



Town of Simsbury

Office of Community Planning and Development - Zoning Commission Application

DATE: 5/26/2023 FEE: \$ 705.50 CK #: _____ APP #: 23-24

PROPERTY ADDRESS: 1263 Hopmeadow Street

NAME OF OWNER: Prospect Enterprises, LLC

MAILING ADDRESS: 231 Farmington Avenue, Farmington, CT 06032

EMAIL ADDRESS: g.nanni@theprospectco.com TELEPHONE # 860-249-2242 (ext 102)

NAME OF AGENT: Paul Vitaliano (VHB)

MAILING ADDRESS: 100 Great Meadow Road, Suite 200

EMAIL ADDRESS: pvitaliano@vhb.com TELEPHONE # 860-807-4379

ZONING DISTRICT: B2 LOT AREA: 4.5 SQ FT ACRES

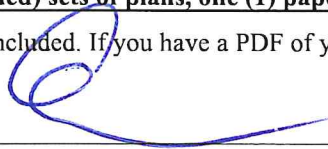
Does this site have wetlands? YES NO Have you applied for a wetlands permit? YES NO

REQUESTED ACTION (PLEASE CHECK APPROPRIATE BOX):

- ZONE CHANGE:** The applicant hereby requests that said premises be changed from zone _____ to zone _____.
- TEXT AMENDMENT:** Please attach proposed changes, including Sections and purposes.
- SPECIAL EXCEPTION:** The applicant hereby requests a public hearing pursuant to Section 4.5.
- SITE PLAN APPROVAL:** The applicant hereby requests
 - PRELIMINARY FINAL SITE PLAN AMENDMENT pursuant to Section 11
- SIGN PERMIT**
- OTHER (PLEASE EXPLAIN):** _____

NOTE: Each application must fully comply with the requirements of the Zoning Regulations prior to receipt by the Commission. Each application for zone change and/or special exception shall include a list of names and addresses of abutting property owners and all property owners within 100 feet of the subject site.

A check payable to the Town of Simsbury must accompany this **original signed and dated** application. **Five (5) complete (folded) sets of plans, one (1) paper copy, and a digital copy of the completed application and correspondence** must also be included. If you have a PDF of your plans, we would appreciate a copy of that sent to jhollis@simsbury-ct.gov, as well.

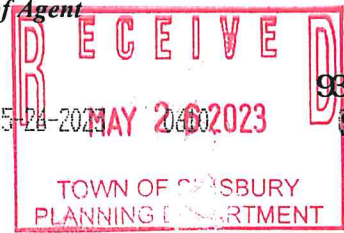

5/26/23
Paul Vitaliano
5/26/23

Signature of Owner Date Signature of Agent Date

Telephone (860) 658-3245
Facsimile (860) 658-3206

www.simsbury-ct.gov

933 Hopmeadow Street
Simsbury, CT 06700





May 26, 2023

Ref: 42810.00

Mr. George McGregor
Director of Community Planning & Development
933 Hopmeadow Street
Simsbury, CT 06070

Re: Proposed Commercial Development – 1263 Hopmeadow Street, Simsbury, CT

Mr. McGregor,

VHB, on behalf of our client, Prospect Enterprises LLC, is submitting the following documents to support an application to the Simsbury Zoning Commission for the proposed commercial development located at 1263 Hopmeadow Street. VHB is requesting to be placed on the agenda for the public hearing scheduled for June 21, 2023. Plans have been submitted to the Design Review Board concurrently for review on the scheduled June 5th meeting.

The proposed project consists of the construction of an approximately 2,400 sf restaurant with drive thru, a 2,325 sf restaurant with drive thru, an 11,600sf retail building, and drive up ATM, along with all associated utilities, drive aisles, parking areas, stormwater management facilities and landscaping to support this use.

The project as proposed will require Special Exception approval per section 4.5 of the Town Zoning Regulations. The plans and reports support the proposed development's conformance with the Special Exception as outlined below:

1. Orderly Development – The development is proposed within the Business zone among various commercial properties including Dunkin' (south abutter) and Big Y supermarket (north abutter). Floor plans and elevations of the proposed buildings are included in the planset which have been submitted for review to the Design Review Board.
2. Property Values – The proposed commercial development use is in the Business zone and proposed to redevelop a former car dealership now comprised of vacant buildings and deteriorating parking areas. The new development as designed will therefore enhance the surrounding neighborhood. The site planset is included as part of the submission.
3. Public Safety- The site is accessible by two entrance points, utilizing the existing traffic signal at the Big Y entrance, and adequate access is provided around each building for emergency personnel.
4. Traffic Considerations – Sufficient off-street parking is provided (115 parking spaces vs 96 required parking spaces), drive through queue areas are contained within each pad site area and driveways have been designed as to not create any hazards or congestion to the adjoining roadways. Detailed information can be found in the submitted traffic impact assessment.

\\vhb.com\gbl\proj\Wethersfield\42810.00\docs\Transmittals\2023-05-26_Site

Plan-Special Exception Submission Cover Letter.docx

Engineers | Scientists | Planners | Designers

100 Great Meadow Road, Suite 200, Wethersfield, Connecticut 06109

P 860.807.4300 F 860.372.4570 www.vhb.com



5. Landscaping and Buffers – Proposed landscaping shown on the Planting Plan (sheet L-1) within the planset includes a mix of deciduous trees, flowering trees, shrubs, ornamental grasses, and perennials throughout the site and has been designed using the Simsbury Design Guidelines.
6. Relationship to Utility Systems, Drainage Systems and Impact on Community Facilities – The drainage system has been designed to reduce peak flows and pipes have been sized to the 25-year storm event as required by Town Code. Conversations with the utility companies, including local WPCA, are on-going and will continue through the design and construction phases.

Enclosed to support this submission are the following:

1. Application to the Town of Simsbury Zoning Commission dated May 26, 2023.
2. Fee for \$705.50 made payable to The Town of Simsbury.
3. Three (3) 24"x36" copies of the Planset titled "Proposed Commercial Development" dated May 26, 2023.
4. Three (3) copies of the Stormwater Report titled "Proposed Commercial Development" dated May 2023.
5. Three (3) copies of the Traffic Impact Assessment dated May 2023.
6. Three (3) copies of an Exterior Design Package prepared by BKA Architects dated May 25, 2023

Please let me know if you have any questions or require additional information.

Sincerely,

A handwritten signature in blue ink that reads "Paul Vitaliano".

Paul Vitaliano, P.E.
CT Director of Land Development

Site Plans

| | |
|--------------|-----------------|
| Issued for | Local Approvals |
| Date Issued | May 26, 2023 |
| Latest Issue | May 26, 2023 |

Proposed Commercial Development

1263 Hopmeadow Street
Simsbury, Connecticut

Owner/Applicant

Prospect Enterprises, LLC
231 Farmington Avenue
Farmington, CT 06032

Zone: General Business (B2)

Assessor's Map: 105

Block: 403

Lots: 017, 017R, 018, 020-1



Sheet Index

| No. | Drawing Title | Latest Issue |
|------|-----------------------------------|--------------|
| C-1 | Legend & General Notes | May 26, 2023 |
| C-2 | Layout and Materials Plan | May 26, 2023 |
| C-3 | Grading and Drainage Plan | May 26, 2023 |
| C-4 | Utility Plan | May 26, 2023 |
| C-5 | Erosion and Sediment Control Plan | May 26, 2023 |
| C-6 | Site Details | May 26, 2023 |
| C-7 | Site Details | May 26, 2023 |
| C-8 | Site Details | May 26, 2023 |
| C-9 | Site Details | May 26, 2023 |
| C-10 | Site Details | May 26, 2023 |
| C-11 | Site Details | May 26, 2023 |
| C-12 | Site Details | May 26, 2023 |
| L-1 | Planting Plan | May 26, 2023 |
| L-2 | Planting Details | May 26, 2023 |

Reference Drawings

| No. | Drawing Title | Latest Issue |
|-------------|--|--------------------|
| TT-1 | Truck Movement Plan | May 26, 2023 |
| SD-1 | Intersection Sight Distance Plan | May 26, 2023 |
| Sv-1 | Property Survey and Topographic Survey | April 20, 2022 |
| SL-IA | Site Lighting Photometric Calculation | April 19, 2023 |
| A-9 | Retail Building-Exterior Elevations | May 25, 2023 |
| A-12 | Starbucks Exterior Elevations | May 25, 2023 |
| A-15 | Chipotle Elevations | May 25, 2023 |
| HWY-0815_01 | Bituminous Concrete Curbing | September 27, 2022 |
| HWY-0921_01 | Concrete Sidewalk | September 27, 2022 |
| TR_1210_04 | Pavement Markings, Lines & Symbols | August 17, 2018 |
| TR_1210_08 | Pavement Markings for Non Freeways | August 17, 2018 |



100 Great Meadow Road
Suite 200
Wethersfield, CT 06109
860.807.4300

Land Surveyor

VHB, Inc.
100 Great Meadow Rd
Suite 200
Wethersfield, CT 06109
860-807-4300

Lighting Consultant

Apex Lighting Solutions
20 Beaver Rd
Wethersfield, CT 06109
860-632-8766

Architect

BKA Architects
142 Crescent St
Brockton, MA 02302
508-583-5603





100 Great Meadow Road
Suite 200
Wethersfield, CT 06109
860.807.4300

Zoning Summary Chart

| | | |
|---------------------------------------|-----------------------------------|------------|
| Zoning District(S): | B2 - General Business | |
| Overlay District(S): | Level A - Aquifer Projection Zone | |
| Zoning Regulation Requirements | Required* | Provided |
| MINIMUM LOT AREA | NONE | ±4.45 AC |
| FRONTAGE | NONE | 371.7 Feet |
| FRONT YARD BUILDING SETBACK | 25 Feet | 64.2 Feet |
| FRONT YARD PARKING SETBACK | 25 Feet | 25 Feet |
| SIDE YARD BUILDING SETBACK | 20 Feet | 52.3 Feet |
| SIDE YARD PARKING SETBACK | 15 Feet | 15 Feet |
| REAR YARD BUILDING SETBACK | 25 Feet | 69.1 Feet |
| REAR YARD PARKING SETBACK | 25 Feet | 34.2 Feet |
| REAR YARD RESIDENTIAL LOADING SETBACK | 50 Feet | 59.1 Feet |
| MAXIMUM BUILDING HEIGHT | 40 Feet | <40 Feet |
| MAXIMUM IMPERVIOUS | 40.0%/60.0% ** | 59.7 % |

* Zoning regulation requirements as specified in Simsbury Zoning Regulations dated 03/01/2022
 ** Per Section 4.4.B. The Zoning Commission may, after notice and public hearing, grant a special exception to allow up to 50 percent increase to the maximum coverage allowed in any zone.

Parking Summary Chart

| Description | Size (FT) | | Spaces | |
|------------------------------------|-----------|----------|----------|----------|
| | Required | Provided | Required | Provided |
| STANDARD SPACES | 9 x 18 | 9 x 18 | 92 | 108 |
| COMPACT SPACES (50% ALLOWED W/ SE) | 8 x 16 | 8 x 16 | N/A | N/A |
| STANDARD ACCESSIBLE SPACES * | 15 x 18 | 15 x 18 | 3 | 4 |
| VAN ACCESSIBLE SPACES | 16 x 18 | 16 x 18 | 1 | 3 |
| TOTAL SPACES | | | 96 | 115 |

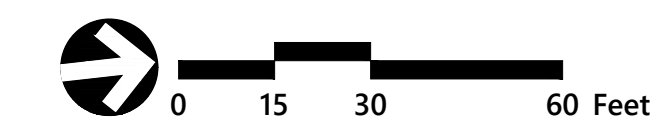
* ADA/STATE/LOCAL REGULATIONS REQUIRE 5 ACCESSIBLE PARKING SPACES FOR LOTS BETWEEN 101 TO 150 PARKING SPACES - 1 OF WHICH BEING VAN ACCESSIBLE

Parking Requirements:

| | | | | | | | |
|--------------------------|-----------|---|------|---|-----|---|-----------|
| RETAIL (OVER 10,000 GSF) | 11,600 SF | x | 2.75 | / | 500 | = | 64 SPACES |
| RESTAURANT 1 | 2,400 SF | x | 3.3 | / | 500 | = | 16 SPACES |
| RESTAURANT 2 | 2,325 SF | x | 3.3 | / | 500 | = | 16 SPACES |
| TOTAL PARKING REQUIRED = | | | | | | | 96 SPACES |

Sign Summary

| CONNDOT Number | Specification Width | Specification Height | Desc. |
|----------------|---------------------|----------------------|-------|
| 31-0552 | 30" | 30" | |
| 31-1119 | 30" | 30" | |
| 31-0662 | 12" | 24" | |
| 31-0648 | 12" | 6" | |



Proposed Commercial Development

1263 Hopmeadow Street
Simsbury, Connecticut

No. Revision Date Appr.

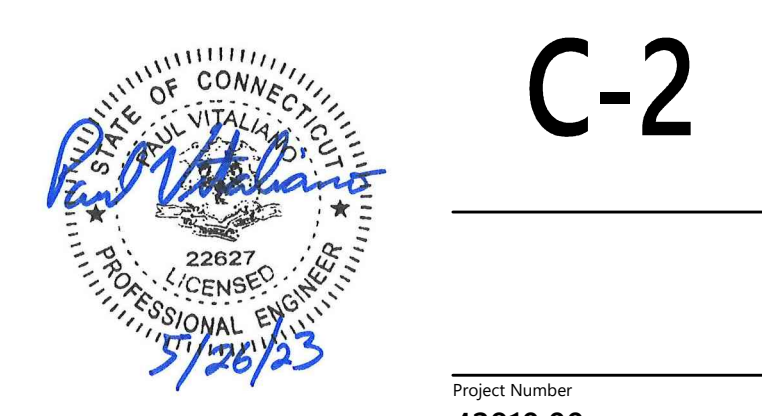
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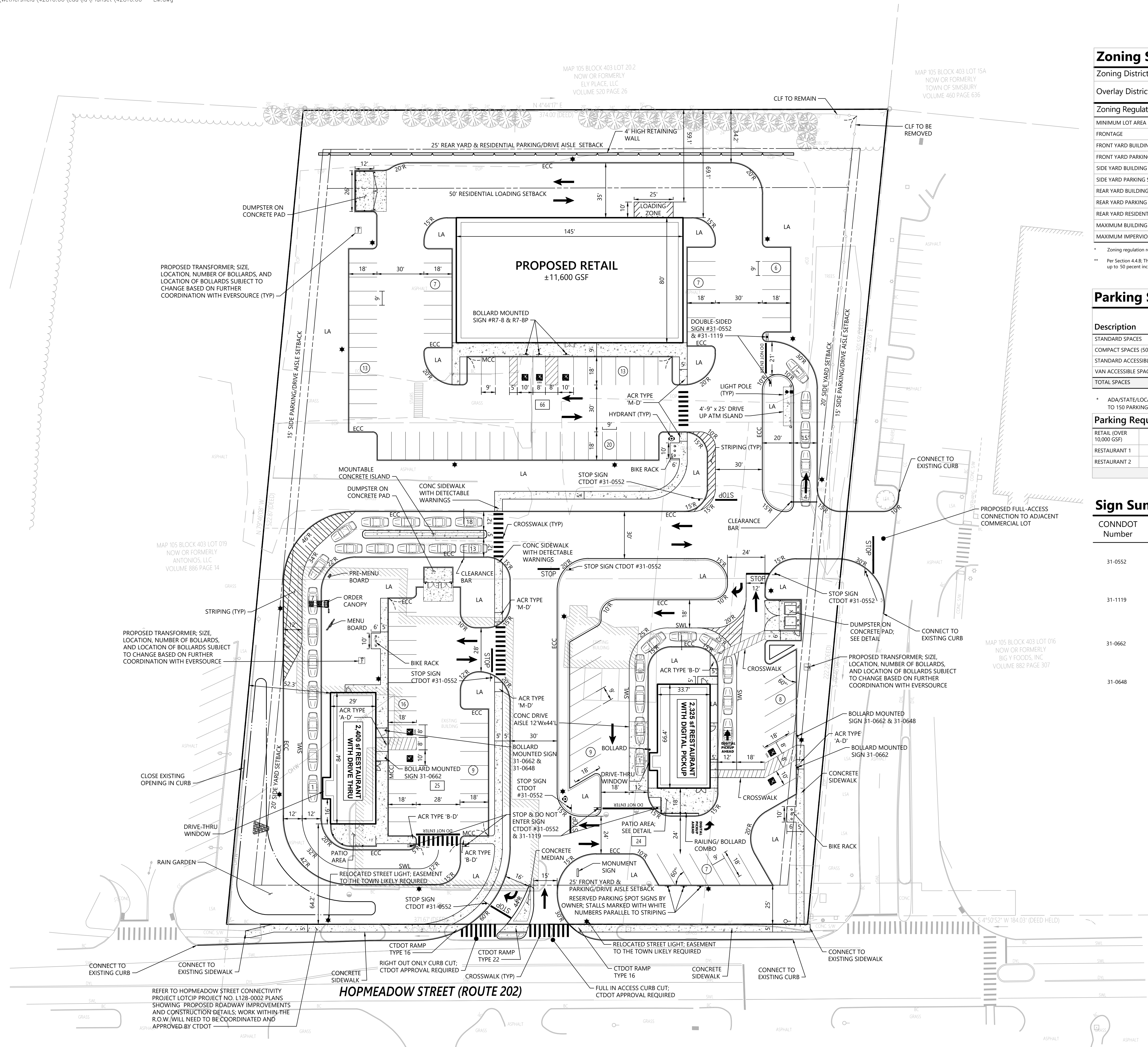
Issued for _____ Date _____
Local Approvals May 26, 2023

Layout and Materials Plan

Drawing Number



C-2



PROPOSED TRANSFORMER, SIZE, LOCATION, NUMBER OF BOLLARDS, AND LOCATION OF BOLLARDS SUBJECT TO CHANGE BASED ON FURTHER COORDINATION WITH EVERSOURCE (TYP)

PROPOSED TRANSFORMER, SIZE, LOCATION, NUMBER OF BOLLARDS, AND LOCATION OF BOLLARDS SUBJECT TO CHANGE BASED ON FURTHER COORDINATION WITH EVERSOURCE

PROPOSED TRANSFORMER, SIZE, LOCATION, NUMBER OF BOLLARDS, AND LOCATION OF BOLLARDS SUBJECT TO CHANGE BASED ON FURTHER COORDINATION WITH EVERSOURCE

CLOSE EXISTING OPENING IN CURB

RELOCATED STREET LIGHT; EASEMENT TO THE TOWN LIKELY REQUIRED

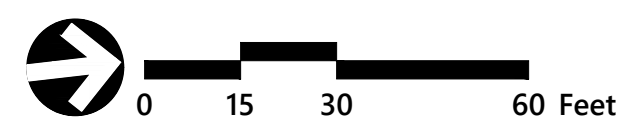
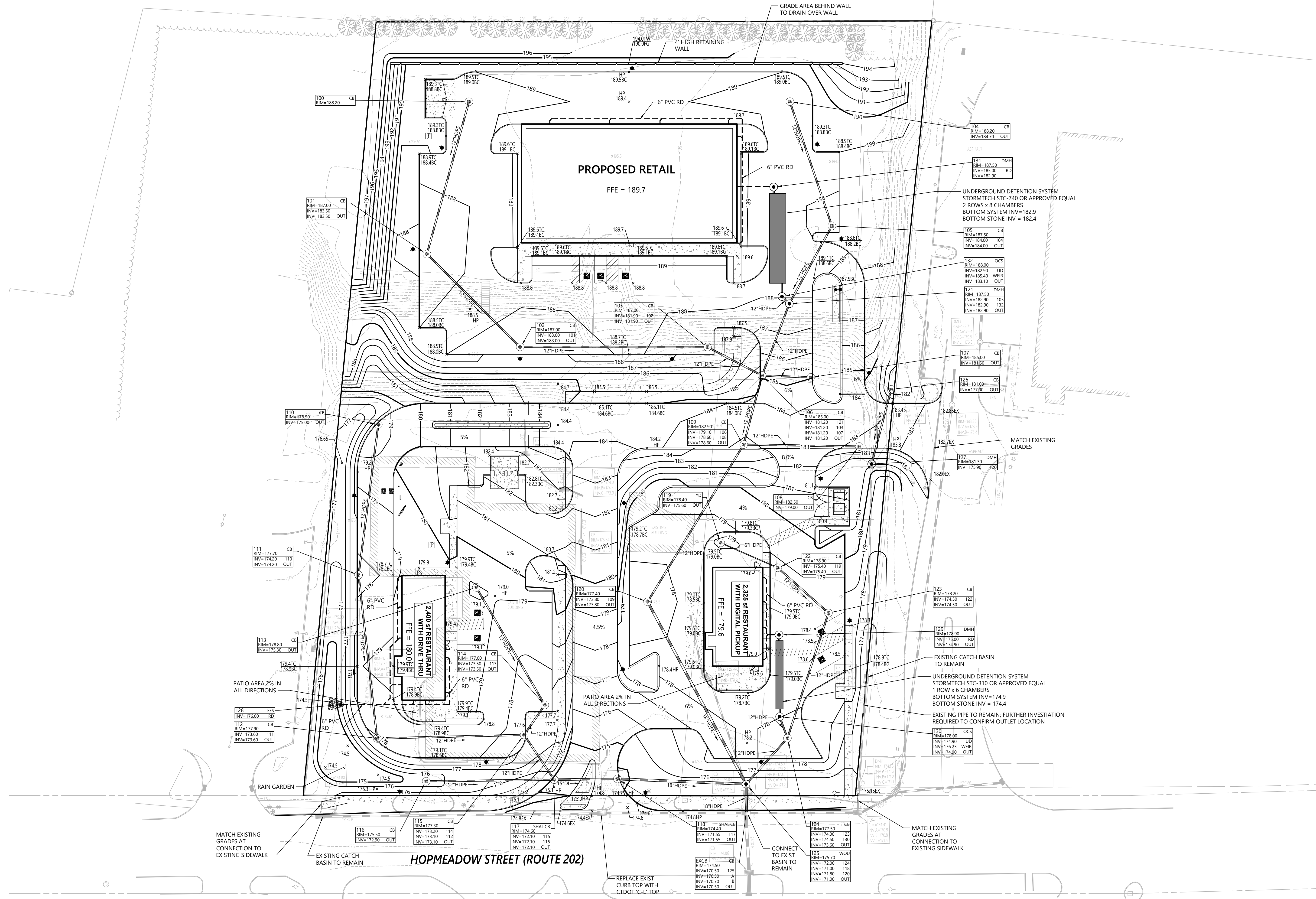
REFER TO HOPMEADOW STREET CONNECTIVITY PROJECT LOT/CP PROJECT NO. 1128-0022 PLANS SHOWING PROPOSED ROADWAY IMPROVEMENTS AND CONSTRUCTION DETAILS; WORK WITHIN THE R.O.W. WILL NEED TO BE COORDINATED AND APPROVED BY CTDOT

HOPMEADOW STREET (ROUTE 202)

MAP 105 BLOCK 403 LOT 202
NOW OR FORMERLY
ELY PLACE, LLC
VOLUME 520 PAGE 26

MAP 105 BLOCK 403 LOT 15A
NOW OR FORMERLY
TOWN OF SIMSBURY
VOLUME 400 PAGE 636

MAP 105 BLOCK 403 LOT 016
NOW OR FORMERLY
BIG Y FOODS, INC
VOLUME 882 PAGE 307



Proposed Commercial Development

1263 Hopmeadow Street
Simsbury, Connecticut

| No. | Revision | Date | Appr. |
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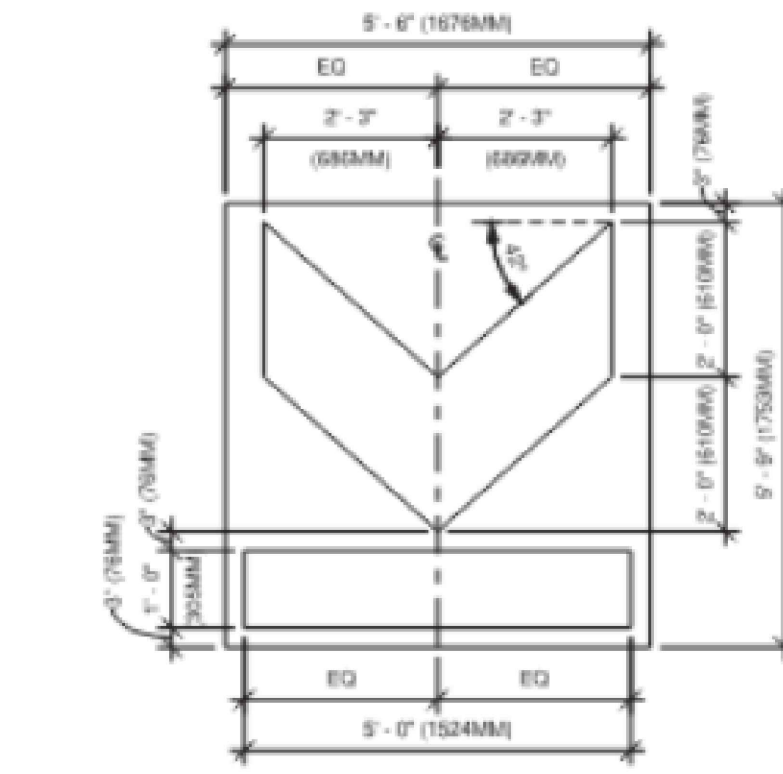
Designed by _____ Checked by _____
Issued for _____ Date _____
Local Approvals May 26, 2023

Grading and Drainage Plan

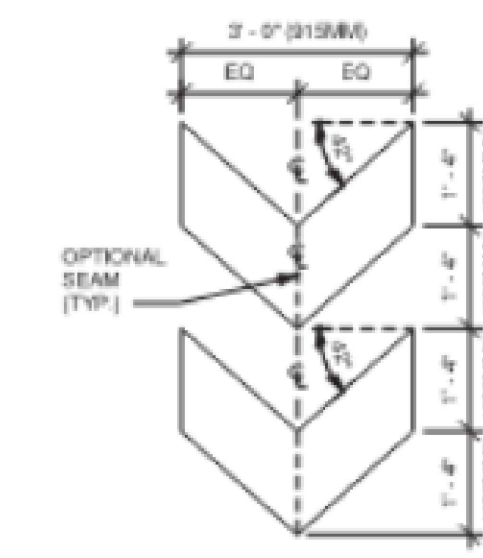
Drawing Number _____

C-3

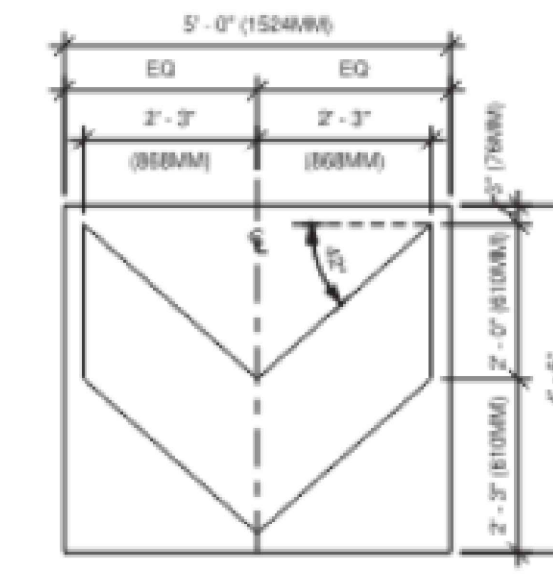
Project Number
42810.00



④ DTE - WAYFINDING GRAPHIC ARROW - EXIT
Scale: 1/2" = 1'-0"



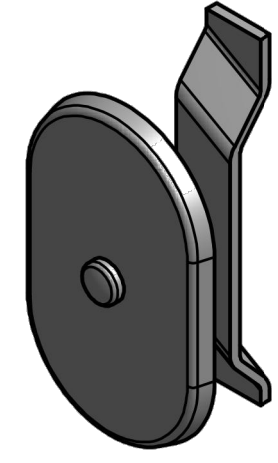
⑤ DTE - WAYFINDING GRAPHIC ARROW - DOUBLE
Scale: 1/2" = 1'-0"



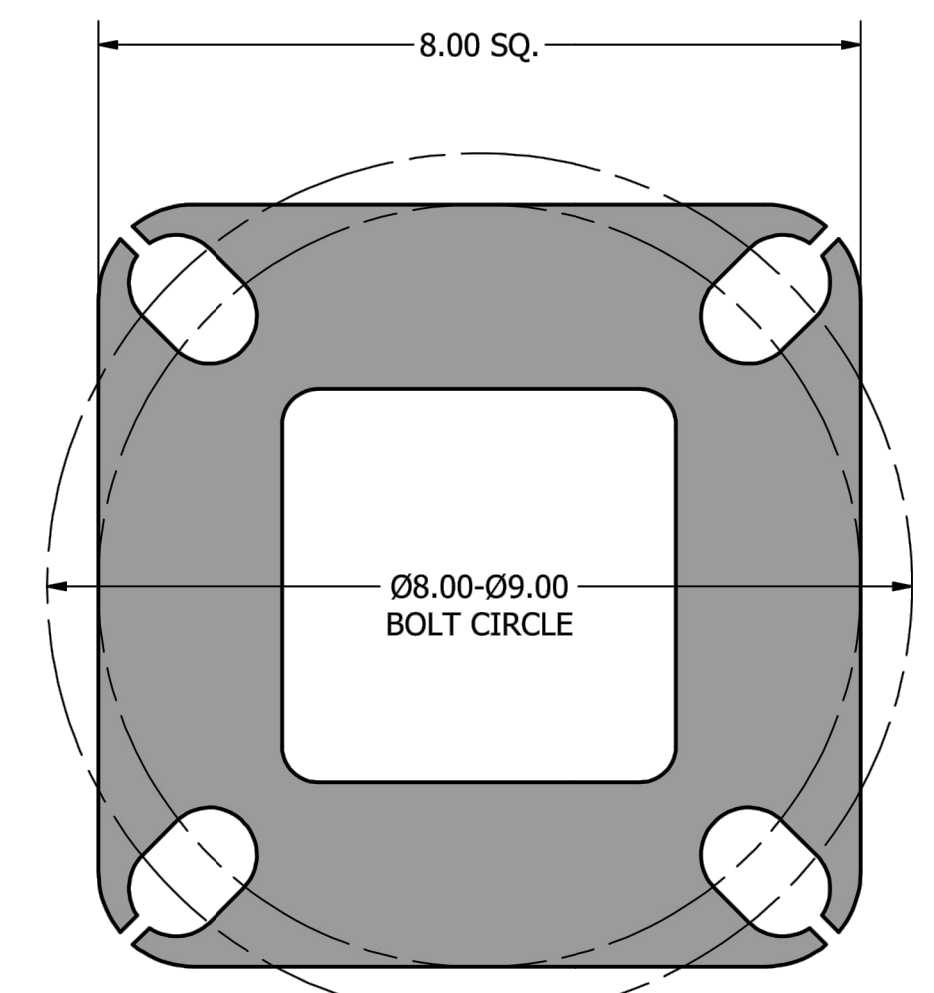
⑥ DTE - WAYFINDING GRAPHIC ARROW - SINGLE
Scale: 1/2" = 1'-0"

| POLE SHAFT SPECIFICATIONS | | | | |
|----------------------------------|--|---------------------|------------------|-----------------|
| 1. | SHAFTS ARE ONE SECTION DESIGN FABRICATED FROM A WELDABLE GRADE CARBON STEEL STRUCTURAL TUBING WITH A UNIFORM WALL THICKNESS. MATERIAL SHALL CONFORM TO ASTM A-500 GRADE B WITH A MINIMUM YIELD STRENGTH OF 46,000 P.S.I. | | | |
| 2. | BASE PLATES ARE CONSTRUCTED OF A STRUCTURAL QUALITY HOT ROLLED CARBON STEEL PLATE (ASTM A-36 HRS) WITH A GUARANTEED MINIMUM YIELD STRENGTH OF 36,000 P.S.I. | | | |
| 3. | ANCHOR BOLTS (F1554 GRADE 55) ARE "L" BENT BARS HAVING A MINIMUM YIELD STRENGTH OF 55,000 P.S.I. THE BOLTS ARE FULLY GALVANIZED PER ASTM A153 SPECIFICATIONS AND FURNISHED COMPLETE WITH 2 HEX NUTS AND 2 FLAT WASHERS. | | | |
| 4. | POLES SHALL HAVE A POLYESTER POWDER COAT FINISH IN A STANDARD COLOR. | | | |
| POLE DIMENSIONS | | | | |
| POLE HGT. (FT.) | TOP SQ. SIZE (IN.) | BOT. SQ. SIZE (IN.) | GAGE | MTG. HGT. (FT.) |
| 18' | 4.00 | 4.00 | 11 GAGE | 18' |
| BASE PLATE DIMENSIONS | | | | |
| BOLT CIRCLE (IN.) | BASE PLATE DIM. (IN.) | BOLT HOLE (IN.) | PLATE THK. (IN.) | |
| 8.00-9.00 | 8.00 SQ. | 1.00 | .75 | |
| ANCHOR BOLT DIMENSIONS | | | | |
| ANCHOR BOLT DIA. (IN.) | ANCHOR BOLT LENGTH (IN.) | | | |
| .75 | 20.00 | | | |
| ALLOWABLE WIND LOADING (SQ. FT.) | | | | |
| WIND* | 80 MPH | 90 MPH | 100 MPH | 120 MPH |
| EPA | 11.1 | 9.0 | 7.2 | 5.1 |

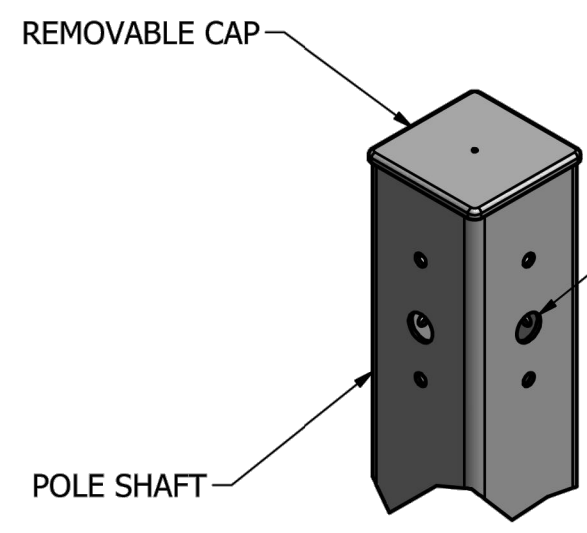
*WITH 1.3 GUST FACTOR



3.00 X 5.00 HAND HOLE COVER

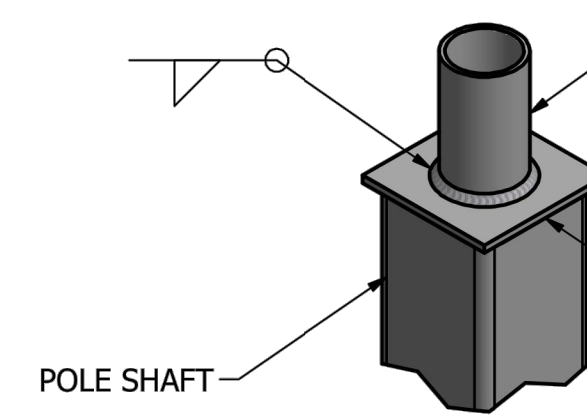


8.00 X 8.00 X .75 THK. BASE PLATE



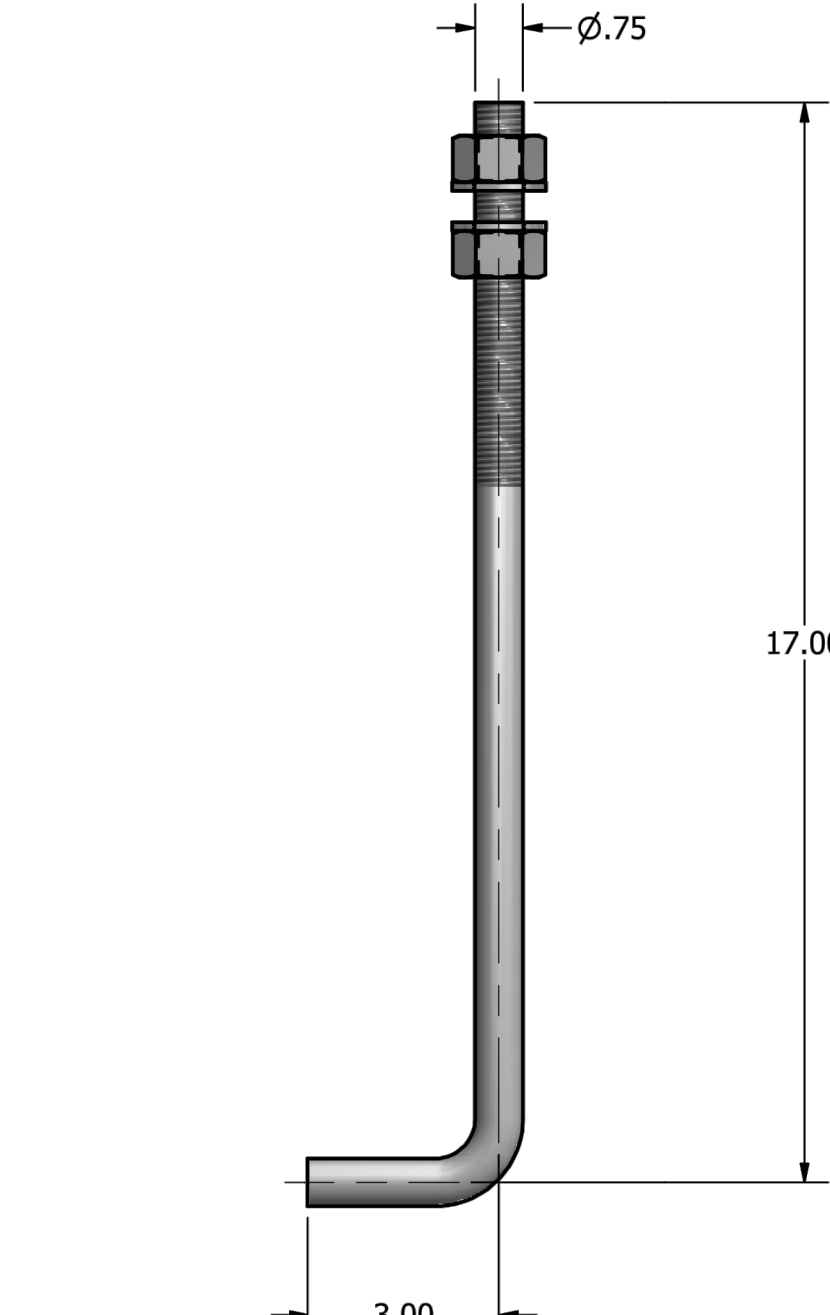
DRILL MOUNT OPTIONS

DRILLED PER FIXTURE REQUIREMENTS:
D1- DRILLED FOR 1 FIXTURE
D2- DRILLED FOR 2 FIXTURES AT 90° OR 180°
D3- DRILLED FOR 3 FIXTURES
D4- DRILLED FOR 4 FIXTURES

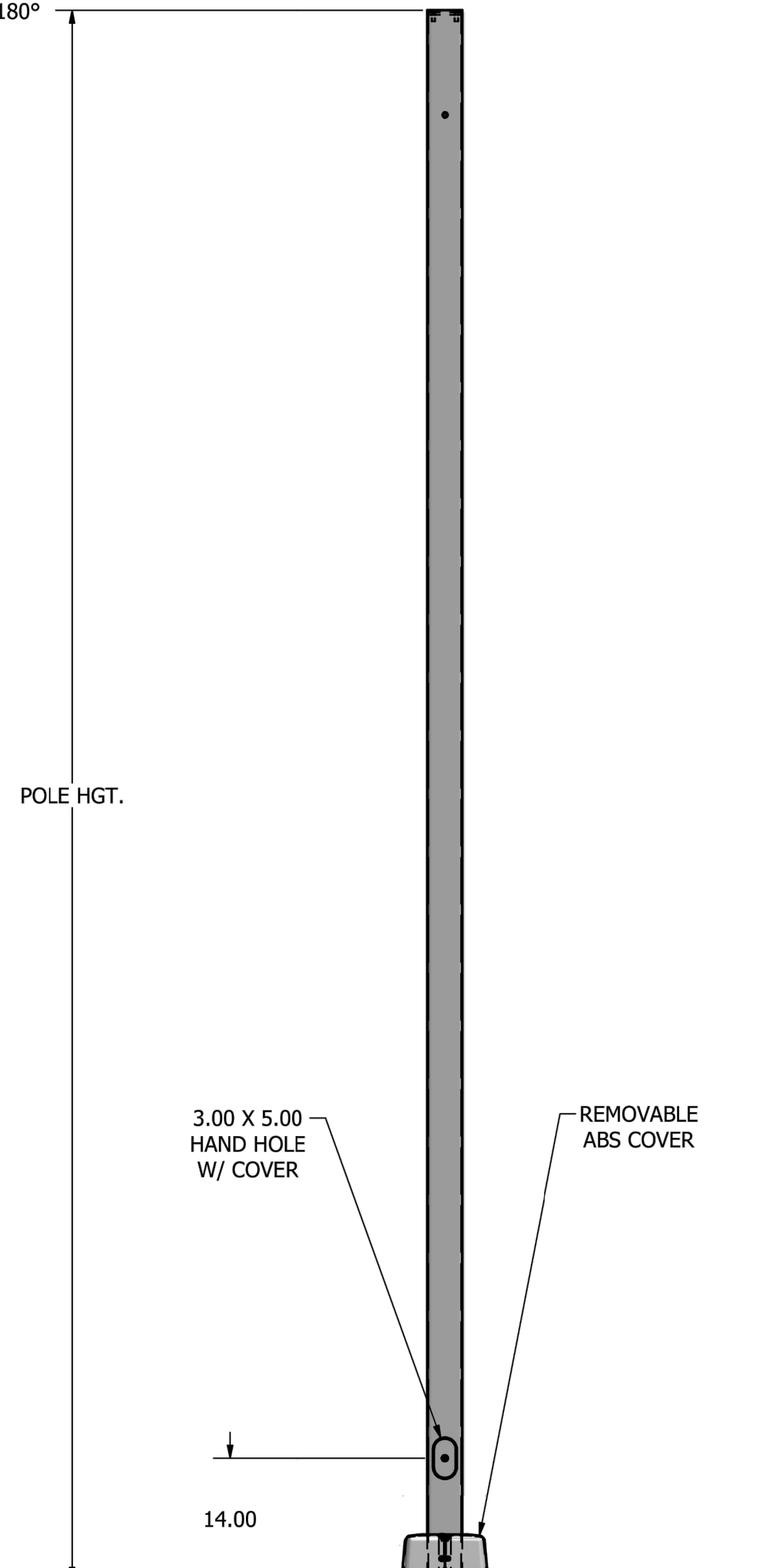


TENON MOUNT OPTIONS

TENON MOUNT OPTIONS:
T2- Ø2.38 OD X 4.00 LG
T3- Ø3.00 OD X 5.00 LG
T4- Ø4.00 OD X 6.00 LG



Ø.75 X 20.00 ANCHOR BOLT



POLE DETAIL

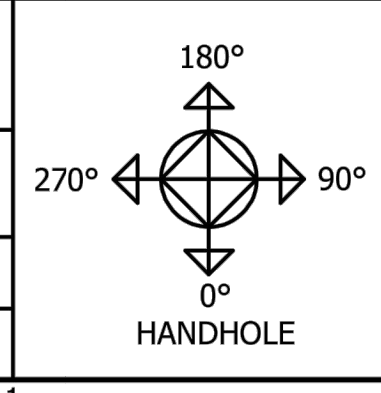
lyte poles
a DWM company

P.O. Box 340
Eastpointe, MI 48021
P: (586) 771-4610 | F: (586) 771-5527
www.lytepoles.com

| | |
|-------------------|-------------|
| DRAWN: M. HARVALA | 2/13/2015 |
| CHECKED: | |
| REVISION: | DATE: |
| APPROVED: | |
| QUOTE: | |
| S.O.# | |
| REF: | SCALE: NONE |

SOME GEOGRAPHICAL AREAS HAVE SPECIAL WIND CONDITIONS THAT CAN CREATE WIND INDUCED VIBRATIONS CAUSING A FATIGUE PROBLEM. NO METHOD HAS YET BEEN FOUND FOR PREDICTING DESTRUCTIVE LIGHTING POLE VIBRATION. THESE CONDITIONS ARE UNIQUE AND CANNOT BE GUARANTEED AGAINST, AND ARE THE RESPONSIBILITY OF A LOCAL SITE ENGINEER.

