0	14.5	11.0	7.0	12.9	18.0	8.6	25.9	7.2	14.0	32.0	32.0
Cycle Q Clear(g_c), s	7.0	14.5	11.0	7.0	12.9	18.0	8.6	25.9	7.2	14.0	32.0	32.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	259	374	476	252	374	564	258	1066	599	363	632	636
V/C Ratio(X)	1.11	0.84	0.50	0.75	0.76	0.83	0.95	0.97	0.30	1.19	1.10	1.11
Avail Cap(c_a), veh/h	259	374	476	252	374	564	258	1066	599	363	632	636
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.1	34.6	25.9	28.9	34.0	26.5	22.8	31.1	19.7	29.7	39.7	39.7
Incr Delay (d2), s/veh	90.1	15.2	0.8	11.7	8.9	9.9	42.1	21.4	1.3	111.1	67.7	71.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	7.9	4.1	4.0	6.6	10.1	6.4	13.7	2.7	17.7	26.9	27.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	123.2	49.8	26.7	40.7	42.9	36.3	65.0	52.5	20.9	140.8	107.4	110.8
LnGrp LOS	F	D	C	D	D	D	E	D	C	F	F	F
Approach Vol, veh/h	837				940				1460			
Approach Delay, s/veh	68.5				39.2				50.7			
Approach LOS	E				D				D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	33.0	13.0	24.0	15.0	38.0	13.0	24.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	14.0	27.0	7.0	18.0	9.0	32.0	7.0	18.0				
Max Q Clear Time (g_c+I1), s	16.0	27.9	9.0	16.5	10.6	34.0	9.0	20.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	75.4											
HCM 6th LOS	E											

Lanes, Volumes, Timings

7: Old Troy Pike & IHOP Driveway/Access #2

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	0	36	19	0	95	16	1566	64	143	1590	40
Future Volume (vph)	6	0	36	19	0	95	16	1566	64	143	1590	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			50			65		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	0.95
Frt		0.886			0.888			0.994			0.996	
Flt Protected		0.992			0.992		0.950			0.950		
Satd. Flow (prot)	0	1637	0	0	1641	0	1770	5055	0	1770	3525	0
Flt Permitted		0.992			0.992		0.950			0.950		
Satd. Flow (perm)	0	1637	0	0	1641	0	1770	5055	0	1770	3525	0
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		336			329			158			423	
Travel Time (s)		7.6			7.5			3.1			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	0	39	21	0	103	17	1702	70	155	1728	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	0	0	124	0	17	1772	0	155	1771	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	68.3%						ICU Level of Service C					
Analysis Period (min)	15											

HCM 6th TWSC
7: Old Troy Pike & IHOP Driveway/Access #2

05/26/2022

Intersection												
Int Delay, s/veh	366											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	0	36	19	0	95	16	1566	64	143	1590	40
Future Vol, veh/h	6	0	36	19	0	95	16	1566	64	143	1590	40
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	0	39	21	0	103	17	1702	70	155	1728	43
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	2775	3866	886	2945	3852	886	1771	0	0	1772	0	0
Stage 1	2060	2060	-	1771	1771	-	-	-	-	-	-	-
Stage 2	715	1806	-	1174	2081	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	6.94	6.99	6.54	7.14	4.14	-	-	5.34	-	-
Critical Hdwy Stg 1	6.54	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.32	3.67	4.02	3.92	2.22	-	-	3.12	-	-
Pot Cap-1 Maneuver	13	3	288	~ 10	4	247	348	-	-	163	-	-
Stage 1	56	96	-	57	135	-	-	-	-	-	-	-
Stage 2	362	129	-	199	94	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 1	0	288	~ 1	0	247	348	-	-	163	-	-
Mov Cap-2 Maneuver	~ 1	0	-	~ 1	0	-	-	-	-	-	-	-
Stage 1	53	5	-	54	128	-	-	-	-	-	-	-
Stage 2	200	123	-	~ 8	5	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, \$	3508.9		\$ 10039.5			0.2			9.2			
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	348	-	-	7	6	163	-	-				
HCM Lane V/C Ratio	0.05	-	-	6.522	20.652	0.954	-	-				
HCM Control Delay (s)	15.9	-	-	\$ 3508.9	\$ 10039.5	114.6	-	-				
HCM Lane LOS	C	-	-	F	F	F	-	-				
HCM 95th %tile Q(veh)	0.2	-	-	7.2	17.4	7.2	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Lanes, Volumes, Timings

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	0	182	91	0	66	164	1468	35	54	1546	105
Future Volume (vph)	32	0	182	91	0	66	164	1468	35	54	1546	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	110		0	100		0	0		150
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.850			0.850				0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1583	0	1770	3539	1583	1770	3504	0
Flt Permitted	0.710			0.375			0.092			0.104		
Satd. Flow (perm)	1323	1583	0	699	1583	0	171	3539	1583	194	3504	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		231			292				109			9
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		354			430			423			803	
Travel Time (s)		8.0			9.8			8.2			15.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	0	198	99	0	72	178	1596	38	59	1680	114
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	198	0	99	72	0	178	1596	38	59	1794	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases	4			8			2		2	6		

Lanes, Volumes, Timings

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	20.0	7.0	7.0	20.0	
Minimum Split (s)	13.0	24.0		13.0	24.0		13.0	26.0	13.0	13.0	26.0	
Total Split (s)	13.0	24.0		13.0	24.0		13.0	40.0	13.0	13.0	40.0	
Total Split (%)	14.4%	26.7%		14.4%	26.7%		14.4%	44.4%	14.4%	14.4%	44.4%	
Maximum Green (s)	7.0	18.0		7.0	18.0		7.0	34.0	7.0	7.0	34.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
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)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	15.6	10.0		16.8	12.6		56.2	47.0	60.0	48.1	40.8	
Actuated g/C Ratio	0.17	0.11		0.19	0.14		0.62	0.52	0.67	0.53	0.45	
v/c Ratio	0.13	0.52		0.46	0.15		0.60	0.86	0.03	0.26	1.13	
Control Delay	27.1	8.6		34.8	0.7		23.2	22.6	0.0	11.3	92.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	27.1	8.6		34.8	0.7		23.2	22.6	0.0	11.3	92.0	
LOS	C	A		C	A		C	C	A	B	F	
Approach Delay		11.4			20.4			22.2			89.4	
Approach LOS		B			C			C			F	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 52.1

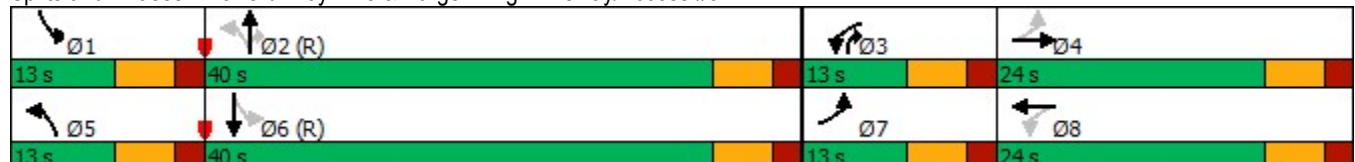
Intersection LOS: D

Intersection Capacity Utilization 92.3%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 8: Old Troy Pike & Burger King Driveway/Access #3



HCM 6th Signalized Intersection Summary

8: Old Troy Pike & Burger King Driveway/Access #3

05/26/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	0	182	91	0	66	164	1468	35	54	1546	105
Future Volume (veh/h)	32	0	182	91	0	66	164	1468	35	54	1546	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	0	198	99	0	72	178	1596	38	59	1680	114
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	341	0	236	239	0	277	217	1611	831	199	1474	99
Arrive On Green	0.05	0.00	0.15	0.07	0.00	0.17	0.15	0.91	0.91	0.06	0.44	0.44
Sat Flow, veh/h	1781	0	1585	1781	0	1585	1781	3554	1585	1781	3379	227
Grp Volume(v), veh/h	35	0	198	99	0	72	178	1596	38	59	877	917
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1585	1781	1777	1585	1781	1777	1829
Q Serve(g_s), s	1.5	0.0	10.9	4.1	0.0	3.5	5.0	37.1	0.2	1.6	39.3	39.3
Cycle Q Clear(g_c), s	1.5	0.0	10.9	4.1	0.0	3.5	5.0	37.1	0.2	1.6	39.3	39.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	341	0	236	239	0	277	217	1611	831	199	775	798
V/C Ratio(X)	0.10	0.00	0.84	0.41	0.00	0.26	0.82	0.99	0.05	0.30	1.13	1.15
Avail Cap(c_a), veh/h	399	0	317	251	0	317	219	1611	831	231	775	798
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	0.0	37.3	29.7	0.0	32.1	18.7	4.0	1.7	20.0	25.4	25.4
Incr Delay (d2), s/veh	0.1	0.0	13.7	1.1	0.0	0.5	21.2	20.4	0.1	0.8	74.9	81.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	5.1	1.8	0.0	1.4	2.9	6.1	0.1	0.6	31.2	33.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.9	0.0	51.0	30.8	0.0	32.6	39.9	24.4	1.9	20.8	100.3	106.9
LnGrp LOS	C	A	D	C	A	C	D	C	A	C	F	F
Approach Vol, veh/h	233			171			1812			1853		
Approach Delay, s/veh	47.8			31.6			25.5			101.0		
Approach LOS	D			C			C			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	46.8	12.4	19.4	12.9	45.3	10.1	21.7				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	34.0	7.0	18.0	7.0	34.0	7.0	18.0				
Max Q Clear Time (g_c+I1), s	3.6	39.1	6.1	12.9	7.0	41.3	3.5	5.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay	61.4											
HCM 6th LOS	E											

Lanes, Volumes, Timings
12: Old Troy Pike & Access #1

05/26/2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	17	1629	17	0	1692
Future Volume (vph)	0	17	1629	17	0	1692
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	25	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.95
Frt		0.865	0.998			
Flt Protected						
Satd. Flow (prot)	0	1611	5075	0	1863	3539
Flt Permitted						
Satd. Flow (perm)	0	1611	5075	0	1863	3539
Link Speed (mph)	30		35			35
Link Distance (ft)	296		241			158
Travel Time (s)	6.7		4.7			3.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	18	1771	18	0	1839
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	18	1789	0	0	1839
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	50.1%			ICU Level of Service A		
Analysis Period (min)	15					

HCM 6th TWSC
12: Old Troy Pike & Access #1

05/26/2022

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↘ ↘ ↘	↗ ↘ ↘ ↘		↗ ↘	↗ ↘
Traffic Vol, veh/h	0	17	1629	17	0	1692
Future Vol, veh/h	0	17	1629	17	0	1692
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	-	-	25	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	1771	18	0	1839

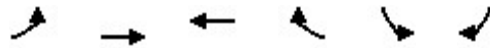
Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	895	0 0 1789 0
Stage 1	-	-	- - - -
Stage 2	-	-	- - - -
Critical Hdwy	-	7.14	- - 5.34 -
Critical Hdwy Stg 1	-	-	- - - -
Critical Hdwy Stg 2	-	-	- - - -
Follow-up Hdwy	-	3.92	- - 3.12 -
Pot Cap-1 Maneuver	0	244	- - 160 -
Stage 1	0	-	- - - -
Stage 2	0	-	- - - -
Platoon blocked, %		-	- - -
Mov Cap-1 Maneuver	-	244	- - 160 -
Mov Cap-2 Maneuver	-	-	- - - -
Stage 1	-	-	- - - -
Stage 2	-	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	21	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 244	160	-
HCM Lane V/C Ratio	-	- 0.076	-	-
HCM Control Delay (s)	-	- 21	0	-
HCM Lane LOS	-	- C	A	-
HCM 95th %tile Q(veh)	-	- 0.2	0	-

Lanes, Volumes, Timings
14: Taylorsville Road & Access #5

05/26/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	64	785	803	0	11	0
Future Volume (vph)	64	785	803	0	11	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	65			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1863	1863	0	1770	0
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1863	1863	0	1770	0
Link Speed (mph)		30	35		30	
Link Distance (ft)		194	1330		345	
Travel Time (s)		4.4	25.9		7.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	70	853	873	0	12	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	70	853	873	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 59.1% ICU Level of Service B

Analysis Period (min) 15

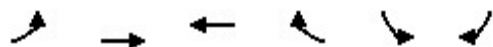
HCM 6th TWSC
14: Taylorsville Road & Access #5

05/26/2022

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	64	785	803	0	11	0
Future Vol, veh/h	64	785	803	0	11	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	65	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	70	853	873	0	12	0
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	873	0	-	0	1866	873
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	993	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	773	-	-	-	80	349
Stage 1	-	-	-	-	409	-
Stage 2	-	-	-	-	359	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	773	-	-	-	73	349
Mov Cap-2 Maneuver	-	-	-	-	200	-
Stage 1	-	-	-	-	372	-
Stage 2	-	-	-	-	359	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.8	0		24.1		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	773	-	-	-	200	
HCM Lane V/C Ratio	0.09	-	-	-	0.06	
HCM Control Delay (s)	10.1	-	-	-	24.1	
HCM Lane LOS	B	-	-	-	C	
HCM 95th %tile Q(veh)	0.3	-	-	-	0.2	

Lanes, Volumes, Timings
16: Taylorsville Road & Access #4

05/26/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑↑			↑
Traffic Volume (vph)	0	852	788	15	0	77
Future Volume (vph)	0	852	788	15	0	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt			0.997			0.865
Flt Protected						
Satd. Flow (prot)	0	1863	3529	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	1863	3529	0	0	1611
Link Speed (mph)		30	35		30	
Link Distance (ft)		357	194		328	
Travel Time (s)		8.1	3.8		7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	926	857	16	0	84
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	926	873	0	0	84
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	48.2%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC
16: Taylorsville Road & Access #4

05/26/2022

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑↑			↑
Traffic Vol, veh/h	0	852	788	15	0	77
Future Vol, veh/h	0	852	788	15	0	77
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	926	857	16	0	84

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	568
HCM Lane V/C Ratio	-	-	-	0.147
HCM Control Delay (s)	-	-	-	12.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.5



Huber Heights Fire Division

Inspections require two business days advance notice! (OAC)1301:7-7-09(A)(5)

Occupancy Name:	Broad Reach Development - Sheetz		
Occupancy Address:	Old Troy Pike & Taylorsville Road		
Type of Permit:	HHP&D Site Plan		
Additional Permits:	Choose an item.		
Additional Permits:	Choose an item.		
MCBR BLD:	Not Yet Assigned	HH P&D:	
MCBR MEC:		HHFD Plan:	22-088
MCBR ELE:		HHFD Box:	
REVIEWER:	Susong	DATE:	5/17/2022

Fire Department Comments:

The Huber Heights City Code Part 15 Refers to Fire Code Requirements and has adopted by reference OFC and IFC Appendices

These comments are based only on the proposed site work, fire department access and basic fire protection concept at this time. A full plan review of the building systems, fire protection, egress and life safety will need to be conducted once the architectural plans have been submitted for permit. The proposed development will need to meet the requirements of the Ohio Fire Code 2017, Ohio Building Code 2017, and the Huber Heights Codified Ordinance. Based on the drawings provided the following requirements need to be met.

Requirements: (Site Plan)

- The canopy over fuel pumps shall have a clearance of 13 feet 6 inches or higher for fire apparatus clearance. Ohio Fire Code 503.2.1.
- The turn radius for the first entrance off Old Troy Pike needs to be increased/decreased for Huber Heights Fire apparatus to make turn onto service road. Ohio Fire Code D103.3 and 503.2.4. **(Confirm if island is a curbed concrete island or striped pavement.)**
- The turn radius to car wash needs to be increased for Huber Heights Fire apparatus to make turn. Ohio Fire Code D103.3 and 503.2.4. **(Drawing as shown we would not be able to get apparatus close to building in case of a fire.)**
- Fire apparatus access roads will need to comply with OFC 503 as well as the adopted appendices from the OFC (2017) and the Huber Heights Codified

Ordinance (HHCO) Section 15. ***(Size of access driveway to car wash needs to be increased for fire department access to and from the building.)***

- Hydrants in multi-family and commercial districts shall be placed not more than 300 feet apart, measured on the main and not more than 400 feet from any opening in any building. All new fire hydrants and any existing fire hydrants that are in need of replacement, shall meet the Huber Heights hydrant standard for this district of two (2), five (5) inch diameter steamer nozzles. These steamer nozzles shall have a five (5) inch STORTZ quick connection and one steamer shall have a four (4) inch STORTZ connection approved by the Code Official. Huber Heights Codified Ordinance 1521.06(c). ***(Hydrants are not shown on drawing.)***
- Unobstructed access to fire hydrants shall be maintained at all times. The fire department shall not be deterred or hindered from gaining immediate access to fire protection equipment or fire hydrants. Ohio Fire Code 507.5.4. ***(This will need to be confirmed once a drawing has been provided showing hydrants.)***
- A 3-foot (914 mm) clear space shall be maintained around the circumference of fire hydrants except as otherwise required or approved. (No trees, bushes, plantings, etc.) Ohio Fire Code 507.5.5. ***(This will need to be confirmed once a drawing has been provided showing hydrants.)***

Please reference contact information below for questions or concerns with this document.

Plans reviewed by the Huber Heights Fire Division are reviewed with the intent they comply in **ALL** respects to this code, as prescribed in **SECTION (D) 104.1 of the 2017 Ohio Fire Code**. Any omissions or errors on the plans or in this review do not relieve the applicant of complying with **ALL** applicable requirements of this code. These plans have been reviewed for compliance with the Ohio Fire Code adopted by this jurisdiction. There may be other regulations applicable under local, state, or federal statutes and codes, which this department has no authority to enforce and therefore have not been evaluated as part of this plan review.

AI-8495

7. B.

Planning Commission

Meeting Date: 06/28/2022

MAJOR CHANGE

Information

Agenda Title

MAJOR CHANGE - The applicant, RUETSCHLE ARCHITECTS, requests a Major Change to the Combined Basic and Detailed Development Plan to construct an 11,623 SF career technology addition to the existing auditorium facility. Property is located at 5400 Chambersburg Road (MJC 22-27).

Purpose and Background

Attachments

Staff Report

Decision Record

Drawings

Fire Assessment

Memorandum

Staff Report for Meeting of June 28, 2022

To: Huber Heights City Planning Commission

From: Aaron K. Sorrell, Interim City Planner
Community Planning Insights

Date: June 22, 2022

Subject: Major Change to Basic Development Plan

Application dated June 3, 2022

Department of Planning and Zoning

City of Huber Heights

APPLICANT/OWNER: Ruetschle Architects – Applicant
Huber Height City Schools - Owners

DEVELOPMENT NAME: Wayne High School – Career Tech Addition

ADDRESS/LOCATION: 5400 Chambersburg Road

ZONING/ACREAGE: Planned Public and Private Buildings and Grounds
(PP) / 47.8 Acres

EXISTING LAND USE: Wayne High School

ZONING
ADJACENT LAND: R-4 (West, South and East)
PP (North)

REQUEST: The applicant requests a change to the combined basic and detailed development plan to construct an 11,623 SF career technology addition to the existing auditorium facility.

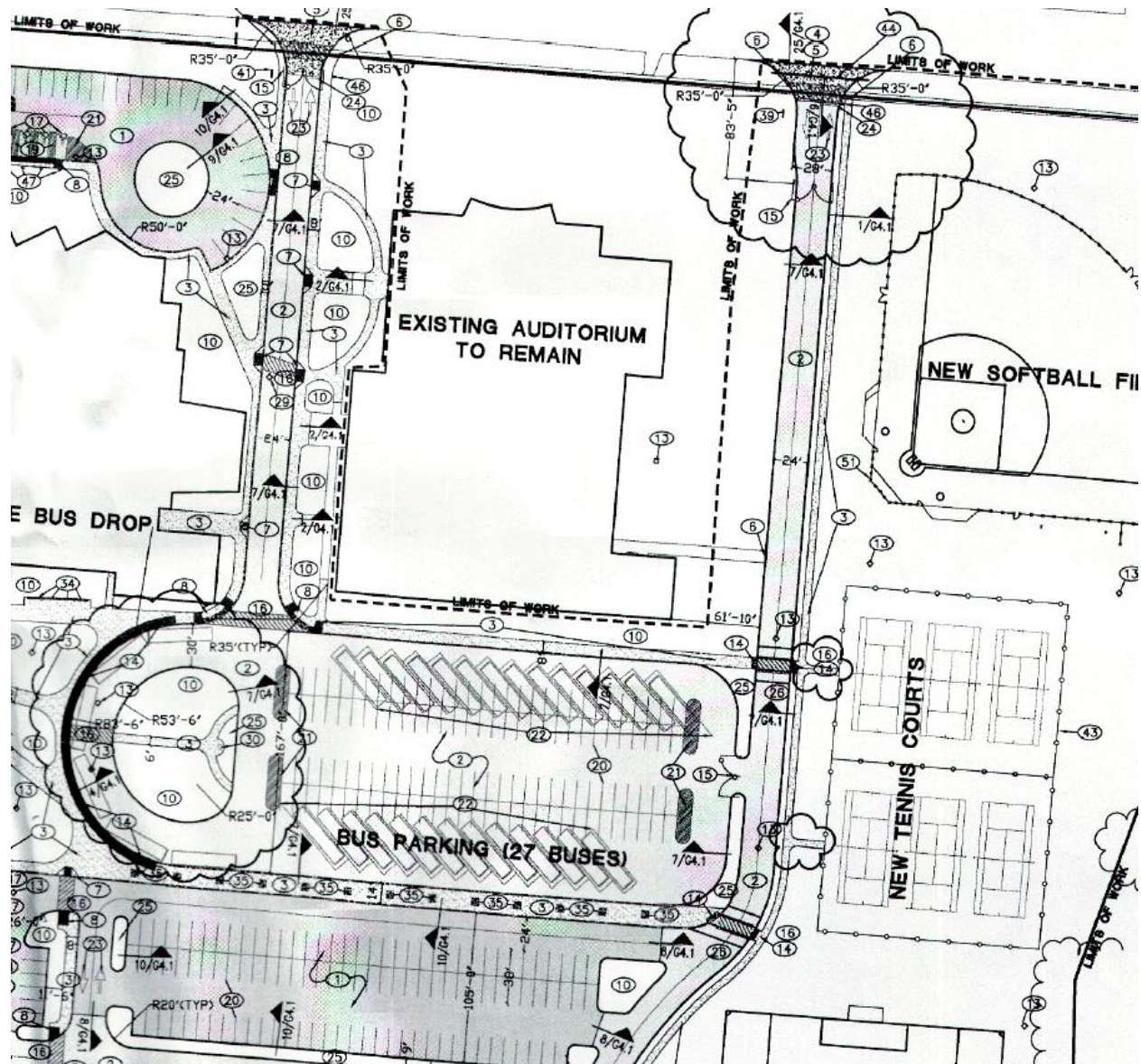
ORIGINAL APPROVAL: The Wayne High School combined basic and detailed development plan was approved in October, 2009.