TITLE:
CATALOG:
DWG NO: 101-4011-18

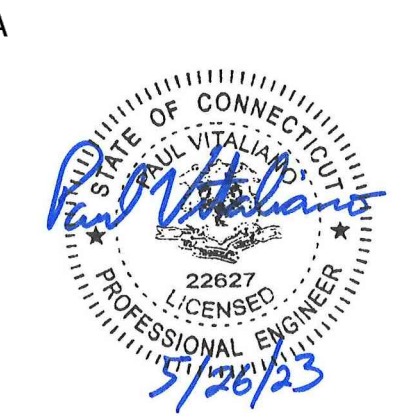


Proposed Commercial Development
1263 Hopmeadow Street
Simsbury, Connecticut

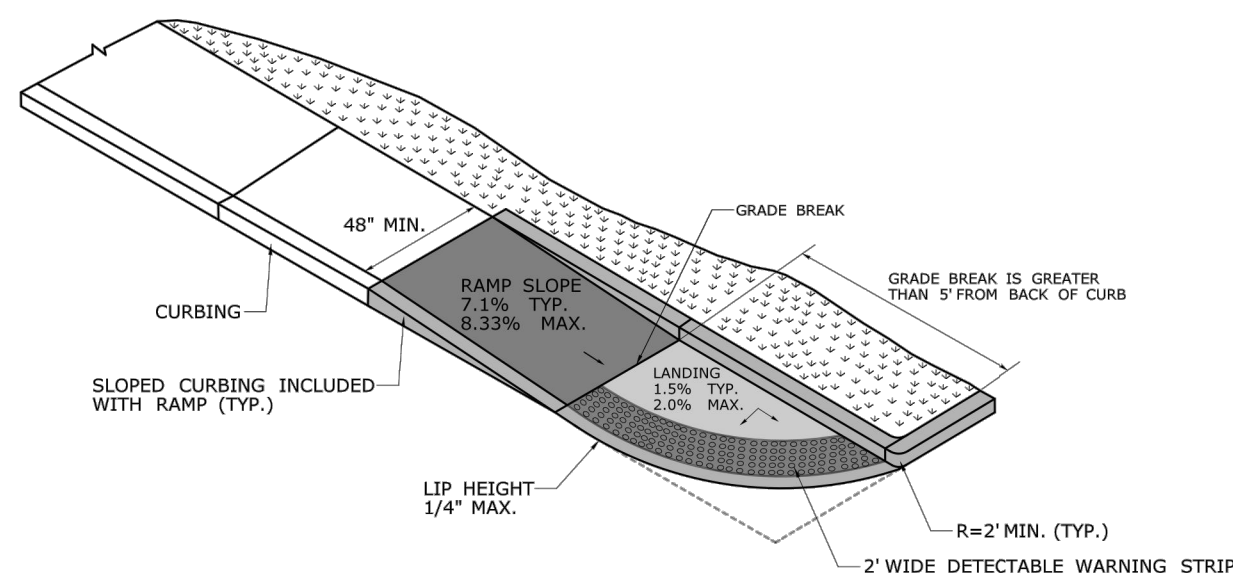
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Designed by: _____ Checked by: _____
Issued for: _____ Date: May 26, 2023
Local Approvals

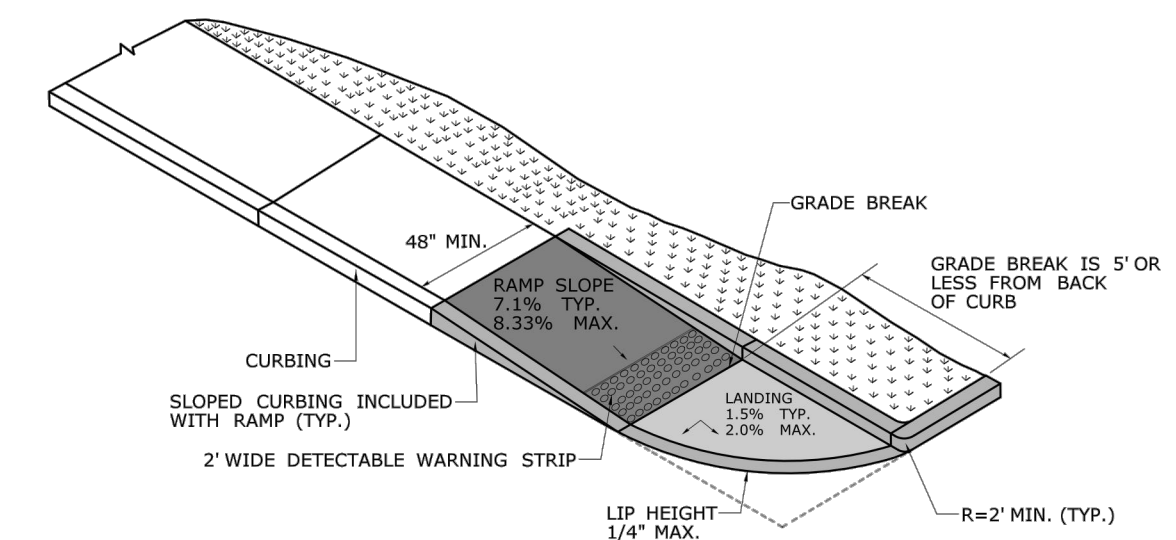
Site Details



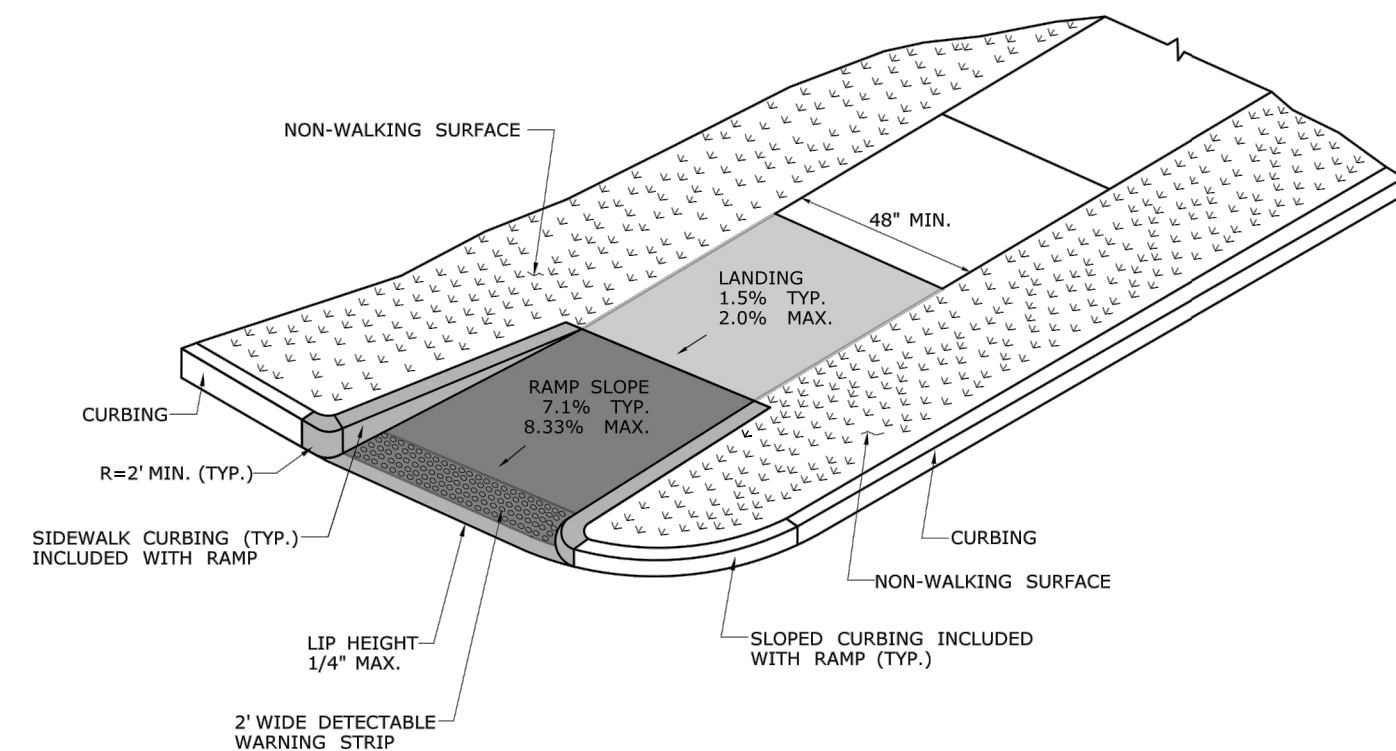
C-10



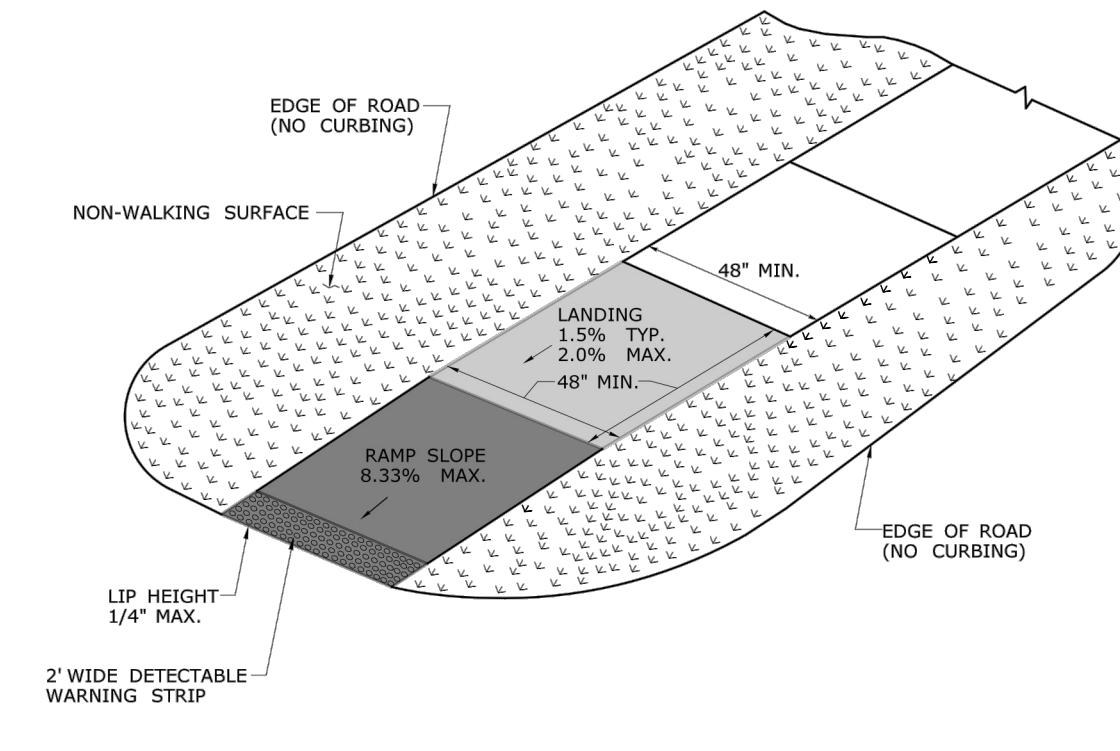
**SINGLE DIRECTION RAMP
WITHOUT NON-WALKING SURFACE
GRADE BREAK GREATER THAN 5'
(TYPE 14)**



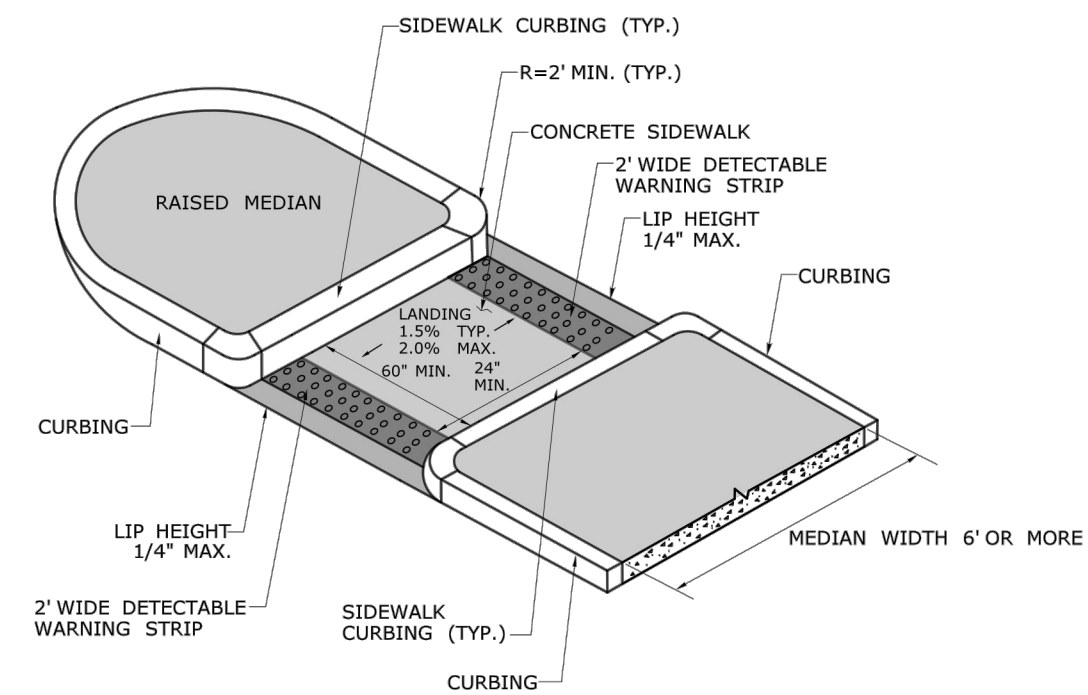
**SINGLE DIRECTION RAMP
WITHOUT NON-WALKING SURFACE
GRADE BREAK 5' OR LESS
(TYPE 15)**



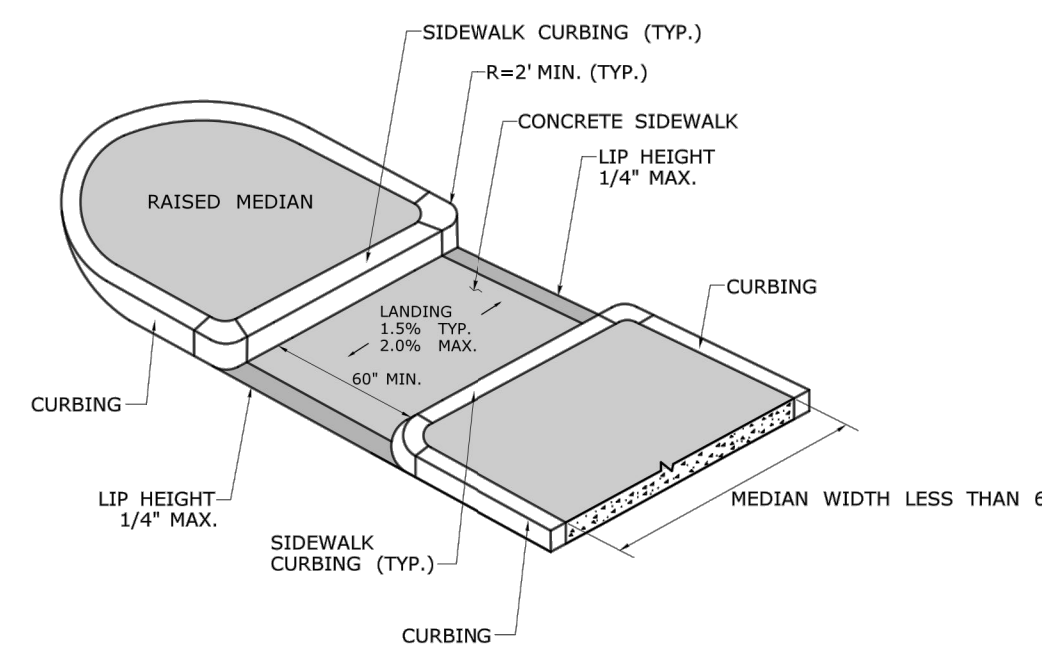
**SINGLE DIRECTION - RETURN CURB
WITH NON-WALKING SURFACE
(TYPE 16)**



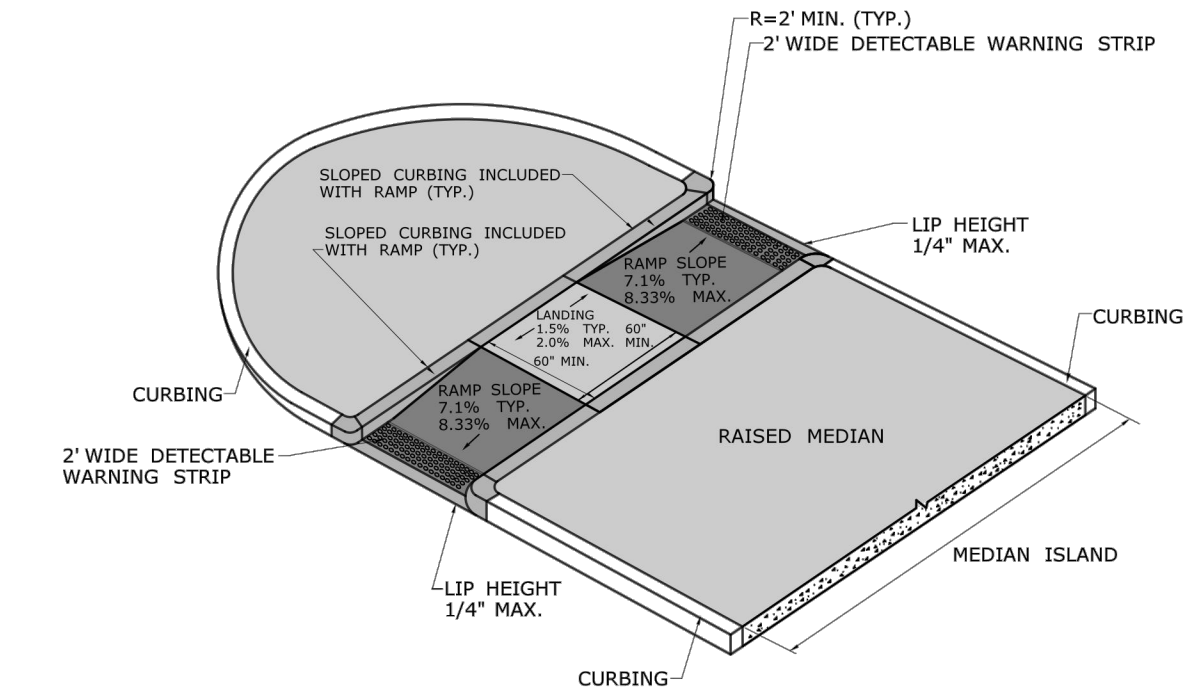
**SINGLE DIRECTION - NO CURB
WITH NON-WALKING SURFACE
(TYPE 17)**



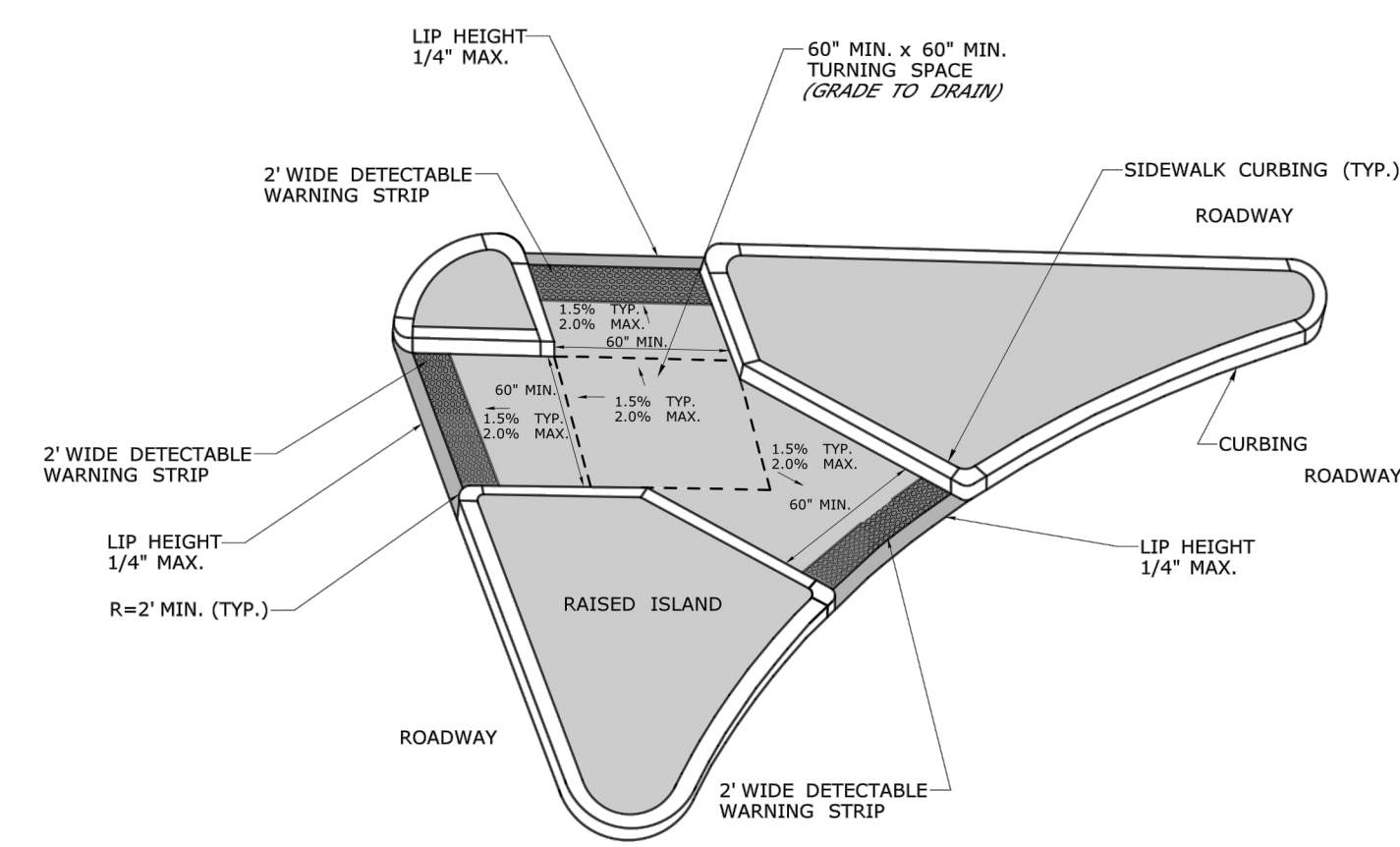
**CUT-THROUGH PEDESTRIAN REFUGE ISLAND
MEDIAN WIDTH 6' OR MORE
(TYPE 22)**



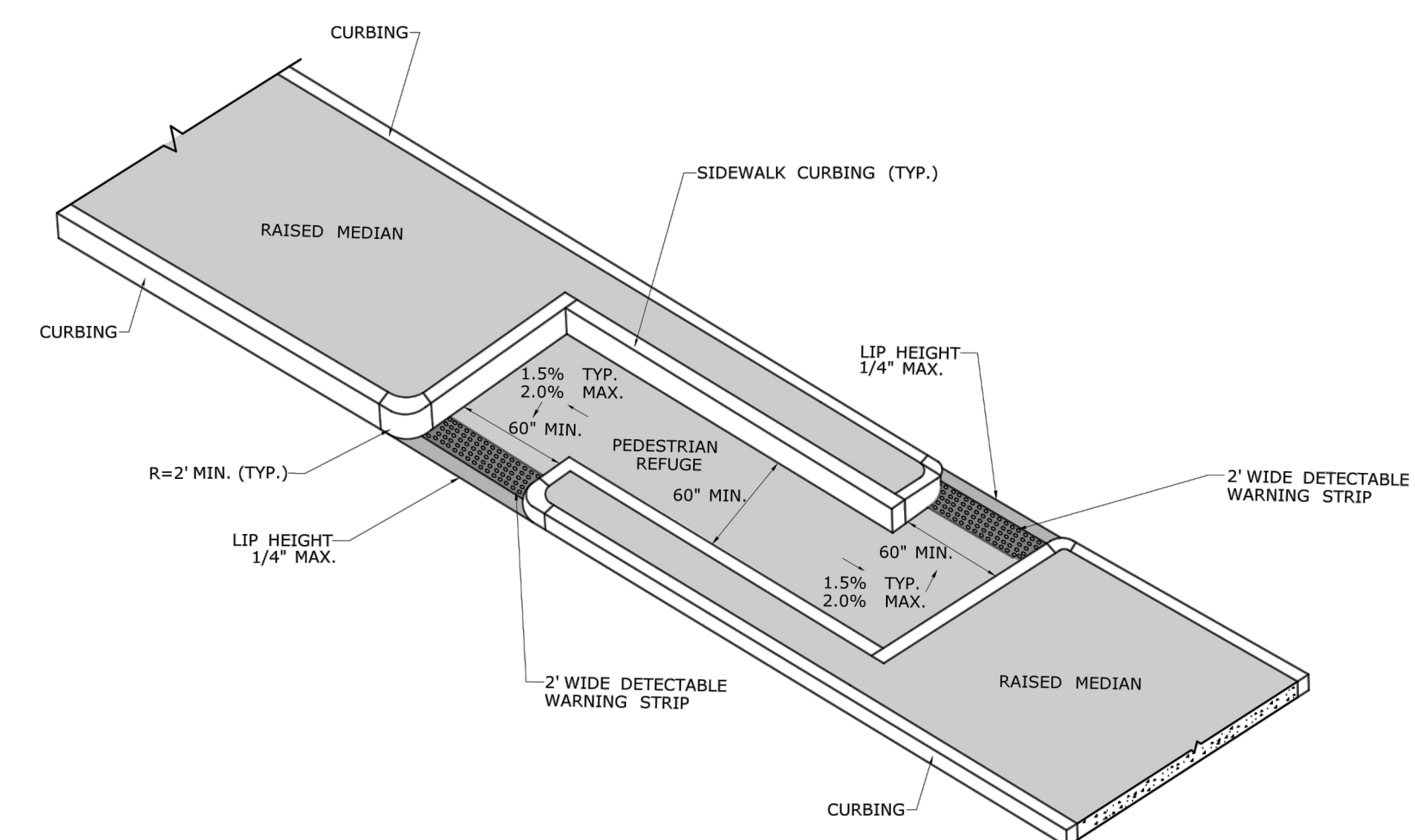
**CUT-THROUGH PEDESTRIAN REFUGE ISLAND
MEDIAN WIDTH LESS THAN 6'
(TYPE 23)**



**PEDESTRIAN REFUGE ISLAND WITH LANDING AND RAMPS
(TYPE 24)**



**CUT-THROUGH PEDESTRIAN REFUGE ISLAND
OFFSET CONFIGURATION
(TYPE 25)**



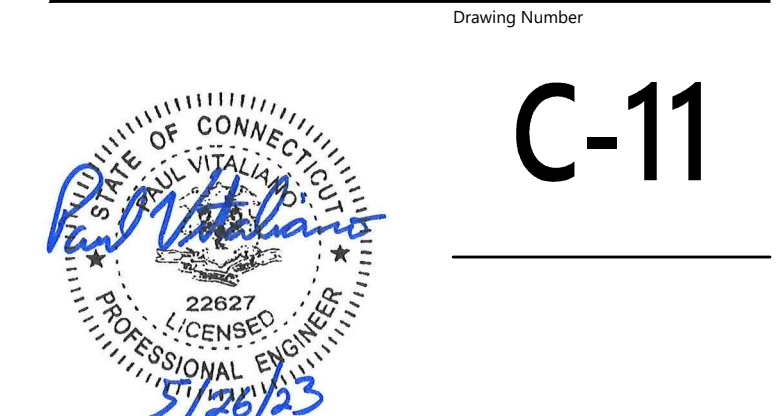
**CUT-THROUGH PEDESTRIAN REFUGE ISLAND
OFFSET CONFIGURATION
(TYPE 26)**

**Proposed Commercial
Development**
1263 Hopmeadow Street
Simsbury, Connecticut

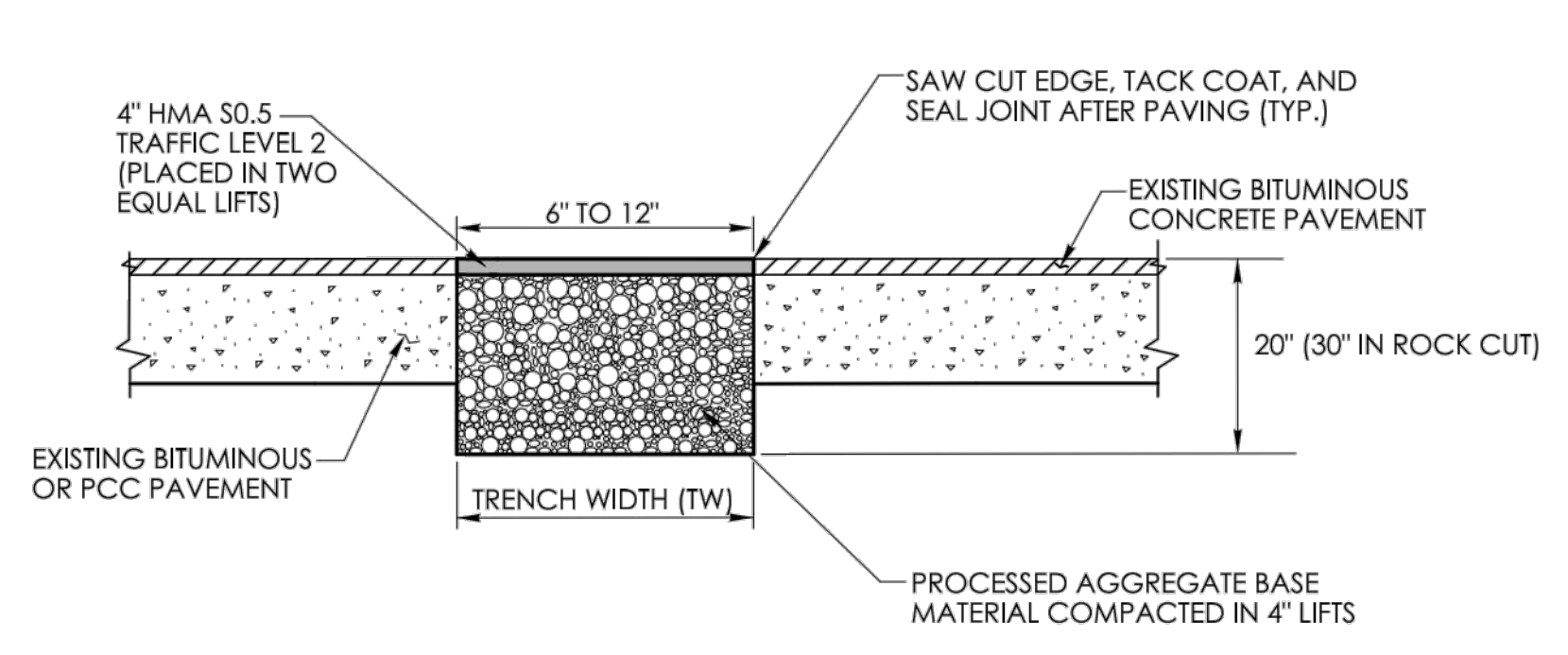
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Local Approvals May 26, 2023

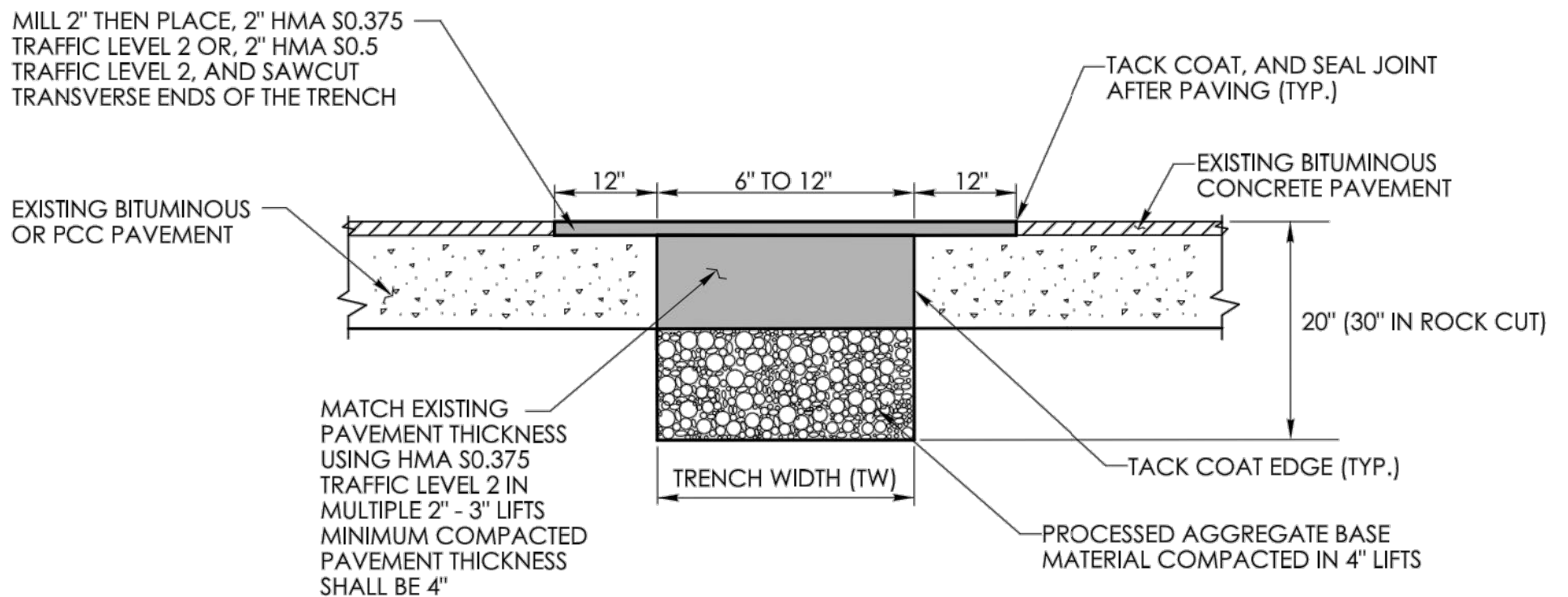
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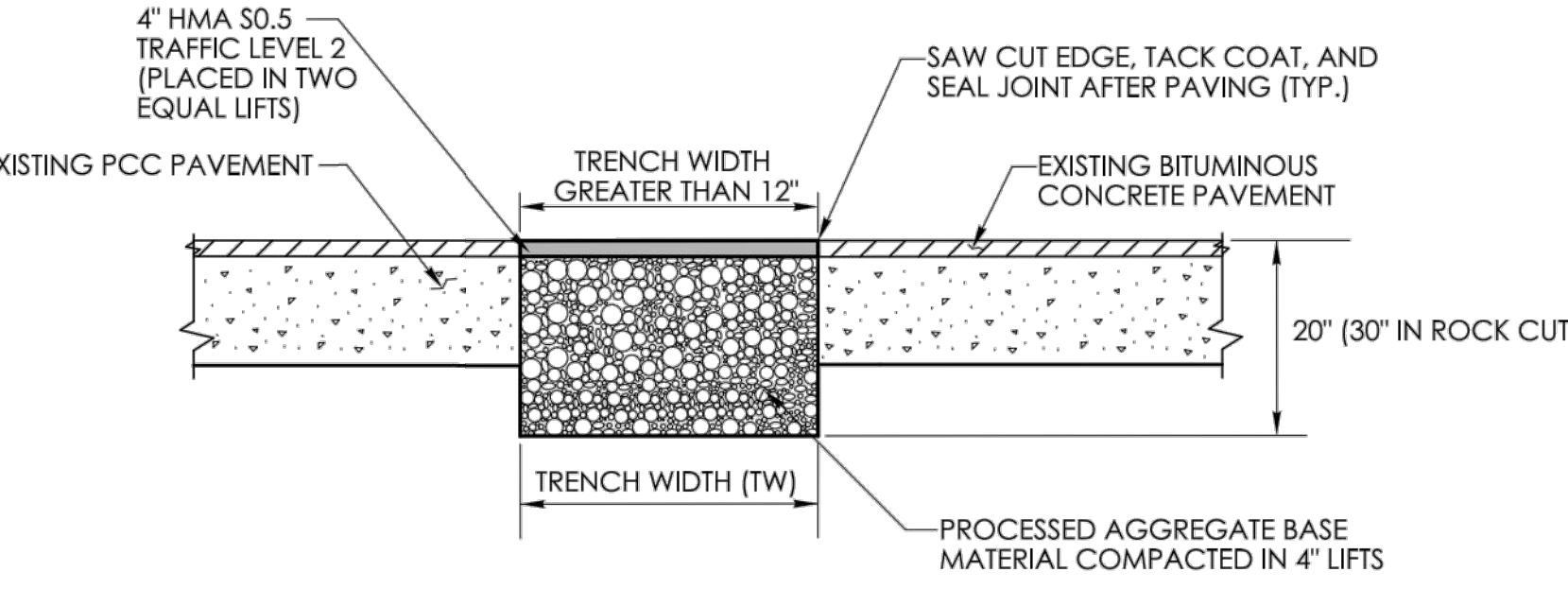
C-11



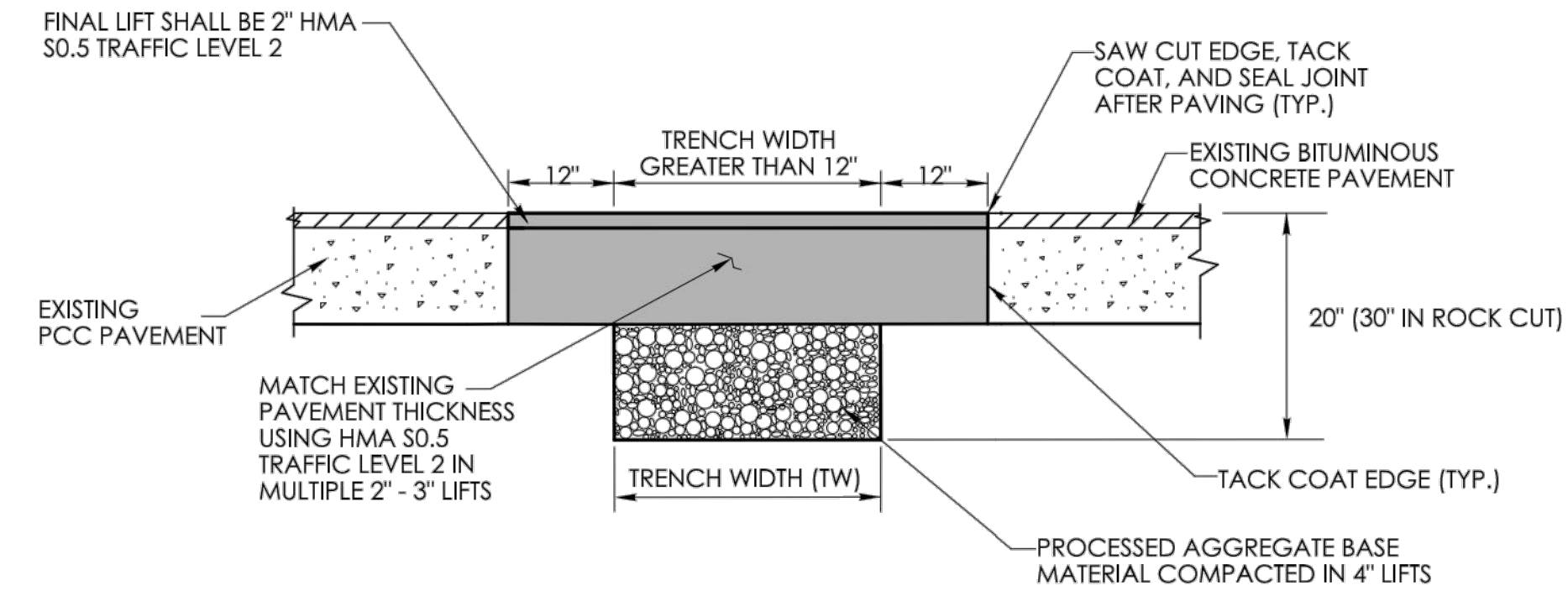
TEMPORARY PAVEMENT - FOR NARROW TRENCH THROUGH BITUMINOUS CONCRETE OR OVERLAID PORTLAND CEMENT CONCRETE (PCC) (TRENCH WIDTH BETWEEN 6" AND 12")



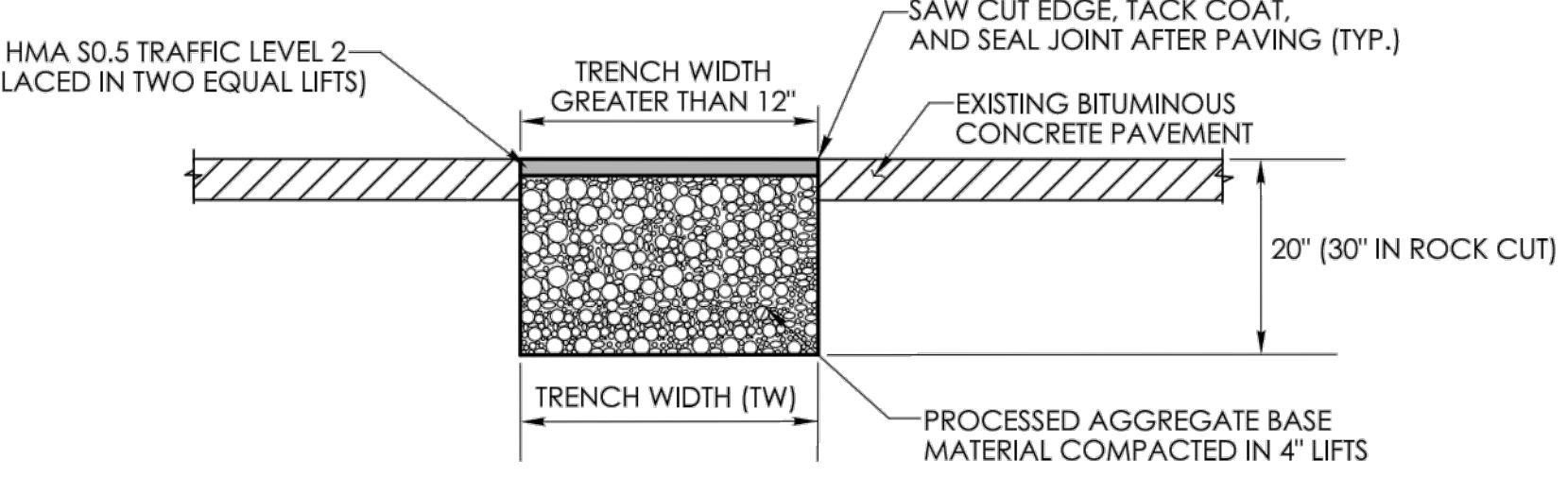
PERMANENT PAVEMENT - FOR NARROW TRENCH THROUGH BITUMINOUS CONCRETE OR OVERLAID PORTLAND CEMENT CONCRETE (PCC) (TRENCH WIDTH BETWEEN 6" AND 12")



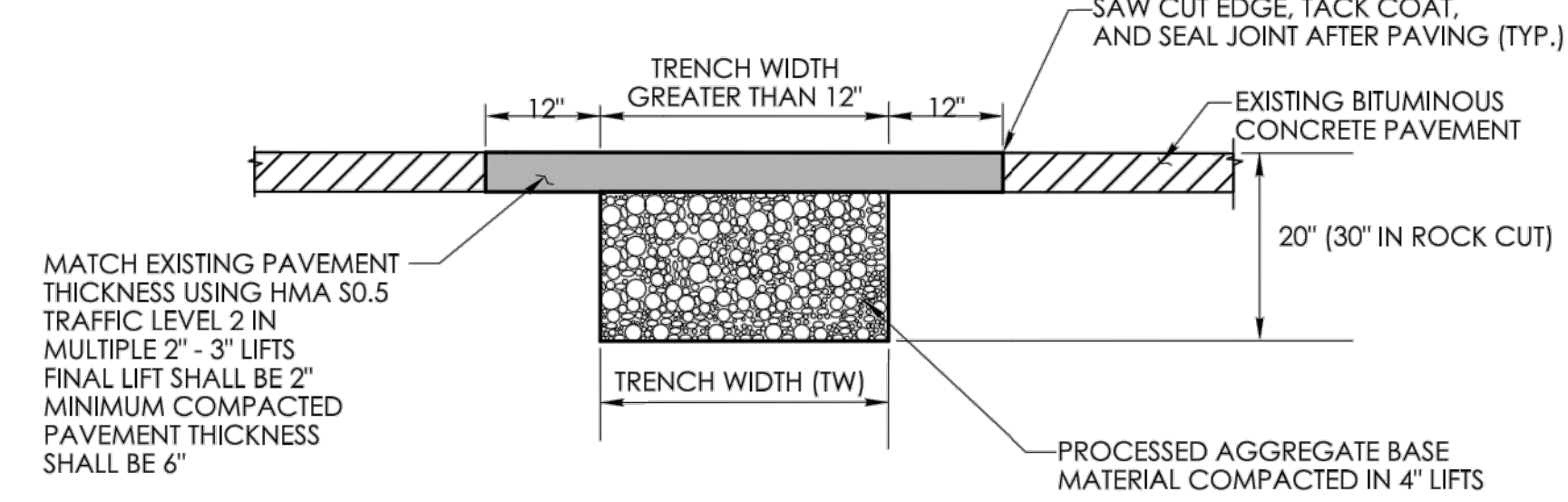
TEMPORARY PAVEMENT FOR TRENCH THROUGH OVERLAID PORTLAND CEMENT CONCRETE (PCC) (TRENCH WIDTH GREATER THAN 12")



PERMANENT PAVEMENT FOR TRENCH THROUGH OVERLAID PORTLAND CEMENT CONCRETE (PCC) (TRENCH WIDTH GREATER THAN 12")



TEMPORARY PAVEMENT FOR TRENCH THROUGH BITUMINOUS CONCRETE (TRENCH WIDTH GREATER THAN 12")



PERMANENT PAVEMENT FOR TRENCH THROUGH BITUMINOUS CONCRETE

GENERAL NOTES:

1. LONGITUDINAL TRENCHING FOR JOINTED CONCRETE PAVEMENT:

A. IF THE LONGITUDINAL TRENCH FALLS BETWEEN THE SLAB CENTERLINE AND THE EDGE OF SLAB, REMOVE CONCRETE AND BITUMINOUS CONCRETE PAVEMENT FROM THE TRENCH EDGE TO THE EDGE OF ROAD. IF THE LONGITUDINAL TRENCH FALLS BETWEEN THE LONGITUDINAL JOINT AND THE SLAB CENTERLINE, REMOVE THE ENTIRE CONCRETE SLAB AND BITUMINOUS CONCRETE PAVEMENT TO THE EDGE OF ROAD. IN EITHER CASE REBUILD WITH THE FOLLOWING:

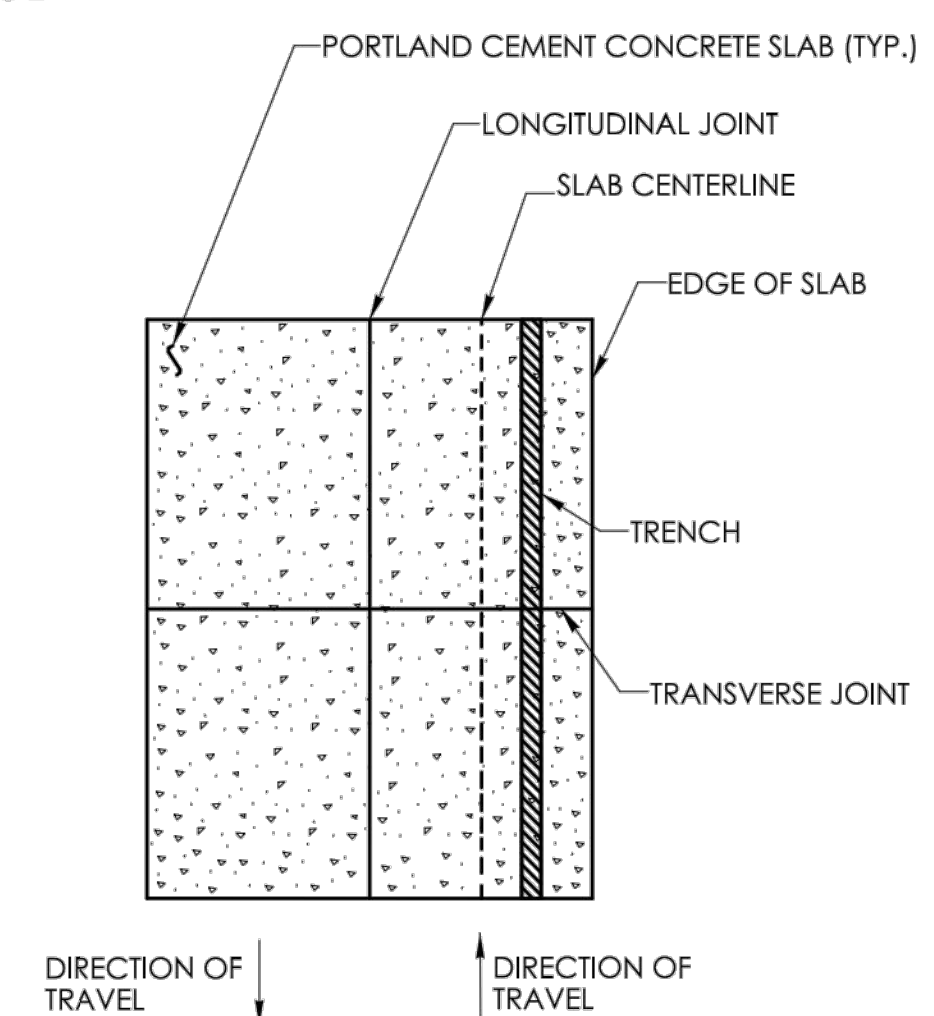
- a. PLACE HMA S1.0 TRAFFIC LEVEL 2 IN TWO EQUAL 4" - 5" LIFTS TO MATCH EXISTING CONCRETE PAVEMENT THICKNESS
- b. PLACE HMA S0.5 TRAFFIC LEVEL 2 IN 2" - 3" LIFTS TO MATCH EXISTING BITUMINOUS CONCRETE PAVEMENT THICKNESS, WITH THE FINAL LIFT BEING 2"

2. TRANSVERSE TRENCHING FOR JOINTED CONCRETE PAVEMENT:

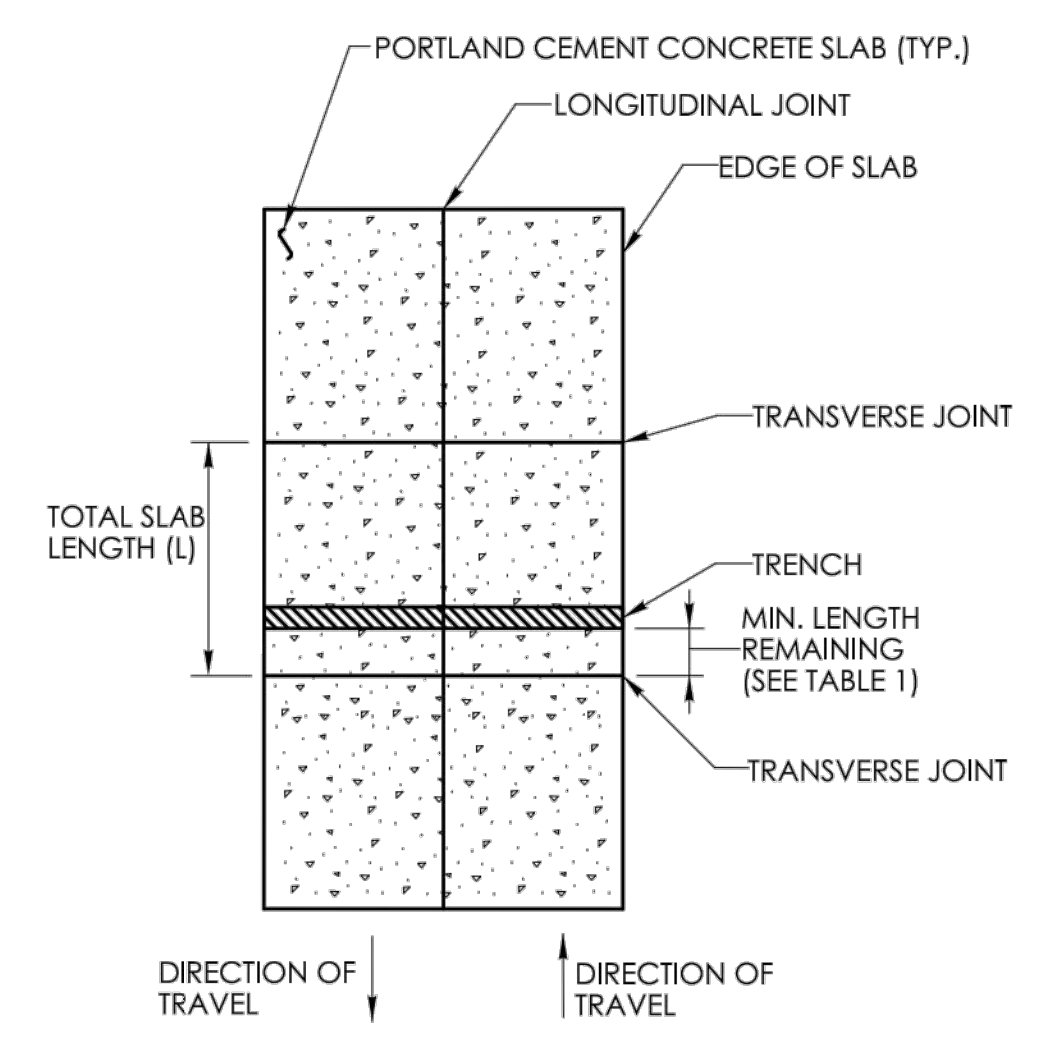
| TABLE 1 | |
|-----------------------|--------------------------|
| TOTAL SLAB LENGTH (L) | MIN. LENGTH REMAINING |
| 40' OR LONGER | 1/4 L |
| 15' - 40' | 10' |
| 15' OR SHORTER | REBUILD TO NEAREST JOINT |

A. FOR TRANSVERSE TRENCHES, THE MINIMUM SLAB LENGTH AS SHOWN IN TABLE 1 SHALL BE LEFT IN PLACE TO THE NEAREST TRANSVERSE JOINT. IF THIS CRITERIA CANNOT BE MET, THE EXISTING SLAB AREA FROM THE TRENCH EDGE TO THE NEAREST TRANSVERSE JOINT SHALL BE REMOVED AND REBUILT AS FOLLOWS:

- a. PLACE HMA S1.0 TRAFFIC LEVEL 2 IN TWO EQUAL 4" - 5" LIFTS TO MATCH EXISTING CONCRETE PAVEMENT THICKNESS
- b. PLACE HMA S0.5 TRAFFIC LEVEL 2 IN 2" - 3" LIFTS TO MATCH EXISTING BITUMINOUS CONCRETE PAVEMENT THICKNESS, WITH THE FINAL LIFT BEING 2"



LONGITUDINAL TRENCHING FOR JOINTED CONCRETE PAVEMENT (SEE NOTE 1)



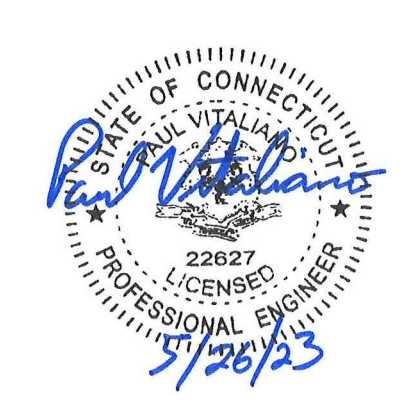
TRANSVERSE TRENCHING FOR JOINTED CONCRETE PAVEMENT (SEE NOTE 2)

Proposed Commercial Development
1263 Hopmeadow Street
Simsbury, Connecticut

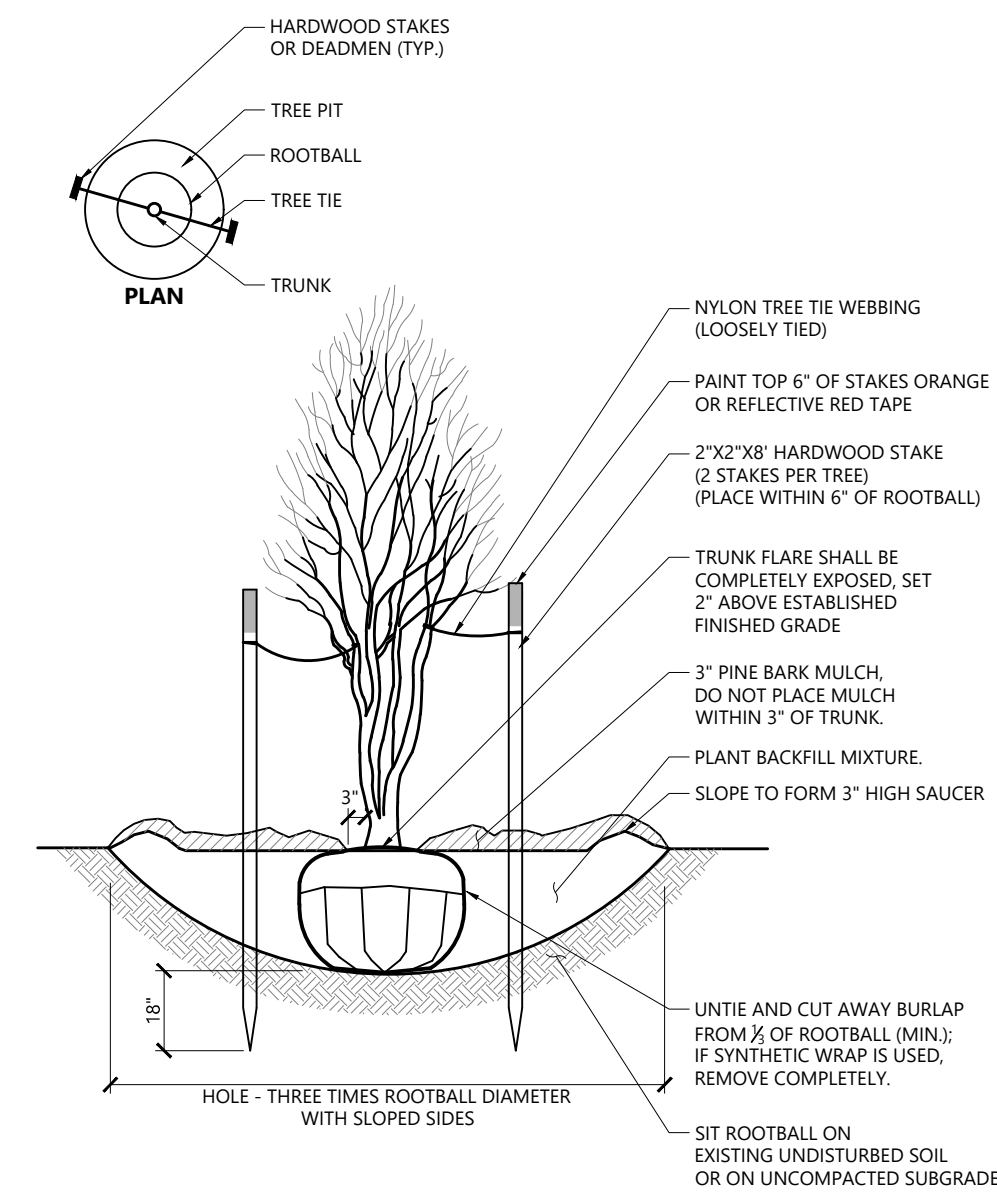
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Local Approvals _____ May 26, 2023

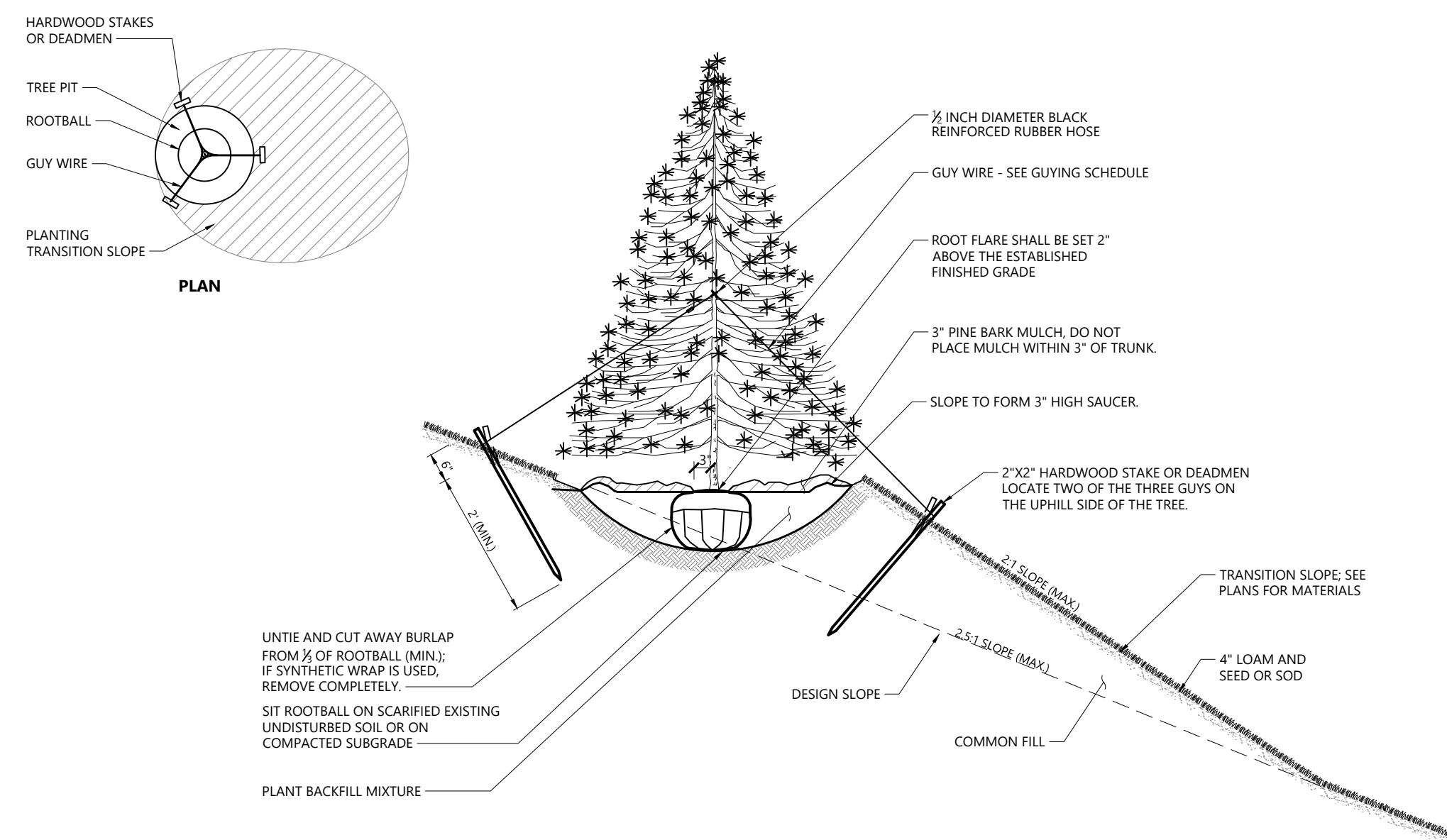
Site Details



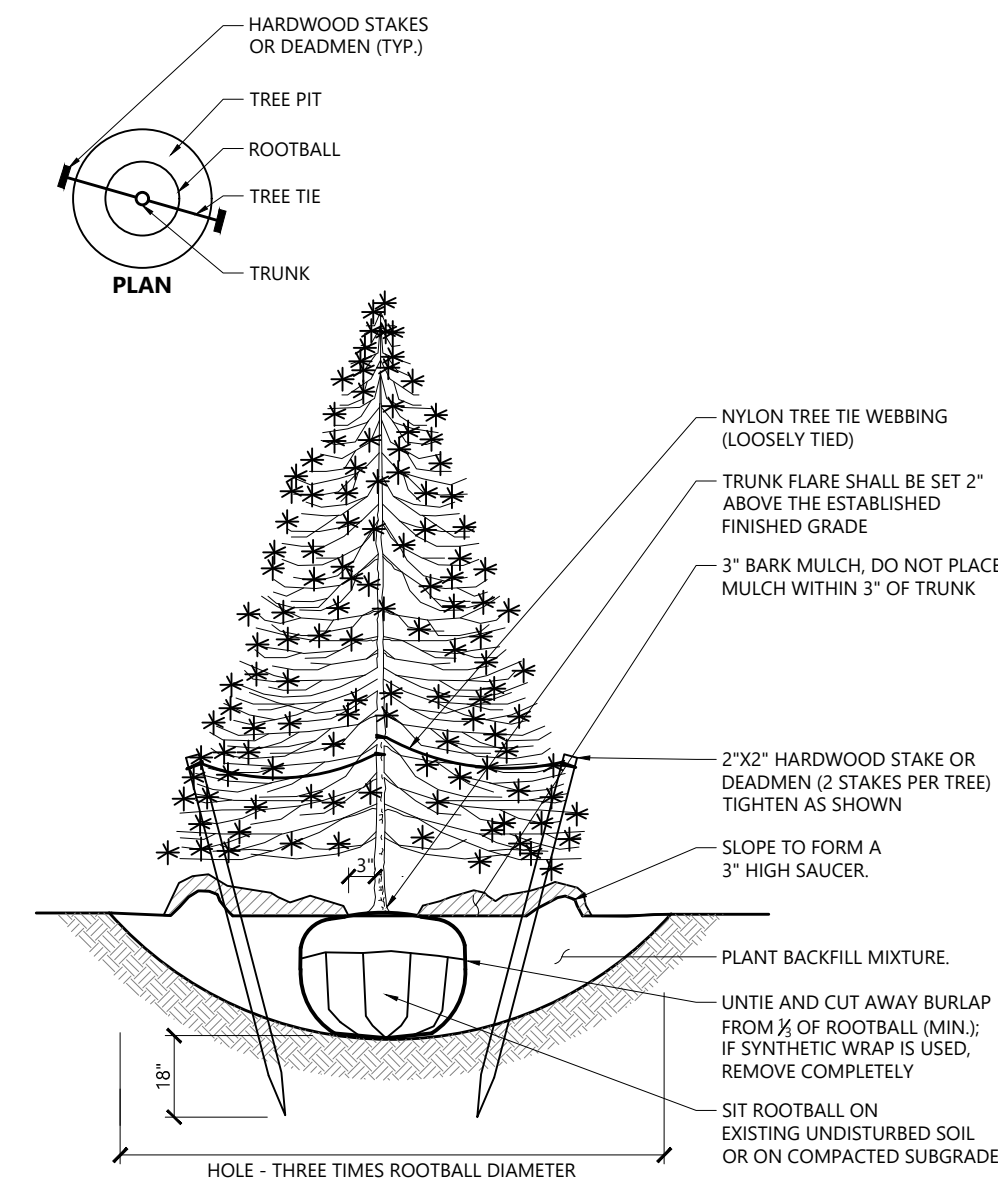
C-12



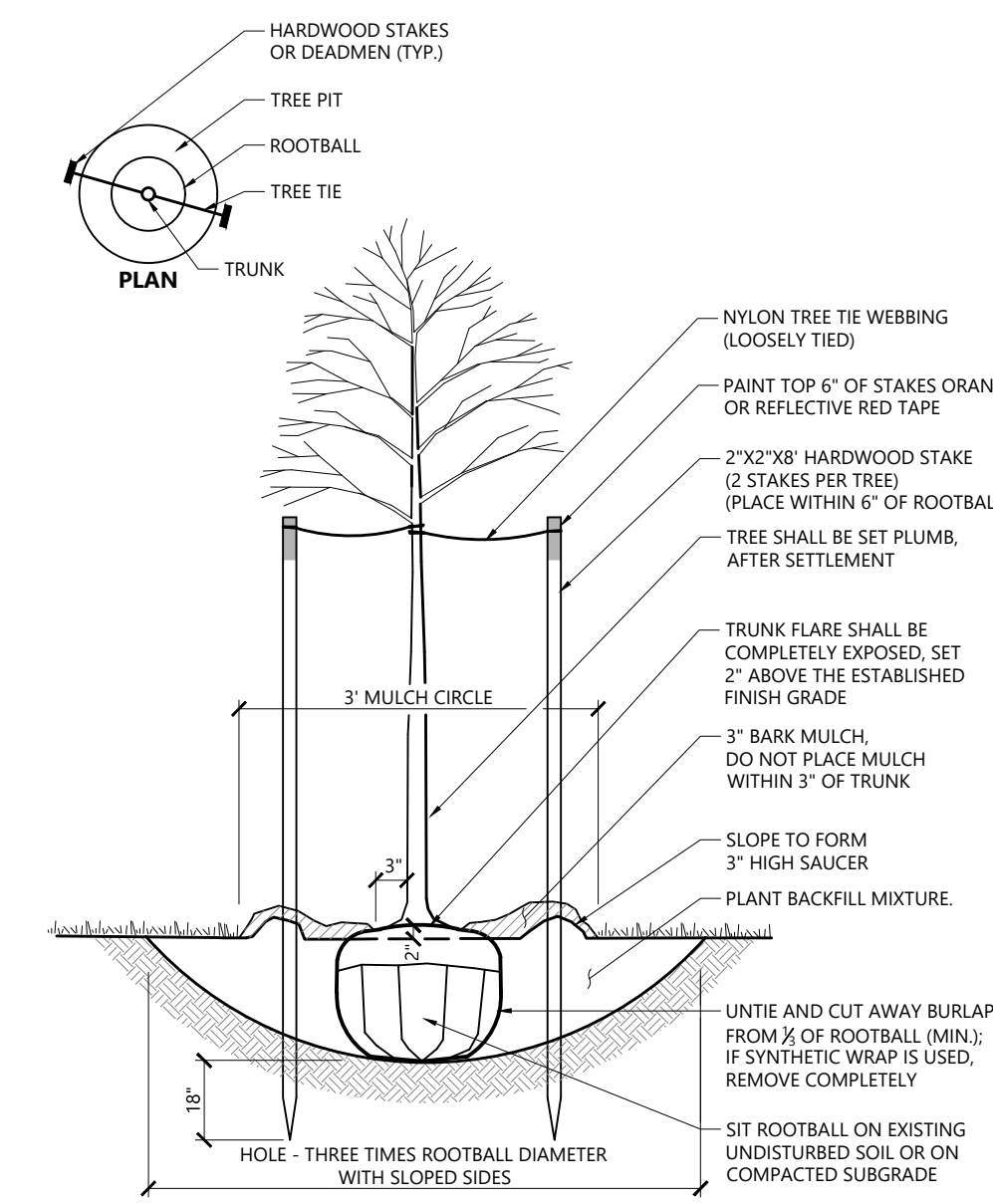
Multistem Tree Planting 9/21
N.T.S. Source: VHB LD_606



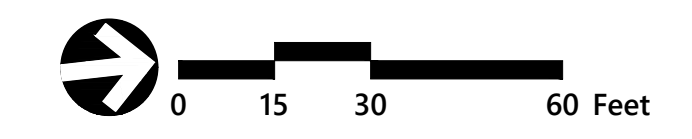
Tree Planting on Slope 1/16
N.T.S. Source: VHB LD_605



Evergreen Tree Planting 9/21
N.T.S. Source: VHB LD_604



Tree Planting (For Trees Under 4" Caliper) 9/21
N.T.S. Source: VHB LD_602



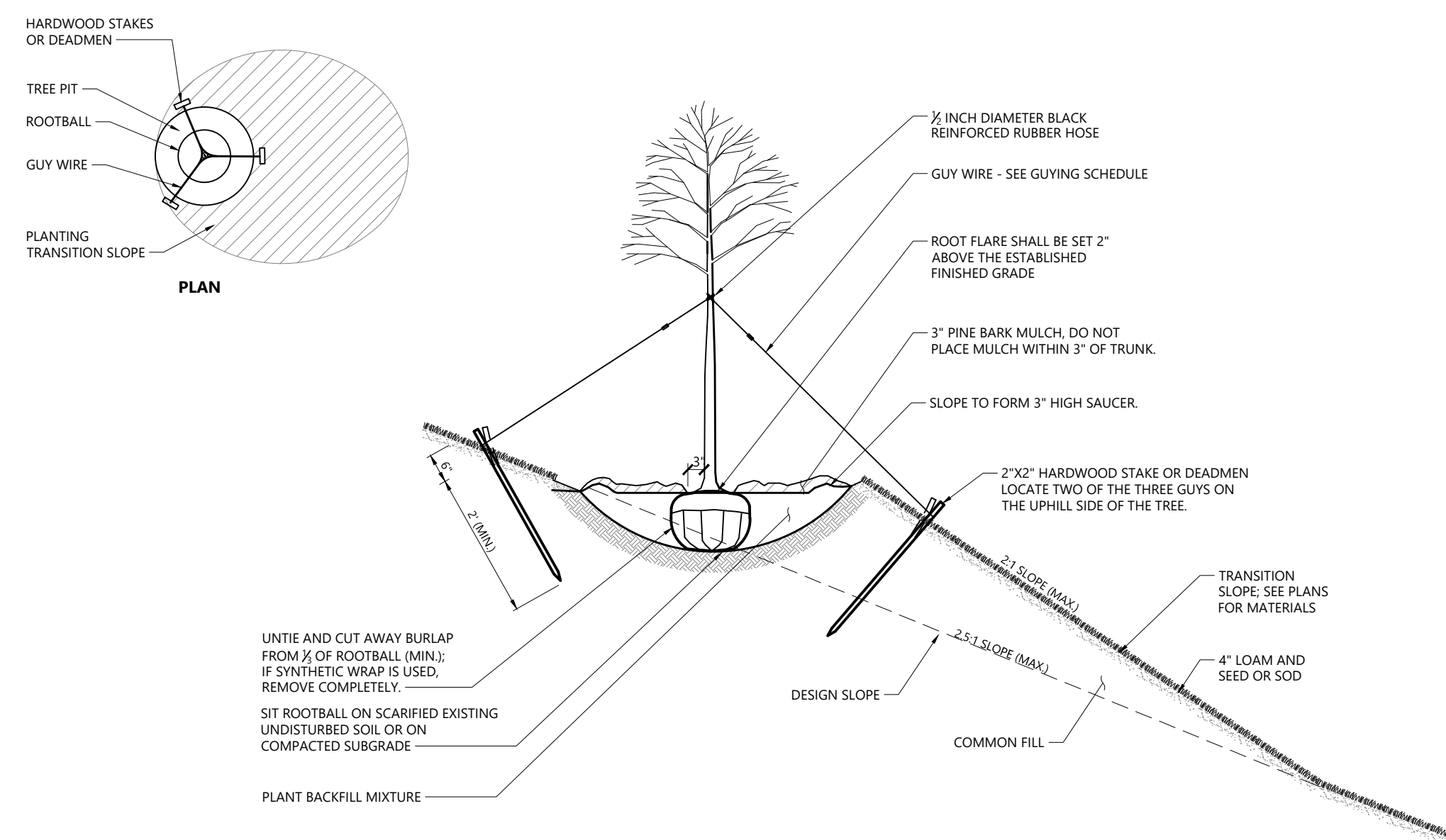
Proposed Commercial Development
1263 Hopmeadow Street
Simsbury, Connecticut