APPLICABLE HHCC: Chapter 1171, 1174

CORRESPONDENCE: In Favor – None Received
In Opposition – None Received

Overview

At the time of approval, an existing auditorium along Chambersburg Road was improved during the school upgrades. A partial section of the approved BDP is below:



While the approved BPD illustrates bus parking in the lot immediately south of the auditorium, the school no longer stages buses there. It has been using the east/west drive near the current student parking area.

The applicant is now proposing to add an 11,623 addition to the rear of the existing auditorium to facilitate the development of the career technology center and a covered pedestrian walkway.

Parking will be reconfigured, and there is an overall net reduction of 26 parking spaces, which is simply one row of existing parking. No changes to the current bus parking, circulation, or other student/event parking are anticipated.

Conformance with Zoning Regulations

The use conforms with all requirements of Chapter 1174. The applicant is requesting an amendment to facilitate the addition of 11,623 SF to an existing building. The addition is in the interior of the campus and will not be seen from Chambersburg Road.

Staff feels the impact on parking is negligible. There are currently 1175 spaces throughout the campus. At the time of the original basic and detailed development plan approval in 2009, the high school required 460 spaces, and the stadium required 1175 spaces. The original parking calculation was based on 146 employees, 1680 students and 68 classrooms.

The current enrollment is 1569 students, and with this addition, there will be six additional classrooms. The stadium seating stays the same. The reduction from 1175 spaces to 1149 should have a negligible impact on the school's daily operations or impact to surrounding properties.

Landscaping

The applicant proposes improving the interior street tree landscaping along the impacted perimeter roads. This is an improvement from the original basic and detailed development plan.

Building Materials

The building will be clad with a brick exterior, similar to the existing auditorium.

Standards for Approval

1171.06 – General Standards For Approval

The Planning Commission shall review the application, prepared development plan and the facts presented at the hearing. The applicant shall have the burden of proof. No approval shall be given unless the Commission shall find by a preponderance of the evidence that such PUD on the proposed locations:

- (a) Is consistent with official thoroughfare plan, comprehensive development plan and other applicable plans and policies;*

- (b) Could be substantially completed within the period of time specified in the schedule of development submitted by the developer;*
- (c) Is accessible from public roads that are adequate to carry the traffic that shall be imposed upon them by the proposed development. Further, the streets and driveways on the site of the proposed development shall be adequate to serve the residents or occupants of the proposed development;*
- (d) Shall not impose an undue burden on public services such as utilities, fire and police protection, and schools;*
- (e) Contains such proposed covenants, easements and other provisions relating to the proposed development standards as may reasonably be required for the public health, safety and welfare;*
- (f) Shall be landscaped or otherwise improved and the location and arrangement of structures, parking areas, walks, lighting and appurtenant facilities shall be compatible with the existing intended uses, and any part of a PUD not used for structures, parking and loading areas, or accessways;*
- (g) Shall preserve natural features such as water courses, trees and rock outcrops, to the degree possible, so that they can enhance the overall design of the PUD;*
- (h) Is designed to take advantage of the existing land contours in order to provide satisfactory road gradients and suitable building lots and to facilitate the provision of proposed services;*
- (i) Shall place underground all electric and telephone facilities, street light wiring and other wiring conduits and similar facilities in any development which is primarily designed for or occupied by dwellings, unless waived by the Commission because of technical reasons;*
- (j) Shall not create excessive additional requirements at public cost of public facilities and services and shall not be detrimental to the economic welfare of the community;*
- (k) Shall not involve uses, activities, processes, materials, equipment and conditions of operation that shall be detrimental to any persons, property or the general welfare by reason of excessive production of traffic, noise, smoke, fumes, glare or odors; and*
- (l) Rezoning of the land to the PUD District and approval of the development plan shall not adversely affect the public peace, health, morals, safety or welfare.*

Staff Analysis

As outlined above, the new high school was approved in October 2009. The addition of the career center will provide additional educational opportunities for Huber Heights students. It is the staff's opinion the impact of the reduced parking are negligible.

Additionally, the applicant is proposing additional interior landscaping that will improve the overall aesthetics of the campus. No other changes to the approved basic and

detailed development plan are presented. Staff feels the General Standards for Approval outlined in Chapter 1171.06 can be satisfied and recommend approval.

Additional Comments:

Fire: See Attached. The applicant will comply will all fire code requirements.

City Engineer: No comments received.

Recommendation

Staff recommends approving the major change to the basic and detailed development plan submitted on June 2, 2022.

Planning Commission Action

Planning Commission may take the following actions with a motion to:

- 1) Approve the basic development plan application, with or without conditions.
- 2) Deny the basic development plan.
- 3) Table the application in order to gather additional information.



Planning Commission Decision Record

WHEREAS, on June 3, 2022, the applicant, Ruetschle Architects, requested approval of a Major Change to an approved Detailed Development Plan to include 11,623 SF career technology addition to the existing auditorium facility at property located at 5400 Chambersburg Road further identified as Parcel Number P70 04004 0032 of the Montgomery County Auditor's Map (Case MJC 22-27), and;

WHEREAS, on June 28, 2022, the Planning Commission did meet and fully discuss the details of the request.

NOW, THEREFORE, BE IT RESOLVED that the Planning Commission hereby recommended approval of the request.

moved to approve the request by the applicant, Ruetschle Architects, for approval of a Major Change to an approved Detailed Development Plan to include 11,623 SF career technology addition to the existing auditorium facility at property located at 5400 Chambersburg Road (Case MJC 22-27), in accordance with the recommendation of Staff's Memorandum dated June 22, 2022, with the following conditions:

1. Applicant shall meet all Fire Code requirements.
2. Applicant shall meet all Engineering requirements.

Seconded by _____. Roll call showed: YEAS: NAYS: Motion to recommend approval carried ____

Terry Walton, Chair
Planning Commission

Date



New Career Tech Classroom Addition and Renovation

WAYNE HIGH SCHOOL

5400 Chambersburg Road, Huber Heights, Ohio 45424

for

Huber Heights City Schools

5954 Longford Road, Huber Heights, Ohio 45424

UPDATE TO PUD BASIC/DETAILED DEVELOPMENT PLAN

JUNE 2, 2022



RUETSCHLE ARCHITECTS

222 LINWOOD STREET
DAYTON, OHIO 45405
T: 937.461.5390

RUETSCHLE.COM

- Gilbane Building Company

One South St. Clair Street

419.322.9017

Construction Manager

Toledo, Ohio 43604
- Burkhardt Engineering

28 North Cherry Street

937.388.0060

Civil Engineer

Germantown, Ohio 45327
- Shell + Meyer Associates, Inc.

2202 South Patterson Blvd.

937.298.4631

Structural Engineer

Dayton, Ohio 45409
- Heapy Engineering LLC

1400 West Dorothy Lane

937.224.0861

Consulting Engineers

Dayton, Ohio 45409
- Heapy Engineering LLC

1400 West Dorothy Lane

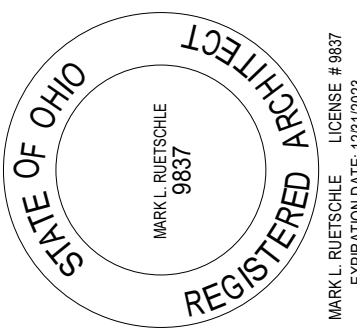
937.224.0861

Technology Engineers

Dayton, Ohio 45409

INDEX TO DRAWINGS	
Sheet Number	Sheet Name
I	Cover Sheet
Civil	
C1.0	Existing Conditions and Demolition Plan
C2.0	Site Plan
C3.0	Grading Plan
C4.0	Utility Plan
C5.0	Details
Architectural	
AS1.1	Overall Site Plan
AS1.2	Pedestrian Canopy
A1.0	Overall First Floor Plan
AD1.1	Demolition Floor Plan
A1.1	Revised Floor Plan
A2.1	Exterior Elevations
Electrical	
E006	Site Plan

222 LINWOOD STREET
DAYTON, OHIO 45405
TEL: 937-461-5390
FAX: 937-461-5829
RUETSCHLE.COM



Issued:
05.16.2022
Bidding/Permit

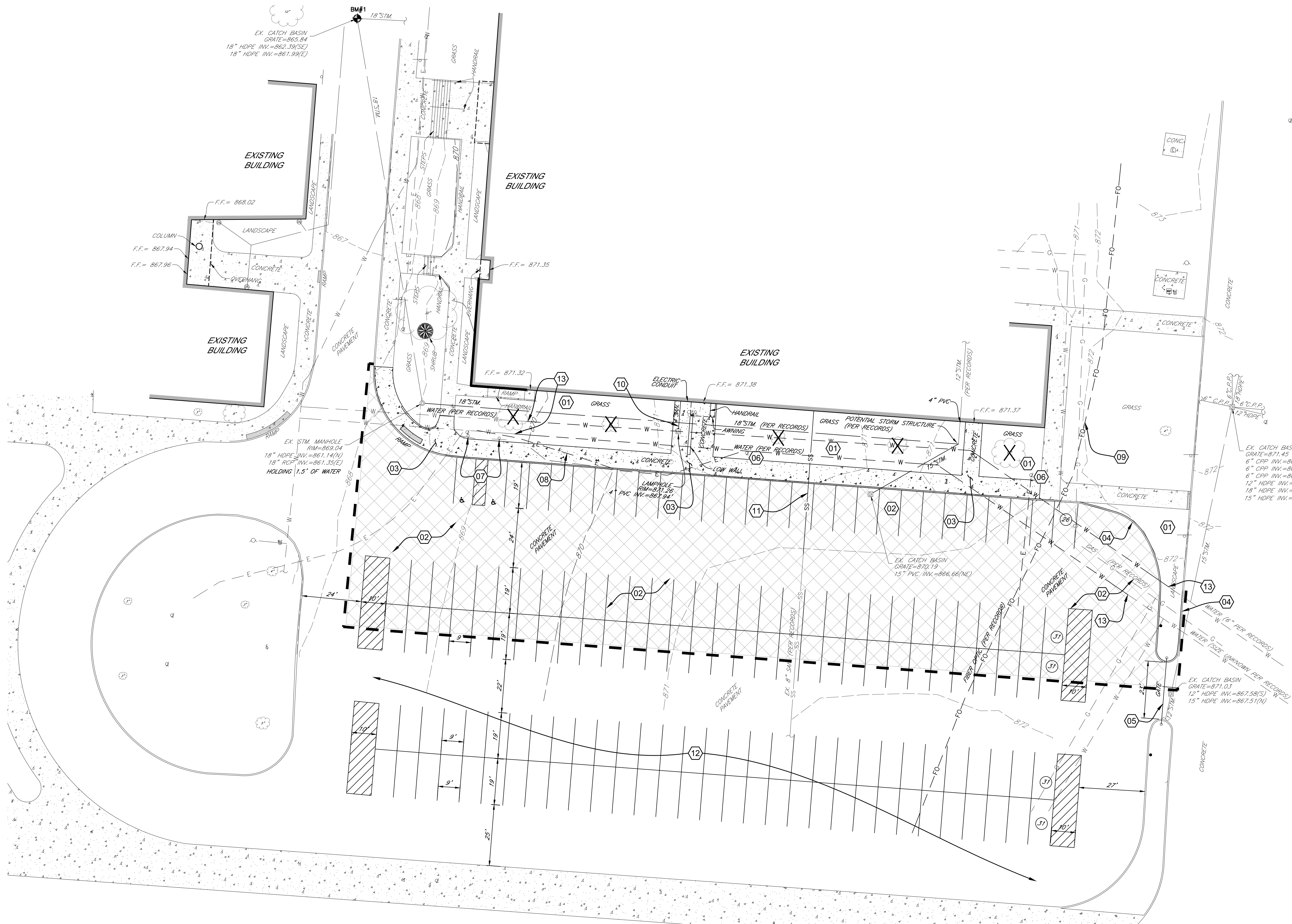
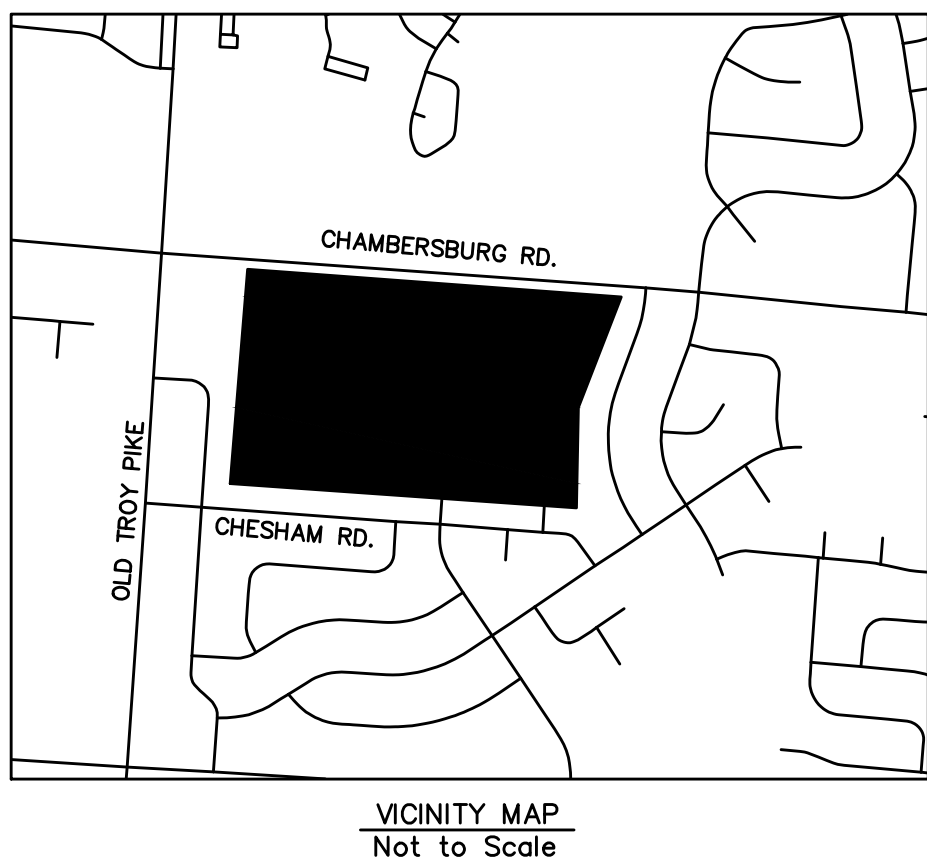
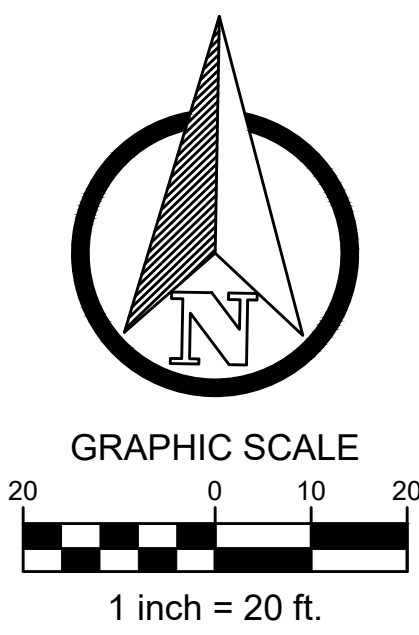
Revisions:

Career Tech Addition For
WAYNE HIGH SCHOOL
Huber Heights City Schools
5400 Chambersburg Rd.
Huber Heights, OH 45424

Comm. No.
32119

Cover Sheet

Sheet No.
1



GENERAL DEMOLITION NOTES

- Within the subject property, the intent is to have a clean, clear site, free of all existing items noted to be removed in order to allow for the construction of the new project.
- All items noted to be removed shall be done as part of the contract for general construction.
- Remove and dispose of any materials requiring removal from the work area in an approved off-site landfill.
- The Contractor shall secure all permits for demolition and disposal of demolition material to be removed from the site. The Contractor shall post all bonds and pay all permit fees as required.
- The Contractor shall cut and plug, or arrange for the appropriate utility company to cut and plug service piping at the property line or at the main (as required). All services may not be shown on this plan.
- For all items noted to be removed, remove not only above ground elements, but all underground elements as well, including, but not necessarily limited to: foundations, slabs, gravel fills, tree roots, pipes, wires, unsuitable materials, etc.
- The Contractor shall sawcut existing pavement to provide a clean edge between existing pavement to remain and existing pavement to be removed.
- Limits of removal shown on demolition plan are approximate only. Actual quantities may vary due to construction activities. Contractor is responsible for all demolition, removal and restoration work necessary to allow for the construction of the new project.
- Backfill excavations resulting from demolition work to meet the requirements for fill outlined in the Geotechnical / Soils Report.

DEMOLITION KEYNOTES

- 01 REMOVE TOPSOIL, GRASS, TREES, SHRUBS, AND ANY OTHER UNSUITABLE MATERIALS IN PROJECT AREA AND PREPARE SITE.

X REMOVE TREE/BUSH

- 02 REMOVE EXISTING CONCRETE PAVEMENT AND SAWCUT PAVEMENT FOR CLEAN EDGE

--- SAWCUT LINE

- 03 REMOVE EXISTING CONCRETE SIDEWALK
- 04 REMOVE EXISTING CURB
- 05 REMOVE EXISTING GATE
- 06 REMOVE EXISTING LIGHT POLE. RETURN TO OWNER.
- 07 REMOVE EXISTING SIGN
- 08 EXISTING ELECTRIC LINE TO BE REMOVED PER OWNER REQUIREMENTS
- 09 EXISTING FIBER OPTIC LINE TO BE REROUTED OUTSIDE OF PROPOSED BUILDING FOOTPRINT.
- 10 EXISTING SANITARY LINE TO BE REMOVED. VERIFY WITH OWNER THAT LINE IS NO LONGER IN USE.
- 11 EXISTING SANITARY LINE UNDER PROPOSED BUILDING TO BE REMOVED AND REPLACED PER MEP PLANS.
- 12 EXISTING PAVEMENT AREA TO BE RESTRIPTED.
- 13 REMOVE AND RE-ROUTE EXISTING WATER LINES. SEE UTILITY PLAN.