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Issued for _____ Date _____

Local Approvals May 26, 2023

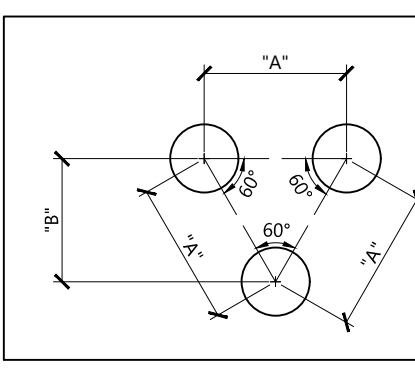
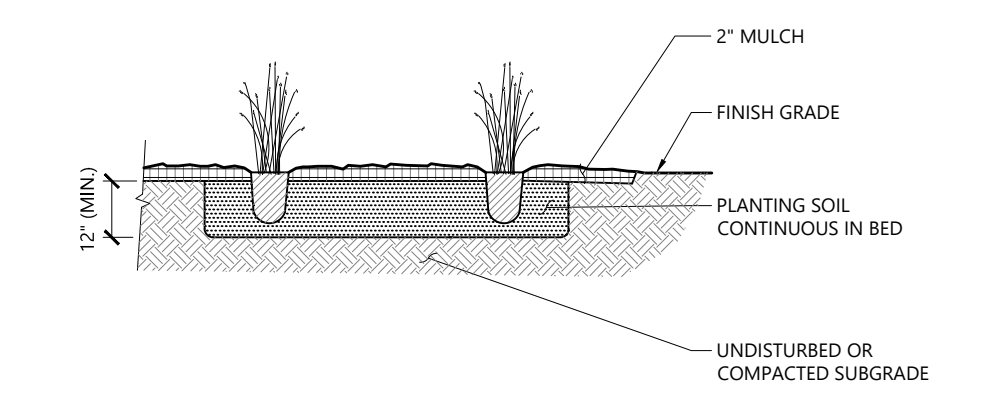
Drawing Title
Planting Details
Drawing Number _____



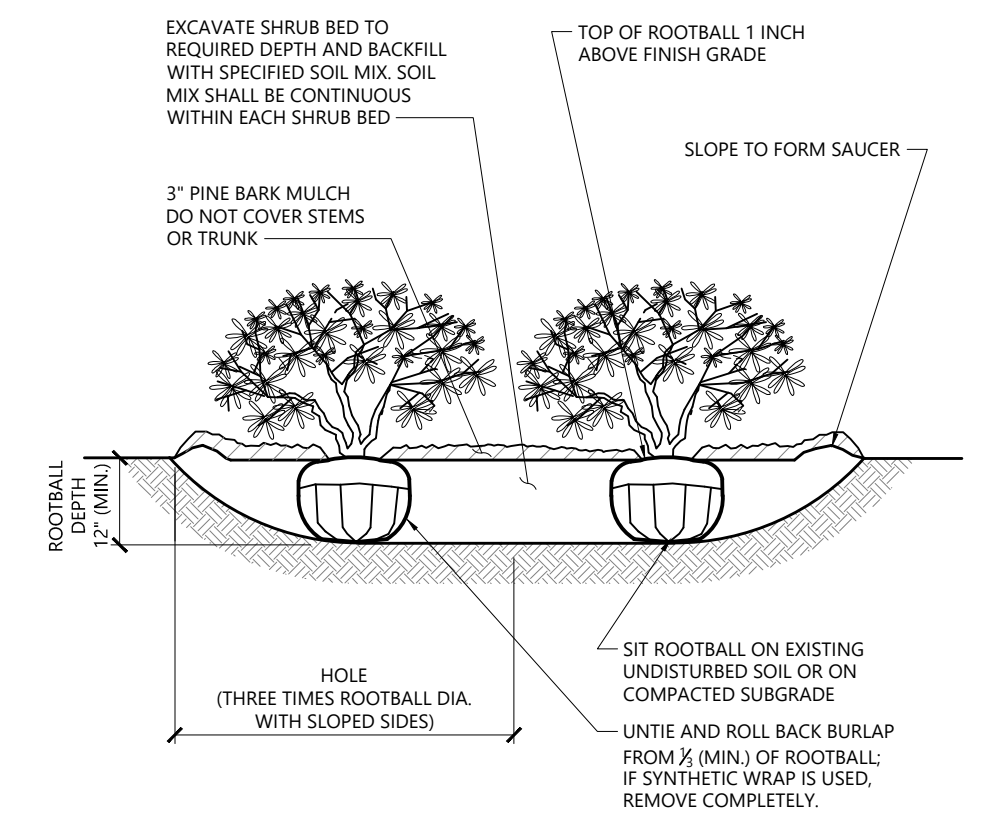
Tree Planting on Slope 5/17
N.T.S. Source: VHB LD_605d

PLANT SPACING

| PLANT SPACING ("A") | ROW SPACING ("B") |
|---------------------|-------------------|
| 6 IN. O.C. | 5 IN. O.C. |
| 8 IN. O.C. | 7 IN. O.C. |
| 10 IN. O.C. | 8 1/2 IN. O.C. |
| 12 IN. O.C. | 10 1/2 IN. O.C. |
| 15 IN. O.C. | 13 IN. O.C. |
| 18 IN. O.C. | 16 IN. O.C. |
| 24 IN. O.C. | 21 IN. O.C. |
| 30 IN. O.C. | 26 IN. O.C. |
| 36 IN. O.C. | 30 IN. O.C. |
| 48 IN. O.C. | 42 IN. O.C. |
| 54 IN. O.C. | 48 IN. O.C. |
| 60 IN. O.C. | 54 IN. O.C. |

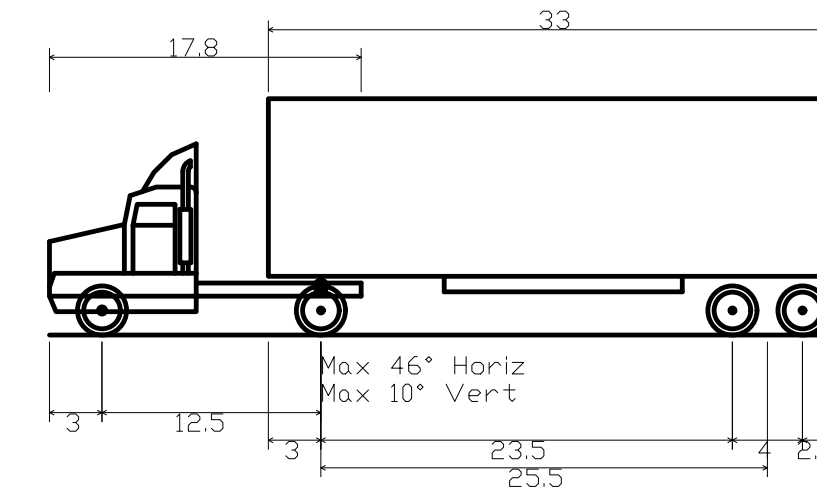
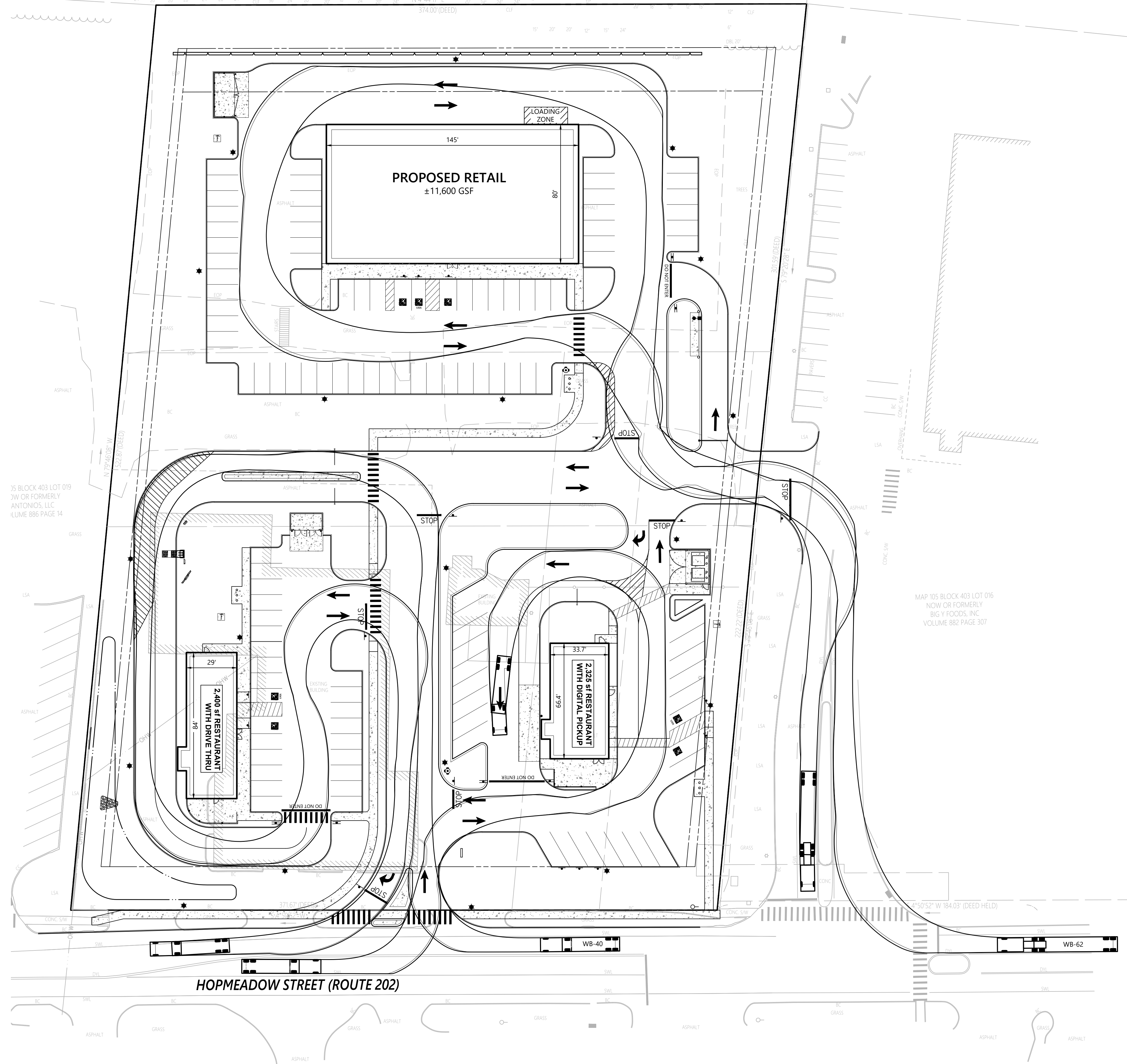
Perennial and Ornamental Grass Planting 1/16
N.T.S. Source: VHB LD_618



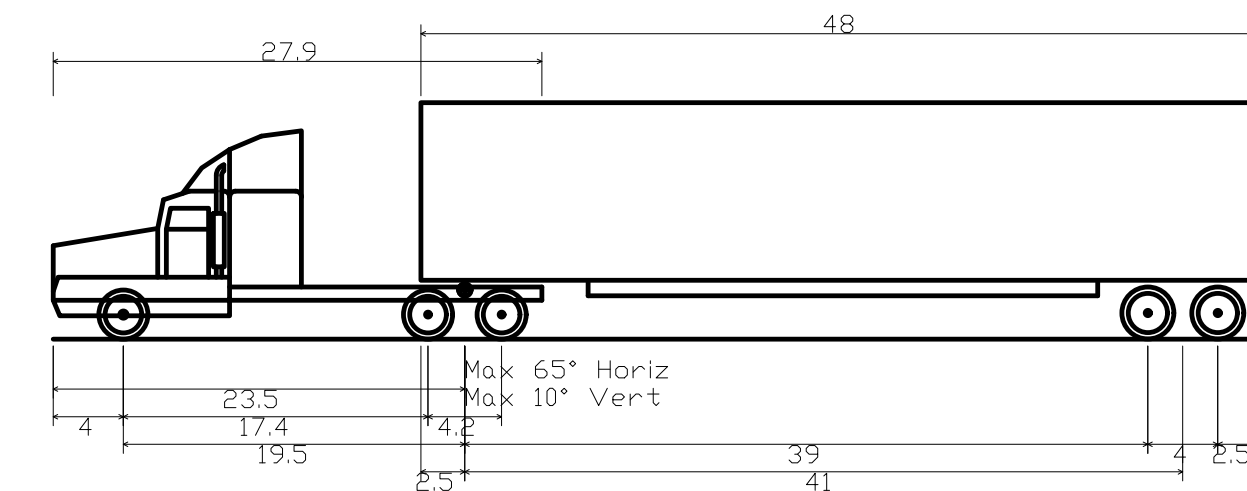
Shrub Bed Planting 1/16
N.T.S. Source: VHB LD_601

MAP 105 BLOCK 403 LOT 202
NOW OR FORMERLY
ELY PLACE, LLC
VOLUME 520 PAGE 26

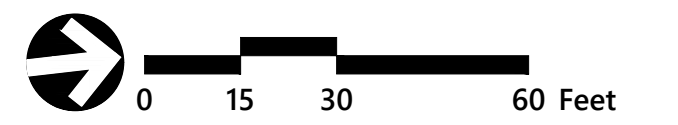
MAP 105 BLOCK 403 LOT 15A
NOW OR FORMERLY
TOWN OF SIMSBURY
VOLUME 460 PAGE 636



WB-40 - Intermediate Semi-Trailer
Overall Length 45.499ft
Overall Width 8.000ft
Overall Body Height 13.500ft
Min Body Ground Clearance 1.334ft
Track Width 8.000ft
Lock-to-lock time 4.00s
Max Steering Angle (Virtual) 20.30°



WB-62 - Interstate Semi-Trailer
Overall Length 69.000ft
Overall Width 8.500ft
Overall Body Height 13.500ft
Min Body Ground Clearance 1.334ft
Max Track Width 8.500ft
Lock-to-lock time 6.00s
Max Steering Angle (Virtual) 28.40°



Proposed Commercial Development


1263 Hopmeadow Street
Simsbury, Connecticut

| No. | Revision | Date | Apprv. |
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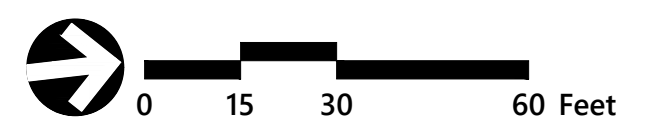
Designed by _____ Checked by _____
Issued for _____ Date _____
Local Approvals May 26, 2023

Truck Movement Plan

Project Number
42810.00



TT-1



Proposed Commercial Development
1263 Hopmeadow Street
Simsbury, Connecticut

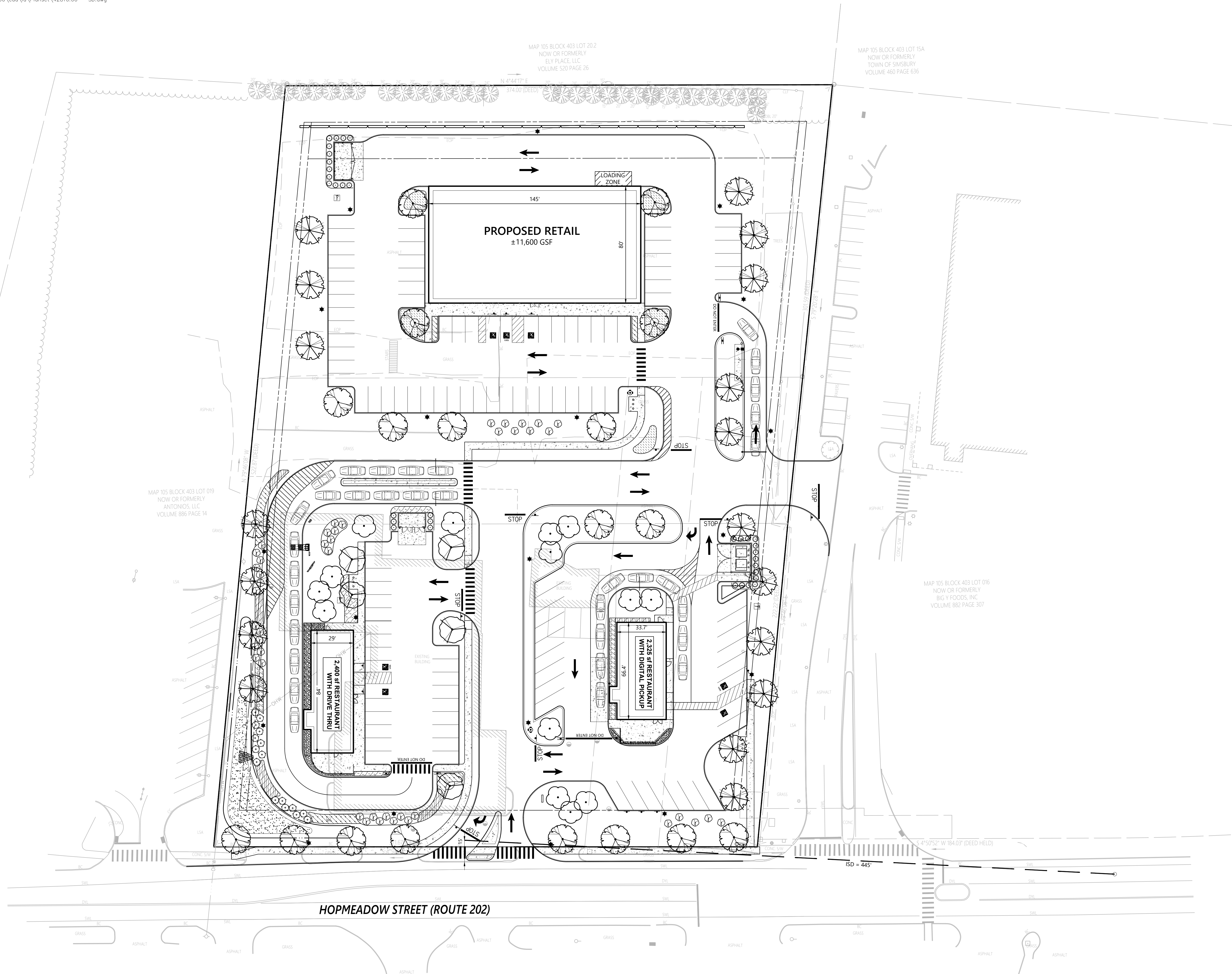
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Intersection Sight Distance Plan

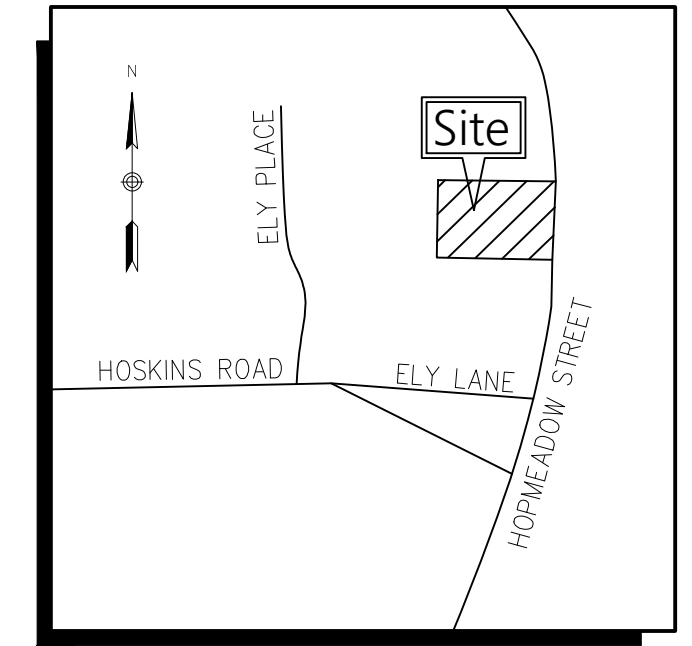
Drawing Title: **Intersection Sight Distance Plan**
Drawing Number: **SD-1**

Project Number: **42810.00**





100 Great Meadow Road
Suite 200
Wethersfield, CT 06109
860.807.4300



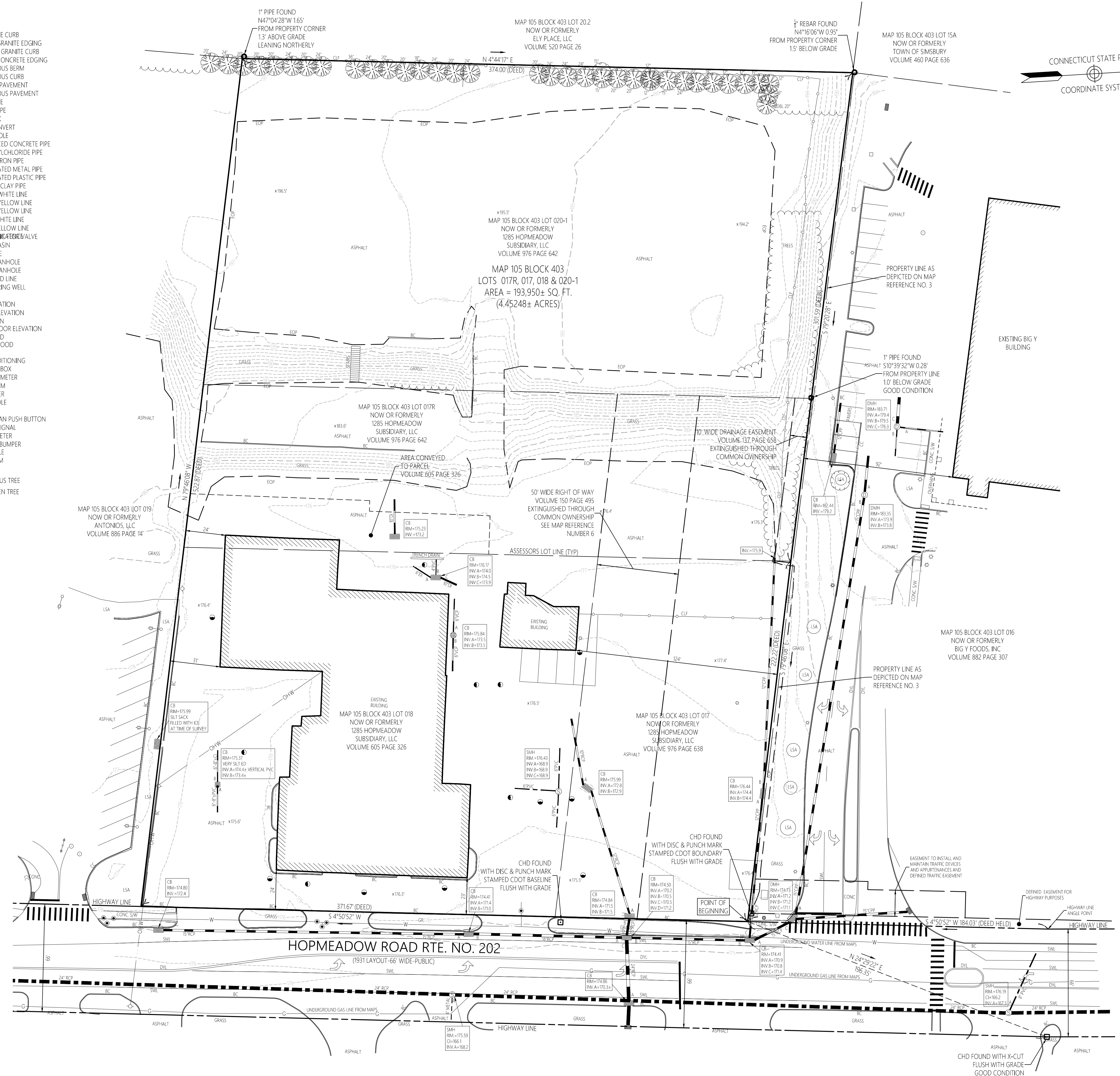
Locus Map
(NOT TO SCALE)

Legend

- CATCH BASIN
CATCH BASIN
ROUND CATCH BASIN
FLARED END SECTION
DOWNSPOUT
DRAIN MANHOLE
SEWER MANHOLE
ELECTRIC MANHOLE
TELEPHONE MANHOLE
MANHOLE
SIGNAL MANHOLE
WATER MANHOLE
WATER GATE
SIAMESE CONNECTION
FIRE HYDRANT
GAS GATE
STREET SIGN
LIGHT POLE
FLOOD LIGHT
UTILITY POLE
UTILITY POLE W/LIGHT
GUY POLE
GUY WIRE
BOLLARD/POST
BORING
MONITORING WELL
TEST PIT
WETLAND FLAG
SPOT ELEVATION
HANDICAP SYMBOL
EDGE OF PAVEMENT
EDGE OF GRAVEL/LANDSCAPE
EDGE OF TRAVELED WAY
EDGE OF PATH
BUILDING OVERHANG
CURB
STEEL GUARD RAIL
WOOD GUARD RAIL
BARBED WIRE FENCE
CHAIN LINK FENCE
WOOD FENCE
UNDERGROUND DRAINAGE LINE
UNDERGROUND SEWER LINE
OVERHEAD WIRE
UNDERGROUND ELECTRIC LINE
UNDERGROUND GAS LINE
UNDERGROUND WATER LINE
UNDERGROUND TELEPHONE LINE
UNDERGROUND CABLE LINE
UNDERGROUND FIBER OPTIC LINE
STONE WALL
TREE LINE
STREAM
WETLAND EDGE
PROPERTY LINE
EASEMENT LINE
STATE FREEWAY LINE
STATE HIGHWAY LINE
CITY/TOWN LAYOUT LINE
CONCRETE CURB
SLOPED GRANITE EDGING
VERTICAL GRANITE CURB
SLOPED CONCRETE EDGING
SBB
BITUMINOUS BERM
BITUMINOUS CURB
EDGE OF PAVEMENT
BITUMINOUS PAVEMENT
CONC.
LS
SIDEWALK
CENTER INVERT
UTILITY POLE
REINFORCED CONCRETE PIPE
PVC
POLYVINYLCHLORIDE PIPE
DUCTILE IRON PIPE
CORRUGATED METAL PIPE
CORRUGATED PLASTIC PIPE
VTRIFIED CLAY PIPE
BWL
BROKEN WHITE LINE
BYL
BROKEN YELLOW LINE
DWL
DOUBLE YELLOW LINE
SWL
SINGLE WHITE LINE
SYL
SINGLE YELLOW LINE
EBS
ELECTRIC BOX/VALVE
CB
CATCH BASIN
MANHOLE
DMH
DRAIN MANHOLE
SMH
SEWER MANHOLE
OHW
OVERHEAD LINE
MW
MONITORING WELL
TP
TEST PIT
RIM=
RIM ELEVATION
INV=
INVERT ELEVATION
ELEV.
ELEVATION
F.F.E.
FINISH FLOOR ELEVATION
O/H
OVERHEAD
TOH
TOP OF HOOD
TYP.
TYPICAL
A/C
AIR CONDITIONING
ELECTRIC BOX
ELECTRIC METER
FIRE ALARM
GAS METER
HAND HOLE
MAILBOX
PEDESTRIAN PUSH BUTTON
TRAFFIC SIGNAL
WATER METER
PARKING BUMPER
SPAN POLE
MAST ARM
SHRUB
DECIDUOUS TREE
EVERGREEN TREE

Map References

- 1. MAP TITLED "CONNECT STATE HIGHWAY DEPARTMENT RIGHT OF WAY MAP TOWN OF SIMSBURY COLLEGE HIGHWAY FROM THE GRANBY TOWN LINE SOUTHERLY TO HOSKINS CROSSING ROUTE NO. 116" SCALE 1"=40' DATED DEC. 30, 1931 REVISED AUGUST 15, 1986, NUMBER 338 SHEET NO. 3 OF 3.
2. MAP TITLED "RIGHT OF WAY SURVEY TOWN OF SIMSBURY MAP SHOWING EASEMENTS ACQUIRED FROM BIG Y FOODS, INC. BY THE STATE OF CONNECTICUT HOPMEADOW STREET (CT ROUTE 10 & U.S. ROUTE 202)" SCALE 1"=40' DATE: 03-25-2020, REVISED TO 04-17-2020.
3. MAP TITLED "FOUNDATION LOCATION IMPROVEMENT LOCATION PLAN-RECORD PROPERTY OF BIG Y FOODS, INC. HOPMEADOW STREET SIMSBURY, CONNECTICUT" SCALE 1"=40' DATED 03-06-2020 REVISED 09-30-2020.
4. MAP TITLED "SURVEY--WAGNER FORD COLLEGE HIGHWAY SIMSBURY, CONN." SCALE 1"=40' DATED 5-21-56.
5. MAP TITLED "PROPERTY OF PENTAGON BUILDING CORPORATION COLLEGE HIGHWAY--CONN. RT. 10 & ELY LANE SIMSBURY, CONNECTICUT" SCALE 1"=100' DATED FEBRUARY 8, 1965.
6. MAP TITLED "PROPERTY OF WAGNER FORD & SALES INC. MADELINE F. AND RICHARD D. WAGNER HOPMEADOW STREET SIMSBURY, CONNECTICUT" SCALE 1"=40' DATED AUGUST 1964 REVISED TO SEPT. 9, 1969.
7. MAP TITLED "ESTATE OF HILDA WESTERBERG OSBORNE 1313 HOPMEADOW STREET SIMSBURY, CONNECTICUT" SCALE 1"=40' DATED OCTOBER 1968.
8. MAP TITLED "EXHIBIT A-3 TO DECLARATION OF ELY PLACE CONDOMINIUM PROPERTY OF STEPHEN D. FISH ELY LANE & HOSKINS ROAD SIMSBURY, CONNECTICUT" SCALE 1"=40' DATED OCTOBER 1984.
9. MAP TITLED "BOUNDARY LINE ADJUSTMENT PREPARED FOR WAGNER FORD SALES, INC. & CHARLES GERSTEN TRUSTEE HOPMEADOW STREET--SIMSBURY, CONNECTICUT" SCALE 1"=20' DATED JANUARY 27, 2003.
10. MAP TITLED "EXISTING CONDITIONS PLAN PREPARED FOR WAGNER HOPMEADOW STREET & ELY LANE SIMSBURY, CONNECTICUT" SCALE 1"=40' DATED JANUARY 28, 2003.



THIS SURVEY AND MAP HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300b-1 THROUGH 20-300b-20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996.

THIS IS A PROPERTY SURVEY CONFORMING TO A HORIZONTAL CLASS A-2 ACCURACY. THE BOUNDARY DETERMINATION IS A RESURVEY. THIS IS ALSO A TOPOGRAPHIC SURVEY CONFORMING TO A TOPOGRAPHICAL ACCURACY STANDARD CLASS 1-2.

TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON. THIS PLAN IS NOT VALID WITHOUT A LIVE SIGNATURE AND EMBOSSED SEAL.

CHRISTOPHER C. DANFORTH, L.S. #70118 DATE 4/20/2022



General Notes

- 1. THE PROPERTY LINES DEPICTED ON THIS PLAN ARE BASED UPON AN ACTUAL FIELD SURVEY CONDUCTED BY VHB BETWEEN FEBRUARY 28, 2022 AND MARCH 1, 2022.
2. THE EXISTING CONDITIONS DEPICTED ON THIS PLAN ARE BASED UPON AN ACTUAL ON-THE-GROUND INSTRUMENT SURVEY PERFORMED BY VHB BETWEEN FEBRUARY 28, 2022 AND MARCH 1, 2022.
3. THIS EXISTING CONDITIONS DEPICTED ON THIS PLAN WERE DEVELOPED FROM A COMBINED EFFORT OF AERIAL PHOTOGRAMMETRIC MAPPING BY ?????????, BASED OF AERIAL PHOTOGRAPHS TAKEN ON ?????????, ?????? AND AUGMENTED BY AN ON-THE-GROUND SURVEY PERFORMED BY VHB BETWEEN FEBRUARY 28, 2022 AND MARCH 1, 2022.
4. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE COMMITMENT. ACCORDINGLY, ALL ENCUMBRANCES MAY NOT BE DEPICTED.
5. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES DEPICTED ON THIS PLAN ARE BASED ON FIELD OBSERVATIONS AND INFORMATION OF RECORD. THEY ARE NOT WARRANTED TO BE EXACTLY LOCATED NOR IS IT WARRANTED THAT ALL UNDERGROUND UTILITIES OR OTHER STRUCTURES ARE DEPICTED ON THIS PLAN.
6. COORDINATES, HORIZONTAL DATUM AND BEARINGS DEPICTED ON THIS SURVEY ARE REFERENCED TO THE CONNECTICUT STATE PLANE COORDINATE GRID SYSTEM - NAD 83. THE VERTICAL DATUM DEPICTED ON THIS SURVEY IS REFERENCED TO THE NAVD83. BOTH DATUMS WERE COMPUTED AND MEASURED USING AVERAGED REAL TIME NETWORK (RTN) GPS SOLUTION.

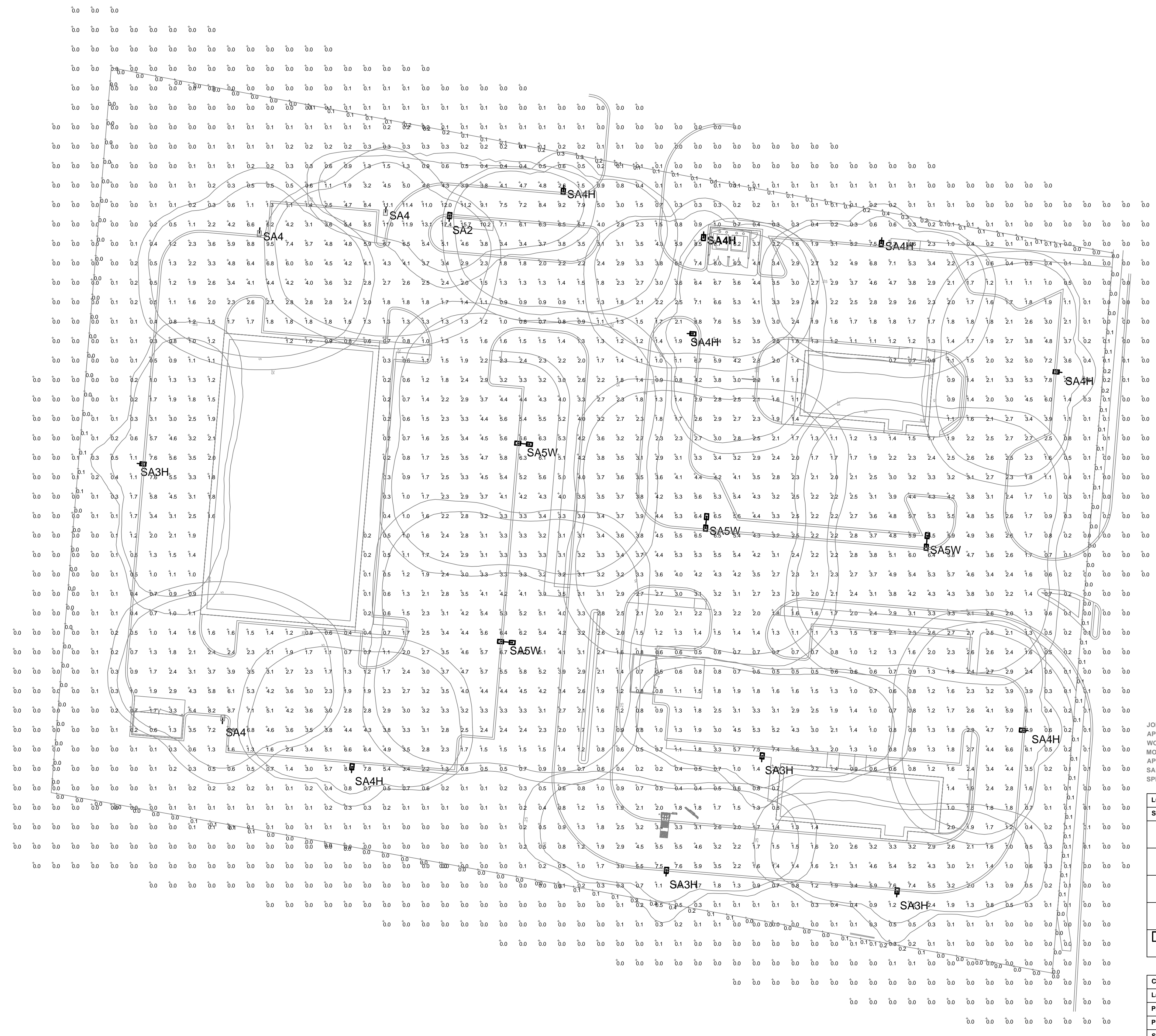
Map 10 Block 403
Lots 017, 017R, 018,
& 020-1
Hopmeadow Street
Simsbury, Connecticut

Table with columns: No., Revision, Date, Apprd.

Designed by: _____ Checked by: _____
Issued for: _____ Date: _____
Review April 20, 2022

Property Survey
& Topographic Survey

Drawing Number _____
Project Number 42810.00
Sv-1
Sheet 1 of 1



JOB NAME: 1263 HOPEMEADOW ST - SIMSBURY, CT
 APEX LIGHTING SOLUTIONS
 WORKPLANE/CALC PLANE: AT FINISH GRADE
 MOUNTING HEIGHT: SEE LUMINAIRE SCHEDULE
 APPS: LEDPD
 SALES: SP
 SPECIFIER: VHB

| Symbol | Qty | Label | Arrangement | Lum. Lumens | Lum. Watts | LLF | Description | [MANUFAC] | Filename |
|----------|-----|-------|-------------|-------------|------------|-------|---|----------------|-------------------------------|
| [Symbol] | 1 | SA2 | Single | 22652 | 177.8 | 0.850 | ECF-S-64L-900-WW-G2-AR-2-VOLT, 18ft SSS Lytepole | SIGNIFY GARDCO | ecf-s-64l-900-ww-g2-2.ies |
| [Symbol] | 4 | SA3H | Single | 17653 | 177.8 | 0.850 | ECF-S-64L-900-WW-G2-AR-3-VOLT-HS, 18ft SSS Lytepole | Gardco | ECF-S-64L-900-ww-g2-3-HIS.ies |
| [Symbol] | 3 | SA4 | Single | 23185 | 177.8 | 0.850 | ECF-S-64L-900-WW-G2-AR-4-VOLT, 18ft SSS Lytepole | SIGNIFY GARDCO | ecf-s-64l-900-ww-g2-4.ies |
| [Symbol] | 7 | SA4H | Single | 18179 | 177.8 | 0.850 | ECF-S-64L-900-WW-G2-AR-4-VOLT-HS, 18ft SSS Lytepole | Gardco | ECF-S-64L-900-ww-g2-4-HIS.ies |
| [Symbol] | 4 | SA5W | Back-Back | 23045 | 177.8 | 0.850 | ECF-S-64L-900-WW-G2-AR-5W-VOLT, 18ft SSS Lytepole | SIGNIFY GARDCO | ecf-s-64l-900-ww-g2-5w.ies |

| Label | CalcType | Units | Avg | Max | Min | Avg/Min | Max/Min | Description |
|------------------|-------------|-------|------|------|-----|---------|---------|--------------|
| Parking & Drives | Illuminance | Fc | 2.99 | 17.3 | 0.5 | 5.98 | 34.60 | 10ft Grid |
| Property Line | Illuminance | Fc | 0.06 | 0.4 | 0.0 | N.A. | N.A. | 10ft Spacing |
| Site | Illuminance | Fc | 1.67 | 17.4 | 0.0 | N.A. | N.A. | 10ft Grid |

GENERAL DISCLAIMER:
 Calculations have been performed according to IES standards and good practice. Some differences between measured values and calculated results may occur due to tolerances in calculation methods, testing procedures, component performance, measurement techniques and field conditions such as voltage and temperature variations. Input data used to generate the attached calculations such as room dimensions, reflectances, furniture and architectural elements significantly affect the lighting calculations. If the real environment conditions do not match the input data, differences will occur between measured values and calculated values.
 * LLF Determined Using Current Published Lamp Data

NOTE TO REVIEWER:
 Total Light Loss Factor (LLF) applied at time of design is determined by applying the Lamp Lumen Depreciation (LLD) from current lamp manufacturer's catalog, a Luminaire Dirt Depreciation Factor (LDD) based on IES recommended values and a Ballast Factor (BF) from current ballast specification sheets. Application of an incorrect Light Loss Factor (LLF) will result in forecasts of performance that will not accurately depict actual results.
 For proper comparison of photometric layouts, it is essential that you insist all designers use correct Light Loss Factors.

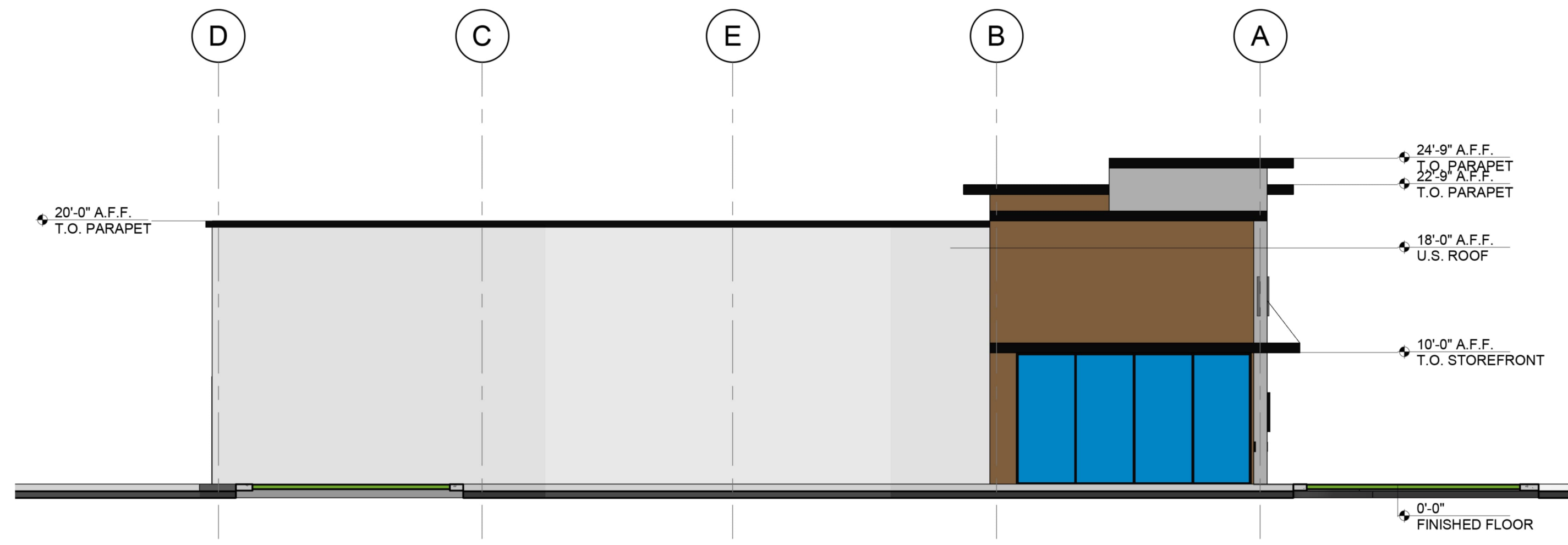


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 1263 HOPEMEADOW ST
 SIMSBURY, CT

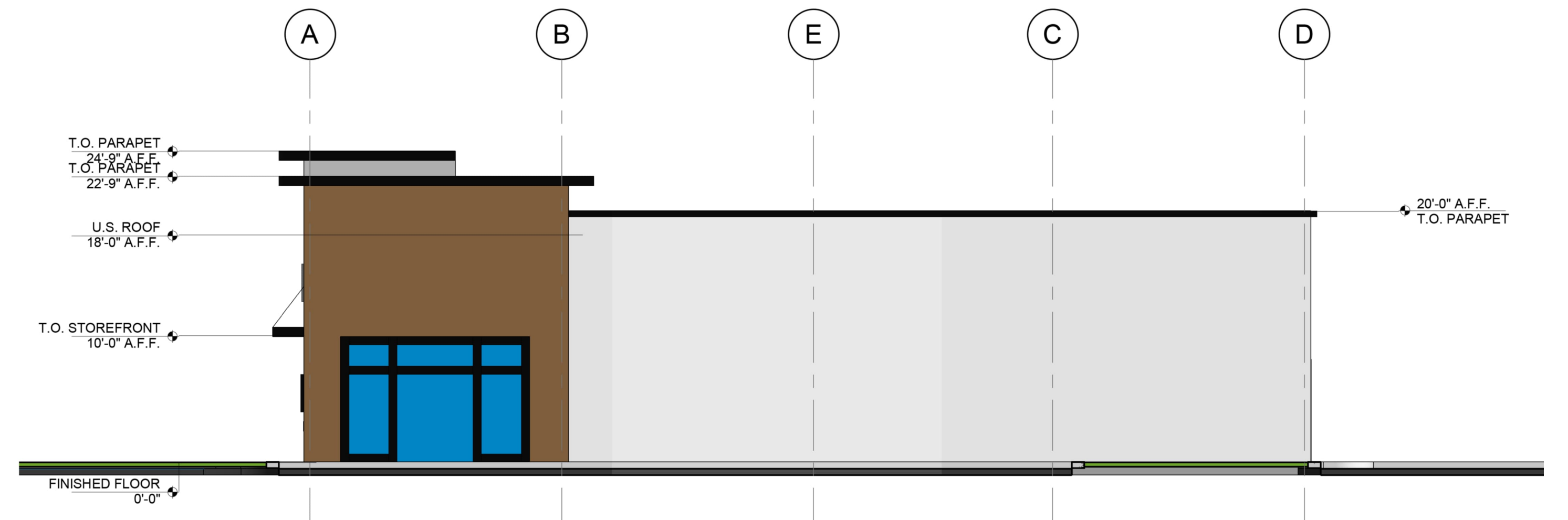
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 PHOTOMETRIC CALCULATION

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 SHEET:
 SL-1B

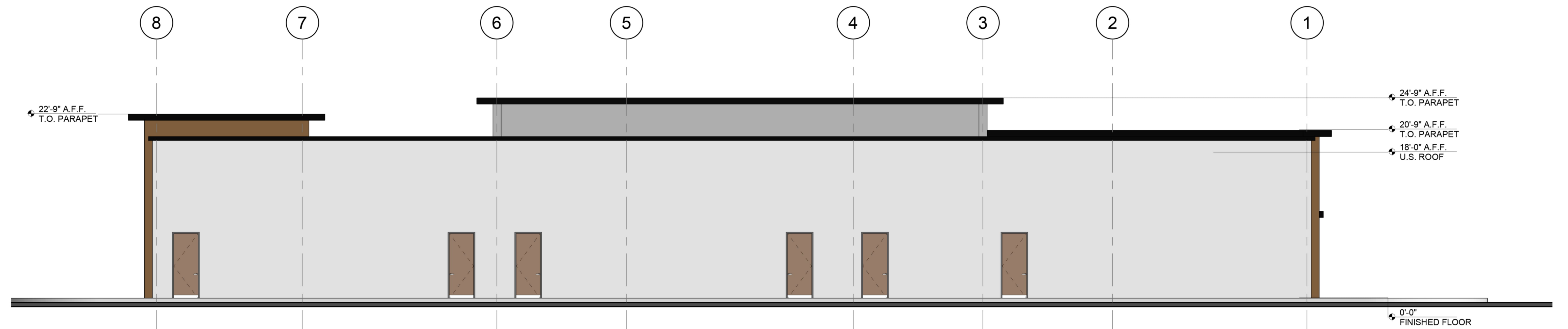
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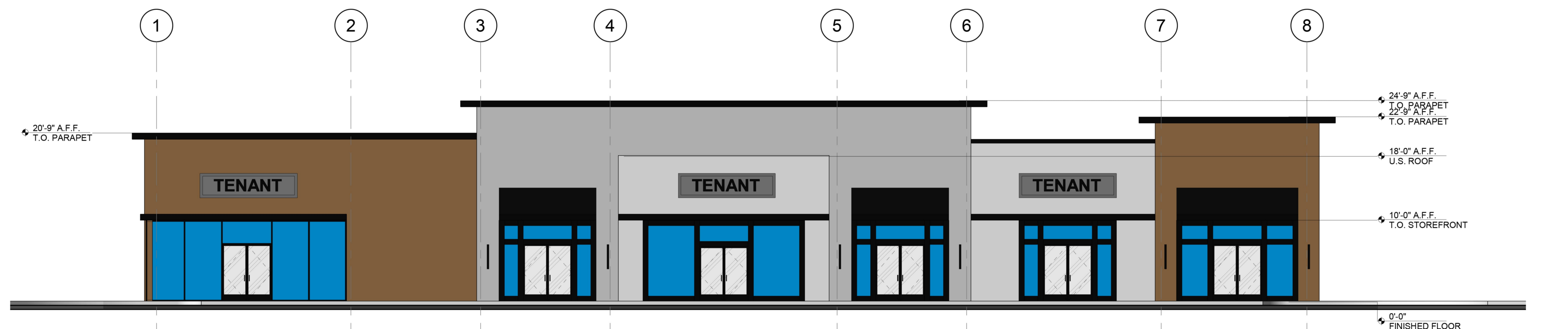
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② EAST ELEVATION
Scale: 1/8" = 1'-0"

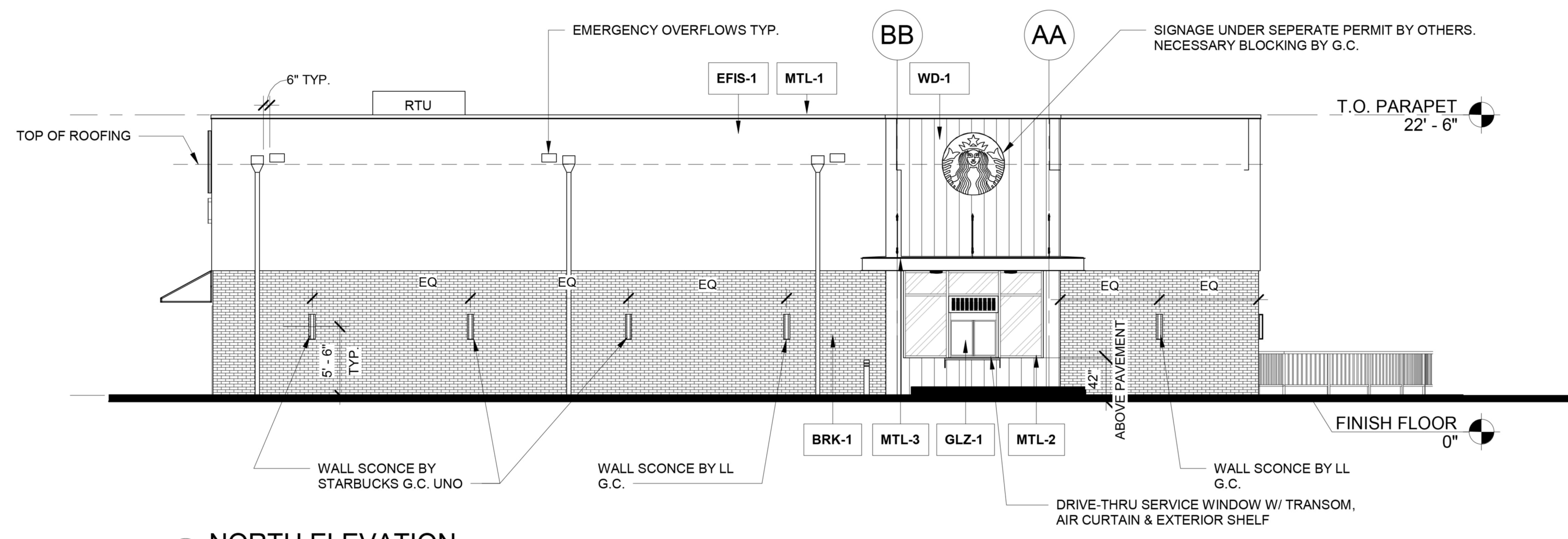


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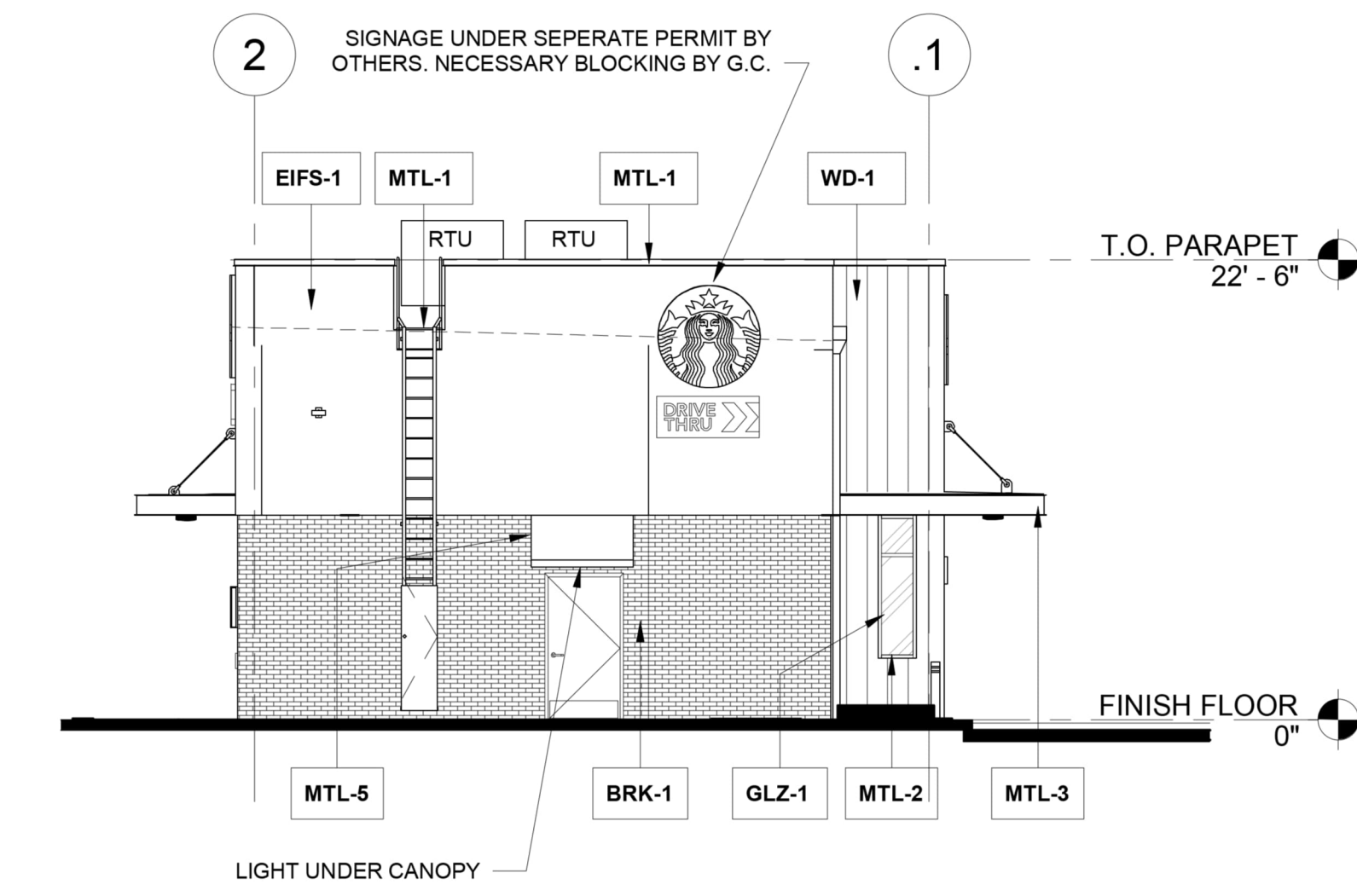


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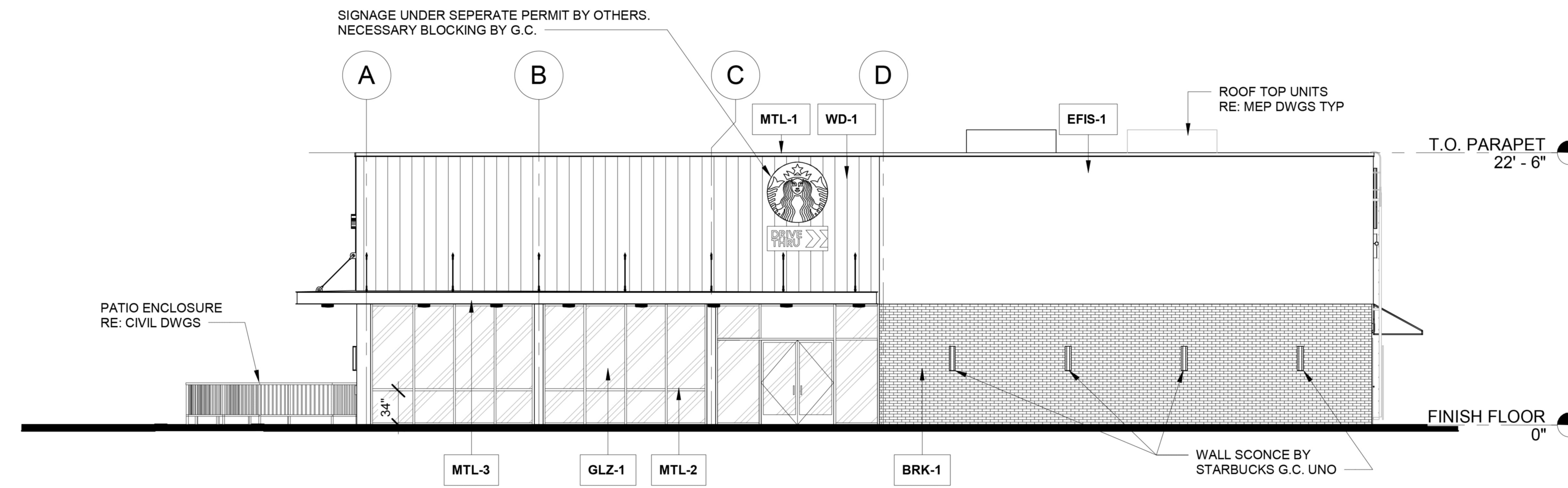




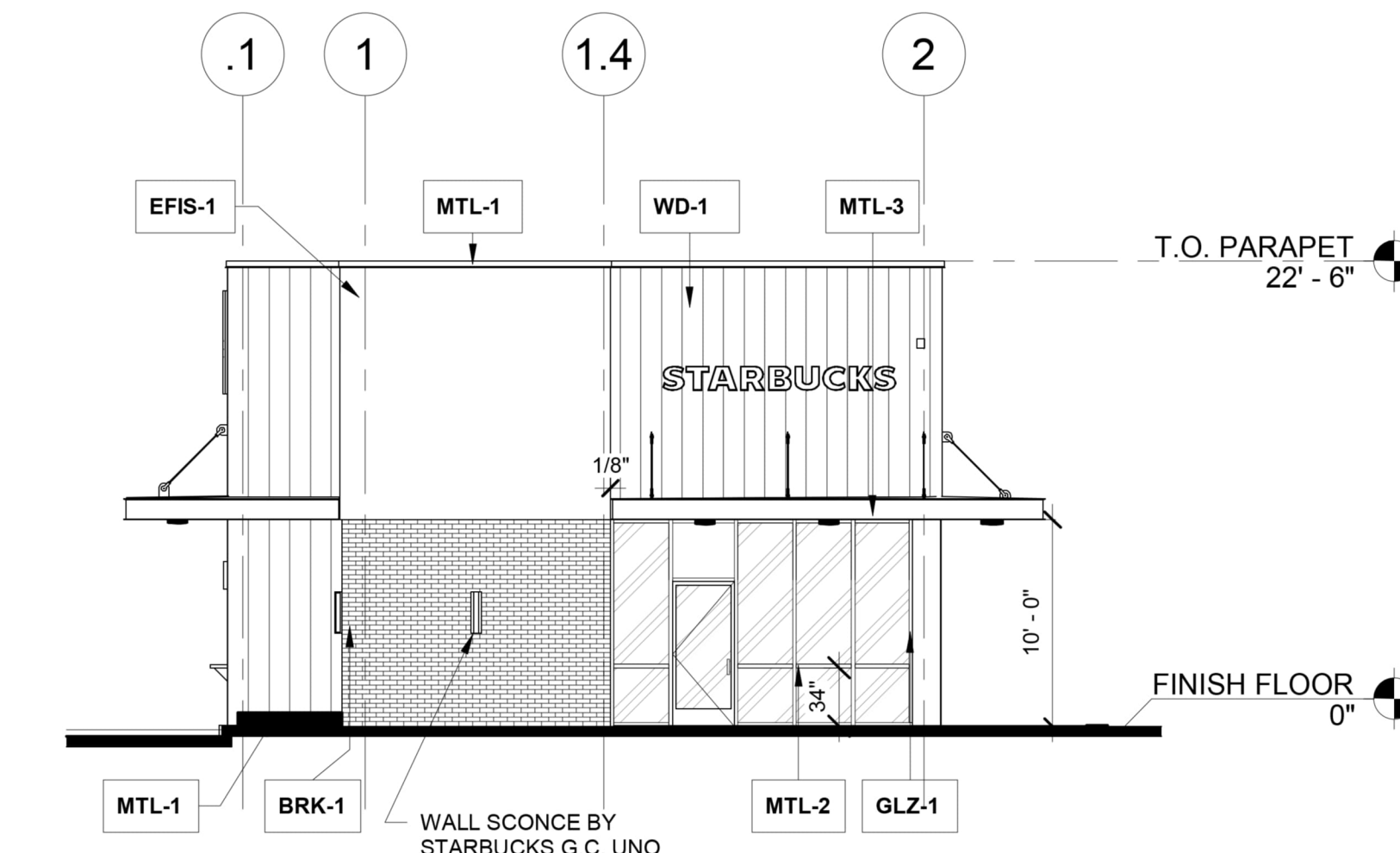
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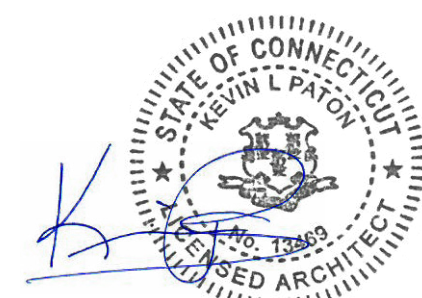
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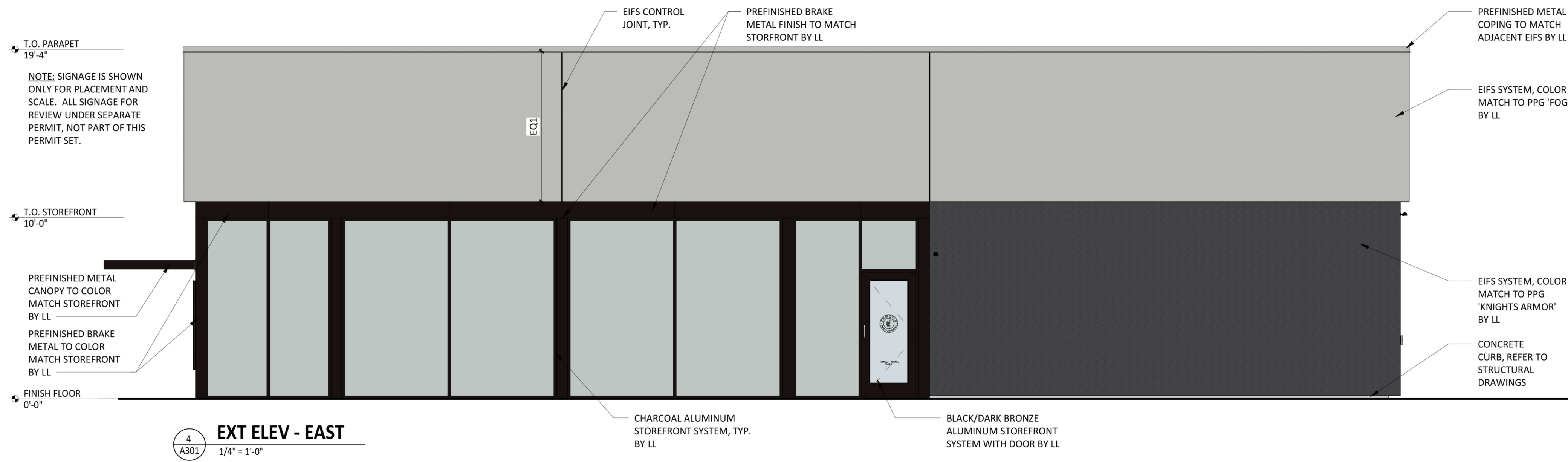


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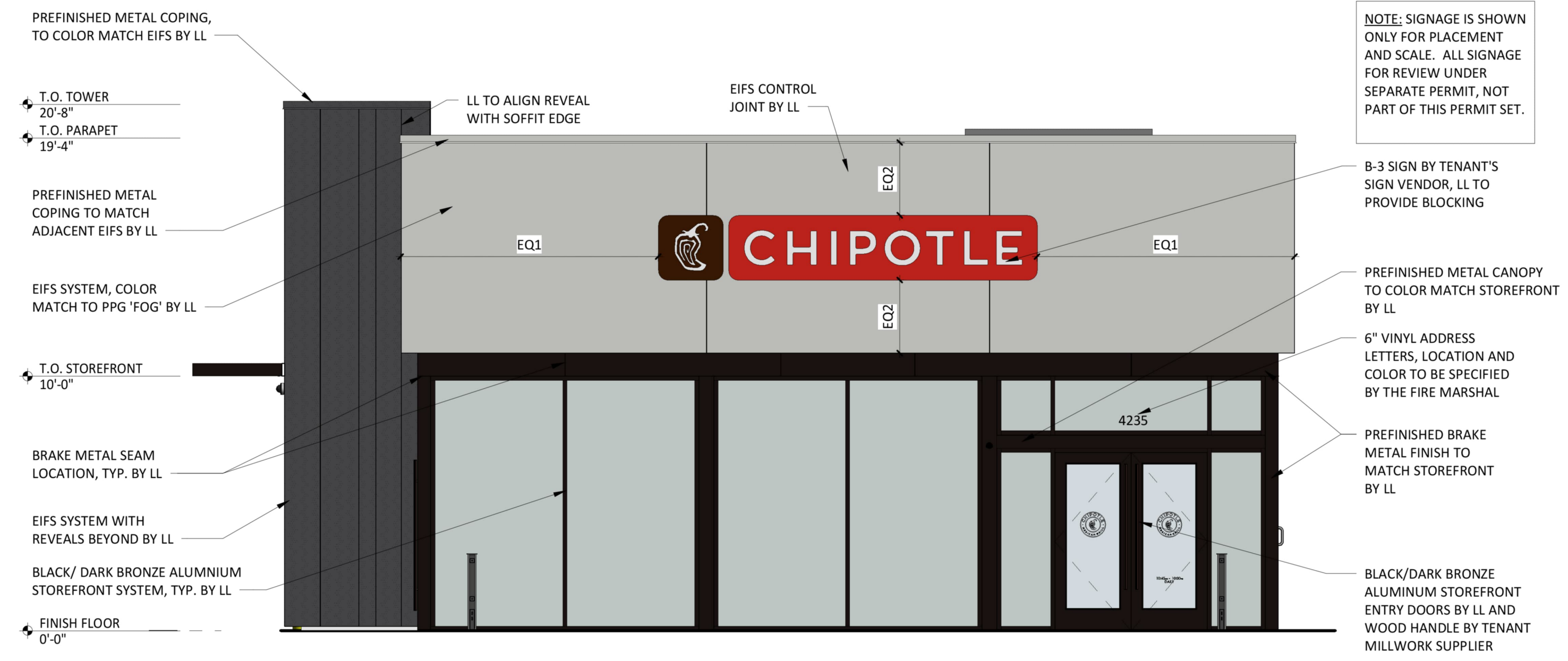


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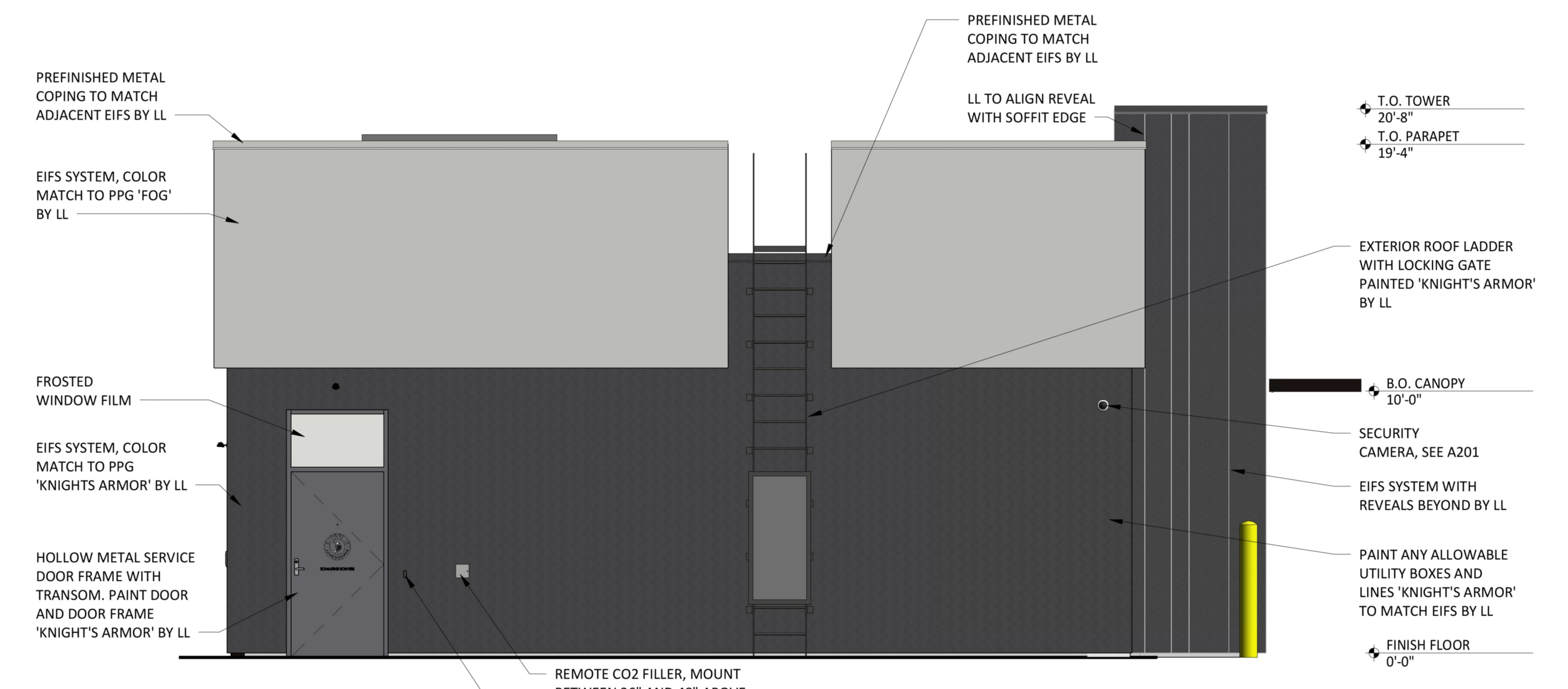




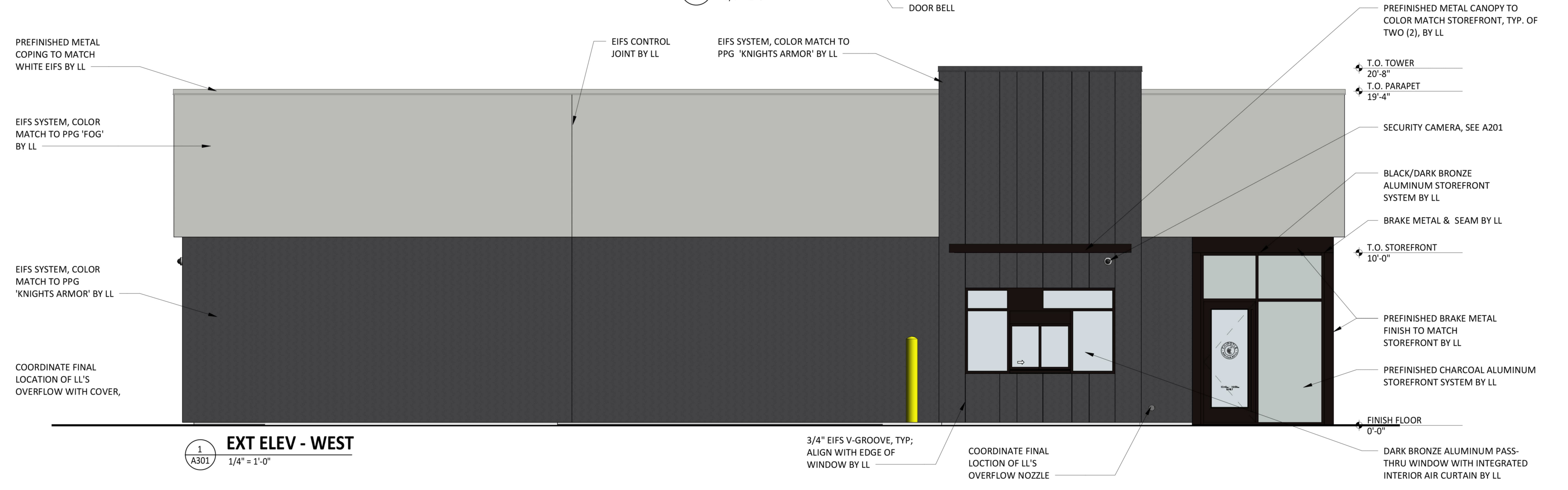
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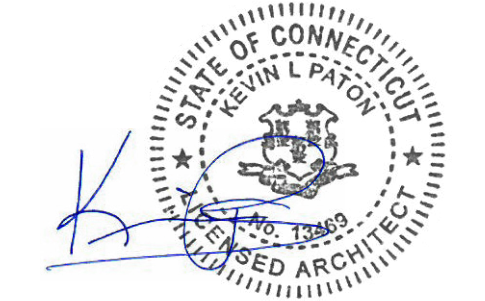
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1/4" = 1'-0"

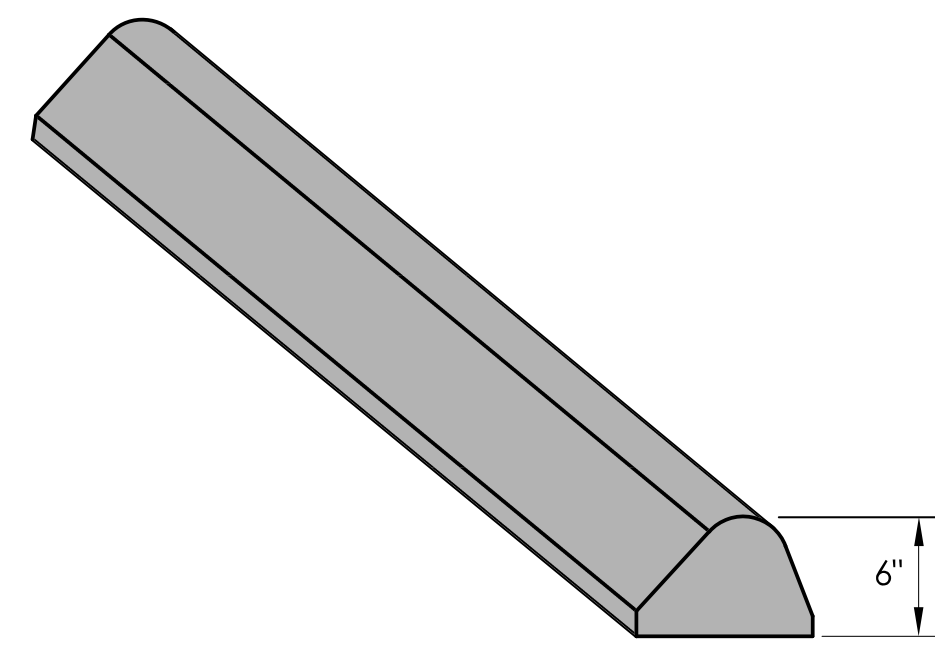


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1/4" = 1'-0"

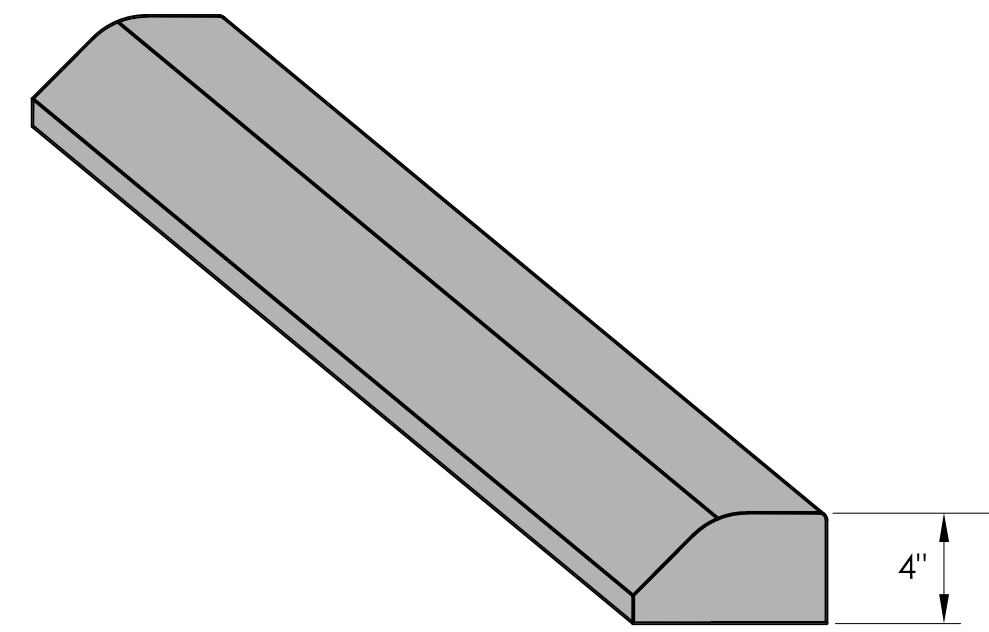


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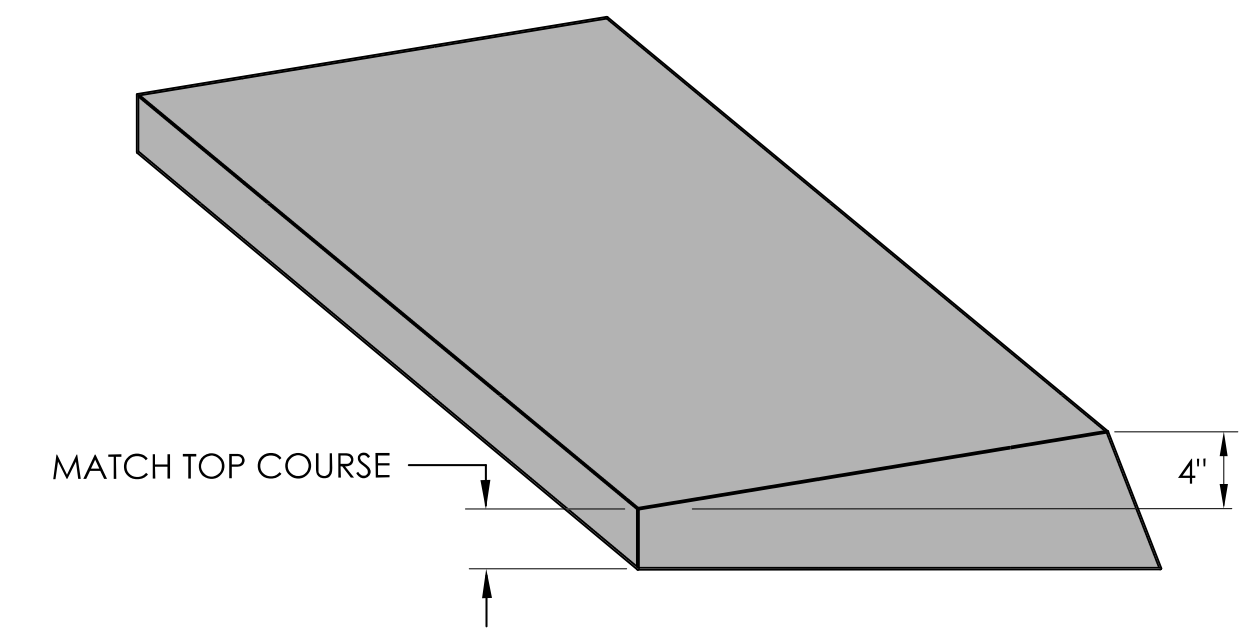