DEMOLITION LEGEND

AREA OF PAVEMENT REMOVAL

EXISTING CONDITIONS LEGEND

⊙ DOWNSPOUT	● BOLLARD
⊙ SANITARY LAMP HOLE	⊙ FLAG POLE
⊙ CATCH BASIN	⊙ SIGN
⊙ STORM MANHOLE	⊙ TREE WISIZE
⊙ FIRE HYDRANT	⊙ ELECTRIC CABINET
⊙ WATER MAIN VALVE	⊙ GATE POST
⊙ WATER METER PIT	⊙ SANITARY CLEANOUT
⊙ POST INDICATOR VALVE	⊙ LIGHT POLE
---	STORM LINE
---	WATER LINE
---	UG ELECTRIC LINE
---	SANITARY LINE
---	UG FIBER OPTIC LINE
---	CONTOUR

GENERAL CONSTRUCTION NOTES

- All work shall strictly comply with all Local, State, and Federal regulations and requirements.
- Prior to the start of construction, the Contractor shall be responsible for ensuring that all required permits and approvals have been obtained. No construction or fabrication shall begin until the Contractor has received and reviewed all plans and other documents approved by all the permitting authorities. The Contractor shall post all bonds, pay all fees, and provide proof of insurance as required to obtain permits.
- All sediment and erosion control measures, as shown on Sheet C-3.0, shall be in place prior to the start of any demolition, clearing and grubbing, or construction operations. Erosion control measures shall conform to all Local, State, and Federal regulations and requirements.
- North arrow, existing topography, and bearings based on field survey of the subject property prepared by Burkhardt Engineering dated January, 2020.
- Information on existing utilities has been compiled from available information including utility company and municipal records and field survey and is not guaranteed correct and complete. Utilities are shown to alert the Contractor to their presence and the Contractor is solely responsible for determining actual locations and elevations of all utilities. Prior to demolition or construction, the Contractor shall contact "811", 72 hours before commencement of work and verify all utility locations.
- The Contractor shall provide and maintain traffic control devices for protection of vehicles and pedestrians consisting of drums, barriers, signs, lights, fences and uniformed traffic officers as required by Local and State Authorities.
- The Contractor shall protect all iron pins, monuments and property corners during construction. Any Contractor disturbed pins, monuments, etc. shall be reset by a Professional Land Surveyor (Registered with the State) at the expense of the Contractor.
- Any disturbance incurred to any adjacent properties or public right-of-way during demolition and construction shall be restored to its original condition or better, in accordance with and to the satisfaction of Local and State Authorities.
- The Contractor shall abide by all OSHA, Federal, State, and Local regulations when operating cranes, booms, hoists, etc. in close proximity to overhead electric lines. If Contractor must operate equipment close to electrical lines, contact the local Utility Provider to make arrangements for proper safeguards.
- All material schedules shown on the plans are for general information only. The Contractor shall prepare their material schedules based upon their plan review. All schedules shall be verified in the field by the Contractor prior to ordering materials or performing work.
- All work within public rights-of-way shall be in accordance with Local, State, and/or Federal requirements and specifications.

SITE BENCHMARKS

BM#1 Description: Existing Catch Basin
Grate Elevation: 865.84

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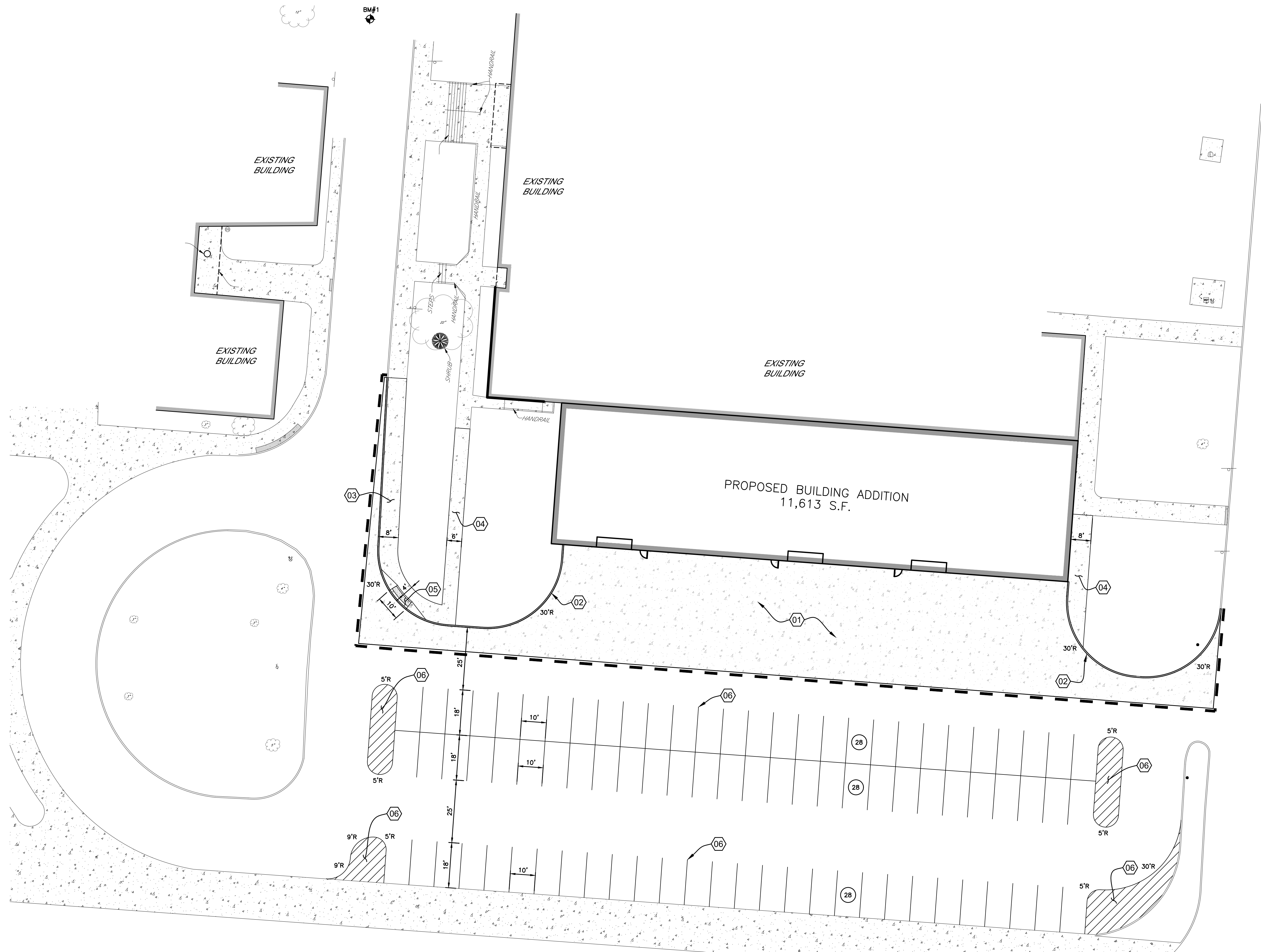
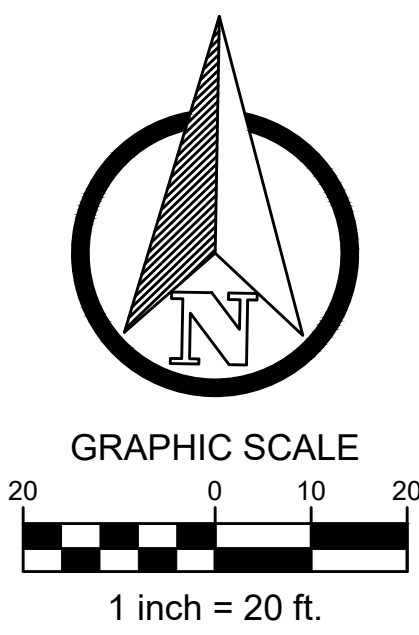
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EXISTING CONDITIONS
AND DEMOLITION PLAN

Sheet No.

C-1.0



SITE BENCHMARKS
BM#1 Description: Existing Catch Basin
Grate Elevation: 865.84

GENERAL SITE NOTES

1. Building dimensions shown on the Civil Engineering Plans are for reference purposes only.
2. All site and radii dimensions are referenced to the face of curbs or edge of paving unless otherwise noted.
3. All dimensions to the building are referenced to the outside face of the structure's facade.
4. All sidewalks, curb and gutter, street paving, curb cuts, driveway approaches, handicap ramps, etc. constructed outside the property line in the right-of-way shall conform to all Local and/or State specifications and requirements.
5. All proposed handicap ramps, parking areas, and accessible routes shall strictly comply with current Local, State, and Federal regulations, including but not necessarily limited to the ADA Accessibility Guidelines (ADAAG).
6. All ADA accessible routes shall have detectable warnings installed as required by the ADAAG. Detectable warnings shall consist of raised truncated domes which contrast visually with the adjoining surfaces, either light-on-dark, or dark-on-light.
7. Contractor shall sawcut existing pavement and concrete to provide a clean, straight joint where new pavement meets existing pavement and ensure positive drainage.
 - Curbing: 10'-0" (max) spacing.
 - Sidewalks: 5'-0" (max) spacing.
 - Vehicular Traffic Areas: 24 x Concrete Pavement
 - Thickness (feet), 15'-0" (max) spacing.
8. All concrete pavement shall have joints in accordance with ACI 330R-08, Section 3.7 and Appendix C. Contraction joints shall be 1/4 of the slab thickness. Isolation joints shall be placed between pavement and foundations, inlets, and other fixed structures. Contraction joints shall be tool finished and spaced as follows:

SITE KEYNOTES

- 01 CONCRETE PAVEMENT
- PER DETAIL / SHEET C5.0
- 02 CONCRETE BARRIER CURB
- PER DETAIL / SHEET C5.0
- 03 CONCRETE SIDEWALK WITH INTEGRAL CURB
- PER DETAIL / SHEET C5.0
- 04 CONCRETE SIDEWALK
- PER DETAIL / SHEET C5.0
- 05 ADA ACCESSIBLE RAMP
- PER ODOT STD. DWG. BP-7.1, TYPE D RAMP
- 06 PARKING STRIPE / HATCH
- 4" WIDE PAINTED STRIPES, HATCHING TO BE AT 45° AND 2'-0" O.C.
- STRIPING ON CONCRETE PAVEMENT TO BE PAINTED YELLOW.

SITE AND PAVEMENT LEGEND

- 0 NUMBER OF PARKING SPACES
- CONCRETE

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SITE PLAN

Sheet No.

C-2.0



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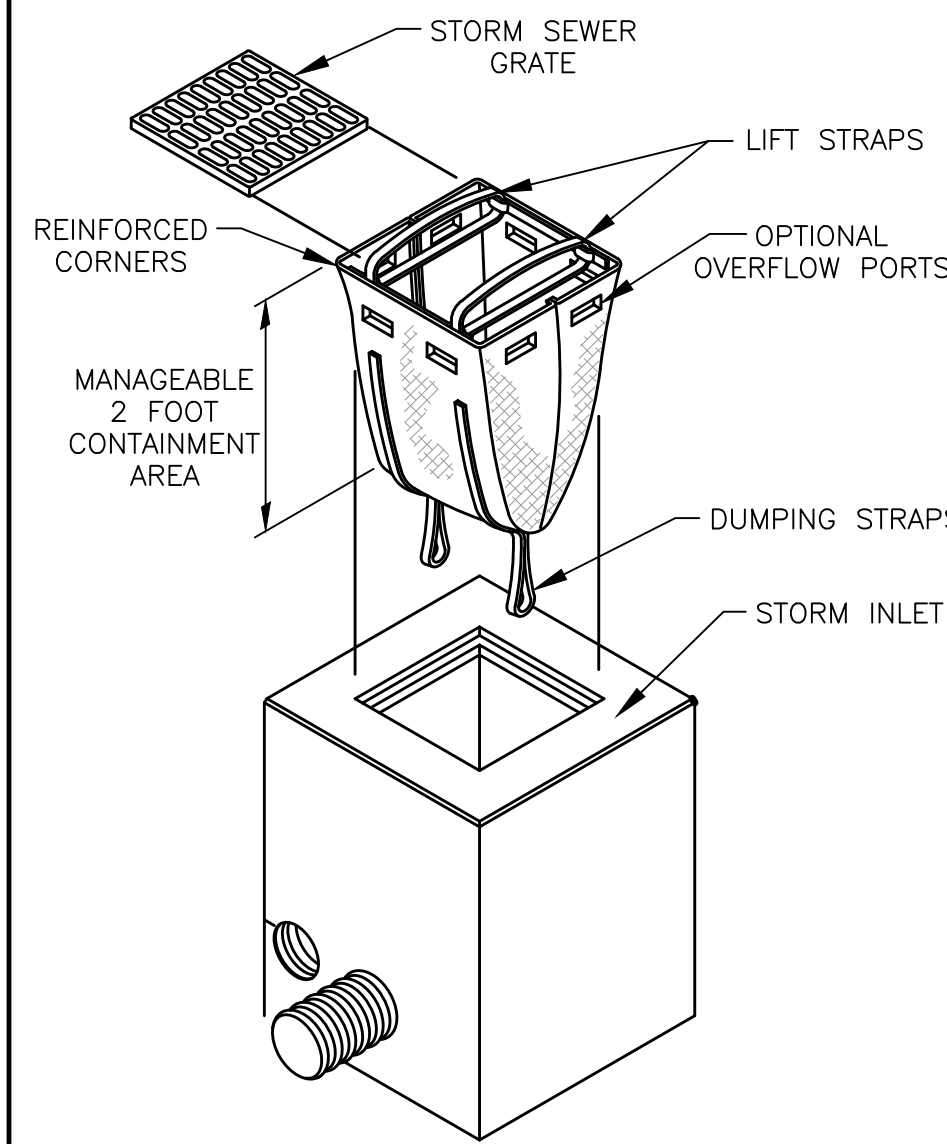
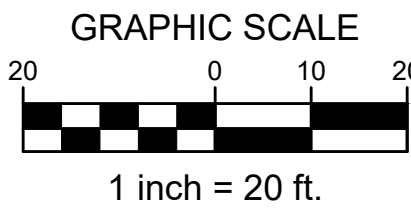
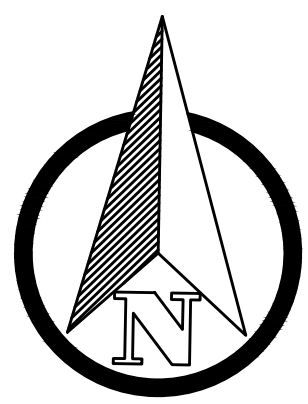
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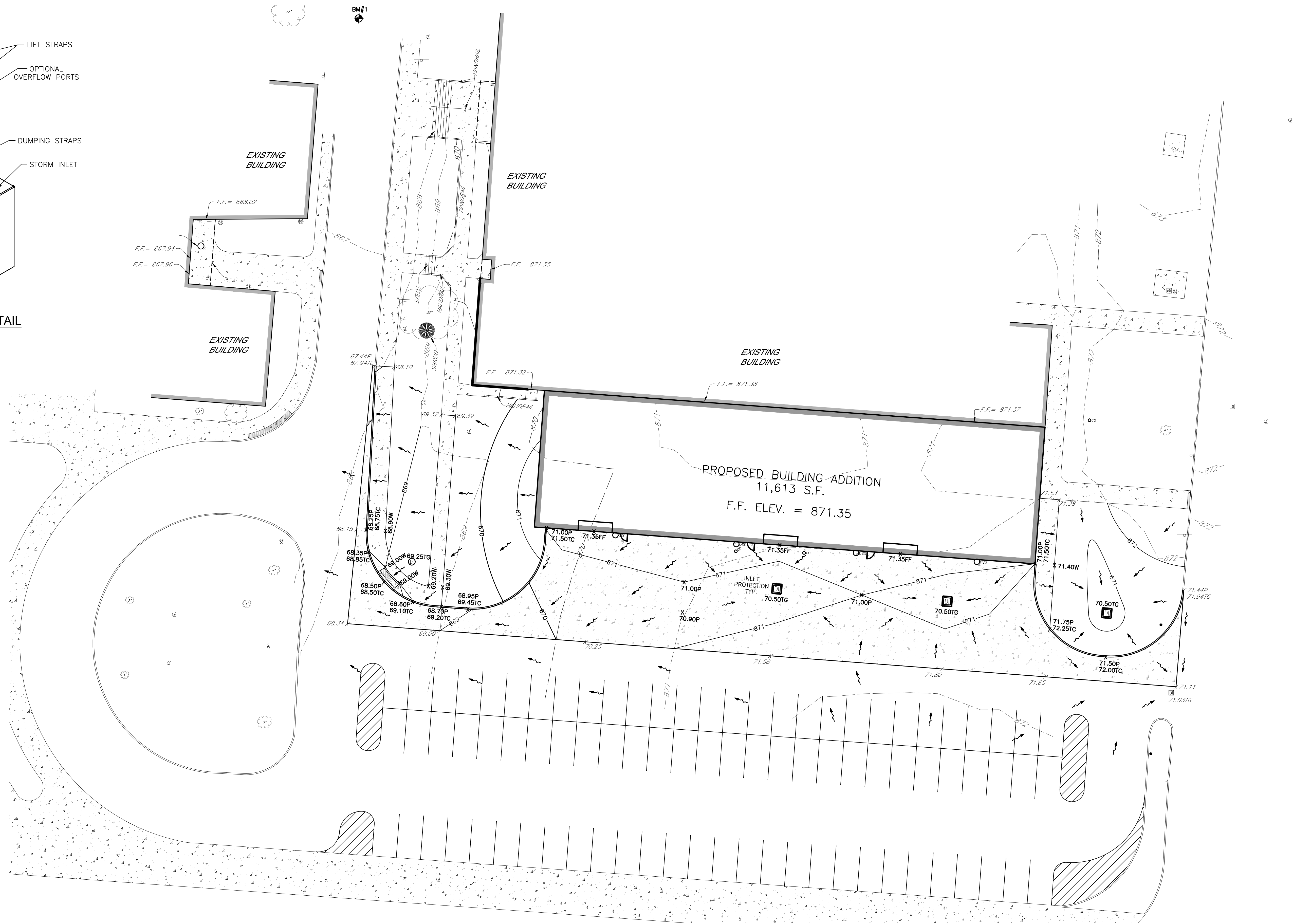
SITE PLAN

Sheet No.

C-2.0



DANDY SACK™ DETAIL
NOT TO SCALE



SITE BENCHMARKS
BM#1 Description: Existing Catch Basin
Grate Elevation: 865.84

SOIL EROSION CONTROL LEGEND



INLET PROTECTION / DANDY SACK

STABILIZE ALL AREAS AS NECESSARY

GENERAL GRADING, EARTHWORK & DRAINAGE NOTES

- All spot elevations indicated in pavement areas are at bottom face of curb and/or finished pavement grade unless noted otherwise. All spot elevations indicated in grass or landscape areas are finished grade unless noted otherwise.
- The Contractor shall be responsible for the removal and disposal of all vegetation and organic materials from the site that results from clearing & grubbing activities.
- The Contractor shall be responsible for stripping and removal of all excess topsoil from the site. All topsoil that cannot be used on site shall be removed from the site at the Contractor's expense. The Contractor may dispose of excess topsoil by burying topsoil in landscape areas only at the direction of the Owner or the Owner's Representative.
- The Contractor will be responsible for all safety requirements and for the protection of all existing and proposed utilities or structures during earthwork procedures.
- The Contractor shall be responsible for the import of structural fill materials if suitable material is not available on site. The location and testing of suitable material shall be the Contractor's responsibility. The Contractor shall be responsible for the export and disposal of all excess or unsuitable materials.
- The Contractor shall provide construction dewatering as necessary to complete construction as outlined in plans.
- The Contractor shall exercise extreme care in establishing all grades and slopes in pavement areas, ramps and sidewalks in the vicinity of handicap parking and access areas and shall comply with Federal, State, and Local Codes.
- In areas where sheet drainage flows from grass or landscape areas onto paved areas, the finished grade in grass or landscape areas shall be 1/2 inch above the top of curb or above the pavement in areas without curb. In areas where sheet drainage flows from pavement to grass or landscaped areas, the finished grade in grass or landscape areas shall be 1/2 inch below the pavement.
- The Contractor shall provide positive drainage in all areas and away from all buildings.
- All pavement shall be laid on a straight, even, and uniform grade with a minimum of 1:100 (1.0%) slope toward the collection points unless otherwise specified on plans. Cut or fill slopes in unpaved areas shall not exceed 3:1 (33.3%) maximum grade unless otherwise noted on plans.
- ADA accessible areas shall not exceed the following slopes:
 - Ramps - 1:12 (8.3%) max.
 - Routes - 1:20 (5.0%) max.
 - Parking - 1:50 (2.0%) max.
 - Cross Slopes - 1:50 (2.0%) max.
- The Contractor shall adjust tops/lids/grates of all existing and proposed cleanouts, manholes, inlets, valves, etc. to match final grade.
- Following grading of subsoil to subgrade elevations, the Contractor shall provide 4" of topsoil (minimum) in all disturbed areas which are not to be paved. Final grades should be smoothly finished to surrounding areas and ensure positive drainage. Stockpiled topsoil shall be screened prior to respreading and should be free of subsoil, debris, and stones.
- The Contractor shall be responsible for determining exact quantities of cut and/or fill for estimating and construction and should alert the Engineer of any excessive cut and/or fill, especially if additional cut and/or fill will be required due to poor existing soil conditions discovered during earthwork operations.
- Refer to the Architectural and Structural Plans for information regarding any perimeter foundation drains.
- The Contractor shall obtain a copy of the Geotechnical / Soils Report and become thoroughly familiar with site and subgrade information and fully implement recommendations given therein.
- Proposed spot elevations are provided in a truncated form to save space, add 800' to each spot elevation to convert the elevation to NAVD88 datum.
- Refer to the Landscape Plans for finish material specifications (topsoil, seed, sod, mulch, etc.) in all landscape and open space areas.

GRADING LEGEND

	PROP. SHEET FLOW
+00.00	PROP. SPOT ELEVATION
+00.00	EXIST. SPOT ELEVATION
— 870 —	PROP. CONTOUR
— 871 —	EXISTING CONTOUR

ADD 800' TO SPOT ELEVATIONS
ALL GRADES IN PAVEMENT AREAS ARE TOP OF PAVEMENT
ELEVATIONS UNLESS OTHERWISE CALLED OUT.