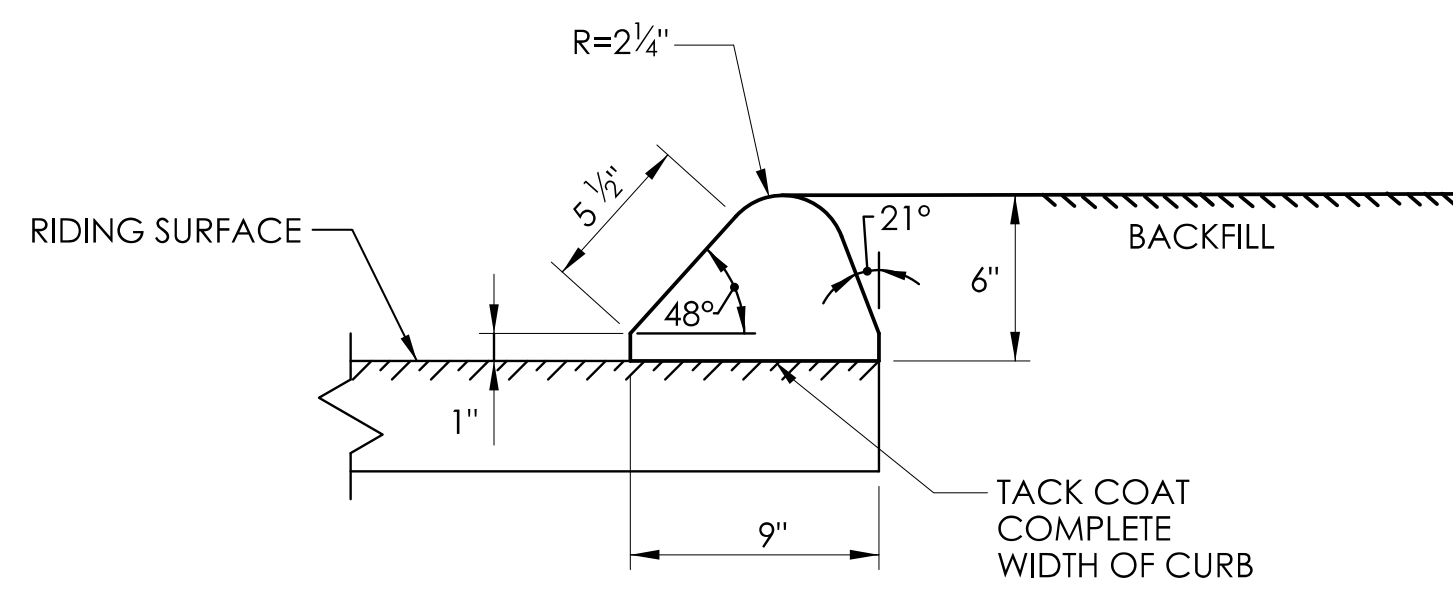
**BITUMINOUS CONCRETE LIP CURBING
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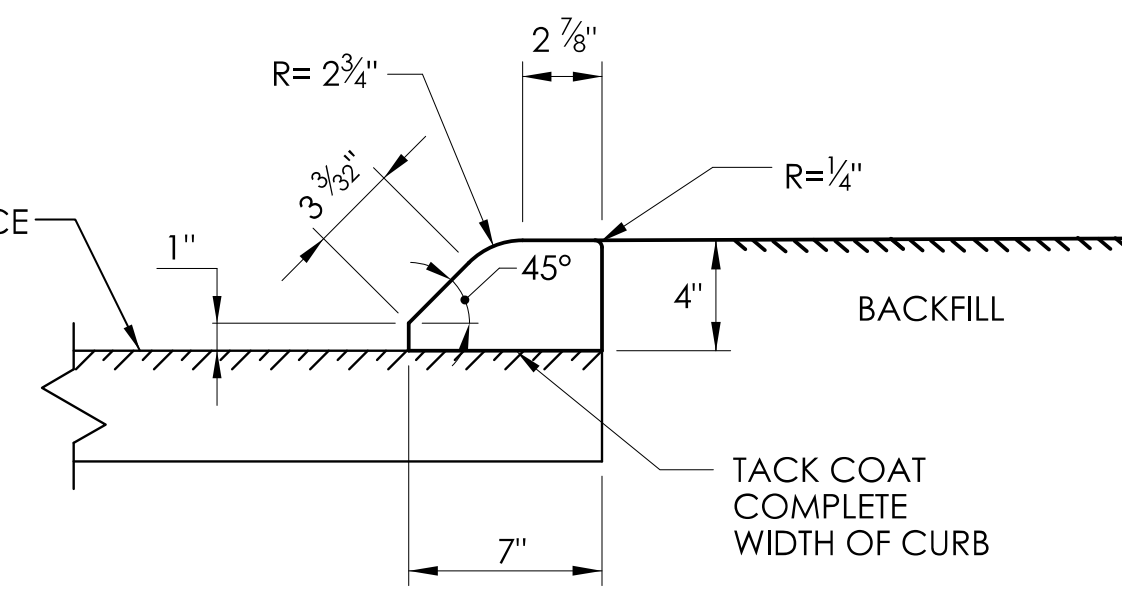
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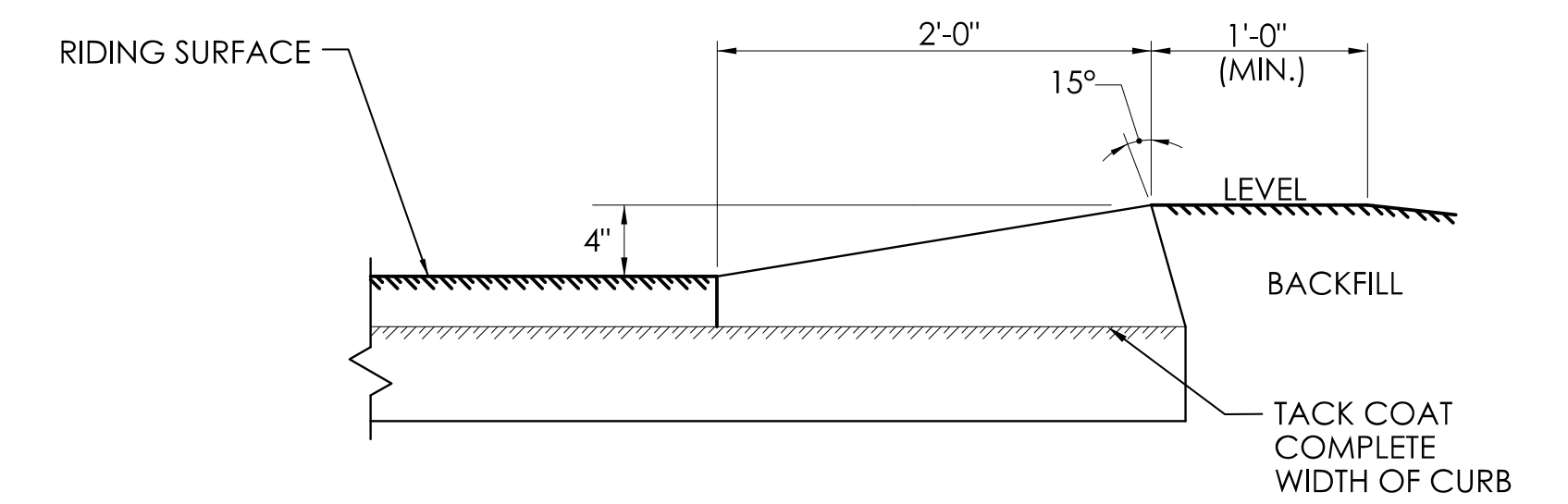
**BITUMINOUS CONCRETE BERM CURBING
(4" HIGH)**



SECTION



SECTION



SECTION

NOT TO SCALE

SIGNATURE BLOCK:
OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

SUBMITTED BY:
Digitally signed by
Leo Fontaine, P.E.
Date: 2022.09.27
14:43:18-04'00'

APPROVED BY:
Digitally signed
by Calabrese,
Michael
Date: 2022.11.08
11:39:39-05'00'

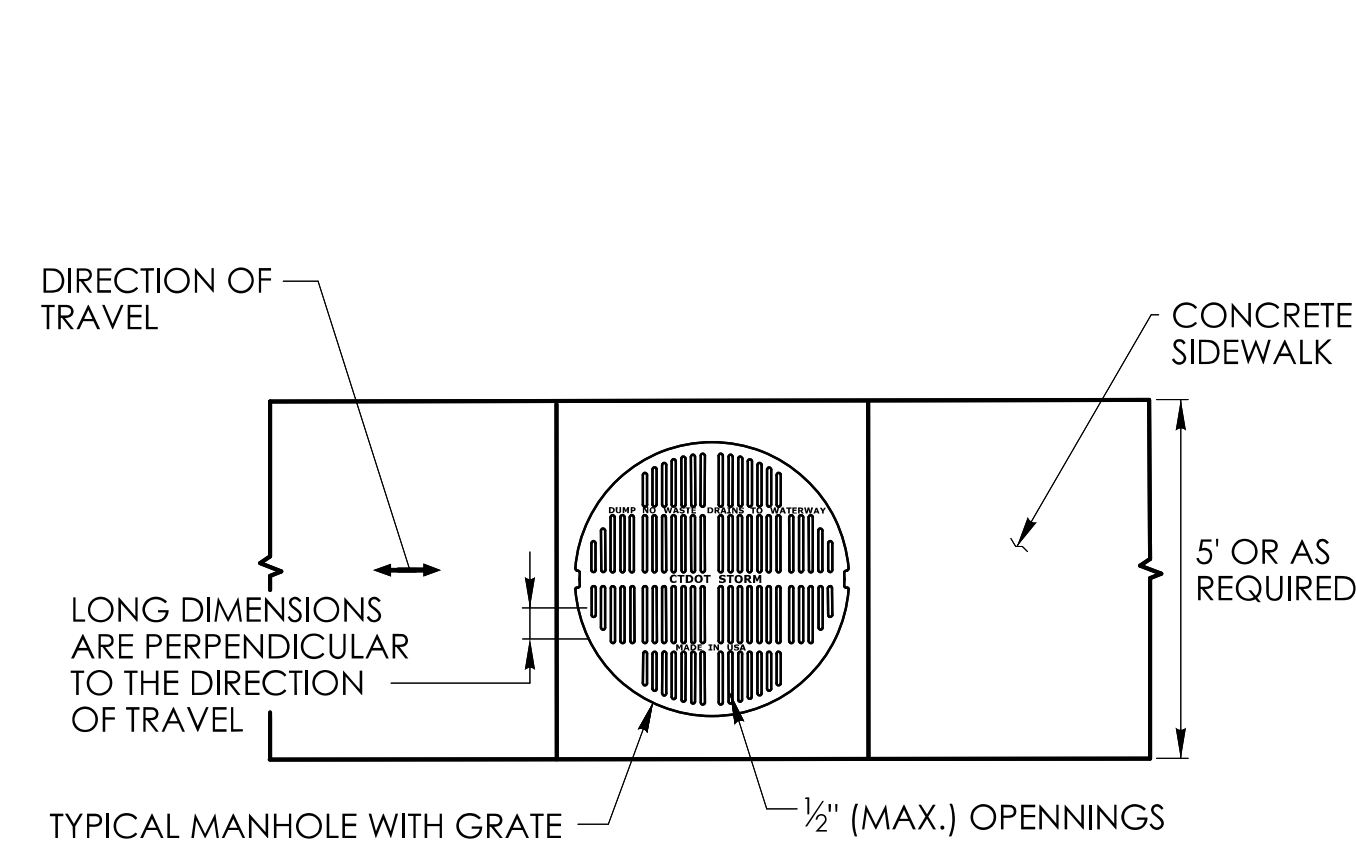


**CTDOT
STANDARD SHEET**

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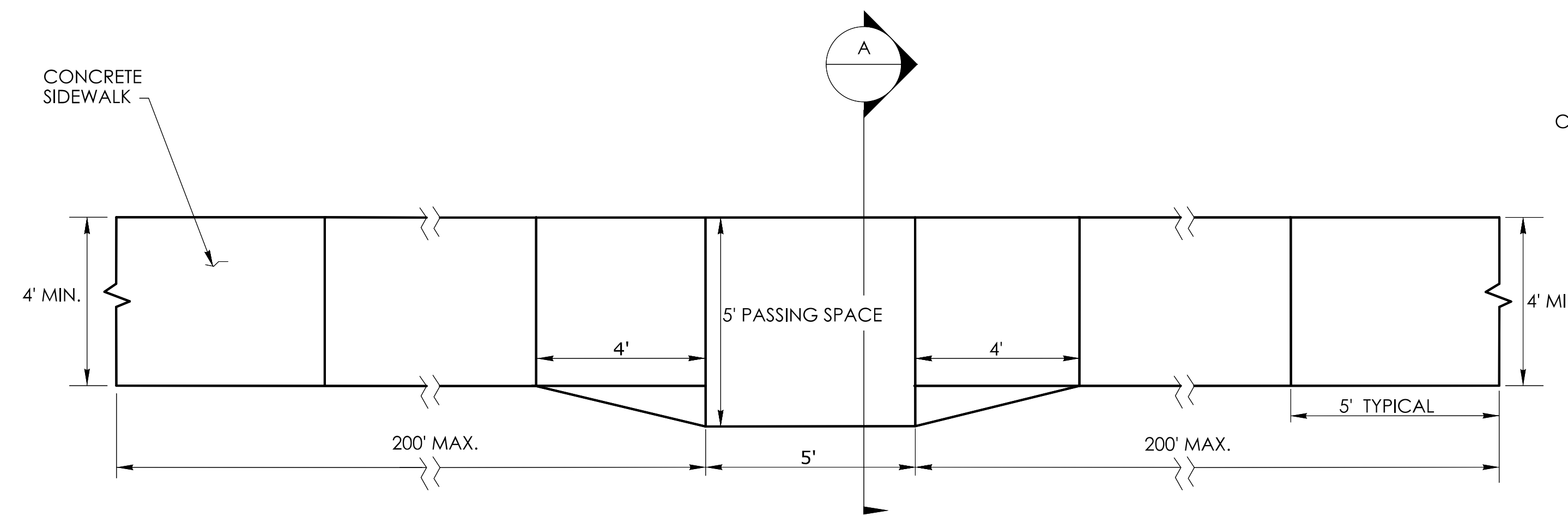
STANDARD SHEET NO.:
HW-815_01

- GENERAL NOTES:**
1. SEE CONCRETE SIDEWALK RAMPS GUIDE SHEETS FOR PEDESTRIAN RAMP TYPES.
 2. ALL CURBING SHALL BE INSTALLED AS EITHER PRECAST OR CAST IN PLACE AS DIRECTED.



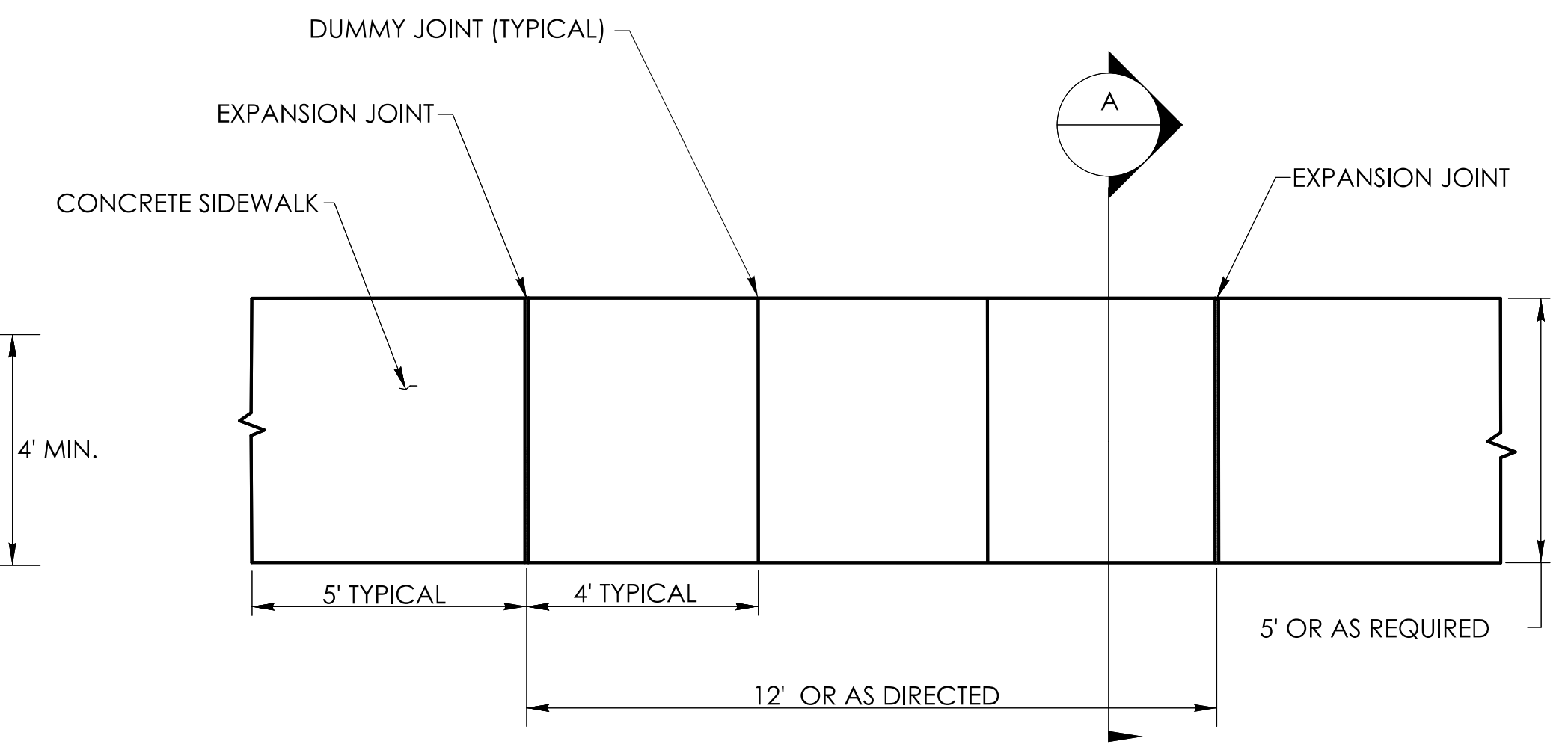
PEDESTRIAN ACCESS ROUTE OVER A MANHOLE WITH GRATE

1. HORIZONTAL OPENINGS IN GRATES AND JOINTS MUST NOT BE MORE THAN 1/2 INCH
2. ELONGATED OPENINGS IN GRATES MUST BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DIRECTION OF TRAVEL

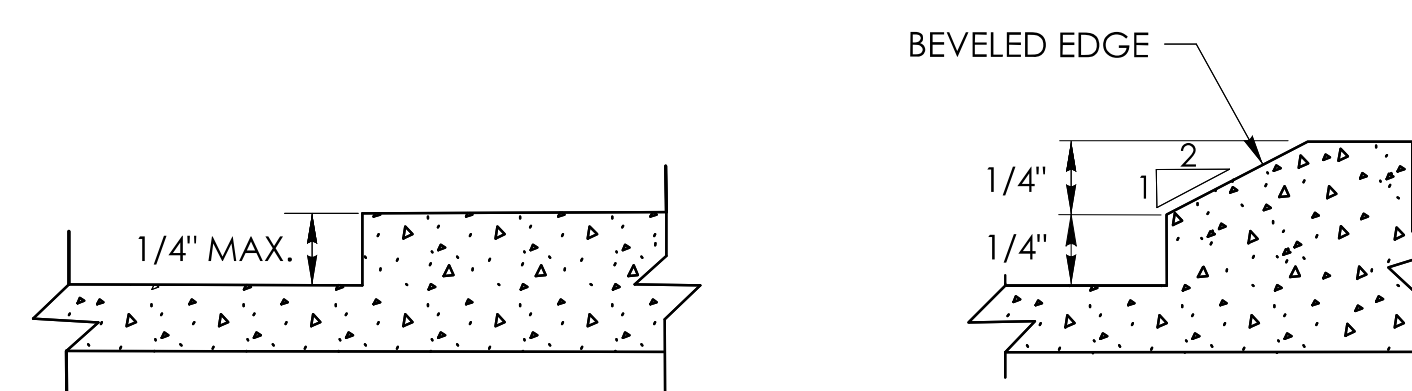


5' PASSING SPACE FOR 4' WIDE SIDEWALK PLAN

PASSING SPACES SHALL BE PROVIDED AT INTERVALS OF 200' MAXIMUM FOR SIDEWALKS LESS THAN 5' IN WIDTH

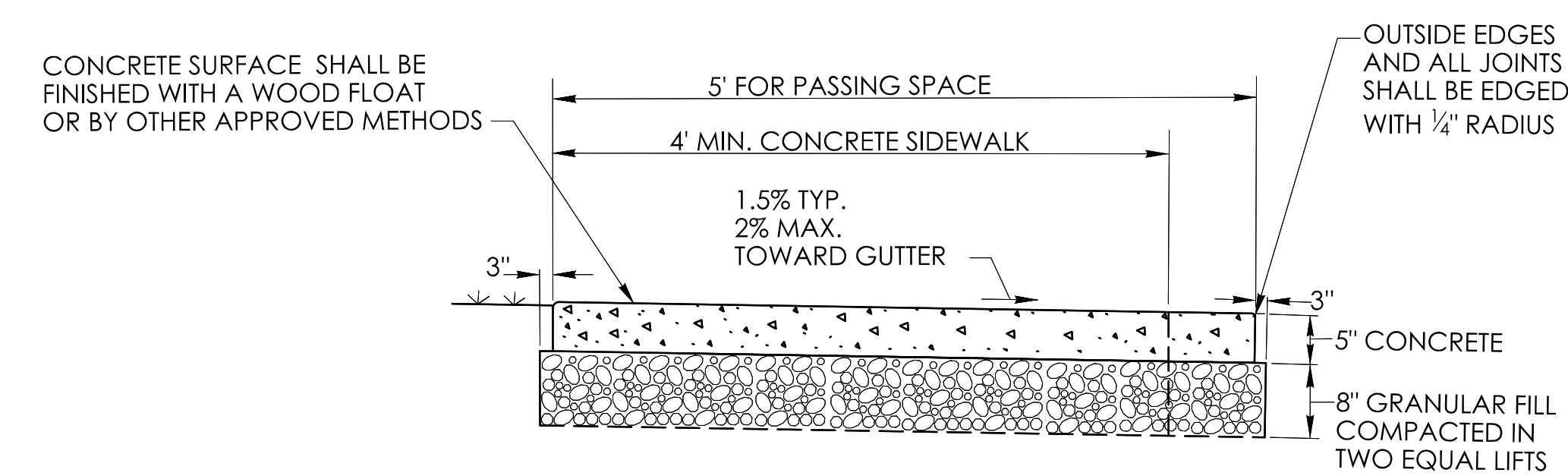


5' WIDE SIDEWALK PLAN



VERTICAL SURFACE DISCONTINUITIES

VERTICAL SURFACE DISCONTINUITIES MUST BE BEVELED TO A HEIGHT NOT GREATER THAN 1/4 INCH. THE BEVEL MUST BE THE ENTIRE WIDTH OF THE DISCONTINUITY



5' PASSING SPACE FOR 4' WIDE SIDEWALK

SECTION A

NOT TO SCALE

SIGNATURE BLOCK:
OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

SUBMITTED BY:
Digitally signed by
Leo Fontaine, P.E.
Date: 2022.09.27
15:15:58-04'00'

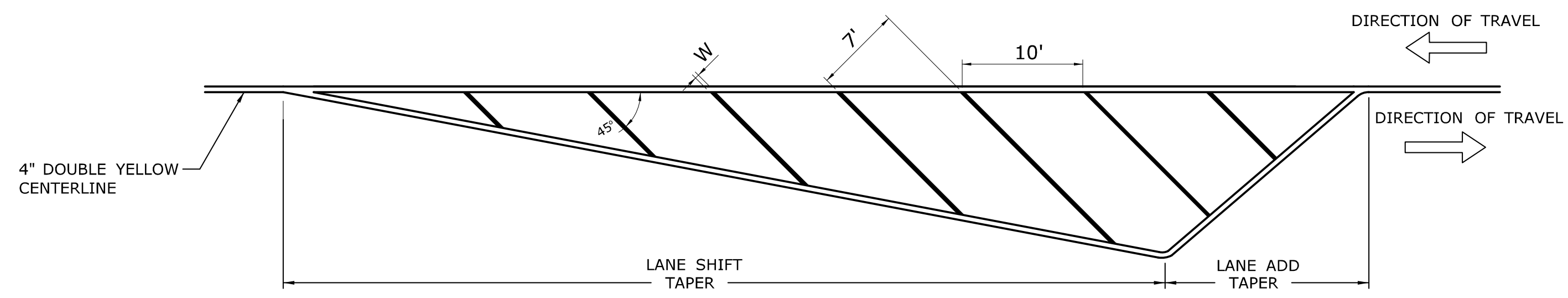
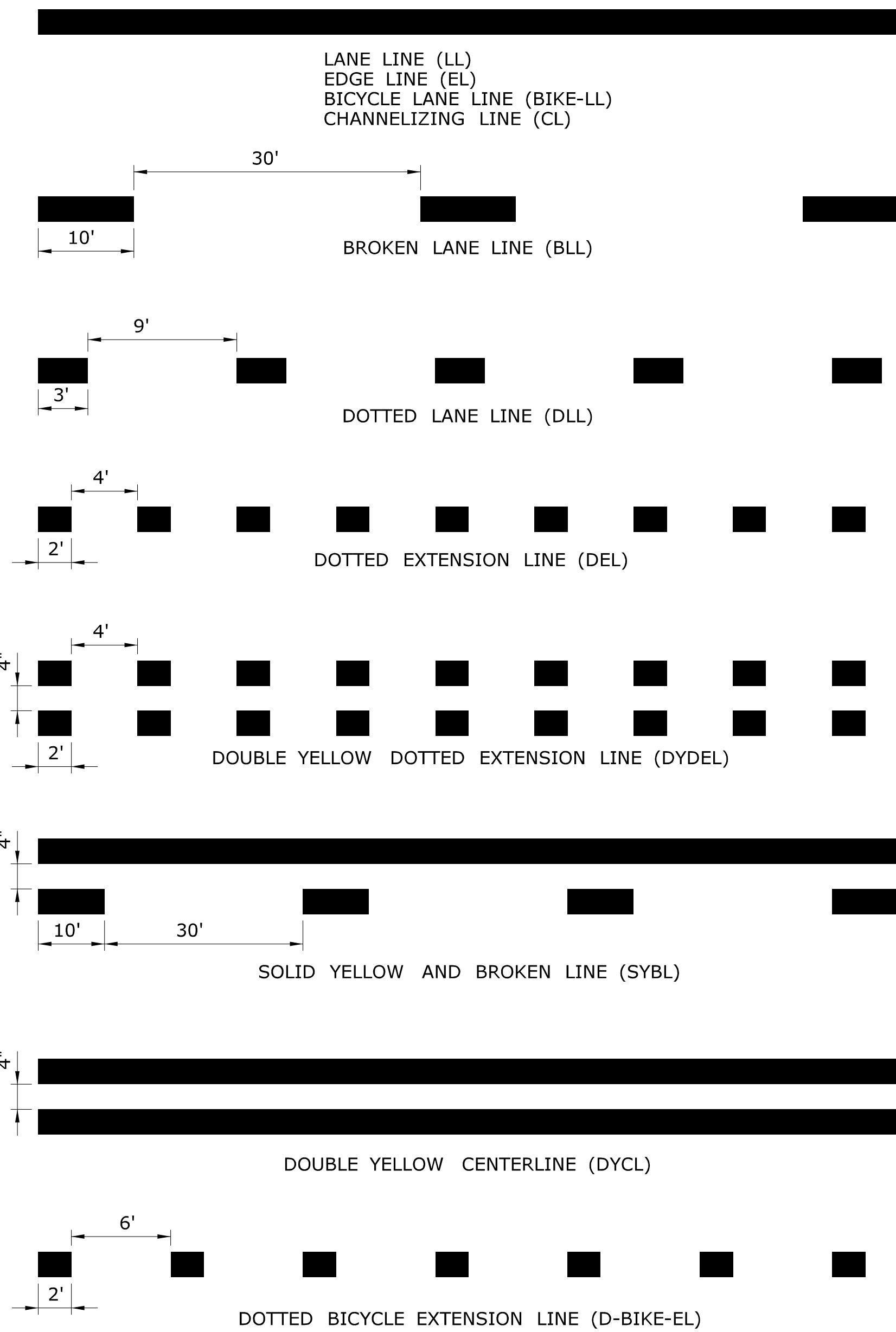
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Calistresse, Michael
Date: 2022.11.08
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CTDOT
STANDARD SHEET

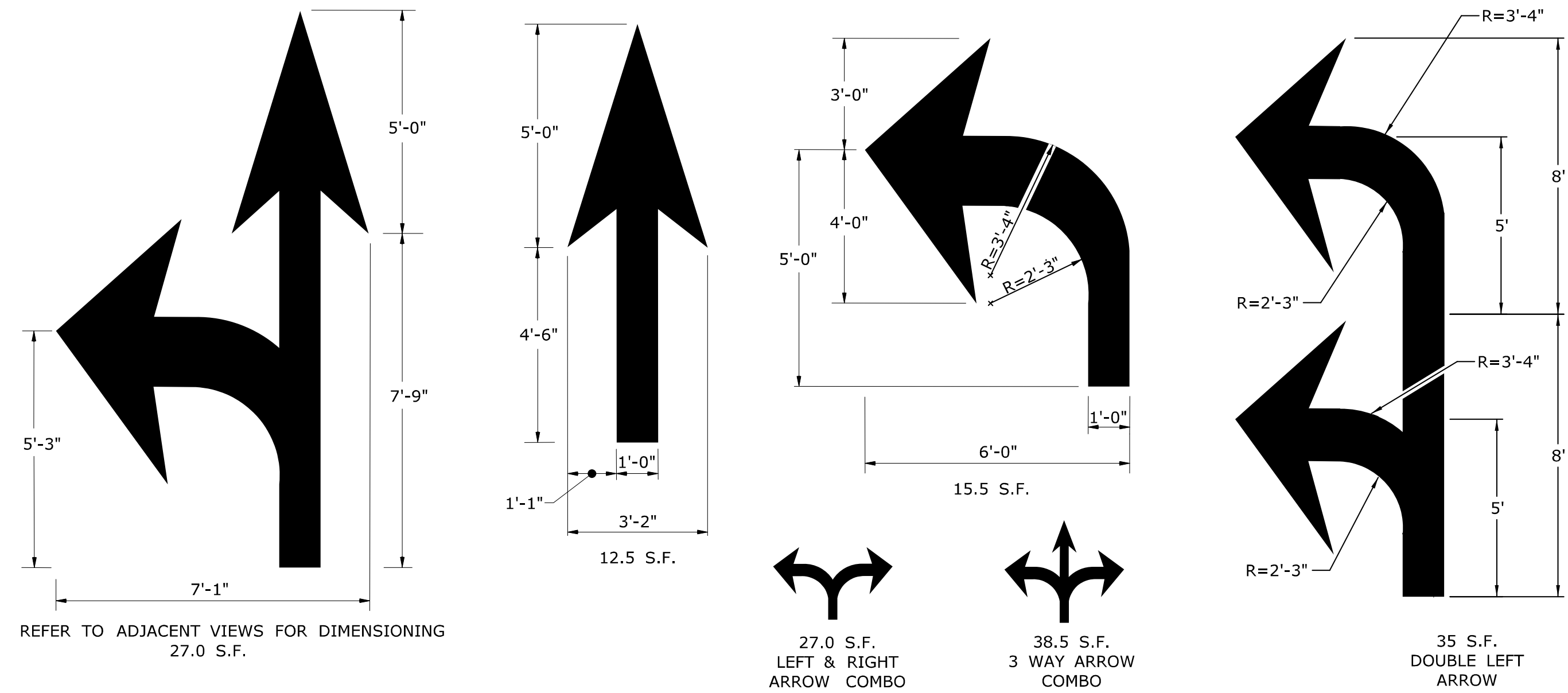
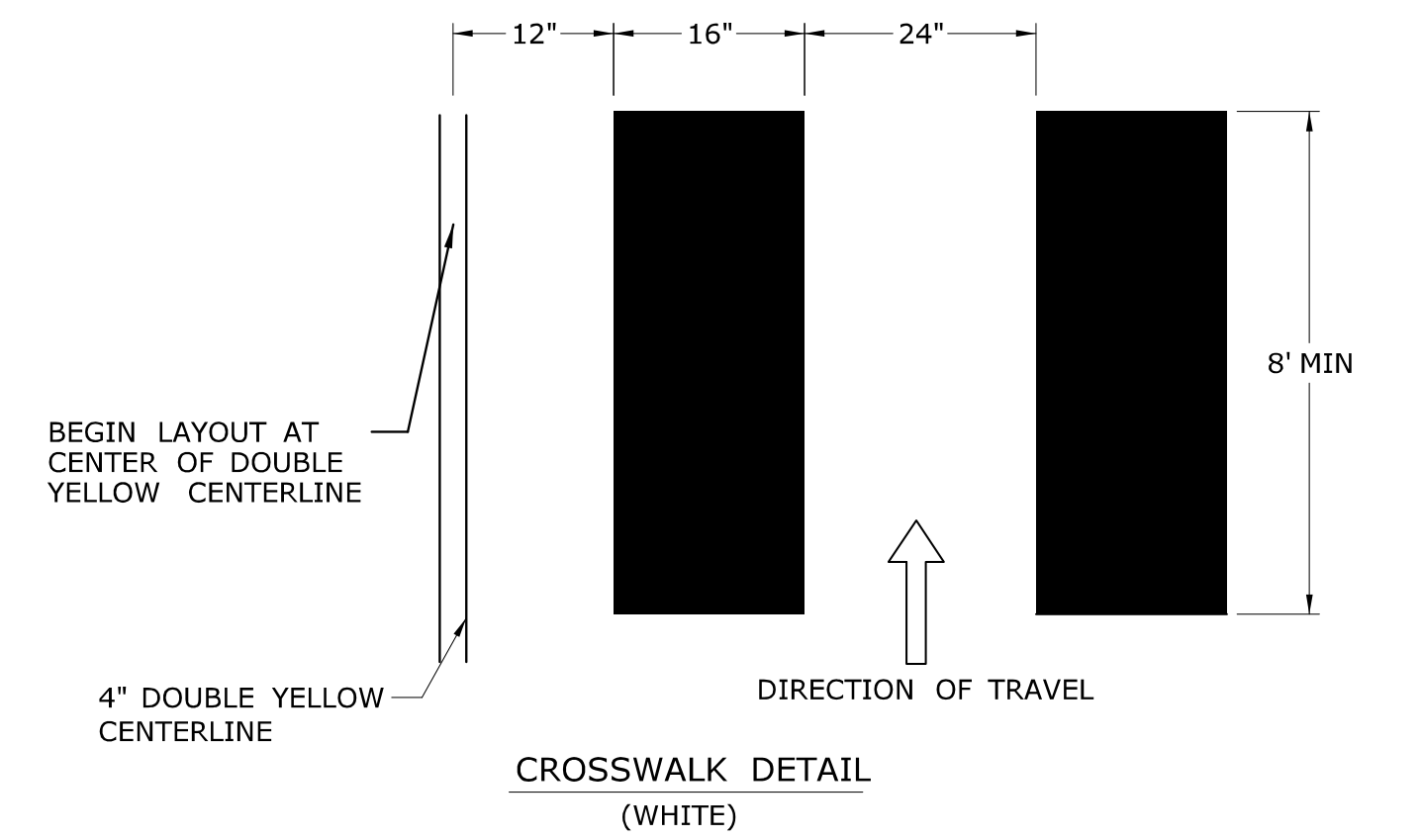
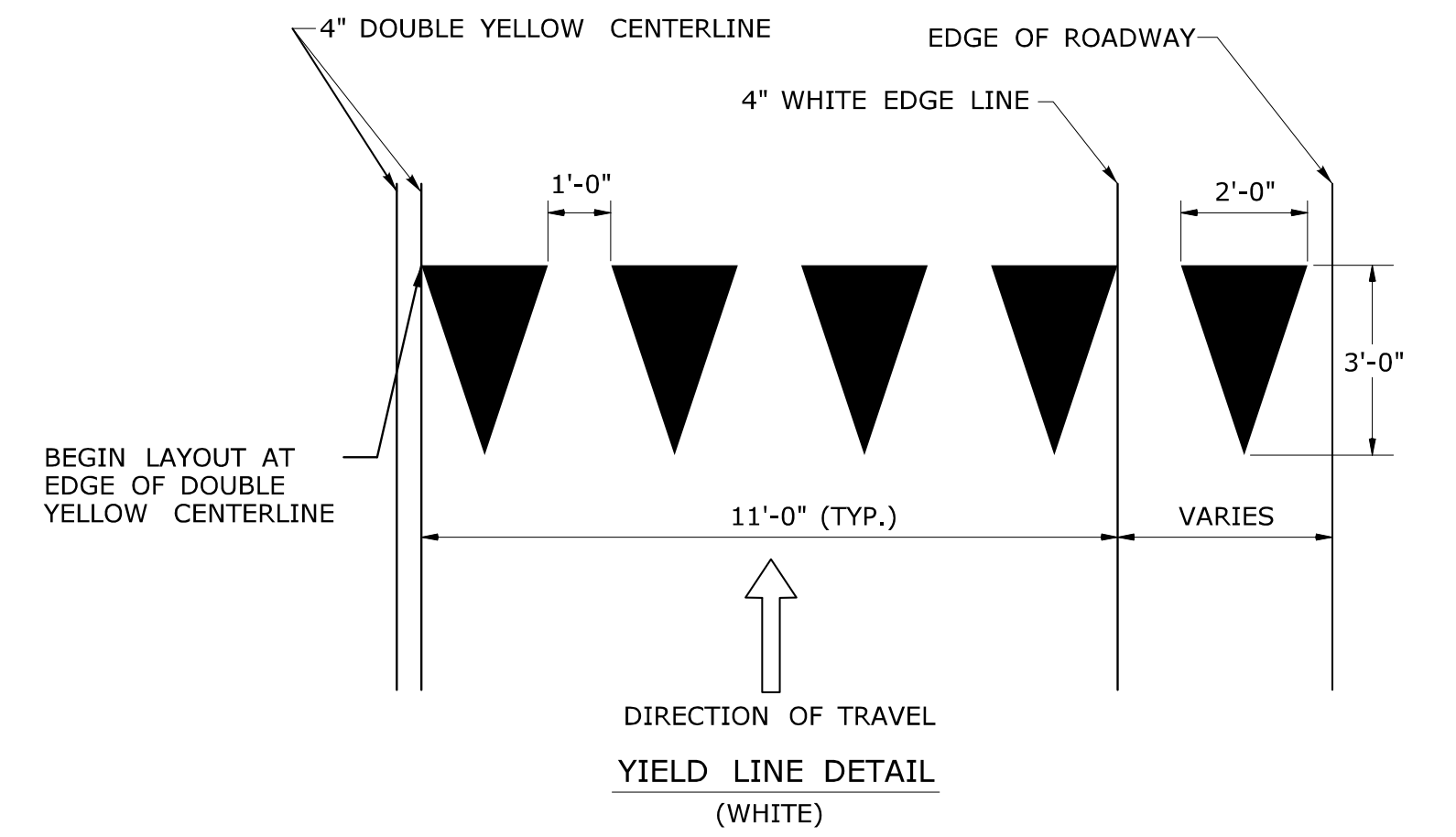
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CONCRETE SIDEWALKS