**SEE SHEET C-5.0 FOR GENERAL STORMWATER
POLLUTION PREVENTION NOTES**

**SOIL EROSION CONTROL SEQUENCE OF
CONSTRUCTION**

- Stone tracking pad atop geotextile liner.
- Install silt fence and protection fencing.
- Initial clearing, grubbing, and demolition.
- Strip and stockpile top soil.
- Rough grade and balance site.
- Install underground utilities (i.e. Sanitary, Storm & Water)
- Place inlet filters on all storm inlets.
- Install franchise utilities (i.e. Gas, Electric, Telephone & Cable TV).
- Final grade site.
- Install pavement, curb, and other hardscape structures/surfaces.
- Stabilize ditches, swales, common areas and slopes.
- Establish permanent vegetation for all disturbed areas.
- Erosion and sediment control devices to be removed after inspection approval from the city that permanent vegetation is sufficient and site is adequately stabilized.
- Clean out storm sewer system and disturbed areas upon completion.

SOIL EROSION CONTROL MAINTENANCE

- Inlet protection devices and barriers shall be repaired or replaced if they show signs of undermining or deterioration.
- All seeded areas shall be checked regularly to see that a good stand is maintained. Areas should be fertilized, watered, and reseeded as necessary.
- Silt fences shall be repaired to their original conditions if damaged. Sediment shall be removed from the silt fences when it reaches one-half the height of the silt fence.
- The construction entrance shall be maintained in a condition which will prevent tracking or flow of mud onto public rights-of-way.
- Sediment from the detention area shall be removed as necessary to maintain proper functionality.

SOIL EROSION CONTROL NOTES

All stormwater inlets shall be protected with Geotextile Inlet Protection or Inlet Filters (Dandy Products, Flexstorm, or equivalent).

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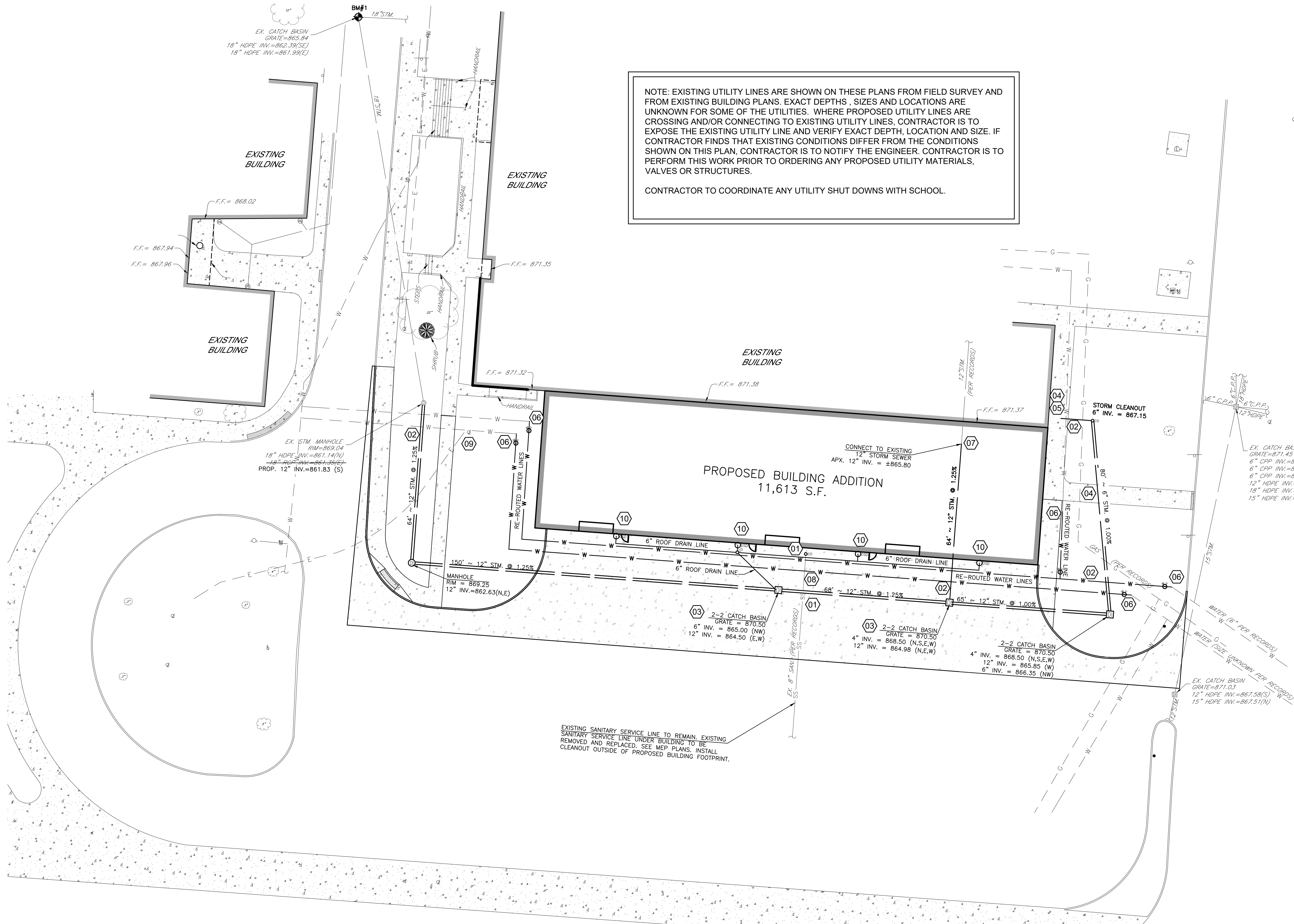
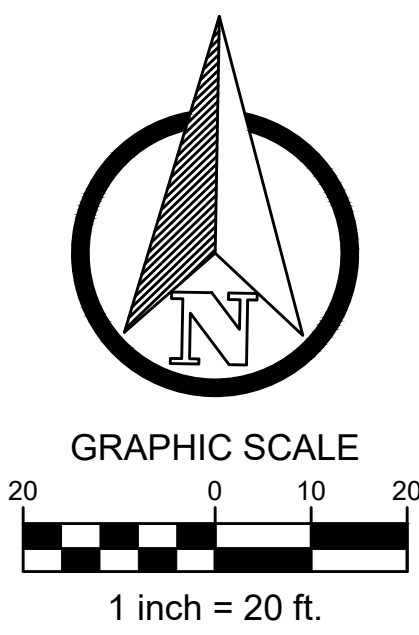
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GRADING AND EROSION
CONTROL PLAN

Sheet No.

C-3.0



GENERAL UTILITY NOTES:

- All utilities shown are approximate locations only and have been compiled from the latest available mapping. The exact location of all underground utilities shall be verified by the Contractor prior to the start of construction.
- Contractor to coordinate with the local utility companies for all locations and connections. A preconstruction meeting with the various utility companies may be required prior to the start of any construction activity.
- The Contractor shall visit the site and verify the location, elevation, and condition of all existing utilities by various means prior to beginning any excavation. Test pits shall be dug at all locations where existing and proposed utility lines cross, and the horizontal and vertical locations of the utilities shall be determined. The Contractor shall contact the Engineer in the event of any unforeseen conflicts between existing and proposed utilities so that an appropriate modification may be made.
- The Contractor shall ensure that all utility companies and local standards for materials and construction methods are met. The Contractor shall perform proper coordination with the respective utility company. The Contractor shall coordinate work to be performed by the various utility companies and shall pay all fees for connections, disconnection, relocations, inspections, and demolition.
- This plan details pipes up to 5' from the building face. Refer to the building drawings for building connections. Supply and install pipe adapters as necessary.
- All valve boxes and curb boxes shall be adjusted to the final grades and located in grassed areas unless indicated otherwise on the plans.
- The Contractor shall provide traffic bearing concrete collars and lids for all cleanouts, manholes, inlets, valves, etc. which are located in paved areas.
- All existing pavement within the rights-of-way where utility piping is to be installed shall be saw cut and replaced or directionally bored in accordance with Local and/or State requirements. Existing pavement shall be repaired as necessary.
- All utility lines and trenches shall be installed, bedded and backfilled according to manufacturer's specifications and to the satisfaction of Local and State Authorities.
- Sanitary sewer laterals shall maintain (10' min. horizontal, 1.5' min. vertical) separation distance from water lines unless otherwise shown, or additional protection measures will be required. Where water line crosses above sanitary lateral by less than 2' vertical, a concrete encasement shall be installed, Contractor shall center one joint of pipe at crossing.
- Roof drains, foundation drains, and other clean water connections to the sanitary sewer system are prohibited.

STORM SEWER NOTES:

All storm sewer shall be reinforced concrete pipe (RCP, ASTM C76 - Class III, minimum) or high-density polyethylene pipe (ADS N-12 or equivalent), unless otherwise noted on plans. All pipe shall be installed according to Local, State, and manufacturer's specifications.

Contractor to provide downspout collection system to connect building downspouts / roof drains to storm sewer system. See architectural/plumbing plans for downspout locations and connection details.

Downspout collection pipe (DCP) may be HDPE (ADS N-12 or equivalent) or Schedule 40 PVC pipe. All downspout collector pipes to be at 2.00% minimum slope. All pipe shall be installed according to Local, State, and manufacturer's specifications. Provide cleanouts at all bends, angles, and junctions. All cleanouts in pavement areas shall be installed with traffic bearing lids and concrete collars, per detail / Sheet C-5.0.

Storm sewer connection, permit and construction to be coordinated with City of Huber Heights.

ELECTRIC NOTES:

Coordinate electric service lines, transformer, meter, and connections with electrical plans and local utility provider. Contractor shall verify both location and availability of service prior to the start of construction.

Coordinate site lighting, signage wiring, conduit locations, connections, etc. with electrical plans. Notify Engineers of any potential conflicts.

TELECOM NOTES:

Coordinate telecommunication service lines and connections with electrical plans and local utility provider. Contractor shall verify both location and availability of service prior to the start of construction.

SANITARY SEWER NOTES:

All sanitary sewer pipe shall be P.V.C. SDR-26 with joints conforming to ASTM 3212. All sanitary lines shall be installed in accordance with the manufacturer's recommended procedures. 6" lines shall maintain a minimum slope of 1.00%.

WATER NOTES:

Water lines shall be per City of Huber Heights & Montgomery County requirements, installed per manufacturer's recommended procedures. >2" waterlines to be Class 52 Ductile Iron. 2" and smaller service lines to be K Copper with Ford Meter Valves and a curb stop valve in a box in front of meter pit. Tapping Sleeve to be Stainless Steel or Ductile Iron. Main line valves to be Mueller. Lines shall be installed with a minimum cover of 48" or below frost line, whichever is greater.

Water service connection, meter, permit and construction to be coordinated with City of Huber Heights.

UTILITY KEYNOTES

- MAINTAIN 1.5' VERTICAL CLEARANCE BETWEEN SANITARY SEWER AND STORM SEWER. SANITARY SERVICE WILL BE BELOW STORM SEWER.
- MAINTAIN 1.5' VERTICAL CLEARANCE BETWEEN WATER SERVICE AND STORM SEWER. WATER SERVICE WILL BE BELOW STORM SEWER.
- STORM STRUCTURES IN PAVEMENT AREAS ARE TO HAVE 4" UNDERDRAINS INSTALLED PER DETAIL ON SHEET C-5.0.
- REMOVE AND REPLACE SIDEWALK AS NECESSARY TO INSTALL STORM SEWER. COST INCLUDED IN STORM SEWER ITEMS.
- CONNECT 6" STORM LINE TO 4" STORM LINE EXITING BUILDING. SEE PLUMBING PLANS.
- CONNECT TO EXISTING WATER LINE WITH VALVE. PROPOSED WATER LINE TO BE RE-ROUTED OUTSIDE OF PROPOSED BUILDING FOOTPRINT.
- VERIFY THAT EXISTING AND PROPOSED STORM SEWER PIPE MATERIAL AND DEPTH SATISFY LOCAL BUILDING CODES FOR PLACING STORM SEWER BENEATH BUILDING FOUNDATIONS. IF EXISTING PIPE DOES NOT MEET BUILDING CODES, REMOVE AND REPLACE EXISTING PIPE WITH AN ACCEPTABLE MATERIAL AT THE EDGE OF THE EXISTING BUILDING.
- MAINTAIN 1.5' VERTICAL CLEARANCE BETWEEN WATER SERVICE AND SANITARY SEWER. WATER SERVICE WILL BE ABOVE SANITARY SEWER.
- EXISTING LIGHT POLE TO REMAIN.
- DOWNSPOUT CONNECTION PER DETAIL ON SHEET C-5.0.

SITE BENCHMARKS
BM#1 Description: Existing Catch Basin
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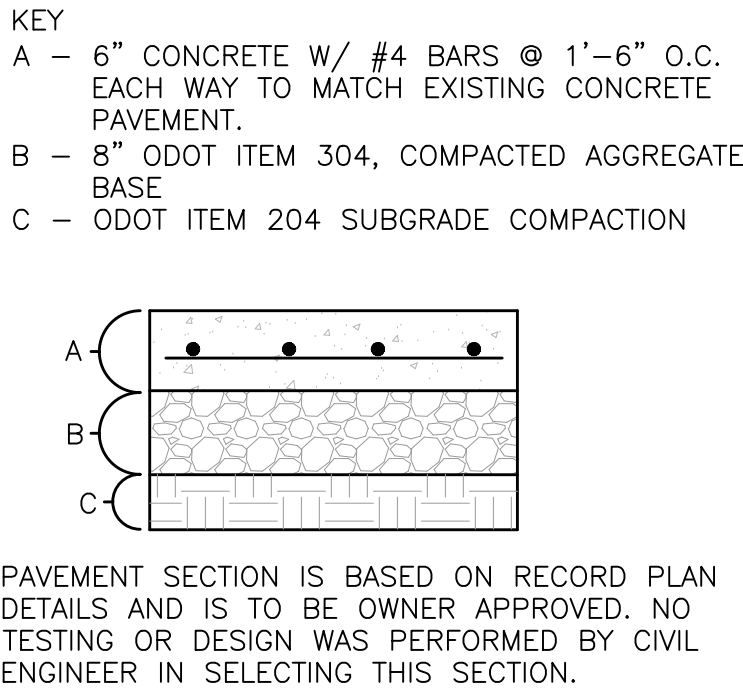
UTILITY PLAN

Sheet No.

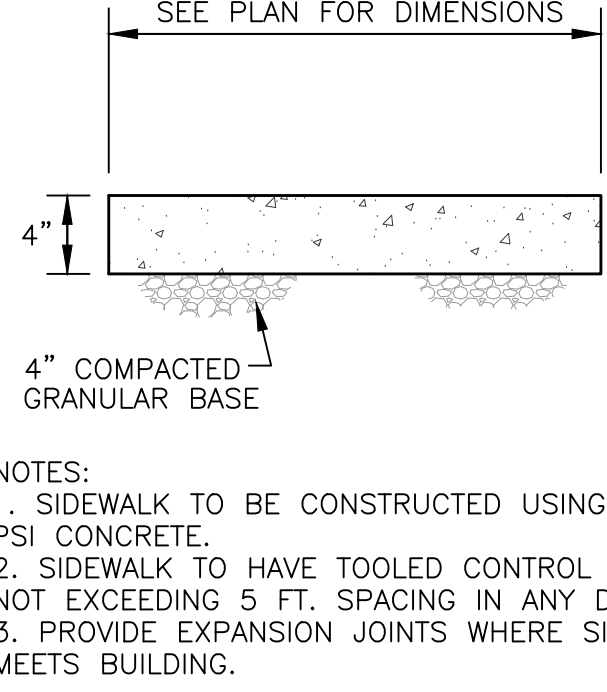
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GENERAL STORMWATER POLLUTION PREVENTION NOTES

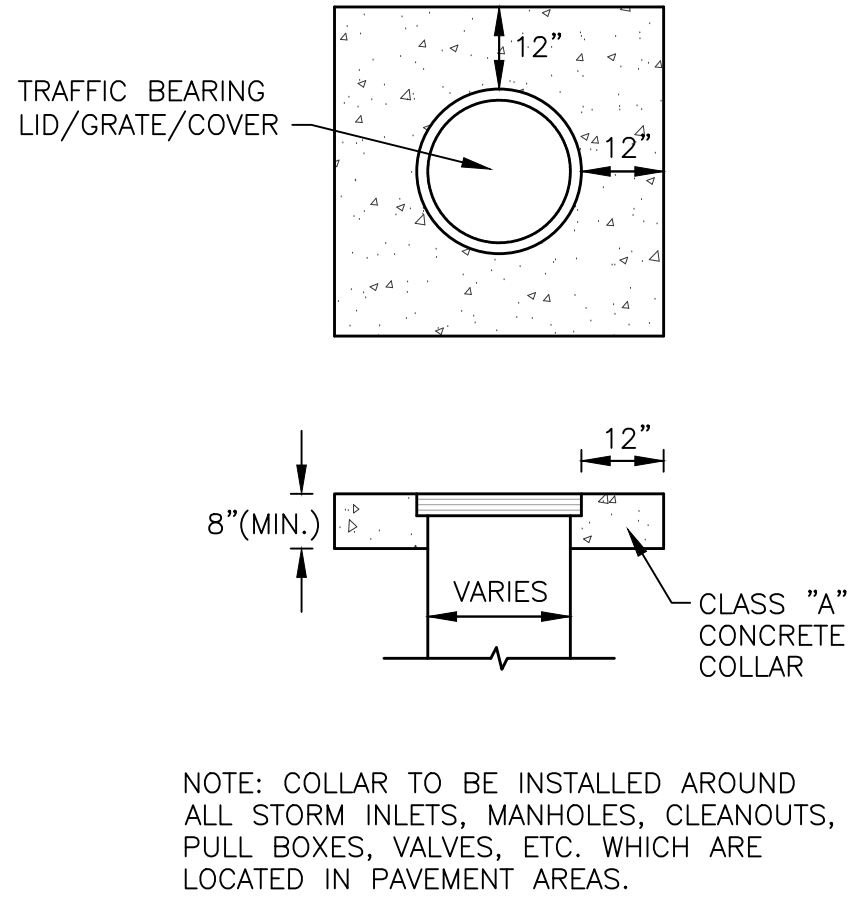
- All erosion and sediment control practices must conform to the standards and specifications set forth by the Local, State, and Federal Authorities.
- Construction activities shall be scheduled such that a minimum area of the site is disturbed at a time. Construction operation shall be scheduled and performed so that preventative soil erosion control measures are in place prior to excavation in critical areas and temporary stabilization measures are in place immediately following backfilling operations. Contractor shall reduce effects of storm water by using and/or maintaining grassed swales, infiltration structures, or water diversions.
- Special precautions will be taken in the use of construction equipment to prevent situations that promote erosion.
- Cleanup will be done in a manner to ensure that erosion control measures are not disturbed.
- The soil erosion controls are to be inspected once a week and within 24 hours of a 0.25 inch or greater rain event. A written log of these inspections and improvements to controls shall be kept on site. The logs shall include the date of inspection, name of the inspector, weather conditions, actions taken to correct any problems and the date corrective actions were taken.
- Temporary soil stabilization shall occur within 7 days after rough grading if the area will remain idle longer than 21 days. Any disturbed area that is not going to be worked for 21 days or more must be seeded and mulched.
- Trenches for underground utility lines and pipes shall be temporarily stabilized within 7 days if they are to remain inactive for 21 days. Trench dewatering devices shall discharge in a manner that filters soil-laden water before discharging it to a receiving drainage ditch or pond. If seeding, mulching or other erosion and sediment control measures were previously installed, these protective measures shall be reinstalled. Pipelines with joints that allow a manufactured length of pipe to be placed in the trench with the pipe joint assembled/made in the trench require an open pipeline trench that is only slightly longer than the length of pipe being installed. The total length of excavated trench open at any time should not be greater than the total length of pipeline/utility that can be placed in the trench and backfilled in one working day. No more than 50 linear feet of open trench should exist when pipeline/utility line installation ceases at the end of the work day.
- Soil stockpiles shall be stabilized or protected to prevent soil loss.
- All disturbed areas shall be permanently stabilized within 7 days of final grading. Further, soil erosion control measures shall be maintained until permanent stabilization is complete, at which time temporary measures will be removed. Permanent vegetation is a ground cover dense enough to cover 80% of the soil surface and mature enough to survive winter weather conditions.
- Silt fence to be 2' minimum from property lines in areas where work is near adjacent properties.
- The Contractor shall establish a permanent on-site benchmark prior to clearing, grubbing and/or demolition.
- Haul Routes - The Contractor shall be responsible for the cleanup of any mud, dirt, or debris deposited on haul roads as a result of his operations. Soil shall be removed from roads and paved surfaces at the end of each day in such a manner that does not create off-site sedimentation in order to ensure safety and abate off-site soil loss. Collected sediments shall be placed in a stable location on site or taken off-site to a stable location. Contractor shall use State Routes (and shortest distance non-state routes) for project haul route.
- No solid or liquid waste shall be discharged into storm water runoff.
- Disposal of solid, sanitary and toxic waste - Solid, sanitary and toxic waste must be disposed of in a proper manner in accordance with local, state and federal regulations. It is prohibited to burn, bury or pour out onto ground or into storm sewer any solvents, paint, stains, gasoline, diesel fuel, used motor oil, hydraulic fluid, antifreeze, cement curing compounds and other such toxic or hazardous waste.
- Wash out of cement trucks should occur in the designated area where the washing can collect and be disposed of properly when it hardens.
- If a concrete washout area, and/or a stockpile area are needed, a delineated area for each must be provided and maintained for them. Areas can be located in an alternate location than that shown on the plans if necessary due to construction operations and other field considerations.
- No fuel storage is permitted on-site.
- All disturbed areas shall be cleared of construction sediment upon completion of construction.
- The General Contractor shall be responsible for submitting a Notice of Intent (NOI) and Notice of Termination (NOT) as required by the OEPA.



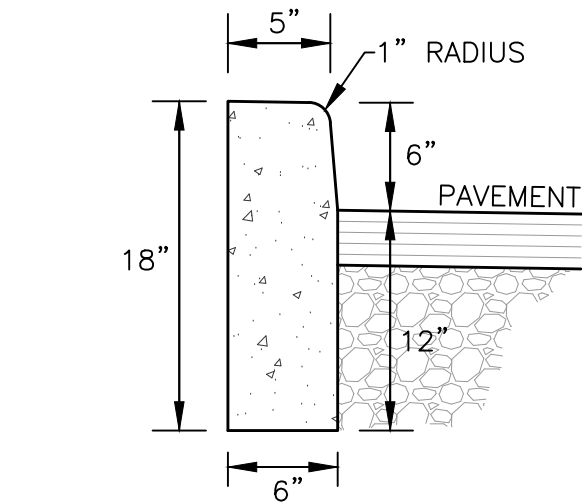
CONCRETE PAVEMENT SECTION
NOT TO SCALE



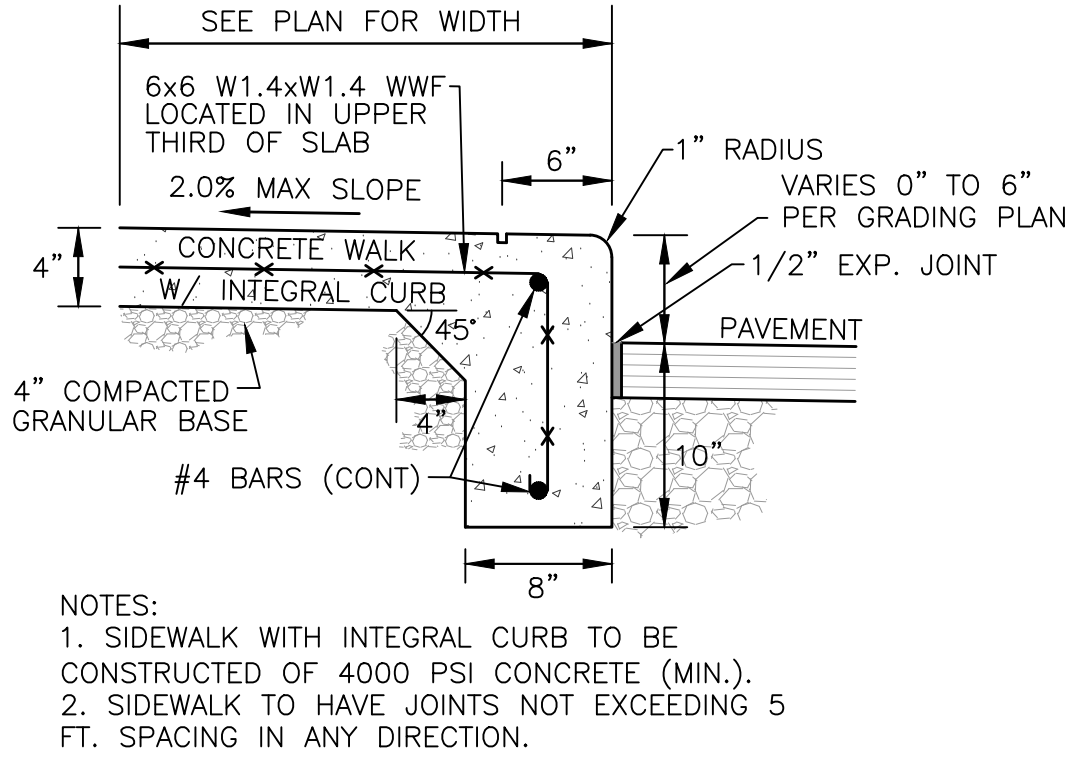
CONCRETE SIDEWALK
DETAIL NOT TO SCALE



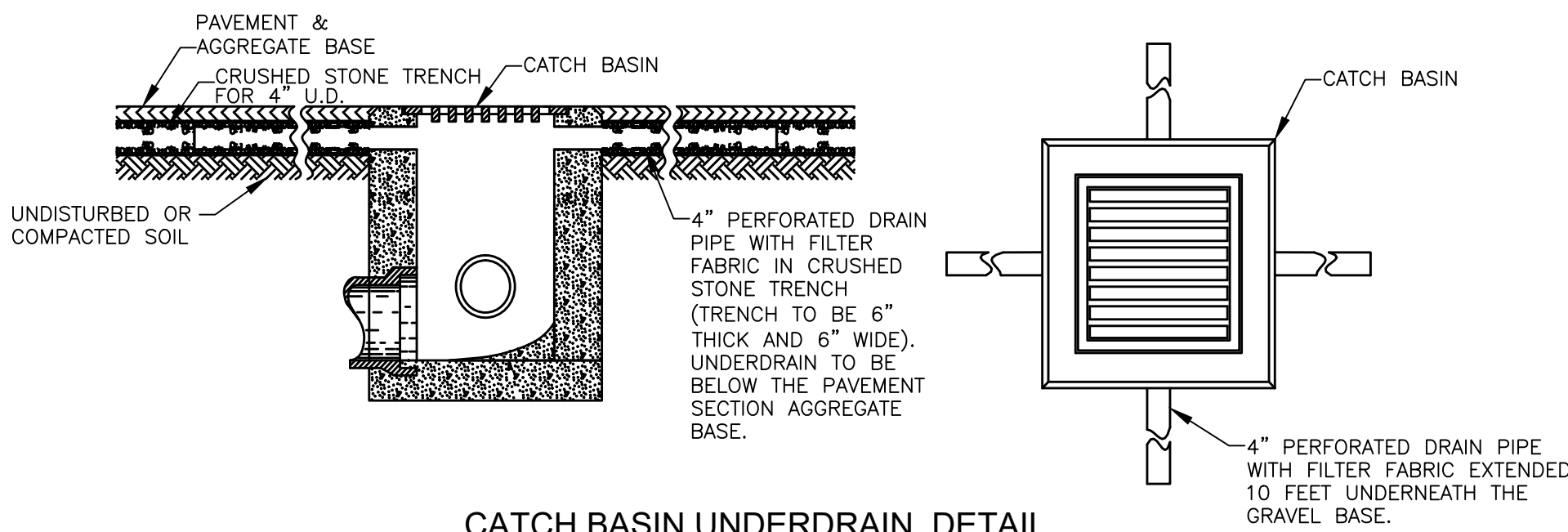
CONCRETE COLLAR
NOT TO SCALE



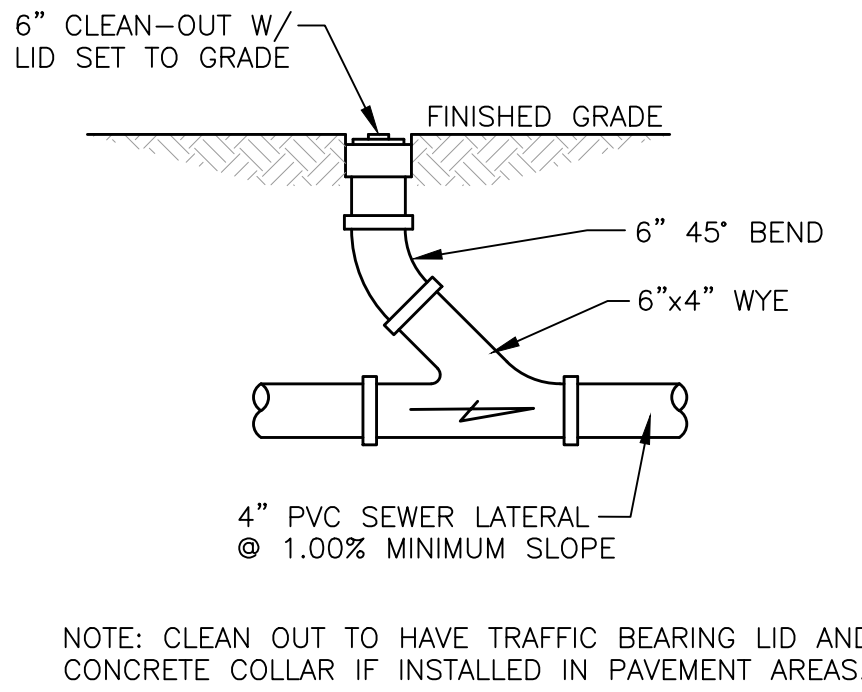
BARRIER CURB DETAIL
NOT TO SCALE



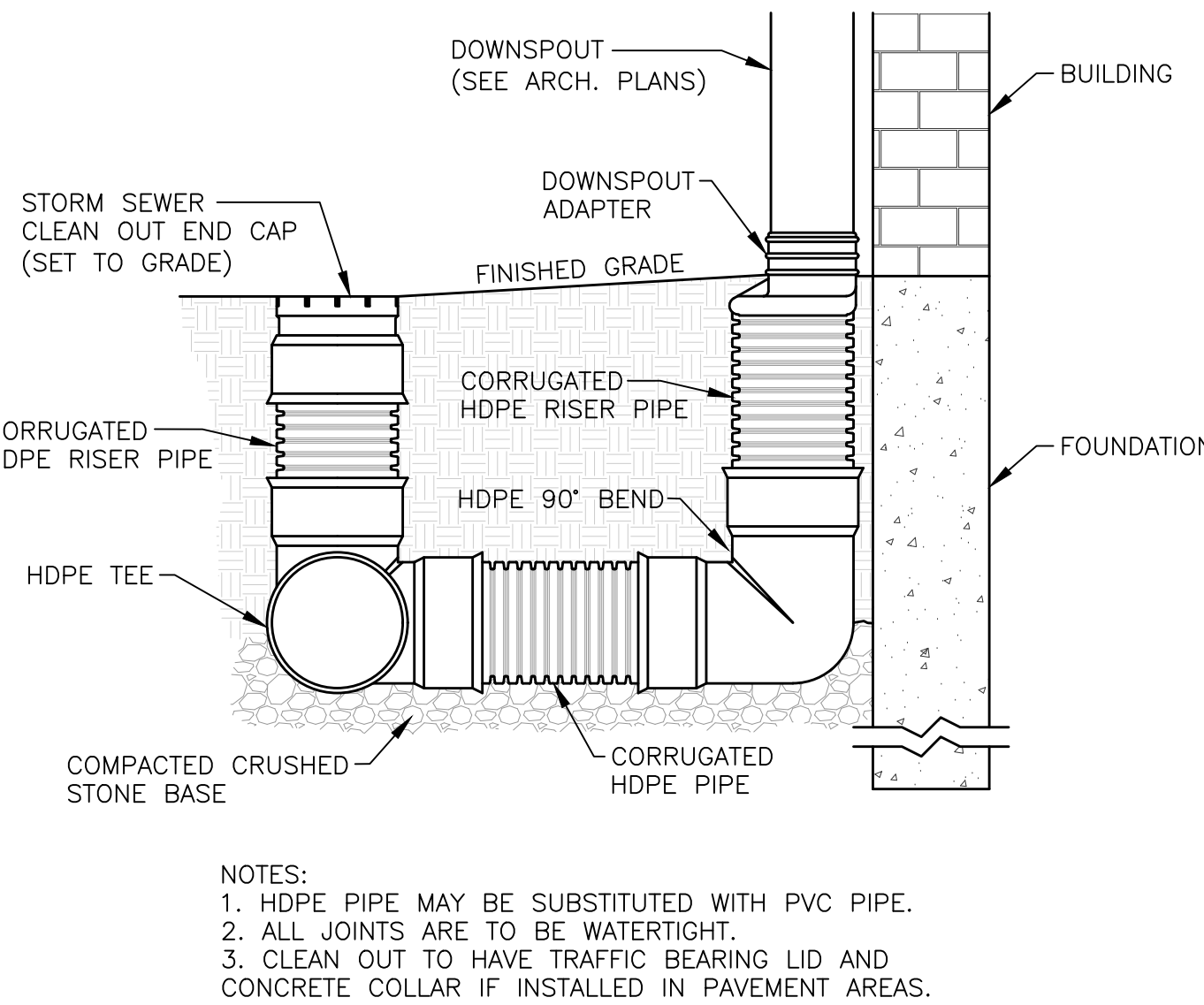
CONCRETE SIDEWALK
WITH INTEGRAL CURB
NOT TO SCALE



CATCH BASIN UNDERDRAIN DETAIL
NOT TO SCALE
TO BE USED FOR CATCH BASINS IN PAVEMENT AREAS



SANITARY CLEAN-OUT
NOT TO SCALE



DOWNSPOUT COLLECTION DETAIL
NOT TO SCALE

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Career Tech Addition for

WAYNE HIGH SCHOOL

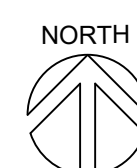
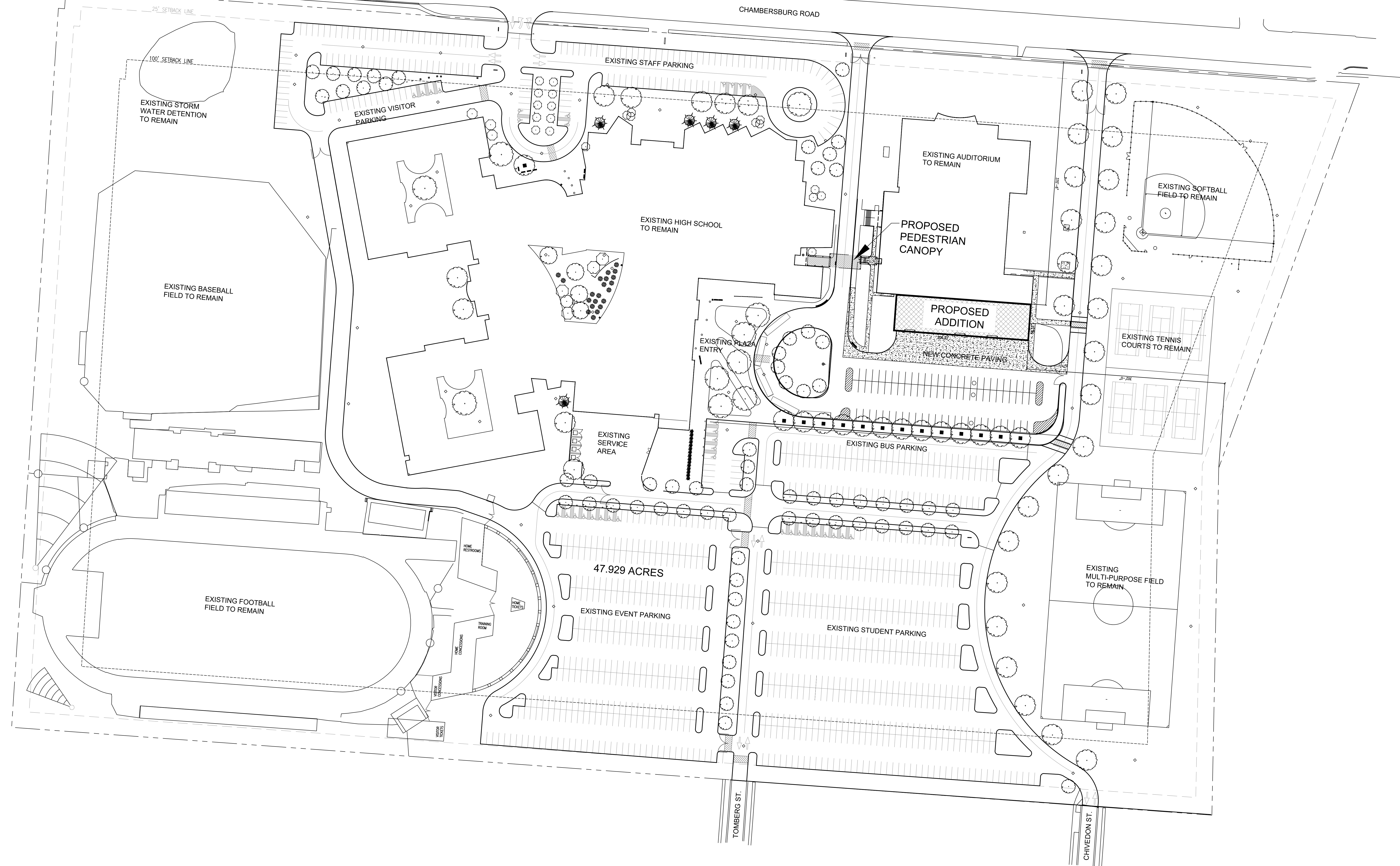
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DETAILS

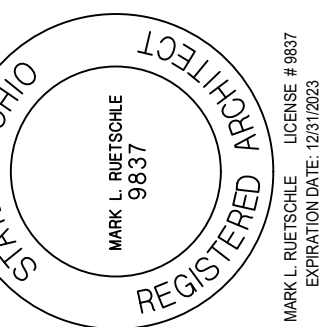
Sheet No.

C-5.0



OVERALL SITE PLAN
SCALE: 1" = 60'-0"

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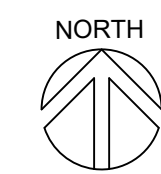
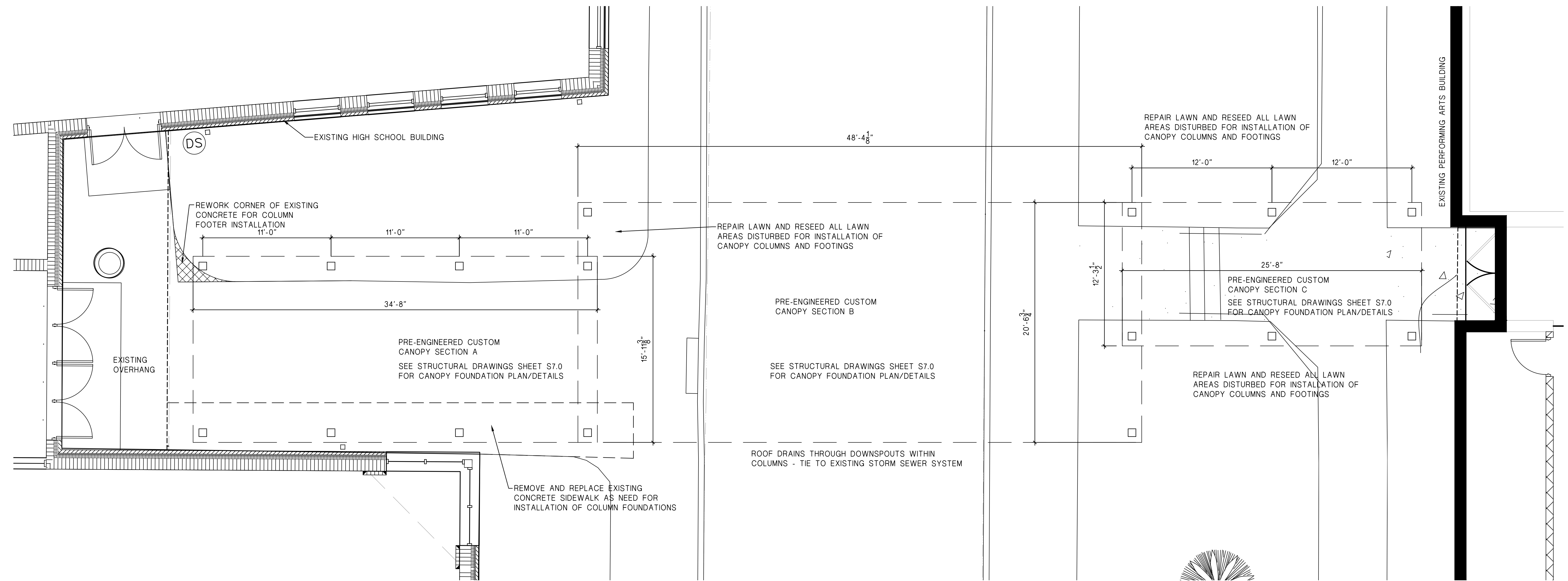