STANDARD SHEET NO.:
HW-921_01



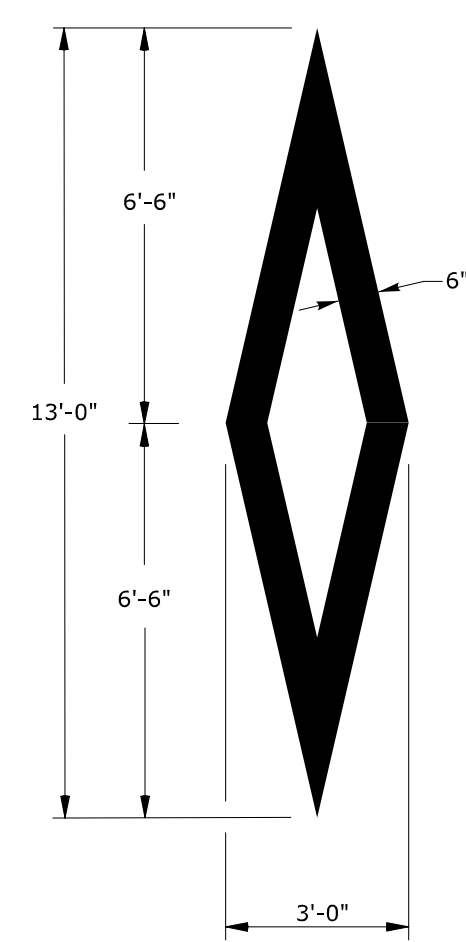
CROSS HATCHED ISLAND DETAIL
(YELLOW)

W IS TO BE 6" WHEN POSTED SPEED ≤ 45 MPH
W IS TO BE 12" WHEN POSTED SPEED > 45 MPH
CROSS HATCHED ISLANDS ARE TO BE INSTALLED WHERE CALLED FOR ON THE PLANS

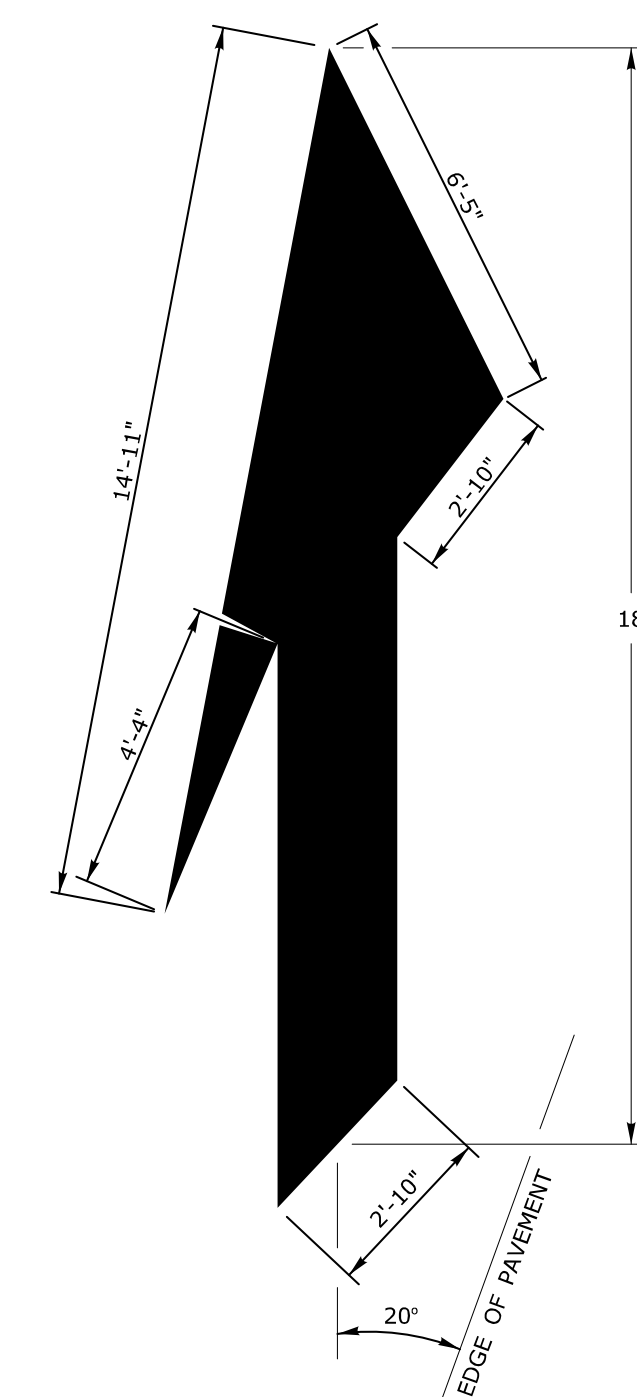


PAVEMENT ARROW DETAILS
(WHITE)

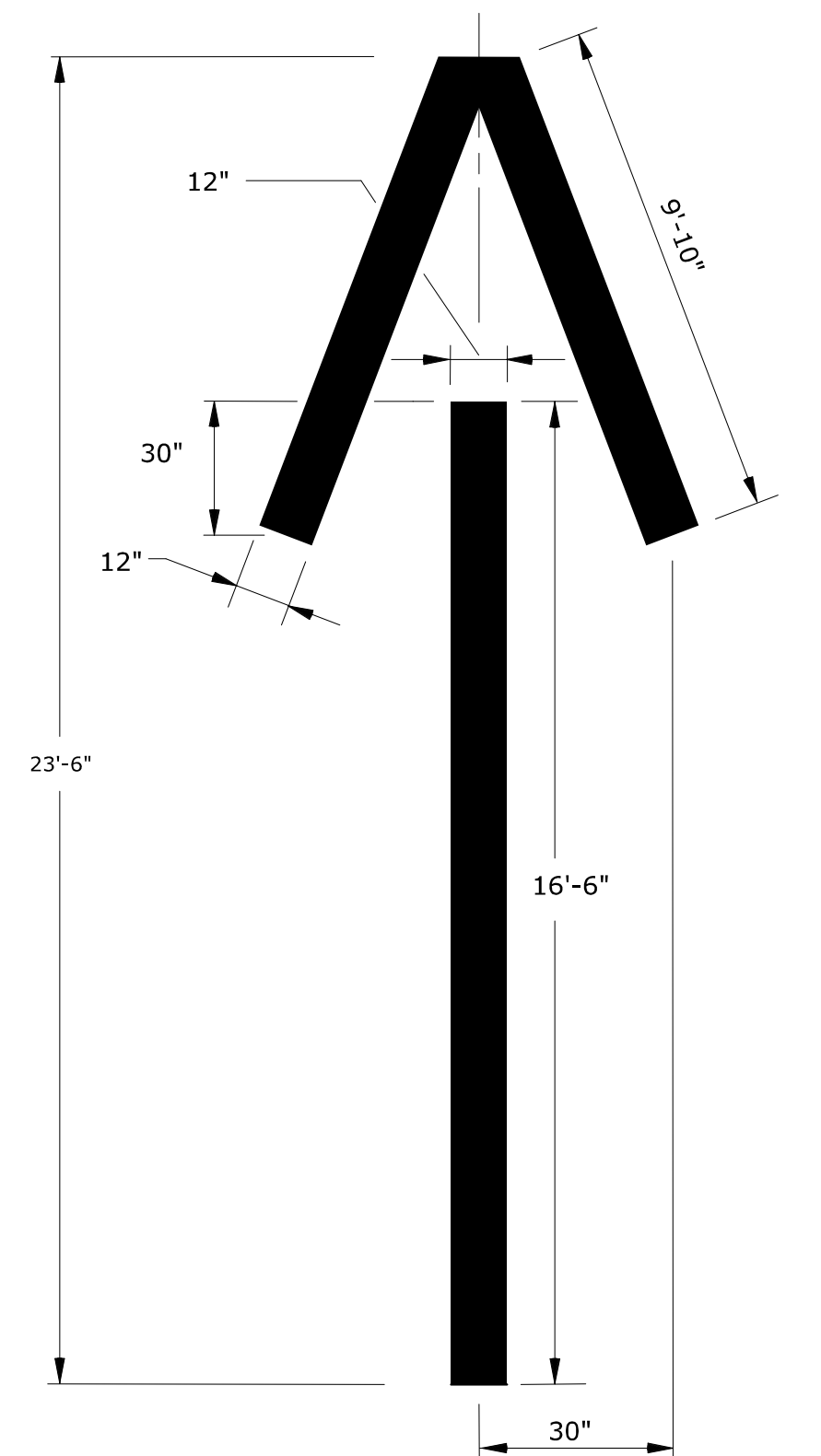
ARROWS SHALL BE CENTERED IN TRAVEL LANE



WHITE PREFERENTIAL LANE SYMBOL
13.0 S.F.



WHITE LANE REDUCTION ARROW
41.8 S.F.



WHITE WRONG WAY PAVEMENT ARROW
36.2 S.F.

NOTES :

1. AREA OF PAVEMENT MARKINGS AS INDICATED IS APPROXIMATE.
2. RIGHT TURN PAVEMENT MARKING ARROWS ARE MIRROR IMAGE OF LEFT TURN PAVEMENT MARKING ARROWS.

| REV. | DATE | REVISION DESCRIPTION |
|------|--------|------------------------------|
| 1 | 8-2018 | REMOVED ROUNDABOUT MARKINGS. |

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 8/10/2018

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

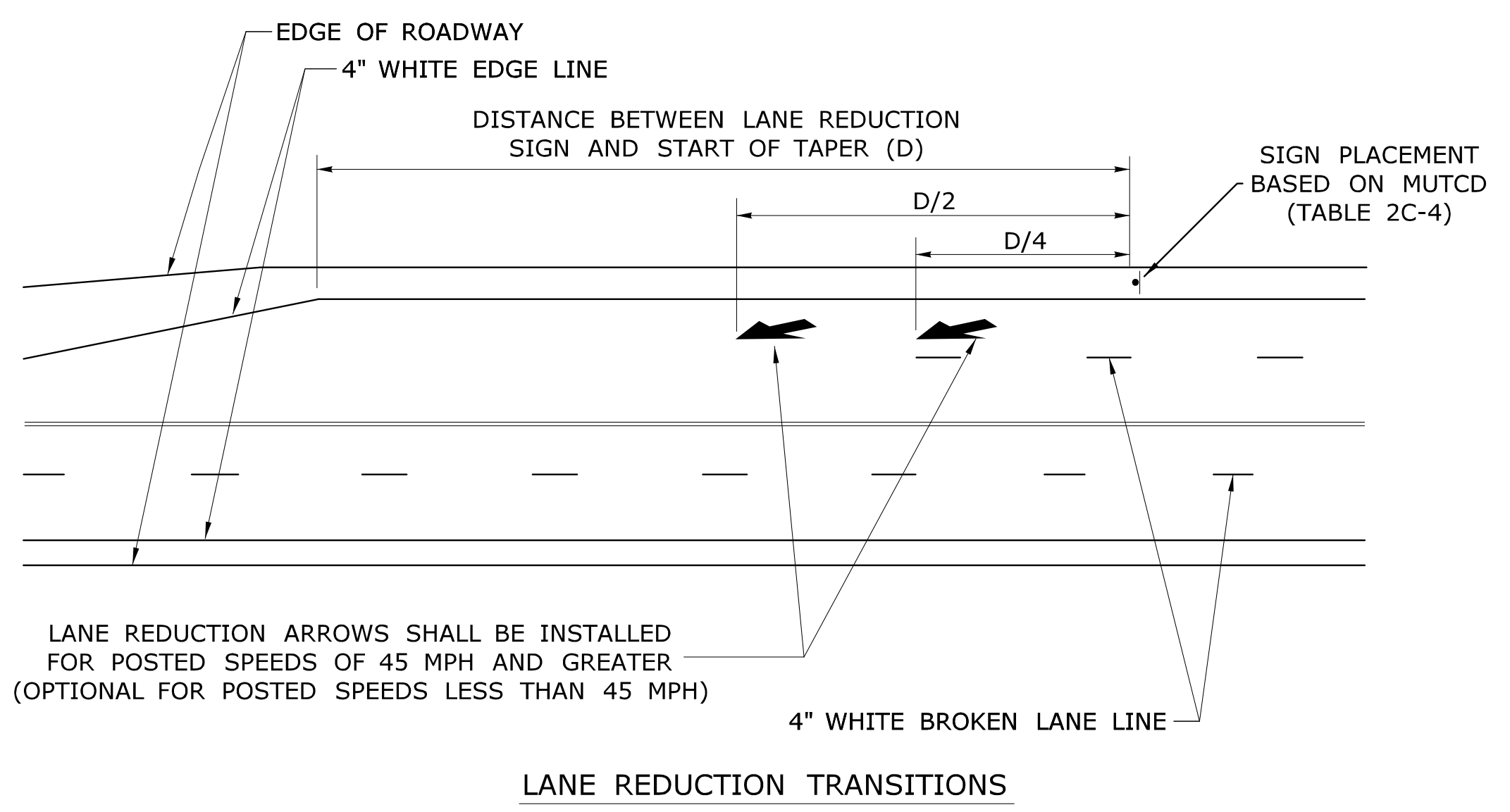
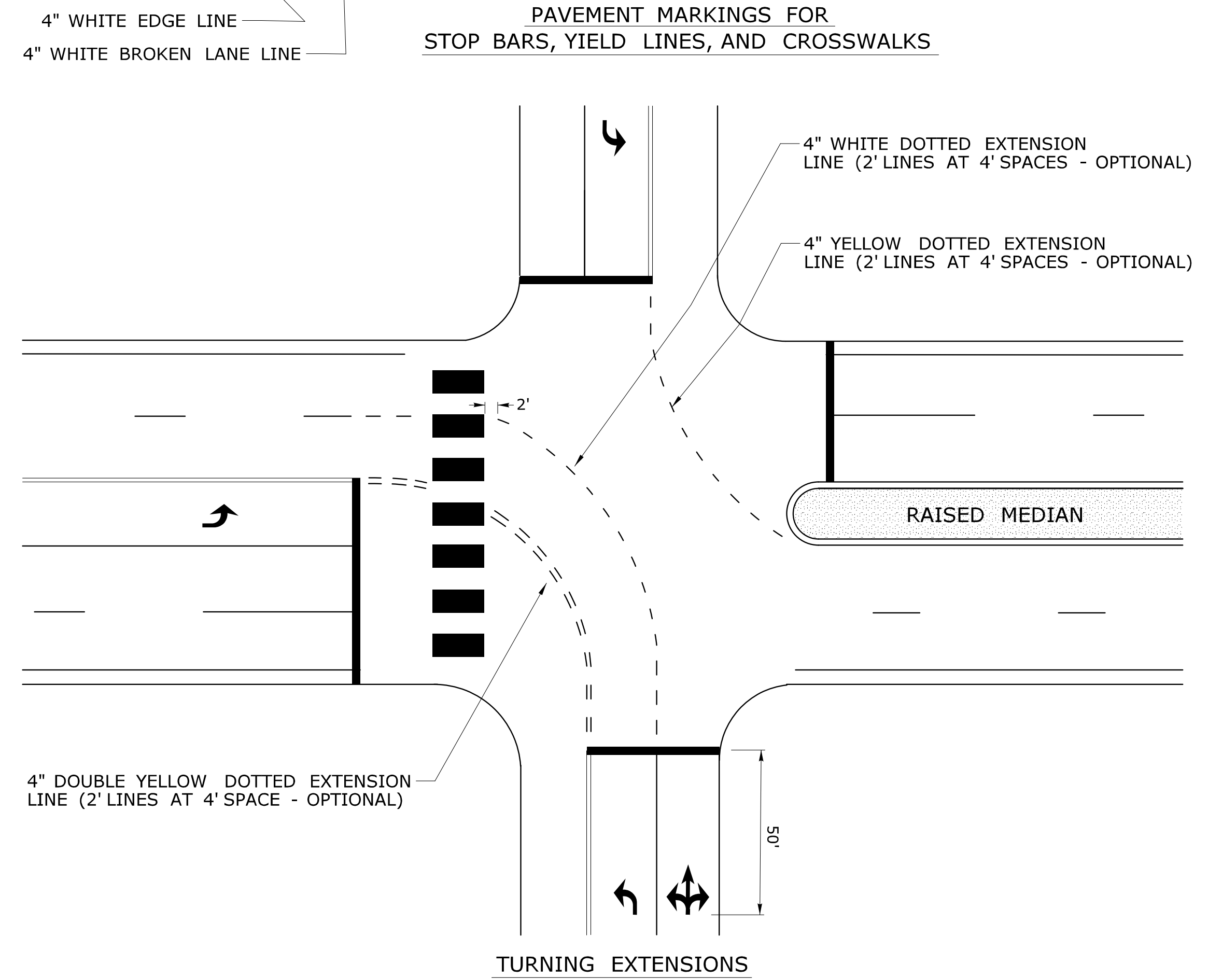
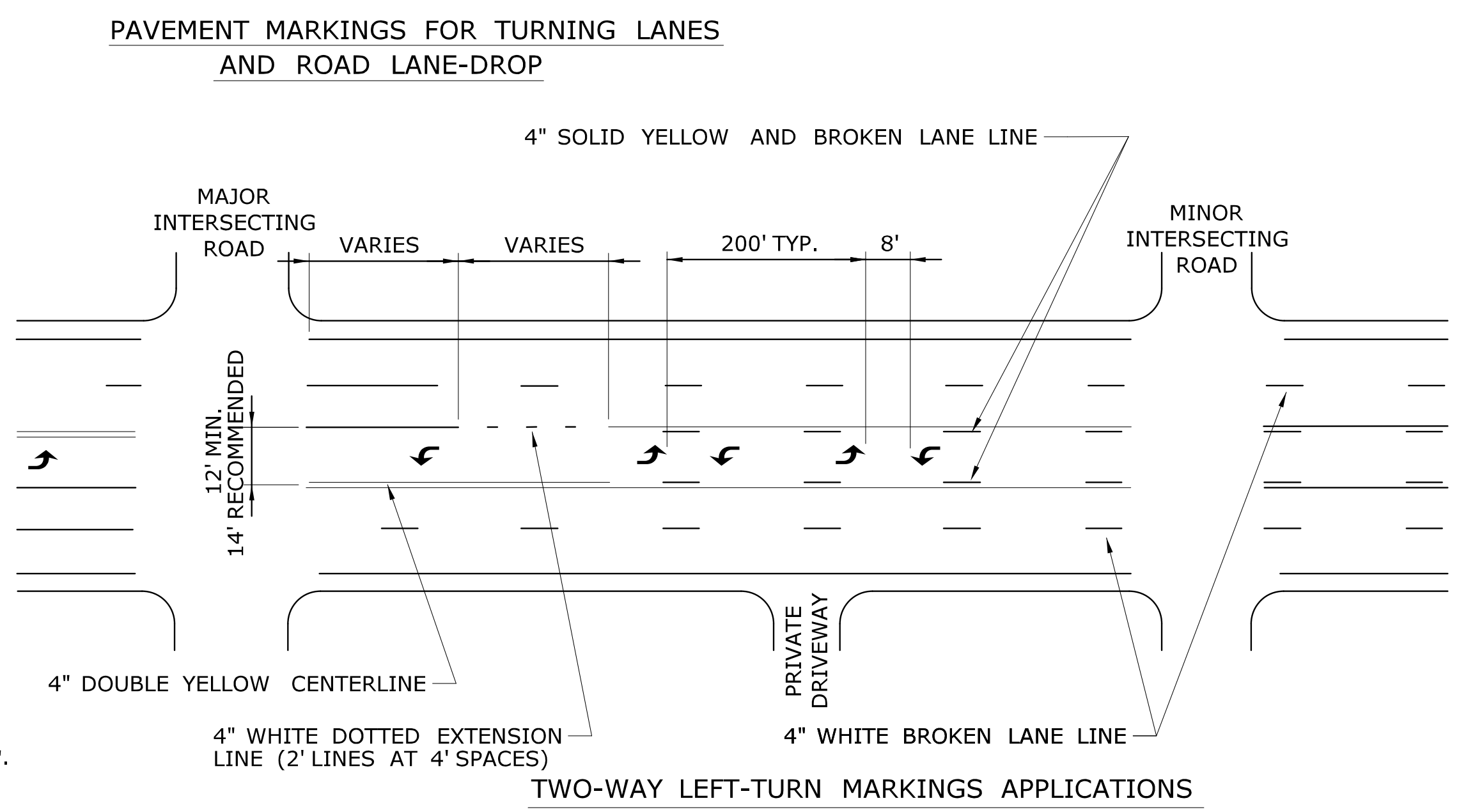
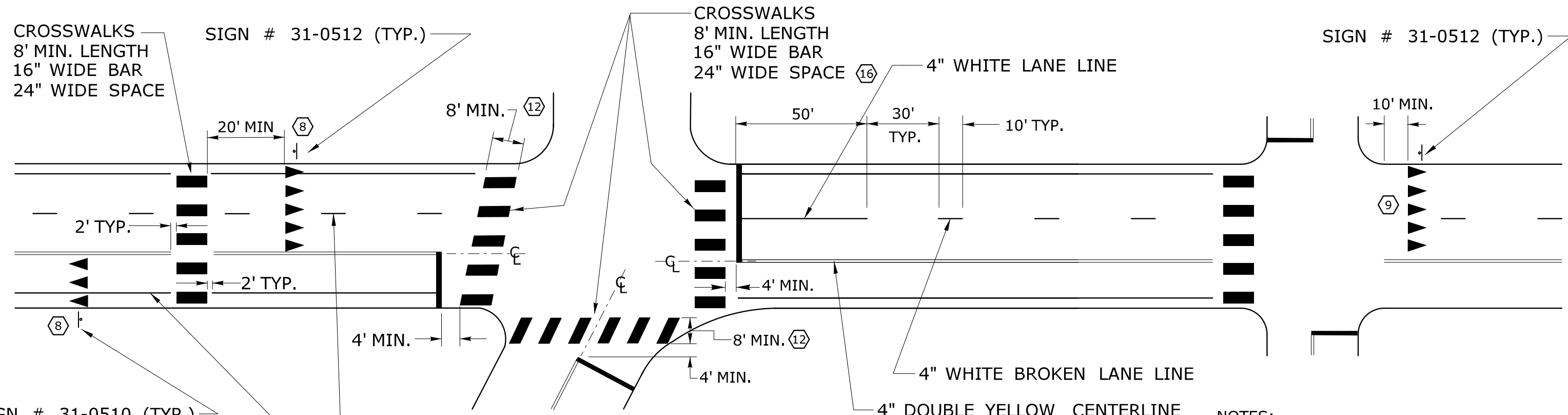
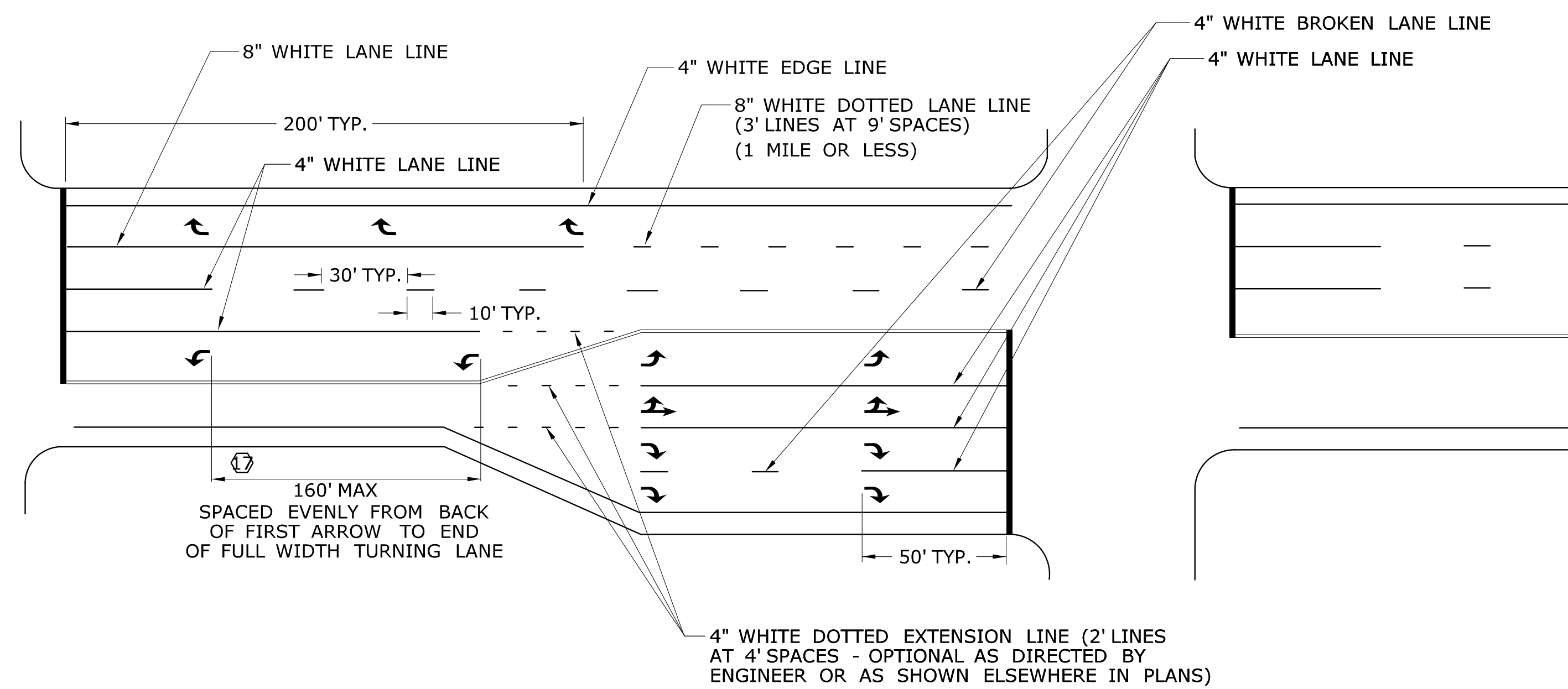
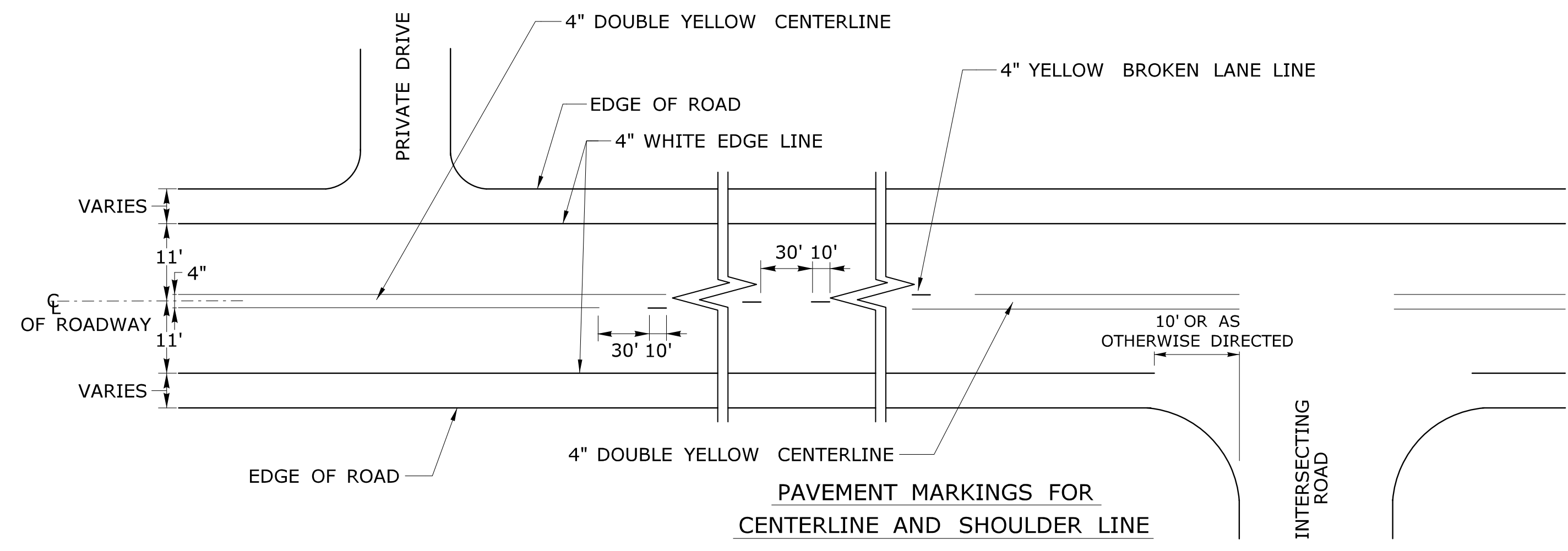
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| <i>Mark Makuch</i> | Mark F. Makuch, P.E. 2018.08.17 09:07:44-04'00' |
| APPROVED BY: | NAME/DATE/TIME: |
| <i>Mark F. Carino</i> | Mark F. Carino, P.E. 2018.08.21 07:48:45-04'00' |

CTDOT
STANDARD SHEET
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
PAVEMENT MARKING LINES AND SYMBOLS

STANDARD SHEET NO.:
TR-1210_04



- NOTES:**
STOP BARS AND YIELD LINES
- STOP BARS AND YIELD LINES SHALL BE WHITE.
 - STOP BARS SHALL BE 12" MIN. UNLESS OTHERWISE NOTED ON PLANS.
 - STOP BARS TO BE PLACED A MINIMUM OF 4' IN ADVANCE OF THE NEAREST EDGE OF CROSSWALK AND SHOULD BE PLACED 90° TO THE CENTERLINE OF THE ROADWAY. TO
 - IN THE ABSENCE OF A MARKED CROSSWALK THE STOP BAR SHOULD BE PLACED 90° TO THE CENTERLINE OF THE ROADWAY, AT THE DESIRED STOPPING POINT AT LEAST 5' AND NO MORE THAN 30' FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY.
 - THE STOP SIGN SHOULD BE PLACED IN LINE WITH THE STOP BAR. HOWEVER, IF THE STOP SIGN CANNOT BE LOCATED EXACTLY WHERE VEHICLES ARE EXPECTED TO STOP, THE STOP BAR SHOULD BE PLACED AT THE STOPPING POINT.
 - FOR STOP BARS AT RAMPS SEE DETAILS "R", "S", "T", & "U" AND NOTES ON TRAFFIC STANDARD SHEET TR-1210 07 "PAVEMENT MARKINGS FOR DIVIDED HIGHWAYS EXIT RAMPS".
 - FOR YIELD LINE INSTALLATIONS, ONLY FULL TRIANGLES ARE TO BE INSTALLED.
 - MID-BLOCK CROSSWALKS ARE CROSSWALKS LOCATED MORE THAN 50 FEET FROM A SIGNALIZED OR UNSIGNALIZED INTERSECTION. YIELD LINES ASSOCIATED WITH MIDBLOCK CROSSWALKS SHALL BE INSTALLED AND SHOULD BE LOCATED 20 TO 50 FEET IN ADVANCE OF THE NEAREST CROSSWALK LINE OR AS DIRECTED BY THE ENGINEER.
 - WHERE A YIELD LINE EXISTS ON AN APPROACH TO A CROSSWALK, THE APPROPRIATE "YIELD TO PEDESTRIANS" SIGN IS REQUIRED.
 - FOR CROSSWALKS AT UNSIGNALIZED INTERSECTIONS WITH MINOR STREET STOP CONTROL, YIELD LINES SHALL BE INSTALLED ON MULTI-LANE APPROACHES, BUT NOT SINGLE LANE APPROACHES.
 - THE YIELD SIGN SHOULD BE PLACED IN LINE WITH A YIELD LINE. HOWEVER, IF THE YIELD SIGN CANNOT BE LOCATED EXACTLY WHERE VEHICLES ARE EXPECTED TO YIELD, THE YIELD LINE SHOULD BE PLACED AT THE YIELDING POINT.
- CROSSWALKS**
- CROSSWALK MARKINGS SHALL BE WHITE.
 - AT LOCATIONS WHERE THE CROSSWALK IS SKEWED, BARS TO BE PARALLEL TO C, AND ENDS OF BARS TO BE PARALLEL. THE LENGTH OF THE BARS WILL VARY DEPENDING ON THE ANGLE OF SKEW.
 - BARS SHOULD BE NO CLOSER THAN 1' FROM EDGE OF ROAD.
 - ONLY FULL LENGTH BARS ARE TO BE INSTALLED.
 - DECORATIVE CROSSWALKS SHALL BE BANDED FROM CURB TO CURB WITH A MINIMUM 12" WIDE WHITE TRANSVERSE LINE ALONG EACH EDGE.
 - 24" WIDE SPACE TO BE CENTERED ON YELLOW CENTERLINE.
- PAVEMENT MARKINGS FOR TURNING LANES**
- INSTALL AT LEAST TWO ARROWS PER LANE WHERE STORAGE LENGTH IS GREATER THAN 150 FEET.

Proposed Retail Development

1263 Hopmeadow Street (Route 10)
Simsbury, Connecticut

PREPARED FOR

Gregg R. Nanni
General Manager
Prospect Enterprises, LLC
231 Farmington Avenue
Farmington, CT 06032

PREPARED BY



100 Great Meadow Road
Suite 200
Wethersfield, CT 06109
860.807.4300

May 2023

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1

Introduction

Vanasse Hangen Brustlin, Inc. (VHB) has been retained by Prospect Enterprises, LLC to conduct a Transportation Impact Assessment (TIA) for a proposed development to be located at 1263 Hopmeadow Street (Route 202) in Simsbury, Connecticut. VHB has evaluated existing traffic operations in the area, assessed the impacts of this development, and evaluated if transportation improvements are necessary to accommodate this development and potential traffic growth in this area.

Project Description and Background

The Project site is currently a vacant lot located at 1263 Hopmeadow Street (Route 202) in Simsbury, Connecticut. The Project involves the construction of a 2,400 square foot coffee shop with drive through and patio, a 2,325 square foot fast-food restaurant with online order pick-up window and patio, a 11,600 square foot retail building, and a drive-up ATM. A new full-access entrance/right-out only driveway onto Route 202 is proposed between the coffee shop and fast-food restaurant pad sites. A new internal connection to the adjacent Big Y shopping plaza is also proposed, which will provide access to the project site via the existing signalized driveway to the Big Y shopping plaza.

A site location map is provided in Figure 1. This transportation study analyzes the traffic impacts that can be expected by the proposed development.



0 200 400 FEET



Study Location Map
Commercial Development

Simsbury, CT

Figure 1



Study Methodology

This traffic study was conducted in three stages. The first stage involved an assessment of existing traffic conditions in the study area and included an inventory of roadway geometrics and observations of traffic flow.

In the second stage of the study, future traffic conditions both with and without the project were estimated and analyzed. This study assessed specific travel demand forecasts for the project, and the estimated background growth unrelated to this project.

The third and final stage involved conducting traffic analyses to identify both existing and projected future roadway capacity and demand. From this information and other factors, the likely traffic impacts associated with the project can be determined. This analysis was used as the basis for determining if any resulting roadway improvements or measures would be required in support of the site-generated traffic.

Study Area

The study area includes those locations that are expected to be affected by this project. The roads and intersections included in the study area were selected based on VHB's knowledge of the traffic patterns in the area and from discussion with the Town of Simsbury. The specific study area encompasses the following intersections:

- Hopmeadow Street (Route 202) at Big Y Plaza (signalized);
- Hopmeadow Street (Route 202) at Ely Lane (unsignalized); and,
- Hopmeadow Street (Route 202) at Hoskins Road (signalized)

An inventory of the existing conditions for each of the study intersection is provided in the following chapter.



2

Existing Conditions Assessment

Effective evaluation of the transportation impacts associated with the proposed development project requires a thorough understanding of the existing transportation system surrounding the project study area. A complete inventory of the existing transportation system was conducted and is presented in this section. The analysis of the existing transportation conditions is based on the existing network, roadway and intersection geometry, traffic control, existing traffic volumes, traffic safety, and pedestrian facilities.

Roadway Network

The principal roadways and intersections in the study area are described below.

Roadways

The description of the roadways includes the physical characteristics, geometric conditions, adjacent land uses, and current operating conditions.

Hopmeadow Street (Route 202)

Hopmeadow Street (Route 202) in the vicinity of the project site is an urban principal arterial roadway under state jurisdiction that runs through Simsbury in a primarily north/south direction. Hopmeadow Street to the north connects to the Town of Granby, to the south Hopmeadow Street (Route 202) connects to Downtown Simsbury. This roadway provides two travel lanes in the vicinity of the project area, one lane in each direction, with accessory lanes



provided at key intersections. The primary land use along this portion of Hopmeadow Street (Route 202) is commercial land use. Hopmeadow Street (Route 202) provides sidewalk accommodations intermittently along the west side of the roadway.

Ely Lane

Ely Lane is an urban collector roadway in the vicinity of the project site under local jurisdiction and runs through Simsbury in an east/west direction. This roadway is short and measures approximately 730 feet in length. To the east it connects Hopmeadow Street (Route 202) with Hoskins Road to the west. Ely Lane provides two travel lanes, one in each direction. Sidewalks are not available along this roadway. The primary land use along Ely Lane is commercial with some residential.

Hoskins Road

Hoskins Road is an urban collector roadway at its junction with Ely Lane. At the intersection with Route 202, Hoskins Road is a local roadway. To the east it connects Hopmeadow Street (Route 202) with residential communities to the west. Hoskins Road provides two travel lanes, one in each direction, with accessory lanes at key intersections. Sidewalks are not present on this roadway. The primary land use along Hoskins Road is residential land use.

Intersections

The description of the intersections includes the physical characteristics, geometric conditions, and current operating conditions.

Hopmeadow Street (Route 202) at Big Y Plaza (signalized)

The Big Y Plaza Driveway intersects Hopmeadow Street (Route 202) from the west to form a three-legged signalized intersection. The northbound approach consists of one exclusive left-turn lane and one through lane. In the southbound direction Hopmeadow Street (Route 202) consists of a single multi-purpose lane. The eastbound driveway approach provides an exclusive left-turn lane and an exclusive right-turn lane. Crosswalks with pedestrian signal heads are present at this intersection across the western and northern legs.

Hopmeadow Street (Route 202) at Ely Lane (unsignalized)

Ely Lane intersects Hopmeadow Street (Route 202) from the west to form a three-legged unsignalized intersection. All approaches to the intersection consist of one multi-purpose lane. The eastbound approach to the intersection operates under stop control, while the northbound/southbound direction operate freely. Crosswalks and pedestrian accommodations are not provided at this intersection.