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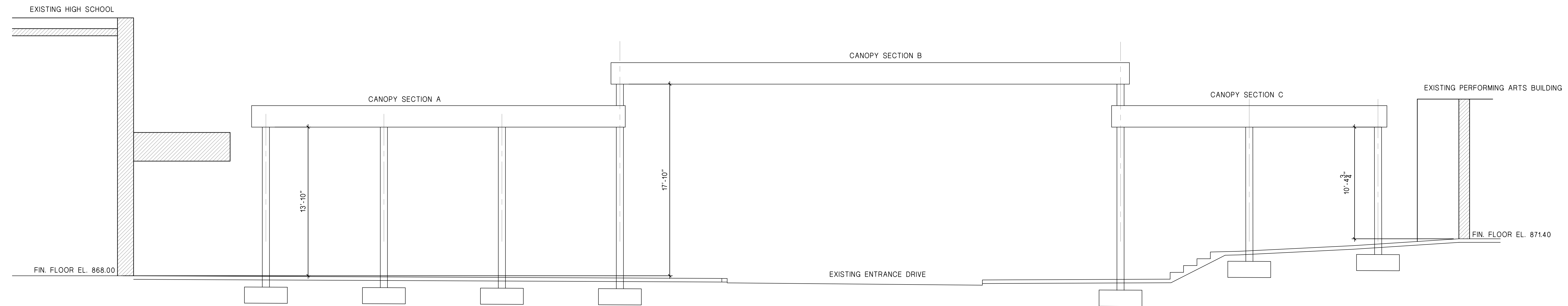
Career Tech Addition for
WAYNE HIGH SCHOOL
Huber Heights City Schools
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Comm No.
32119
Overall Site Plan

Sheet No.
AS1.1



PEDESTRIAN CANOPY PLAN
SCALE: 1/4" = 1'-0"

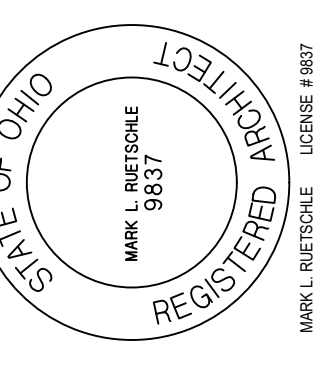


PEDESTRIAN CANOPY ELEVATION
SCALE: 1/4" = 1'-0"



PEDESTRIAN CANOPY RENDERING
NOT TO SCALE

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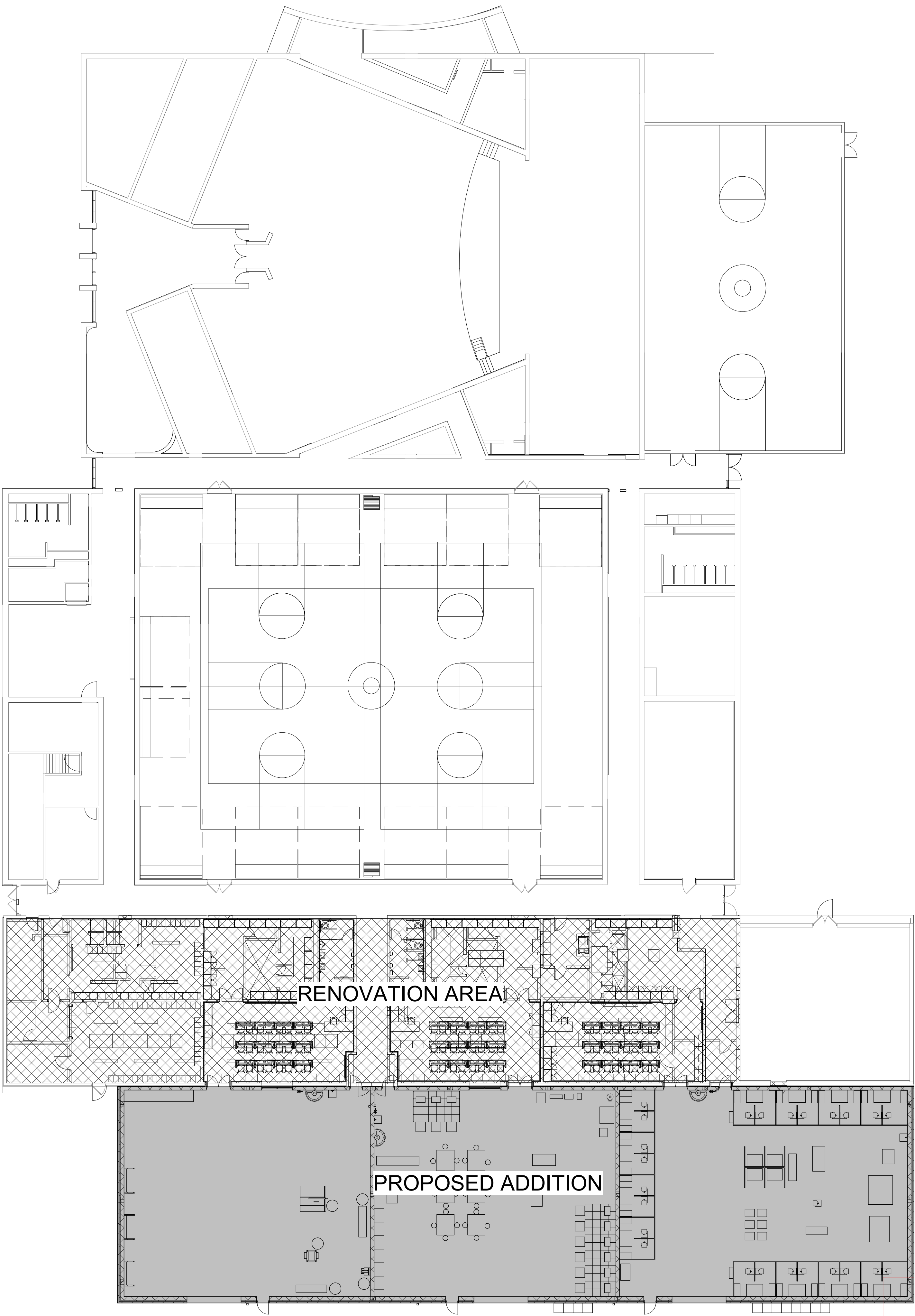


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Comm No.
32119
Pedestrian Canopy

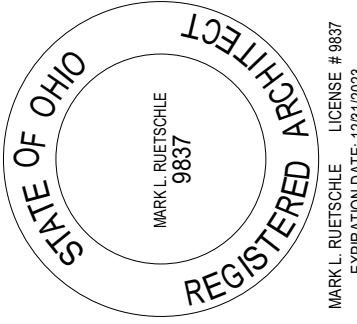
Sheet No.
AS1.2



OVERALL FLOOR PLAN

SCALE: 1/16" = 1'-0"

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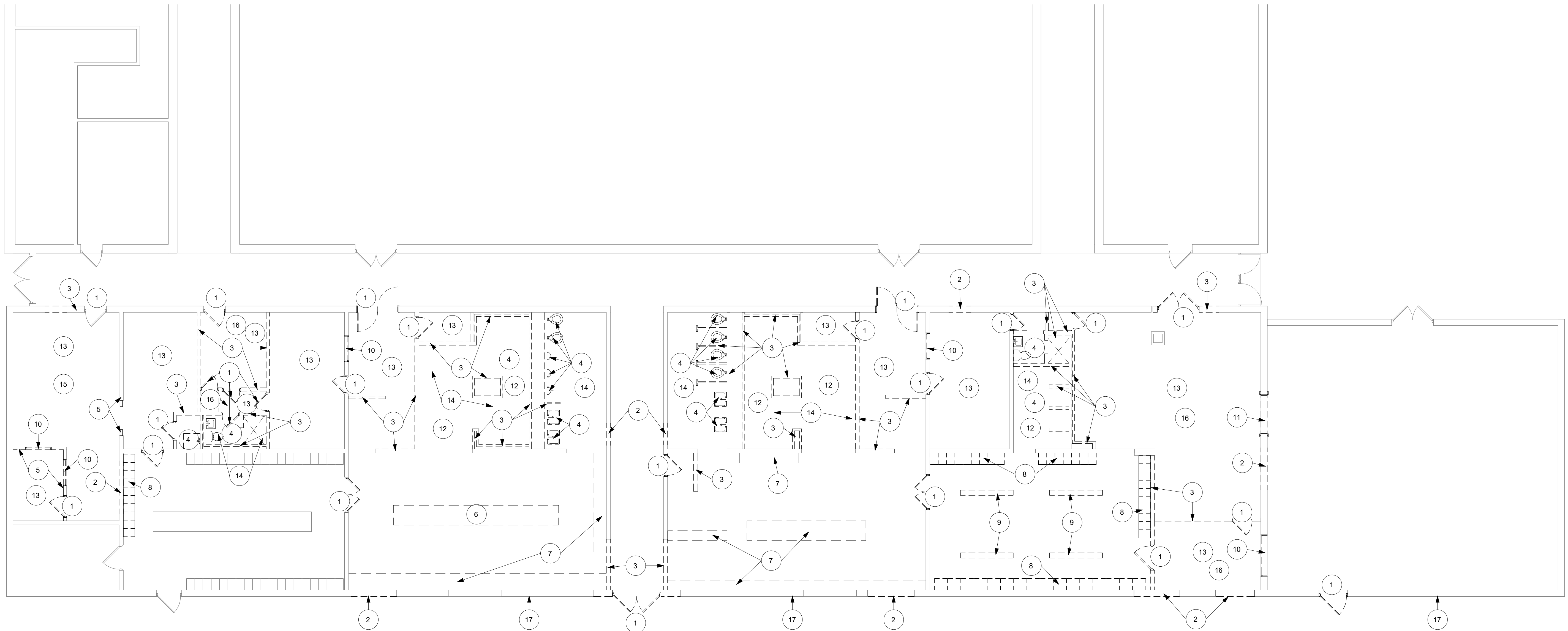
Career Tech Addition For
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Overall Floor Plan

Sheet No.

A1.0



PARTIAL DEMOLITION FLOOR PLAN

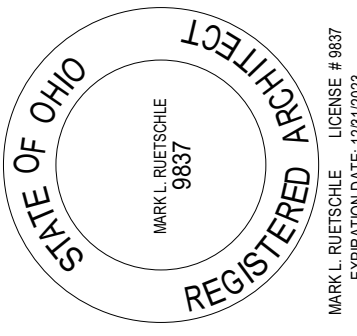
SCALE: 1/8" = 1'-0"

DEMOLITION NOTES

- 1 REMOVE EXISTING DOOR , FRAME AND HARDWARE
- 2 REMOVE EXISTING MASONRY WALL FOR INSTALLATION OF NEW DOOR AND FRAME
- 3 REMOVE EXISTING MASONRY WALL
- 4 REMOVE EXISTING PLUMBING FIXTURE - SEE PLUMBING DRAWINGS
- 5 REMOVE EXISTING WOOD STUD PARTITION
- 6 REMOVE EXISTING CONCRETE AND MASONRY LOCKER BASE
- 7 REMOVE EXISTING LOCKERS AND CONCRETE AND MASONRY LOCKER BASE
- 8 REMOVE RELOCATE EXISTING LOCKERS. REMOVE CONCRETE AND MASONRY LOCKER BASES
- 9 REMOVE EXISTING PADDED BENCHES. RELOCATE BENCH TOPS TO NEW LOCKER ROOM. REMOVE BENCH BASES
- 10 REMOVE EXISTING INTERIOR WINDOW UNIT
- 11 REMOVE EXISTING HOLLOW METAL DOOR FRAME
- 12 REMOVE EXISTING CERAMIC TILE SHOWER FLOORING
- 13 REMOVE EXISTING LAY-IN ACOUSTIC TILE CEILING
- 14 REMOVE EXISTING GYPSUM BOARD CEILING
- 15 REMOVE EXISTING VCT TILE
- 16 REMOVE EXISTING CARPET AND BASE
- 17 REMOVE EXISTING METAL COPING AND FASCIA SYSTEM AT TOP OF EXISTING WALL FOR LENGTH OF NEW ADDITION

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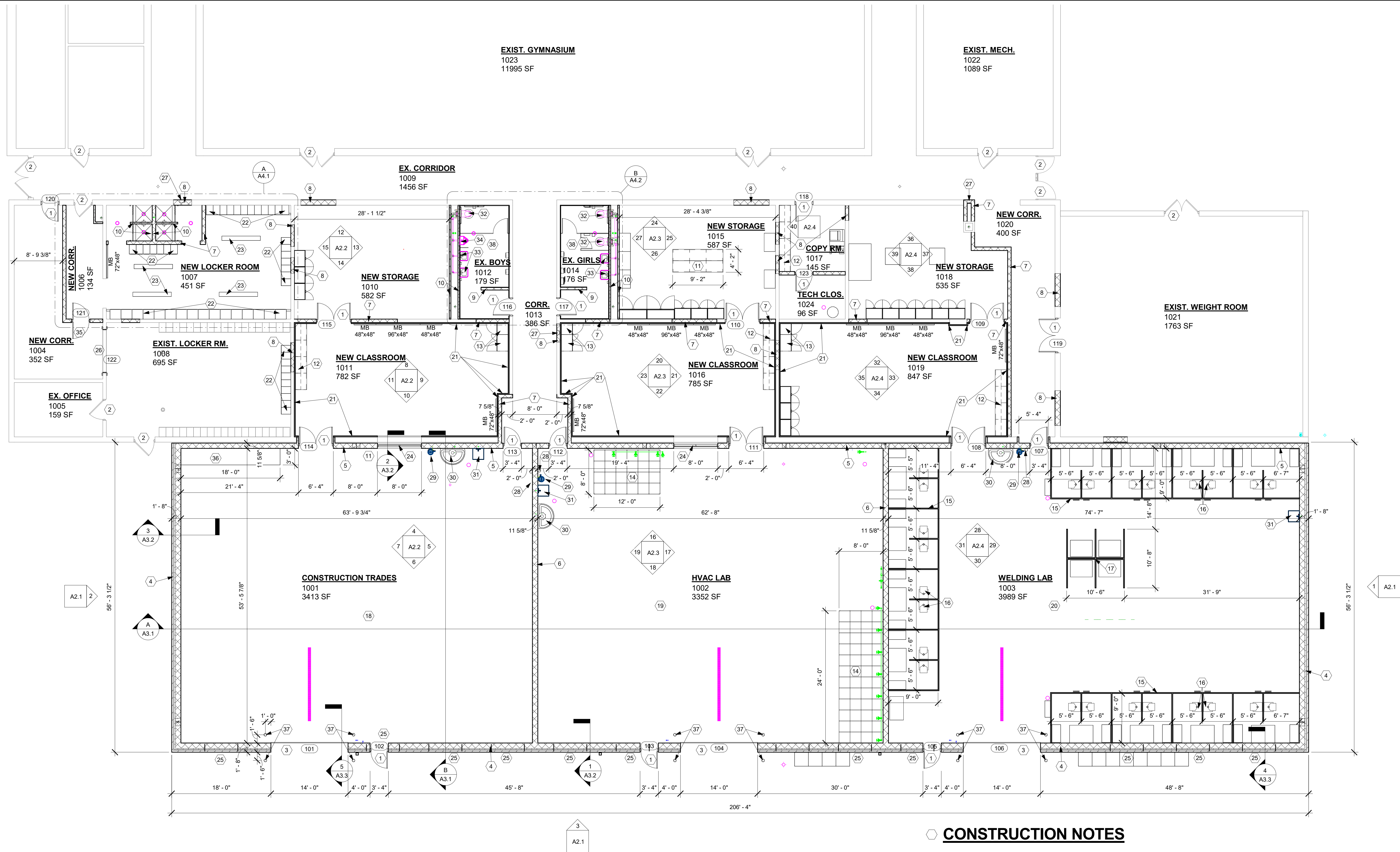
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Demolition Floor Plan

Sheet No.

AD1.1



PARTIAL REVISED FLOOR PLAN

SCALE: 1/8" = 1'-0"

FLOOR PLAN LEGEND

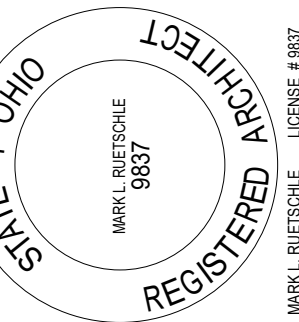
- EXISTING WALL
- NEW WALL
- EXISTING DOOR AND FRAME
- NEW DOOR AND FRAME
- NEW MARKER BOARDS

CONSTRUCTION NOTES

- NEW DOOR, FRAME AND HARDWARE - SEE DOOR SCHEDULE
- EXISTING DOOR TO REMAIN
- NEW INSULATED OVERHEAD SECTIONAL DOOR
- NEW EXTERIOR WALL - NORMAN SIZE BRICK VENEER ON 12" CONCRETE MASONRY BLOCK BACK UP - SEE WALL SECTIONS
- 12" CONCRETE MASONRY WALL - 2 HOUR RATED FIRE WALL
- 12" CONCRETE MASONRY WALL TO UNDERSIDE OF ROOF DECK. SEAL WALL TO ROOF DECK
- 8" CONCRETE MASONRY WALL TO UNDERSIDE OF ROOF DECK. SEAL WALL TO ROOF DECK
- FILL IN EXISTING OPENING WITH 8" CONCRETE MASONRY WALL TO UNDERSIDE OF EXISTING OPENING
- 6" CONCRETE MASONRY WALL TO 4" ABOVE FINISH CEILING
- 4" CONCRETE MASONRY BLOCK TO 4" ABOVE FINISH CEILING
- 1-1/2" THICK BUTCHER BLOCK COUNTER TOP, SUPPORTED BY METAL CABINETS
- PLASTIC LAMINATE BASE AND WALL CABINETS - SEE ROOM ELEVATIONS
- PLASTIC LAMINATE TALL STORAGE CABINETS - SEE ROOM ELEVATIONS
- 12" HIGH ACCESS FLOORING. PROVIDE CLOSURE PANELS ON ALL EXPOSED SIDES
- FABRICATED STEEL WELDING STATIONS - SEE DETAILS ON SHEET A5.2
- FABRICATED STEEL WELDING STAND - SEE DETAILS ON SHEET A5.2
- FABRICATED STEEL TORCH CUTTING BOOTHS - SEE DETAILS ON SHEET A5.2
- SEE SHEET A9.1 FOR EQUIPMENT PLAN FOR THIS AREA
- SEE SHEET A9.2 FOR EQUIPMENT PLAN FOR THIS AREA
- SEE SHEET A9.3 FOR EQUIPMENT PLAN FOR THIS AREA
- 5/8" ABUSE RESISTANT GYPSUM BOARD ON 1-1/2" METAL FURRING STRIPS AT 16" O.C., TOP OF WALL AT 4" ABOVE FINISH CEILING
- RELOCATED ATHLETIC LOCKERS ON NEW 8" HIGH MASONRY BASE FILLED WITH CONCRETE
- RELOCATED PADDED BENCH TOPS, PROVIDE NEW BENCH BASES
- NEW FIRE RATED HOLLOW METAL FRAME WINDOW UNIT WITH FIRE RATED GLASS - SEE ELEVATION ON SHEET A6.1
- ALUMINUM STOREFRONT WINDOW ABOVE - SEE EXTERIOR ELEVATIONS
- NEW 8'-0" WIDE x 7'-4" HIGH HOLLOW METAL CASED FRAME
- FIRE EXTINGUISHER CABINET
- WALL MOUNTED FIRE EXTINGUISHER ON BRACKET
- NEW EYE WASH UNIT - SEE PLUMBING DRAWINGS
- NEW WASH FOUNTAIN - SEE PLUMBING DRAWINGS
- NEW MOP SINK - SEE PLUMBING DRAWINGS
- NEW WATER CLOSET - SEE PLUMBING DRAWINGS
- NEW LAVATORY - SEE PLUMBING DRAWINGS
- NEW URINAL - SEE PLUMBING DRAWINGS
- NEW ADJOINING ROOM DOORS AND FRAME WITH LOCK ON BOTH SIDES
- NEW 2" THICK BUTCHER BLOCK COUNTER TOP WITH RAKKS POLE-SUPPORTED COUNTER BRACKET WITH OPTIONAL SHELF
- 6" STEEL BOLLARD FILLED WITH CONCRETE - SEE DETAIL 3/A5.4
- ALL WALLS OF THIS ROOM - FULL HEIGHT CERAMIC TILE ON 1/2" CEMENT BOARD LAMINATED TO EXISTING MASONRY WALLS. TOP OF CEMENT BOARD AT 4" ABOVE FINISH CEILING.

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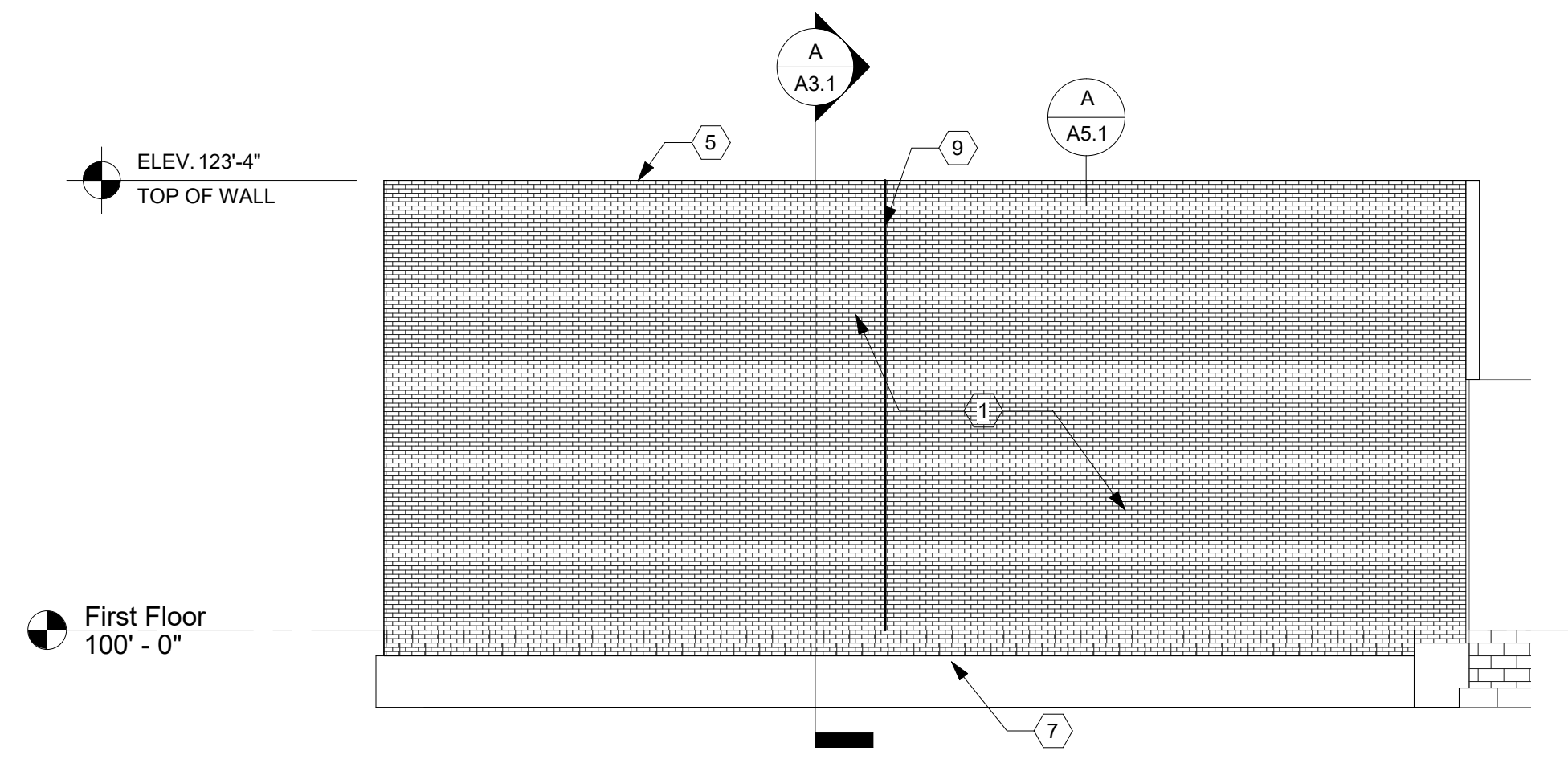
WAYNE HIGH SCHOOL

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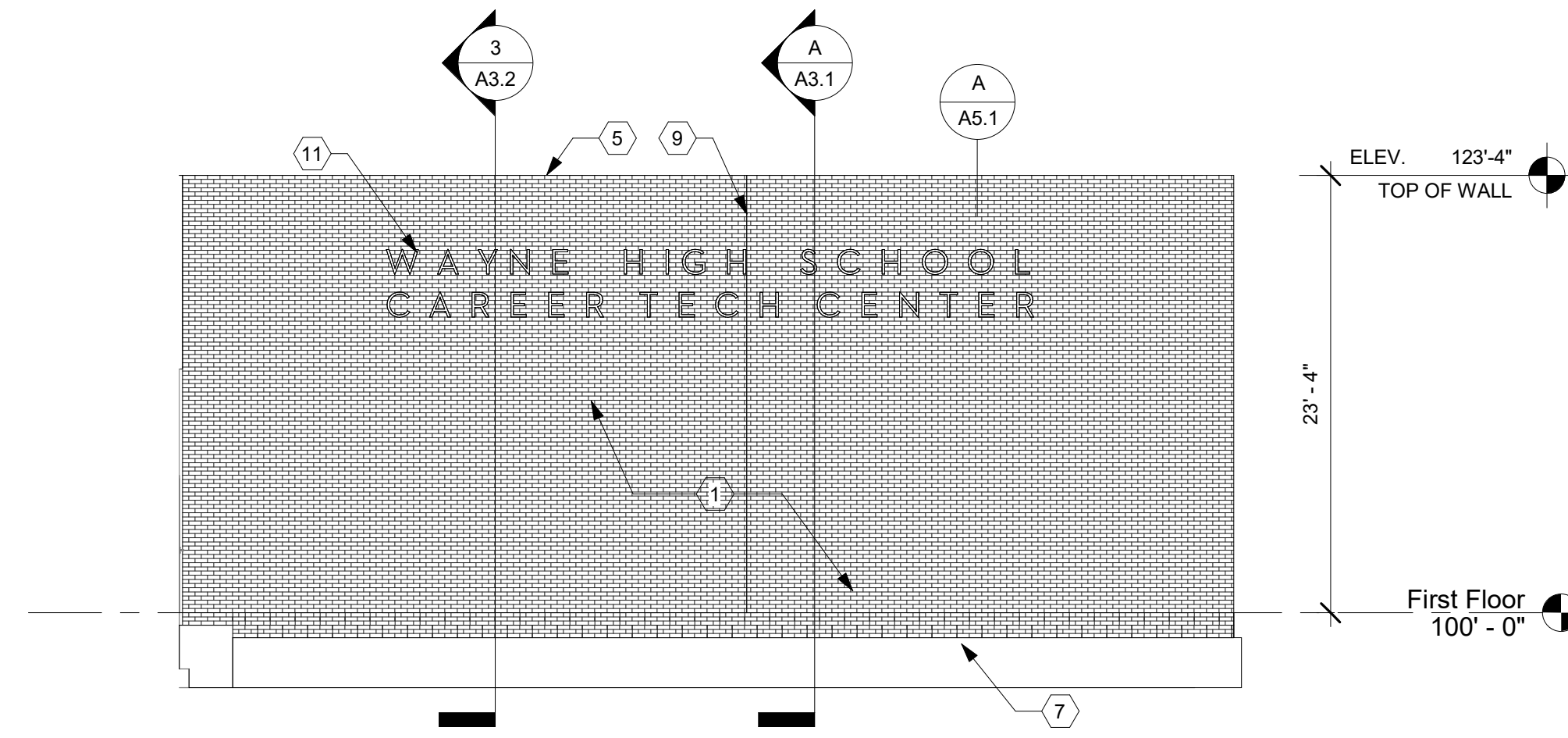
Comm. No.
32119
Revised Floor Plan

Sheet No.

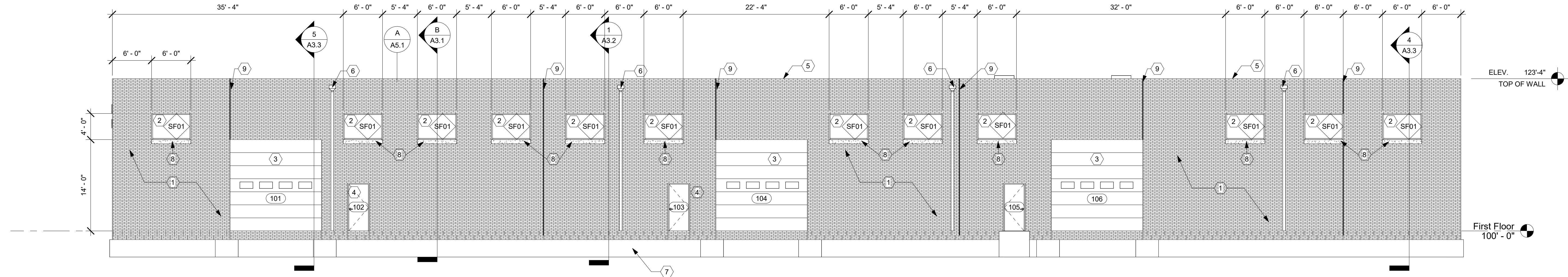
A1.1



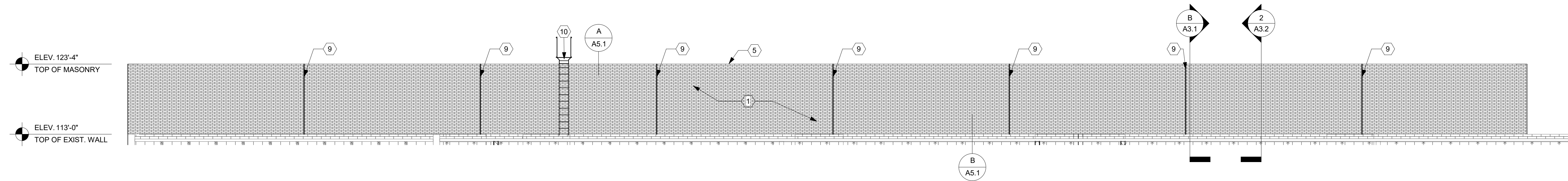
1 EAST ELEVATION
SCALE: 1/8" = 1'-0"



2 WEST ELEVATION
SCALE: 1/8" = 1'-0"



3 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



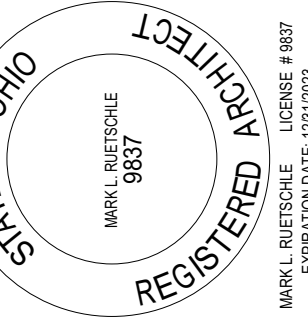
4 NORTH ELEVATION
SCALE: 1/8" = 1'-0"

ELEVATION CONSTRUCTION NOTES

- BRICK VENEER - NORMAN SIZE BRICK IN 1/3 RUNNING BOND
- ALUMINUM STOREFRONT WINDOW SYSTEM WITH 1" INSULATED GLASS
- INSULATED SECTIONAL OVERHEAD DOOR
- INSULATED HOLLOW METAL DOOR
- PRE-FINISHED STEEL COPING
- PRE-FINISHED SCUPPER AND DOWNSPOUT - SEE DETAILS ON SHEET A5.1
- CONCRETE FOOTER - SEE STRUCTURAL DRAWINGS
- LIMESTONE WINDOW SILL
- MASONRY CONTROL JOINT - SEE DETAIL ON SHEET A5.4
- ROOF LADDER - SEE DETAIL 1/A5.4
- 18" HIGH CAST ALUMINUM LETTERS - EACH LETTER MOUNTED INDIVIDUALLY TO FACE OF MASONRY WALL

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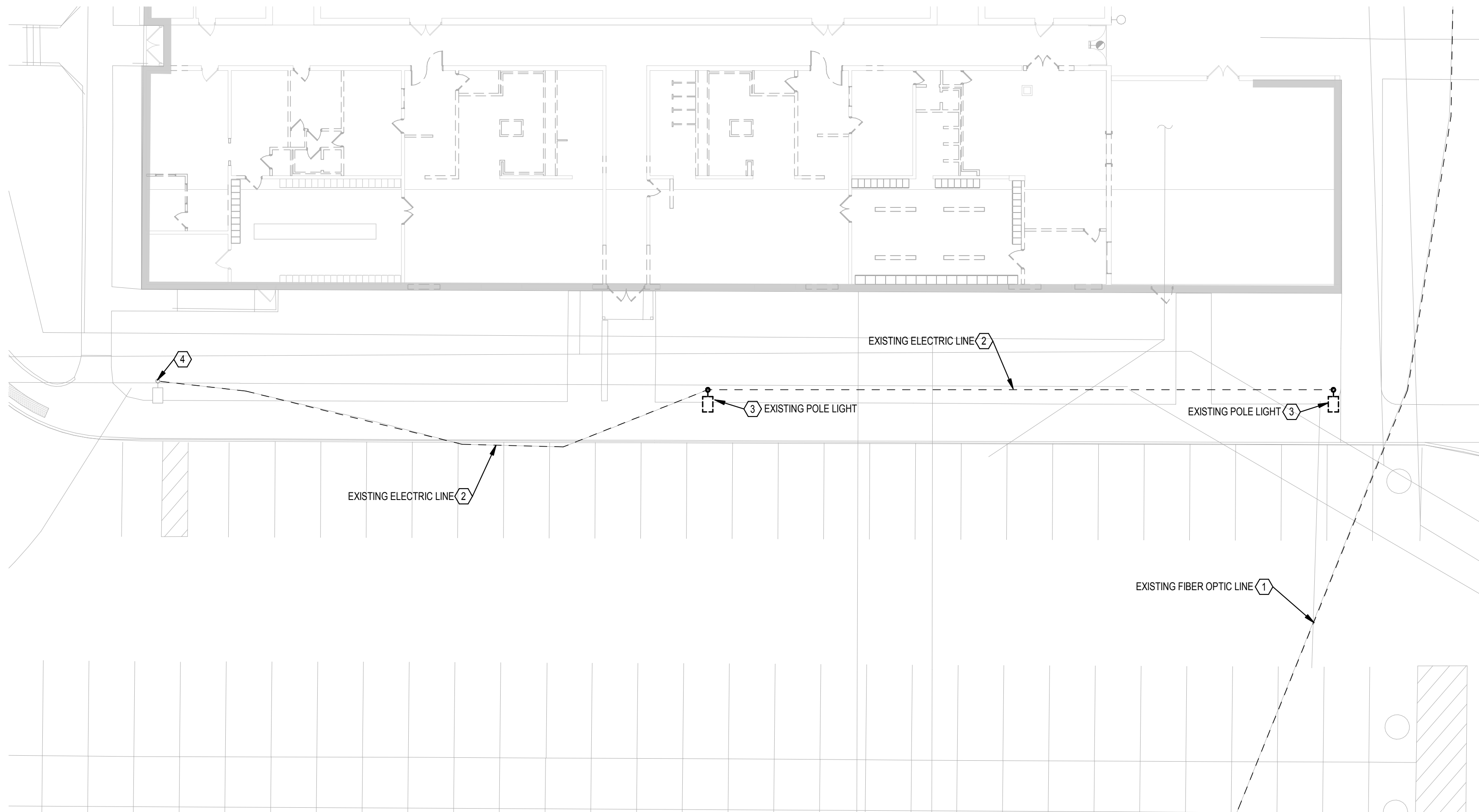
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Exterior Elevations

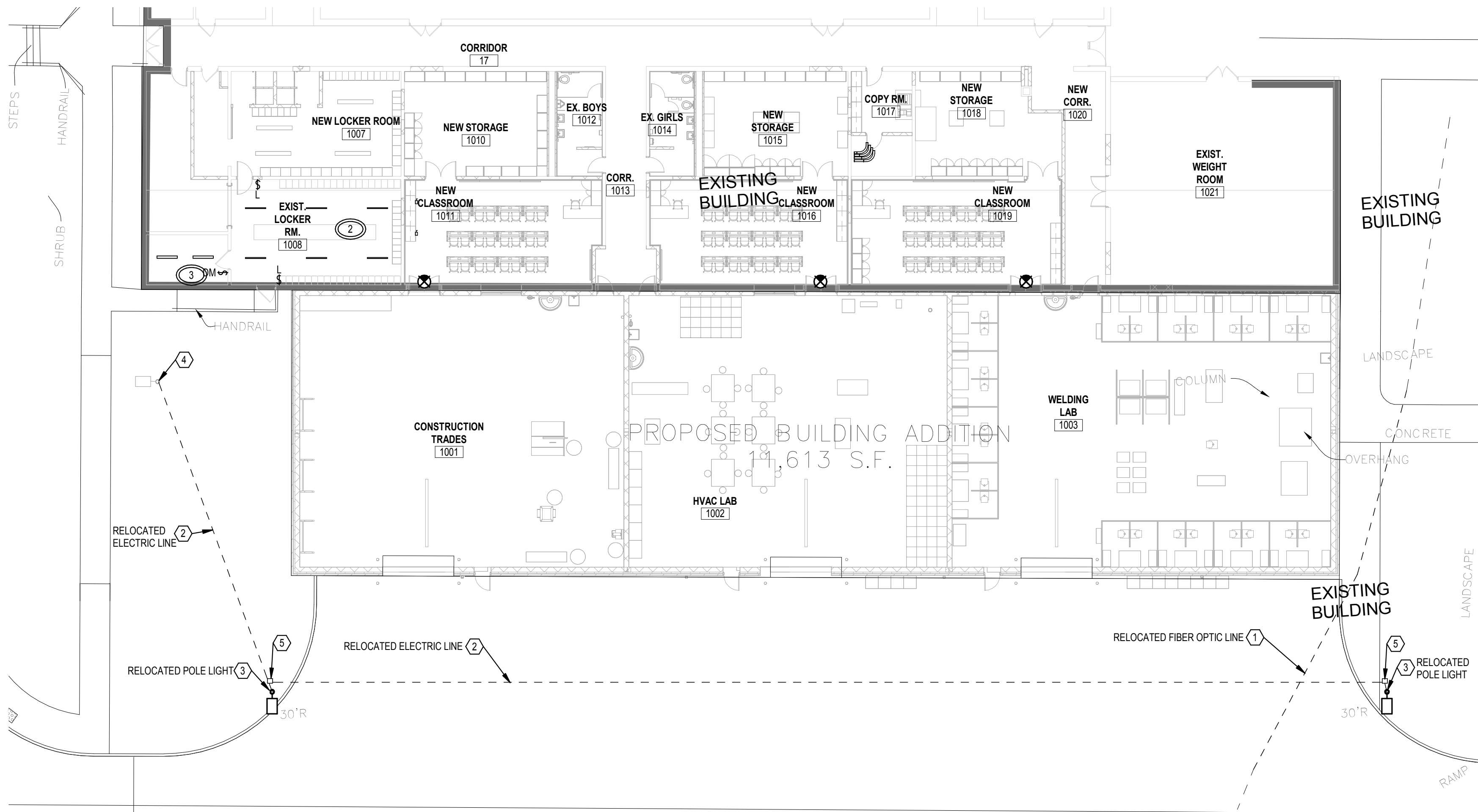
Sheet No.

A2.1



1 ELECTRICAL DEMO SITE PLAN

SCALE: 1/16" = 1'-0"



2 ELECTRICAL NEW WORK SITE PLAN

SCALE: 1/16" = 1'-0"



GENERAL NOTES

- THIS EXISTING SPACE IN WAYNE HIGH SCHOOL WILL BE REMODELED UNDER THIS CONTRACT AND A NEW ADDITION WILL BE ADDED ONTO BUILDING. REFER TO ARCHITECTURAL DRAWINGS FOR AREAS WHERE DEMO AND NEW WORK WILL OCCUR. E.C. SHALL REMOVE LIGHTING, ELECTRICAL DEVICES, SYSTEM COMPONENTS AND OTHER EQUIPMENT ASSOCIATED WITH DIVISION 26.27 AND 28 TO ACCOMMODATE ALL NEW CONSTRUCTION AND REMODELING IN THESE AREAS. ONLY EXISTING RECESSED DEVICES, DEVICES SERVING EXISTING EQUIPMENT TO REMAIN, AND DEVICES INDICATED AS EXISTING SHALL BE MAINTAINED ACTIVE (UNLESS INDICATED OTHERWISE).
- PROVIDE EXTERIOR MOUNTED WEATHERPROOF FIRE ALARM AUDIOVISUAL DEVICE ON THE OUTSIDE OF THE BUILDING AT LOCATIONS DIRECTED BY THE LOCAL FIRE DEPARTMENT, OWNER, AND ARCHITECT. REFER TO SPEC SECTION 28.31.00.
- WHERE CONDUITS ARE EXPOSED THEY SHALL BE MOUNTED TIGHT TO THE CEILING STRUCTURE IN CORNERS AND PAINTED TO MATCH WALL SURFACES.
- WHERE NEW DEVICE(S) ARE TO BE PROVIDED ON EXISTING SOLID WALL, PROVIDE WITH SURFACE RACEWAY PER GENERAL NOTE G, SHEET E004. WHERE NEW DEVICES ARE SHOWN ON NEW WALL OR EXISTING STUD WALLS DEVICE(S) SHALL BE RECESSED. INTENT IS THAT WHERE EVER POSSIBLE DEVICES SHALL BE RECESSED.
- ALL UNDERGROUND CONDUITS AND DUCTBANKS SHALL BE DIRECT BURIED UNLESS INDICATED OTHERWISE. ALL PRIMARY AND SECONDARY CONDUITS AND DUCTBANKS SHALL HAVE LONG SWEEPING BENDS. ALL CONDUITS BURIED UNDER DRIVEWAYS AND PARKING AREAS WHERE AUTOMOBILE TRAFFIC PASSES THROUGH SHALL BE CONCRETE ENCASED. PROVIDE ALL CONDUIT WITH PULL WIRE. ALL CONDUIT SHALL BE 1" UNLESS INDICATED OTHERWISE. E.C. SHALL UTILIZE COMMON TRENCHES WHERE EVER FEASIBLE.
- NEW BUILDING SHALL BE PROVIDED WITH AN EXTENSION OF THE LIGHTING PROTECTION SYSTEM PER SPEC SECTION 28.41.00.
- E.C. SHALL COORDINATE EXACT LOCATION OF LIGHT FIXTURE POLE BASES WITH ARCHITECT PRIOR TO ROUGH-IN AND PROVIDE ACCORDINGLY.

PLAN NOTES

- RELOCATE EXISTING FIBER LINE TO OUTSIDE OF PROPOSED BUILDING FOOTPRINT. COORDINATE EXACT ROUTE WITH UTILITY PRIOR TO ROUGH-IN AND PROVIDE ACCORDINGLY.
- RELOCATE EXISTING ELECTRIC LINES TO OUTSIDE OF PROPOSED BUILDING FOOTPRINT. COORDINATE EXACT ROUTE WITH UTILITY PRIOR TO ROUGH-IN AND PROVIDE ACCORDINGLY. REFER TO DETAILS 15 & 16 ON SHEET E002 FOR MORE INFORMATION.
- REMOVE AND RELOCATE EXISTING LIGHT POLE. PROVIDE NEW BASE IN NEW LOCATION TO MATCH EXISTING POLE BASE TYPE AND CHARACTERISTICS. EXTEND CIRCUIT AND CONDUIT AND PROVIDE NEW WIRING TO NEW LOCATION AS REQUIRED. MATCHING EXISTING WIRING RATING, CONDUIT SIZE, TYPE AND CHARACTERISTICS. REFER TO DETAIL 10, SHEET E002 FOR BASE INFORMATION.
- LIGHT POLE IS EXISTING TO REMAIN. ROTATE FIXTURE HEAD TO BE ORIENTED TO SIDEWALK AND AWAY FROM NEW BUILDING ADDITION. SEE PLANS FOR ORIENTATION.
- PROVIDE FLUSH GRADE QUARTZITE PULL BOX ENCLOSURE WITH GREEN GASKETED COVER WITH APPROPRIATE LOGO PER DETAIL 14 ON SHEET E002. COORDINATE EXACT LOCATION WITH CIVIL ENGINEER PRIOR TO ROUGH-IN AND PROVIDE ACCORDINGLY.

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Huber Heights City Schools
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32119

SITE PLAN

Sheet No.

E006



Huber Heights Fire Division

Inspections require two business days advance notice! (OAC)1301:7-7-09(A)(5)

Occupancy Name:	Wayne High School – CTC Addition		
Occupancy Address:	5400 Chambersburg Road		
Type of Permit:	HHP&D Site Plan		
Additional Permits:	Choose an item.		
Additional Permits:	Choose an item.		
MCBR BLD:	Not Yet Assigned	HH P&D:	
MCBR MEC:		HHFD Plan:	22-125
MCBR ELE:		HHFD Box:	40
REVIEWER:	Susong	DATE:	6/22/2022

Fire Department Comments:

The Huber Heights City Code Part 15 Refers to Fire Code Requirements and has adopted by reference OFC and IFC Appendices

These comments are based only on the proposed site work, fire department access and basic fire protection concept at this time. A full plan review of the building systems, fire protection, egress and life safety will need to be conducted once the architectural plans have been submitted for permit. The proposed development will need to meet the requirements of the Ohio Fire Code 2017, Ohio Building Code 2017 and the Huber Heights Codified Ordinance. Based on the drawings provided the following requirements need to be met.

Requirements: (Site Plan)

- Proposed driveways are acceptable and appear to meet Ohio Fire Code requirements for turn radius.
- Covered walkway canopy has a clear height of 17 ft. 10 in., this exceeds the minimum required height of 13 ft. 6 in. in Ohio Fire Code 503.2.1.
- Existing hydrants appear to meet requirements.
- A permit shall be obtained for construction from Montgomery County Building Regulations.

Please reference contact information below for questions or concerns with this document.

Plans reviewed by the Huber Heights Fire Division are reviewed with the intent they comply in **ALL** respects to this code, as prescribed in **SECTION (D) 104.1 of the 2017 Ohio Fire Code**. Any omissions or errors on the plans or in this review do not relieve the applicant of complying with **ALL** applicable requirements of this code. These plans have been reviewed for compliance with the Ohio Fire Code adopted by this jurisdiction. There may be other regulations applicable under local, state, or federal statutes and codes, which this department has no authority to enforce and therefore have not been evaluated as part of this plan review.

AI-8496

9.

Planning Commission

Meeting Date: 06/28/2022

Minutes

Information

Agenda Title

Approval of Minutes

Purpose and Background

Attachments

No file(s) attached.

AI-8497

9. A.

Planning Commission

Meeting Date: 06/28/2022

Minutes

Information

Agenda Title

Planning Commission June 14, 2022

Purpose and Background

Attachments

Minutes

**Planning Commission
June 14, 2022, Meeting
City of Huber Heights**

- I. Chair Terry Walton called the meeting to order at approximately 6:00 p.m.
- II. Present at the meeting: Mr. Jeffries, Ms. Opp, Ms. Thomas, Ms. Vargo and Mr. Walton.

Members absent: None.

Staff Present: Aaron K. Sorrell, Interim City Planner, and Geri Hoskins, Planning & Zoning Administrative Secretary.

III. Opening Remarks by the Chairman and Commissioners

IV. Citizens Comments

None.

V. Swearing of Witnesses

Mr. Walton explained the proceedings of tonight's meeting and administered the sworn oath to all persons wishing to speak or give testimony regarding items on the agenda. All persons present responded in the affirmative.

VI. Pending Business

- 1. None

VII. New Business

- 1. **FINAL PLAT - The applicant, DEC Land Co. I LLC, is requesting approval of the final plat for 62 building lots in Carriage Trails – Section 2, Phase 5 (Case FP 22-23).**

Mr. Sorrell stated that the applicant requests approval of the final plat for section two, phase five of the Carriage Trails subdivision. This phase contains 62 lots on approximately 16.32 acres.

Conformance with Zoning Regulations

The detailed development plan was approved by the Planning Commission on August 10, 2021.

Staff Analysis

The applicant requests approval of the final plat for section two, phase five of the Carriage Trails subdivision. This final plat accurately reflects the DDP and simply releases drainage easements between two sections.

Fire: None

City Engineer: None

Recommendation

Staff recommends approval of the final plat submitted on May 2, 2022.

Action

Ms. Opp moved to approve the request by the applicant DEC Land Co. I LLC, for approval of a Final Plat for 62 building lots in Carriage Trails – Section 2, Phase 5 (Case FP 22-23) in accordance with the recommendation of Staff's Memorandum dated June 4, 2022, and the Planning Commission Decision Record attached thereto.

Seconded by Ms. Thomas. Roll call showed: YEAS: Ms. Vargo, Mr. Jeffries, Ms. Thomas, Ms. Opp, and Mr. Walton. NAYS: None. Motion to approve carried 5-0.

2. **FINAL PLAT - The applicant, GENERATIONS CONSTRUCTION, LLC, is requesting approval of the final plat for 14 building lots in Callamere Farms, Section 6 (FP 22-26).**

Mr. Sorrell stated that the applicant requests approval of the final plat for section six of the Callamere Farms subdivision. This phase contains 14 lots on approximately 8.03 acres.

Conformance with Zoning Regulations

The detailed development plan was approved by the Planning Commission on March 23, 2021.

Staff Analysis

The applicant requests approval of the final plat for section six of the Callamere Farms subdivision. This final plat accurately reflects the DDP previously approved by the Planning Commission.

Fire: None

City Engineer: None

Recommendation

Staff recommends approval of the final plat submitted on May 30, 2022.

Action

Mr. Jeffries moved to approve the request by the applicant Generations Construction, LLC, for approval of a Final Plat for 14 building lots in Callamere Farms, Section six (FP 22-26) in accordance with the recommendation of Staff's Memorandum dated June 4, 2022, and the Planning Commission Decision Record attached thereto.

Seconded by Ms. Vargo. Roll call showed: YEAS: Ms. Thomas, Ms. Opp, Ms. Vargo, Mr. Jeffries, and Mr. Walton. NAYS: None. Motion to approve carried 5-0.

- 3. MINOR CHANGE - The applicant, MELISSA BARRETT, is requesting approval of A Minor Change to increase the wall sign area by approximately 60 SF at Kohl's/Sephora in the Northpark Center (MC 22-24).**

Mr. Sorrell stated that the applicant The applicant requests approval to add an additional copy to the existing wall sign, which will increase the size from approximately 192 SF to 252 SF. The request is to facilitate adding the "Sephora" brand to the existing Kohl's sign.

Conformance with Zoning Regulations

Northpark Center Sign Policy

The Northpark Center sign guidelines allow large tenants (over 60,000 SF) to have a maximum wall sign area of up to 250 SF on any one building face and a maximum of 500 SF total. The Kohl's tenant space is approximately 81,000 SF.

Current Application

The applicant seeks a minor change to add one 60 SF internally illuminated wall sign below the existing internally illuminated wall sign to highlight the two brands (Kohl's and Sephora). The total wall sign area will increase from 192 SF to 252SF. With this additional sign, the wall signs slightly exceed the maximum size by 2 SF, which is a negligible overage amount.

Staff Analysis

The applicant seeks a minor change to add one internally illuminated wall sign below an existing internally illuminated wall sign. Total wall sign area will exceed the maximum size by approximately 2 SF, or 1% of the total sign area. Staff feel this is a negligible overage amount and the new sign is visually proportional to the building frontage and existing sign.

Fire: None received

City Engineer: None Received

Recommendation

Staff recommend approval of the minor change to the sign package as submitted.

Action

Mr. Jeffries moved to approve the request by the applicant Melissa Barrett, for approval of a Minor Change to increase the wall sign area by approximately 60 SF at Kohl's/Sephora in the Northpark Center (Case MC 22-24) in accordance with the recommendation of Staff's Memorandum dated June 4, 2022, and the Planning Commission Decision Record attached thereto.

June 14, 2022

Seconded by Ms. Opp. Roll call showed: YEAS: Ms. Vargo, Mr. Jeffries, Ms. Thomas, Ms. Opp, and Mr. Walton. NAYS: None. Motion to approve carried 5-0.

4. BASIC DEVELOPMENT PLAN AND REZONING - The applicant, HARTMAN I, LLC, is requesting approval of a Basic Development Plan and Rezoning to Planned Office (PO) at property located at 7611 Old Troy Pike (RZ BDP 22-13).

Mr. Sorrell stated that the applicant requests approval of a basic development plan and rezoning from Planned Commercial to Planned Office to construct a 10,800 square foot healthcare facility for outpatient and emergency services. The applicant anticipates an initial volume of 30 – 40 patients per day, with a maximum of 50 – 60 a day once the facility is established.

The site plan for this development has evolved no less than four times since the application was originally submitted, and the City Council has requested the Planning Commission review the latest revision prior to their consideration of the rezoning and basic development plan approval request.

The Planning Commission originally heard this case on April 12, 2022. The original application had no direct access to Taylorsville Road. Prior to the Planning Commission meeting a revised plan was submitted which included a “Right-in / Right-out” on Taylorsville to facilitate site access. The access aligned with a large sewer easement on the eastern side of the site. There was significant discussion among the Planning Commission members regarding this access point and its close proximity to the bank driveway and the Old Troy Pike intersection. Ultimately, the Commission recommended approval of the rezoning and basic development plan with the access point on the eastern side.

Based on the location and depth of the sewer line, and a desire to have full turn access from Taylorsville into the site, the applicant revised the site plan and moved the building slightly west and relocated the access point to the west side of the site. Staff received the revised site plan on April 28, 2022, prior to the May 3rd City Council Work Session.

During the work session there was considerable discussion and concern expressed about adding the curb cut along Taylorsville Road. At the City Council meeting, there was additional concerns expressed about the curb cut access along Taylorsville Road.

The applicant has worked with Rural King to obtain an access agreement along the Taylorsville frontage, which enabled the elimination of the curb cut along Taylorsville Road. Subsequently, the applicant has submitted a revised site plan that utilizes the existing Rural King access point along Taylorsville. The site plan also moves the identification sign to the western side of the site.

City Council has requested the Planning Commission review the revised site plan and make a recommendation prior to Council moving forward with the rezoning legislation.

Staff Analysis

This site plan revision goes a long way to addressing the Taylorsville Road access concerns of the Planning Commission and City Council. The revised site plan conforms to the PO district regulations including parking and buffering. The revised plan also allows the possibility of aligning driveways along Taylorsville at some future point when the Rural King property is redeveloped or improved.

Conformance with Zoning Regulations:

1173 (PO) Planned Office District

The proposed use is principally permitted in the PO district.

The required 15-foot perimeter yard is provided in the revised site plan.

Chapter 1181 General Provisions

The proposal meets the requirements of Chapter 1181, with the exception of the following items are not illustrated on the Basic Development Plan:

- Street trees shall be placed every 40-feet along the public street.
- No exterior lighting plan was submitted. Unless otherwise directed by the Planning Commission, parking light fixtures shall not exceed 25 feet in height.
- Mechanical, waste, and service screening is not illustrated with great detail, but shall comply with the zoning code.

Chapter 1182 Landscaping and Screening Standards

The Basic Development Plan indicates potential locations for landscape islands and trees within the parking areas. Additional detail shall be provided during the detailed development plan phase.

Chapter 1185 Parking and Loading

The proposal generally meets the requirements of Chapter 1185. The applicant is illustrating areas for parking island landscaping. Based on the interior programming, 45 spaces required, and 50 spaces are illustrated. The applicant is working with Rural King on the exact language to allow access through the Rural King parking area.

Chapter 1189 Signs

The applicant is requesting a mixture of signage including one ground mounted sign, three corporate wall signs, three "Emergency" wall signs and one "Ambulance" canopy sign.

The original site plan had the ground mounted sign located on the eastern edge and the applicant requested an 8-foot tall with a sign area of 80 square feet. The height was to account for the grade change between the site and 5/3rd bank.

The code suggests a height limit of 6-feet and not exceed 75 square feet in sign area. The ground sign has been relocated to the western edge of the site, and the grade change should no longer be a factor.

The two "Emergency" wall signs are 75 square feet each, and the three corporate wall signs are 50 square feet each, totaling 300 square feet. The code suggests single wall signs shall not exceed 75 square feet each, and a cumulative total of no more than 150 square feet. If the commission considers the "emergency" signs to be exempt, the wall signs are compliant.

The "Ambulance" canopy sign is 35 square feet and mounted above the canopy. The code suggests canopy signs are only permitted along street frontage and may not project above the canopy. While not along a street frontage, the canopy covers the ambulance entrance and a variance from the code requirements seems reasonable.

Recommendation

Staff feels the standards of approval outlined in 1171.06 can be met and therefore staff recommends approval of the rezoning from Planned Commercial to Planned Office and approval of the basic development plan with the following conditions:

- Street trees shall be placed every 40-feet along Taylorsville Road.
- The applicant shall comply with Chapter 1181.18 Screening of Service Structures.
- The applicant shall comply with Chapter 1181.21 Lighting Standards.
- The applicant shall comply with Chapter 1182 Landscaping and Screening.
- Wall and canopy signs shall be similar to those submitted in the sign package submitted to the Planning Commission on April 12, 2022.
- Ground signs shall not exceed 6-feet in height.
- Applicant shall comply will all fire code requirements.

Discussion on the rezoning.

Action

Ms. Thomas moved to approve the request by the applicant Hartman I, LLC, for approval of a Basic Development Plan and Rezoning to Planned Office (PO) for property located at 7611 Old Troy Pike (RZ BDP 22-13) in accordance with the recommendation of Staff's Memorandum dated June 4, 2022, and the Planning Commission Decision Record attached thereto.

Seconded by Mr. Jeffries. Roll call showed: YEAS: Mr. Jeffries, Ms. Thomas, and Mr. Walton. NAYS: Ms. Opp and Ms. Vargo. Motion to approve carried 3-2.

5. BASIC DEVELOPMENT PLAN AND REZONING - The applicant, HOMESTEAD DEVELOPMENT, is requesting approval of a Basic Development Plan to construct 135-unit senior community and a 192-unit market rate community on a combined 15.56 acres. Property located at 6209 Brandt Pike (BDP 22-25).

Mr. Sorrell stated that this project grew out from the Brandt Pike Redevelopment Plan (2017), which identified a need and demand for senior housing and market-rate multi-family housing along and near the Brandt Pike corridor. The City subsequently purchased the shopping center to facilitate redevelopment. New developments within this site include: Dayton Metro Library Huber Heights Branch, Dogtown, and the shopping center will be refaced with a brick / stone façade. TIF proceeds from the proposed apartment developments, as well as future developments may fund the façade and public infrastructure upgrades.

The applicant is requesting basic development plan approval for a 184-unit market-rate apartment community and a 135-unit senior apartment community. While this application covers approximately 15.56 acres, the overall area zoned PM exceeds 20 acres.

The area zoned PM has a mix of uses including retail, commercial, public use (library) and planned residential.

All uses being considered are compatible with the neighboring properties.

Extensive natural vegetation exists that will buffer and screen the proposed development and the existing homes to the west.

The overall campus development is focused around a wet detention area and has large areas of open space. The combined proposed residential development sites are approximately 40% open space.

The parking areas are arranged for the convenience of the residents but are broken up with landscape islands and covered parking areas.

Sidewalks are indicated along the future road frontage of non-senior multi-family building. Staff recommends sidewalks also be provided for the senior facility residents.

No sign details were provided for this application but will be submitted during the detailed development phase.

While no height maximum height restriction exists in the PM district, the Brandt Pike Overlay District has a maximum height of three stories or 35 feet. The proposed non-senior apartments have both two- and three-story buildings. The two-story buildings are 34 feet to the roof peak and the three-story buildings are 44 feet to the roof peak. The applicant is proposing the market-rate apartments will have mixture of two- and three-story buildings along the west side of the site, which is closest to the existing single-family neighborhood. This arrangement will breakup the building massing along the western edge and the buildings are sited approximately 150-feet from the back of the single-family homes.

The three-story senior buildings will also be at least 150-feet from the back of the single-family homes. Additionally, the building is oriented in such a way that only the endcaps, and not the full building length, are facing the single-family homes.

Staff feels both the market rate site plan and senior building site plan provides a significant visual buffer and a nine (9) foot variance from the maximum height is acceptable. A landscaping plan has not been submitted at this time. Staff

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recommends a mixture of street trees, and clustered plantings along the eastern edge of the market-rate and senior apartments. Staff feels a six-foot high earthen mound is inappropriate for this site and will interfere with pedestrian access from the apartments to the sidewalk network.

The applicant is proposing a five-foot earthen mound and evergreen plantings along the west edge to screen the development from the existing single-family homes.

Areas for parking landscaping are illustrated in the basic development plan. The applicant shall submit additional details during the detailed development phase.

The zoning code requires two-space per multi-family unit. In the non-senior community, the applicant is proposing 357 parking spaces for 184 units, or 1.94 spaces per unit. Of the 184 units, 84 are one-bedroom apartments which are less likely to have two vehicles. Additionally, most communities have begun reducing parking minimums of non-senior multi-family apartments to approximately 1.5 spaces / unit. Staff feels the amount of parking proposed for the non-senior community is adequate.

The applicant is proposing 134 spaces for 135 units, or .99 spaces per unit. Most senior living facilities have a 1:1 parking ratio because the majority of residents either live alone or only have one vehicle in the household. Staff feels the amount of parking provided is acceptable at this time. There is room to provide additional parking in the front of the building if management determines it's necessary in the future. However, at this point in time, staff does not think sacrificing greenspace for parking is necessary.

Staff feels issuing a conditional use permit/approval for this type of development is confusing and unnecessary. Staff recommends incorporating the standards, where appropriate, in the overall basic development plan approval and subsequent detailed development plan approval. This section of the overlay district should be revisited in the future and revised for clarity and intent.

STAFF RECOMMENDATION

It is the staff's opinion the proposal meets the standards outlined in Section 1171.06. Staff recommends approval of the Basic Development Plan submitted on June 3, 2022 to construct approximately 184 market-rate apartments and 134 senior apartments within two residential communities. Staff recommends approval with the following conditions:

- 1) Sidewalks shall be required connecting the senior building and along the future roadway
- 2) All sidewalks shall be a minimum of 5' in width
- 3) Street trees be provided 40-foot on center
- 4) A sign package meeting code shall be submitted with the detailed development plans
- 5) A lighting plan shall be submitted with the detailed development plan
- 6) A landscaping plan shall be submitted with the detailed development plan
- 7) In lieu of mounding and screening along the new roadway, clustered landscaping areas shall be provided between the apartments and sidewalks.
- 8) The applicant will comply with all stormwater requirements, per the City Engineer;

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- 9) The applicant will comply with all Fire Code requirements, per the Huber Heights Fire Department.

Numerous neighbors were present and asked questions about the development.

Action

Ms. Thomas moved to approve the request by the applicant Homestead Development, for approval of a Basic Development Plan to construct 135-unit senior community and a 192-unit market rate community on a combined 15.56 acres. Property located at 6209 Brandt Pike (BDP 22-25) in accordance with the recommendation of Staff's Memorandum dated June 8, 2022, and the Planning Commission Decision Record attached thereto.

Seconded by Mr. Jeffries. Roll call showed: YEAS: Ms. Opp, Ms. Vargo, Mr. Jeffries, Ms. Thomas, and Mr. Walton. NAYS: None. Motion to approve carried 5-0.

VIII. Additional Business

None.

IX. Approval of the Minutes

None.

X. Reports and Calendar Review

DDP – The Waverly
DDP – Sheetz
MJC – Wayne High School

XI. Upcoming Meetings

June 8, 2022
July 12, 2022

XII. Adjournment

There being no further business to come before the Commission, the meeting was adjourned at approximately 8:18 p.m.

Terry Walton, Chair

Date

Geri Hoskins, Administrative Secretary

Date