Hopmeadow Street (Route 202) at Hoskins Road (signalized)

Hoskins Road intersects Hopmeadow Street (Route 202) from the west to form a three-legged signalized intersection. The eastbound and northbound approaches to the intersection contain



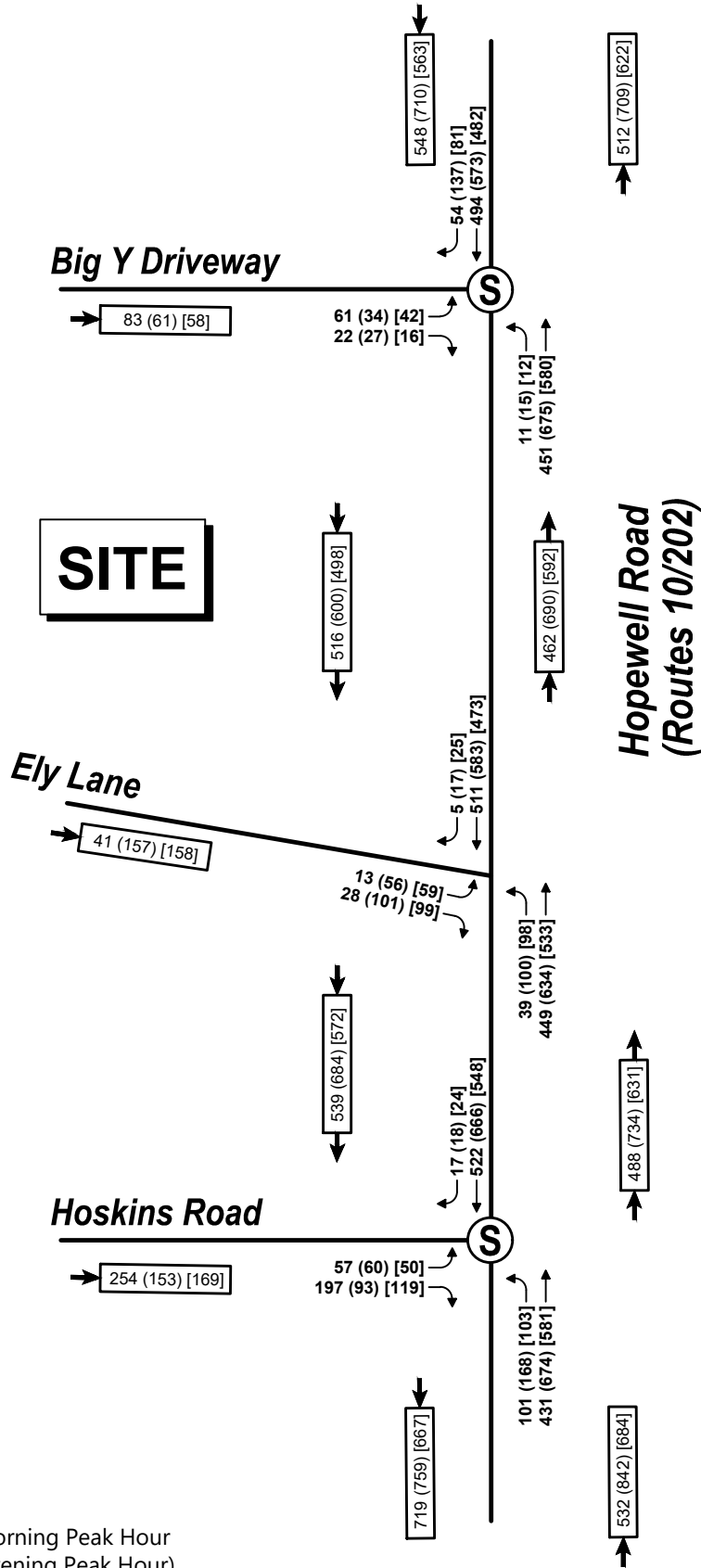
an exclusive left-turn lane, and a right-turn lane or through lane respectively. The southbound approach contains one multi-purpose lane. Crosswalks and pedestrian accommodations are present across the southbound approach.

Traffic Volumes

VHB obtained TMC counts from the Connecticut Department of Transportation (CT DOT) for the study area intersection of Route 202 at Hoskins Road. This data was taken from the state MioVision system and balanced between intersections to account for any discrepancies in data. Manual turning movement and classification (TMC) counts were collected by VHB in July 2022 at the study area intersections of Route 202 at Big Y Plaza and Route 202 at Ely Lane. The counts were collected from 7:00 to 9:00 AM during a typical weekday morning, 4:00 to 6:00 PM during a typical weekday evening, and 11 AM to 1 PM during a typical Saturday midday peak hour. The July 2022 counts were balanced with the DOT provided December 2021 counts to account for seasonality in the collected data.

Overall, the peak hours of the network occurred from 8:00 to 9:00 AM during the weekday morning peak hour, from 4:00 PM to 5:00 PM during the weekday evening peak hour, and from approximately 11:45 AM to 12:45 PM during the Saturday midday peak hour.

The 2022 Existing conditions weekday morning, evening, and Saturday midday peak hour traffic volume networks are summarized in Figure 2.



- # Weekday Morning Peak Hour
- # (Weekday Evening Peak Hour)
- # [Saturday Midday Peak Hour]



Not to Scale



2022 Existing Conditions
Peak Hour Traffic Volumes
Mixed-Use Development
Simsbury, CT

Figure 2



Safety Assessment

To identify potential vehicle crash trends and/or roadway deficiencies near the project site, VHB conducted a review of the UConn Crash Database to document the number of geolocated vehicular collisions that have taken place over the most recent three years (2019-2021).

The review revealed no crashes reported at the intersection of Hopmeadow Street at Big Y Plaza Driveway, three reported crashes occurred at the intersection of Hopmeadow Street at Ely Lane, and five crashes were reported at the intersection of Hoskins Road at Hopmeadow Street. It should be noted that the results of the Crash Database review were dependent on the accuracy of crash reporting and geolocating.

Table presents the number of crashes and crash characteristics for the study intersections. No crashes resulted in a fatality, and no crashes included a non-motorist within the three years at the study intersections.

Approximately 75% (6 of 8) of all the crashes in the study area resulted in property damage only, with 25% of crashes resulting in injuries. Angle crashes occurred the most frequently at the study intersections with rear-end collisions following closely. The crashes occurred at varying times and under primarily dry pavement and daylight conditions.



Table 1 Crash Analysis Summary

| | Route 10/202 at Big Y Driveway | Route 10/202 at Ely Lane | Route 10/202 at Hoskins Road |
|--|-----------------------------------|--------------------------|---------------------------------|
| Year | | | |
| 2019 | 0 | 2 | 3 |
| 2020 | 0 | 1 | 2 |
| <u>2021</u> | <u>0</u> | <u>0</u> | <u>0</u> |
| Total | 0 | 3 | 5 |
| Collision Type | | | |
| Angle | 0 | 2 | 2 |
| Head-on | 0 | 0 | 0 |
| Rear-end | 0 | 0 | 2 |
| Sideswipe, same direction | 0 | 1 | 0 |
| <u>Unknown</u> | <u>0</u> | <u>0</u> | <u>1</u> |
| Total | 0 | 3 | 5 |
| Severity | | | |
| Fatal Injury | 0 | 0 | 0 |
| Non-Fatal Injury | 0 | 1 | 1 |
| Property Damage Only | 0 | 2 | 4 |
| <u>Not Reported/Unknown</u> | <u>0</u> | <u>0</u> | <u>0</u> |
| Total | 0 | 3 | 5 |
| Time of day | | | |
| Weekday, 7:00 AM - 9:00 AM | 0 | 2 | 1 |
| Weekday, 4:00 – 6:00 PM | 0 | 0 | 1 |
| Saturday, 11:00 AM – 2:00 PM | 0 | 0 | 0 |
| Weekday, other time | 0 | 1 | 3 |
| <u>Weekend, other time</u> | <u>0</u> | <u>0</u> | <u>0</u> |
| Total | 0 | 3 | 5 |
| Season | | | |
| Dec – Feb | 0 | 1 | 1 |
| Mar – May | 0 | 0 | 3 |
| June – Aug | 0 | 1 | 0 |
| <u>Sept – Nov</u> | <u>0</u> | <u>1</u> | <u>1</u> |
| Total | 0 | 3 | 5 |
| Pavement Conditions | | | |
| Dry | 0 | 3 | 4 |
| Wet | 0 | 0 | 0 |
| Snow | 0 | 0 | 1 |
| <u>Ice</u> | <u>0</u> | <u>0</u> | <u>0</u> |
| Total | 0 | 3 | 5 |
| Light Conditions | | | |
| Daylight | 0 | 3 | 4 |
| Dawn/Dusk | 0 | 0 | 0 |
| Dark, Not Lighted | 0 | 0 | 1 |
| <u>Dark, Lighted</u> | <u>0</u> | <u>0</u> | <u>0</u> |
| Total | 0 | 3 | 5 |
| Non-Motorist (Bike, Pedestrian) | 0 | 0 | 0 |

Source: UConn Connecticut Crash Data Repository 2019-2021.



3

Future Conditions

To determine the impacts of the future site-generated traffic volumes on the roadway network when the site is fully operational, traffic conditions were projected to the year 2023. Future traffic projections include regional background traffic growth and planned roadway improvements. Consideration of these factors resulted in the development of the 2023 No-Build traffic volumes. Anticipated Future Site-generated traffic volumes were then added to the 2023 No-Build traffic flow networks to reflect the 2023 Build scenario with the proposed development.

No-Build Traffic Volumes

Traffic growth on area roadways is a function of the expected land development, economic activity, and changes in demographics. A frequently used procedure is to estimate traffic that could be generated by planned new major developments, potentially affecting the project study area roadways. An alternative procedure is to estimate an overall area annual percentage increase and apply that increase to study area traffic volumes. For the purpose of this assessment, a conservative overall annual percentage increase was utilized and is detailed further below.



Background Projects

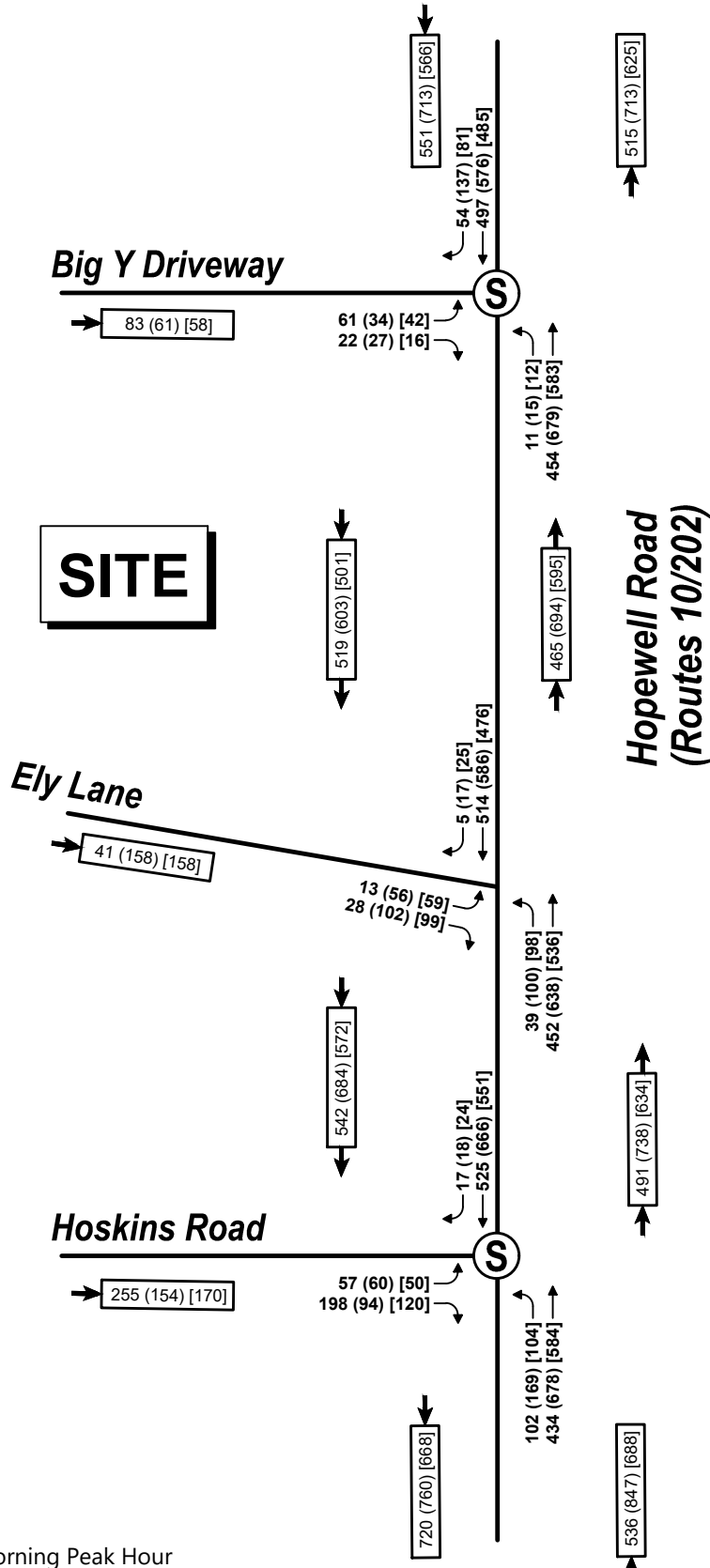
The CTDOT indicated that there were no significant recent developments in the area that would impact the traffic volume network. Within the last three years, a Big Y supermarket was constructed, however this has been accounted for in the traffic count data.

Historic Growth

Per discussion with the CT DOT, an appropriate growth rate for this area is approximately 0.6-percent per year.

2023 No-Build Traffic Volumes

The 0.6-percent per year annual growth rate was added to the 2022 Existing traffic volumes, to develop the projected 2023 No-Build (without the proposed project) weekday morning, weekday evening, and Saturday midday peak hour traffic volumes, which can be seen in Figure 3.



Weekday Morning Peak Hour
 # (Weekday Evening Peak Hour)
 # [Saturday Middy Peak Hour]



Not to Scale



2023 No-Build Conditions
 Peak Hour Traffic Volumes
 Mixed-Use Development
 Simsbury, CT

Figure 3



Build Condition

Build traffic volumes for study area roadways were determined by estimating site generated traffic volumes and distributing these volumes over the study area roadways.

Site Generated Traffic

The Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition¹ was used to estimate vehicle trips to be generated by the proposed development. The following ITE land use codes (LUC) were used to account for the proposed future conditions:

- LUC 822 "Strip Retail Plaza (<40k)" was used to estimate the vehicle trips with the 11,600 SF retail building
- LUC 934 "Fast-Food Restaurant with Drive-Through Window" was used to estimate the vehicle trips with the proposed 2,325 SF fast-food restaurant
- LUC 937 "Coffee/Donut Shop with Drive-Through Window" was used to estimate the vehicle trips with the proposed 2,400 SF coffee shop

In addition, a drive-up ATM is proposed within the parking lot. No data is available in the Trip Generation Manual for a drive-up ATM. Therefore, VHB conservatively assumed that the ATM would generate 20 standalone trips per hour (10 enter, 10 exit) during the peak periods.

It should be noted that the layout of the site and the connection to the adjacent Big Y Plaza will facilitate multi-purpose trips on the site. For example, customers to the Big Y plaza could visit one of the proposed restaurants or the ATM without traveling out onto the external road network. As such, an internal capture rate was applied to the trip generation rates to account for internal multi-purpose trips. As recommended by the CTDOT Bureau of Policy and Planning, a 10% internal capture rate was utilized to account for internal multi-purpose trips.

Not all the projected site traffic represents new vehicles on the adjacent roadway network. A portion of the trips generated by retail establishments are classified as "pass-by" traffic. Pass-by traffic consists of vehicles already on the roadway that are attracted to a site when passing through the area. The primary destination of this traffic is elsewhere, and the primary trip will be resumed following a stop at the proposed development. In accordance with CTDOT guidelines, a 50 percent pass-by rate was utilized for the coffee shop and a 20 percent pass-by rate was utilized for the retail and fast-food uses.

The resulting site traffic generation is presented on Table 2. As indicated in this table, the project is anticipated to generate 206 net new trips (108 entering, 98 exiting) during the morning peak hour, 168 trips (85 entering, 83 exiting) during the evening peak hour, and 256

¹ Trip Generation; Eleventh Edition; Institute of Transportation Engineers; Washington, D.C.; 2021.



trips (130 entering, 126 exiting) during the Saturday midday peak hour. The ITE Trip Generation data are included in the Appendix.

Table 2 Site Generated Traffic Summary

| Time Period | Retail (11,600 SF) ¹ | Fast-Food with Drive-Through (2,325 SF) ² | Coffee Shop with Drive-Through (2,400 SF) ³ | Drive-up ATM | Internal Capture Trips ⁵ | Total External Trips | Pass-By Trips ⁴ | Net New Trips |
|--|------------------------------------|---|---|--------------|-------------------------------------|----------------------|----------------------------|---------------|
| <i>Weekday AM Peak Hour^b</i> | | | | | | | | |
| Enter | 16 | 53 | 105 | 10 | -18 | 166 | -58 | 108 |
| Exit | <u>11</u> | <u>51</u> | <u>101</u> | <u>10</u> | <u>-17</u> | <u>156</u> | <u>-58</u> | <u>98</u> |
| Total | 27 | 104 | 206 | 20 | -35 | 322 | -116 | 206 |
| <i>Weekday PM Peak Hour^b</i> | | | | | | | | |
| Enter | 38 | 40 | 47 | 10 | -14 | 121 | -36 | 85 |
| Exit | <u>38</u> | <u>37</u> | <u>47</u> | <u>10</u> | <u>-13</u> | <u>119</u> | <u>-36</u> | <u>83</u> |
| Total | 76 | 77 | 94 | 20 | -27 | 240 | -72 | 168 |
| <i>Saturday Midday Peak Hour^b</i> | | | | | | | | |
| Enter | 39 | 66 | 105 | 10 | -22 | 198 | -68 | 130 |
| Exit | <u>37</u> | <u>63</u> | <u>106</u> | <u>10</u> | <u>-22</u> | <u>194</u> | <u>-68</u> | <u>126</u> |
| Total | 76 | 129 | 211 | 20 | -44 | 392 | -136 | 256 |

Source: Trip Generation, 11th Edition; Institute of Transportation Engineers (ITE); Washington, D.C. (2021).

a vehicles per day

b vehicles per hour

1 Future trip generation based on LUC 822 Strip Retail Plaza (<40k), 11,600 SF

2 Future trip generation based on LUC 934 Fast-Food Restaurant with Drive-Through Window, 2,325 SF

3 Future trip generation based on LUC 937 Coffee/Donut Shop with Drive-Through Window, 2,400 SF

4 Pass-by Trips, per CTDOT 50% for coffee shop, 20% for retail, fast-food, and ATM

5 Internal Capture Rate, per CTDOT 10%

Trip Distribution

The distribution for the site generated traffic was determined by examining the site location in relation to major routes and populations within the Town of Simsbury. Based on the site's proximity to both downtown Simsbury and downtown Granby, it was assumed that the directional distribution would be close to an even split.

Site-generated traffic was allocated across the major routes in the area based on the traffic percentages that are summarized in Table 3. The resulting net site-generated traffic volumes are depicted on Figure 4.

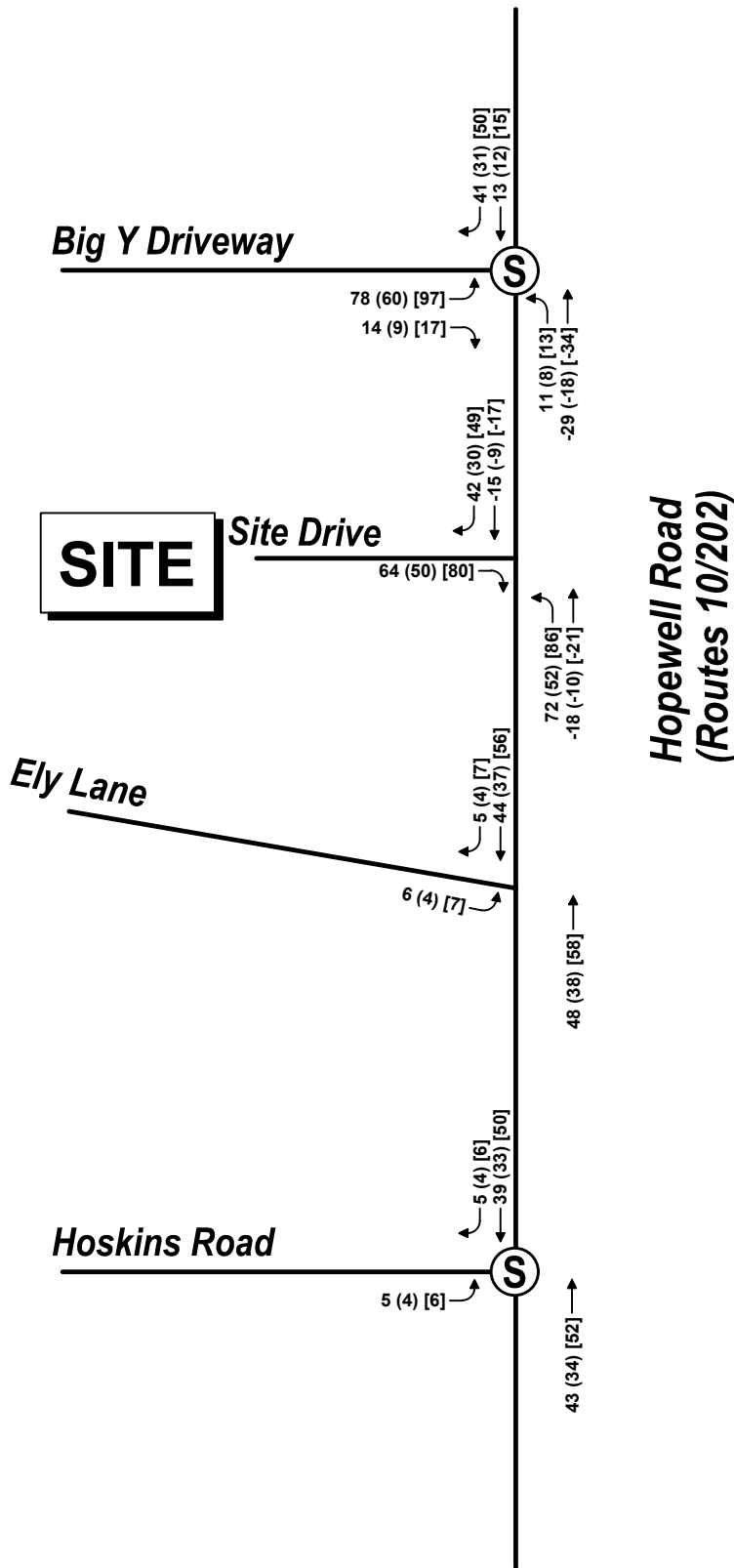


Table 3 Trip Distribution Summary

| Roadway | Direction [From/To] | Proposed Site Generated Trip Distribution To/From the Site |
|-----------------------|--------------------------------|---|
| Route 202 | North | 50% |
| Route 202 | South | 40% |
| Ely Lane/Hoskins Road | <u>West</u> | <u>10%</u> |
| Total | | 100% |

Build Conditions Traffic Volumes

The future site-generated volumes will be assigned to the roadway network according to the distribution patterns and off-site improvements described above and combined with the 2023 No-Build traffic volumes to develop the 2023 Build peak hour networks. The 2023 Build peak hour network can be seen in Figure 5.



Weekday Morning Peak Hour
 # (Weekday Evening Peak Hour)
 # [Saturday Midday Peak Hour]

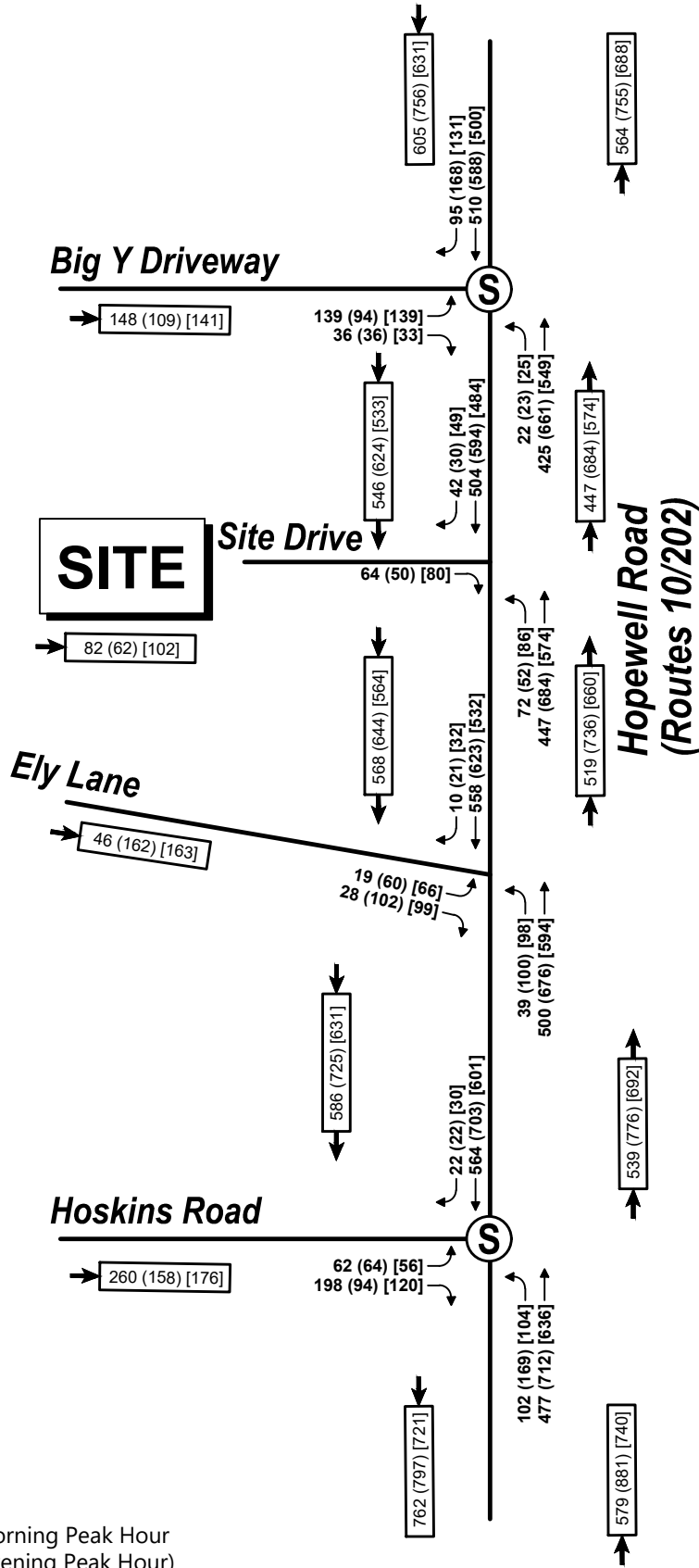
 **Not to Scale**



Site Generated Traffic Volumes

Figure 4

Mixed-Use Development
 Simsbury, CT



- # Weekday Morning Peak Hour
- # (Weekday Evening Peak Hour)
- # [Saturday Middy Peak Hour]



Not to Scale



2023 Build Conditions
Peak Hour Traffic Volumes
Mixed-Use Development
Simsbury, CT

Figure 5

4

Traffic Operations Analysis

Measuring existing traffic volumes and projecting future traffic volumes quantifies traffic flow within the study area. To assess the roadway and intersection capacity, analyses were conducted with respect to existing traffic volume conditions. Capacity analyses provide an indication of how well the roadway facilities serve the traffic demands placed on them. The following sections describe the methodology used to evaluate the study area intersections.

Level of Service and Delay Criteria

The evaluation criteria used to analyze area intersections in this traffic study are based on the 2000 Highway Capacity Manual (HCM). The HCM 2000 methodology was used instead of HCM 2010 or HCM 6th Edition due to limitations in these newer HCM methodologies that would preclude analysis of some signalized study intersections. For instance, the HCM 2010 and HCM 6th Edition methodologies do not support analysis of intersections with non-NEMA phasing, more than four approaches, or clustered intersections. The term 'Level of service' (LOS) is used to denote the different operating conditions that occur on a given roadway segment under various traffic volume loads. It is a qualitative measure that considers several factors including roadway geometry, speed, travel delay and freedom to maneuver. Level of service provides an index to the operational qualities of a roadway segment or an intersection. Level-of-service designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions.



In addition to LOS, two other measures of effectiveness (MOEs) are typically used to quantify the traffic operations at intersections; volume-to-capacity ratio (v/c) and delay (expressed in seconds per vehicle). For example, an existing v/c ratio of 0.9 for an intersection indicates that the intersection is operating at 90 percent of its available capacity. A delay of 15 seconds for a particular vehicular movement or approach indicates that vehicles on the movement or approach will experience an average additional travel time of 15 seconds. It should be noted that v/c and delay could have a range of values for a given LOS letter designation. Comparison of intersection capacity results therefore requires that, in addition to the LOS, the other MOEs should also be considered.

The level-of-service designations, which are based on delay, are reported differently for signalized and unsignalized intersections. For signalized intersections, the analysis considers the operation of all traffic entering the intersection and the LOS designation is for overall conditions at the intersection. For unsignalized intersections, however, the analysis assumes that traffic on the mainline is not affected by traffic on the side streets. Thus, the LOS designation is for the critical movement exiting the side street, which is generally the left turn out of the side street or site driveway. Table 4 shows the level of service criteria for both signalized intersections and unsignalized intersections.

It should be noted that the analytical methodologies typically used for the analysis of unsignalized intersections use conservative analysis parameters, such as long critical gaps. Actual field observations indicate that drivers on minor streets generally accept shorter gaps in traffic than those used in the analysis procedures and therefore experience less delay than reported by the analysis software. The analysis methodologies also do not fully consider the beneficial grouping effects caused by nearby signalized intersections. The net effect of these analysis procedures is the over-estimation of calculated delays at unsignalized intersections in the study area. Cautious judgment should therefore be exercised when interpreting the capacity analysis results at unsignalized intersections.

Table 4 Level of Service Criteria

| Level of Service | Signalized Intersection | Unsignalized Intersection |
|-------------------------|--------------------------------|----------------------------------|
| A | 0 to 10 seconds | 0 to 10 seconds |
| B | 10 to 20 seconds | 10 to 15 seconds |
| C | 20 to 35 seconds | 15 to 25 seconds |
| D | 35 to 55 seconds | 25 to 35 seconds |
| E | 55 to 80 seconds | 35 to 50 seconds |
| F | Greater than 80 seconds | Greater than 50 seconds |

Source: 2000 Highway Capacity Manual Exhibits 16-2 and 17-2



Signalized Intersection Capacity Analysis

Capacity analyses were conducted for the signalized study area intersections of Big Y at Hopmeadow Street (Route 202) and Hoskins Road at Hopmeadow Street (Route 202) during the 2022 Existing Conditions, the 2023 No-Build conditions (without the proposed development) and the 2023 Build conditions (with the development). A summary of this analysis is presented below in Table 5.

The signalized intersection of Hopmeadow Street (Route 202) at Big Y Driveway operates at an overall LOS B or better under existing conditions and future No-Build conditions. The additional traffic generated by the proposed development is expected to cause increases in delays of 8 to 15 seconds per vehicle during the peak traffic periods. However, the intersection is expected to operate at an overall acceptable LOS C or better condition under future Build conditions.

The signalized intersection of Hopmeadow Street (Route 202) at Hoskins Road operates at an overall LOS B or better under existing conditions and future No-Build conditions. Under Build conditions, the LOS is expected to remain as LOS B during the weekday morning and Saturday midday peak hour conditions and degrade to LOS C for the weekday evening peak hour.

Overall, the additional traffic generated by the proposed mixed-use development is expected to have only a nominal impact on traffic operating conditions in the study area, and all signalized study intersections are expected to continue operating at overall acceptable LOS C or better during the peak traffic periods.



Table 5 Signalized Intersection Capacity Analysis Summary

| Approach | Lane Group | 2022 Existing Conditions | | | | | 2023 No-Build Conditions | | | | | 2023 Build Conditions | | | | |
|---|----------------|--------------------------|--------------------|------------------|-------------------------------|-------------------------------|--------------------------|-------------|----------|------------------|------------------|-----------------------|-------------|----------|------------------|------------------|
| | | V/C ¹ | Delay ² | LOS ³ | 50 th ⁴ | 95 th ⁵ | V/C | Delay | LOS | 50 th | 95 th | V/C | Delay | LOS | 50 th | 95 th |
| Big Y at Hopmeadow Street (Route 202)– Weekday Morning Peak Hour | | | | | | | | | | | | | | | | |
| Big Y Driveway | EB L | 0.41 | 23.6 | C | 57 | 52 | 0.41 | 23.4 | C | 27 | 52 | 0.59 | 24.7 | C | 67 | 100 |
| Big Y Driveway | EB R | 0.02 | 11.1 | B | 0 | 8 | 0.02 | 13.7 | B | 0 | 8 | 0.03 | 12.2 | B | 0 | 9 |
| Hopmeadow St | NB L | 0.03 | 5.1 | A | 1 | 4 | 0.03 | 5.2 | A | 1 | 4 | 0.06 | 8.6 | A | 3 | 10 |
| Hopmeadow St | NB T | 0.41 | 3.5 | A | 57 | 99 | 0.42 | 3.5 | A | 57 | 100 | 0.42 | 5.3 | A | 65 | 138 |
| Hopmeadow St | SB TR | 0.79 | 18.0 | B | 194 | #377 | 0.79 | 18.2 | B | 196 | #380 | 0.98 | 45.7 | D | 255 | #508 |
| | Overall | 0.65 | 12.3 | B | - | - | 0.65 | 12.4 | B | - | - | 0.76 | 27.9 | C | - | - |
| Big Y at Hopmeadow Street (Route 202)– Weekday Evening Peak Hour | | | | | | | | | | | | | | | | |
| Big Y Driveway | EB L | 0.30 | 30.6 | C | 20 | 42 | 0.30 | 30.7 | C | 20 | 42 | 0.54 | 31.6 | C | 59 | 90 |
| Big Y Driveway | EB R | 0.02 | 14.7 | B | 0 | 11 | 0.02 | 14.6 | B | 0 | 11 | 0.03 | 13.3 | B | 0 | 12 |
| Hopmeadow St | NB L | 0.03 | 6.8 | A | 1 | 4 | 0.03 | 6.9 | A | 1 | 4 | 0.06 | 10.5 | A | 2 | 9 |
| Hopmeadow St | NB T | 0.56 | 3.5 | A | 106 | 151 | 0.56 | 3.6 | A | 107 | 153 | 0.58 | 5.2 | A | 115 | 221 |
| Hopmeadow St | SB TR | 0.86 | 23.4 | C | 336 | #581 | 0.86 | 24.0 | C | 340 | #585 | 1.00 | 52.6 | D | ~411 | #714 |
| | Overall | 0.73 | 14.0 | B | - | - | 0.73 | 14.3 | B | - | - | 0.82 | 29.5 | C | - | - |
| Big Y at Hopmeadow Street (Route 202)– Saturday Midday Peak Hour | | | | | | | | | | | | | | | | |
| Big Y Driveway | EB L | 0.36 | 27.1 | C | 25 | 47 | 0.37 | 24.2 | C | 26 | 47 | 0.67 | 34.0 | C | 94 | 122 |
| Big Y Driveway | EB R | 0.02 | 12.6 | B | 0 | 8 | 0.01 | 15.3 | B | 0 | 8 | 0.03 | 15.1 | B | 0 | 9 |
| Hopmeadow St | NB L | 0.02 | 4.3 | A | 1 | 4 | 0.02 | 4.3 | A | 1 | 4 | 0.06 | 8.1 | A | 3 | 13 |
| Hopmeadow St | NB T | 0.48 | 3.3 | A | 79 | 131 | 0.48 | 3.3 | A | 80 | 133 | 0.49 | 5.8 | A | 110 | 223 |
| Hopmeadow St | SB TR | 0.68 | 14.9 | B | 190 | 357 | 0.68 | 15.0 | B | 192 | 361 | 0.82 | 25.5 | C | 278 | #595 |
| | Overall | 0.60 | 9.7 | A | - | - | 0.60 | 9.8 | A | - | - | 0.72 | 18.3 | B | - | - |

1 V/C – Volume-to-capacity ratio
 2 Delay – Control delay per vehicle
 3 LOS – Level-of-Service
 4 50th – 50th percentile queue length estimate, in feet
 5 95th – 95th percentile queue length estimate, in feet
 6 Proposed Build Condition lane group
 ~ Volume exceeds capacity, queue is theoretically infinite
 # 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles
 M Volume for 95th percentile queue is metered by upstream signal
 NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound; L = left-turn; T = through; R = right-turn



Table 5 cont. Signalized Intersection Capacity Analysis Summary

| Approach | Lane Group | 2022 Existing Conditions | | | | | 2023 No-Build Conditions | | | | | 2023 Build Conditions | | | | |
|--|----------------|--------------------------|--------------------|------------------|-------------------------------|-------------------------------|--------------------------|-------------|----------|------------------|------------------|-----------------------|-------------|----------|------------------|------------------|
| | | V/C ¹ | Delay ² | LOS ³ | 50 th ⁴ | 95 th ⁵ | V/C | Delay | LOS | 50 th | 95 th | V/C | Delay | LOS | 50 th | 95 th |
| Hoskins Road at Hopmeadow Street (Route 202)– Weekday Morning Peak Hour | | | | | | | | | | | | | | | | |
| Hoskins Road | EB L | 0.25 | 32.3 | C | 39 | 57 | 0.25 | 32.1 | C | 38 | 57 | 0.26 | 31.7 | C | 42 | 60 |
| Hoskins Road | EB R | 0.48 | 26.2 | C | 88 | 94 | 0.47 | 26.0 | C | 89 | 94 | 0.48 | 25.7 | C | 95 | 99 |
| Hopmeadow St | NB L | 0.25 | 6.9 | A | 16 | 39 | 0.25 | 7.1 | A | 16 | 39 | 0.28 | 8.0 | A | 17 | 40 |
| Hopmeadow St | NB T | 0.45 | 11.9 | B | 150 | 287 | 0.46 | 12.2 | B | 153 | 291 | 0.51 | 13.3 | B | 179 | 335 |
| Hopmeadow St | SB TR | 0.59 | 14.3 | B | 210 | 399 | 0.59 | 14.6 | B | 214 | 403 | 0.65 | 16.3 | B | 247 | #502 |
| | Overall | 0.61 | 15.9 | B | - | - | 0.61 | 16.1 | B | - | - | 0.66 | 17.0 | B | - | - |
| Hoskins Road at Hopmeadow Street (Route 202)– Weekday Evening Peak Hour | | | | | | | | | | | | | | | | |
| Hoskins Road | EB L | 0.37 | 38.0 | D | 39 | 71 | 0.36 | 37.9 | D | 39 | 71 | 0.38 | 38.0 | D | 42 | 74 |
| Hoskins Road | EB R | 0.21 | 24.1 | C | 37 | 61 | 0.22 | 24.0 | C | 38 | 62 | 0.22 | 24.0 | C | 40 | 63 |
| Hopmeadow St | NB L | 0.45 | 10.0 | A | 17 | 39 | 0.46 | 10.3 | B | 17 | 43 | 0.50 | 12.5 | B | 18 | 68 |
| Hopmeadow St | NB T | 0.66 | 15.4 | B | 258 | 490 | 0.67 | 15.7 | B | 262 | 495 | 0.71 | 16.7 | B | 287 | #598 |
| Hopmeadow St | SB TR | 0.78 | 19.3 | B | 326 | #510 | 0.78 | 19.8 | B | 332 | #524 | 0.83 | 22.5 | C | 373 | #626 |
| | Overall | 0.71 | 17.9 | B | - | - | 0.71 | 18.2 | B | - | - | 0.76 | 20.0 | C | - | - |
| Hoskins Road at Hopmeadow Street (Route 202)– Saturday Midday Peak Hour | | | | | | | | | | | | | | | | |
| Hoskins Road | EB L | 0.32 | 42.2 | D | 32 | 68 | 0.32 | 42.2 | D | 32 | 68 | 0.35 | 42.3 | D | 36 | 75 |
| Hoskins Road | EB R | 0.11 | 31.2 | C | 5 | 49 | 0.12 | 31.1 | C | 6 | 50 | 0.17 | 30.5 | C | 17 | 59 |
| Hopmeadow St | NB L | 0.20 | 3.9 | A | 9 | 21 | 0.20 | 3.9 | A | 9 | 21 | 0.22 | 4.6 | A | 9 | 22 |
| Hopmeadow St | NB T | 0.50 | 8.9 | A | 158 | 290 | 0.50 | 8.9 | A | 159 | 294 | 0.56 | 10.4 | B | 190 | 366 |
| Hopmeadow St | SB TR | 0.51 | 9.1 | A | 157 | 291 | 0.51 | 9.2 | A | 158 | 295 | 0.57 | 10.7 | B | 192 | 372 |
| | Overall | 0.48 | 11.6 | B | - | - | 0.49 | 11.7 | B | - | - | 0.54 | 12.8 | B | - | - |

1 V/C – Volume-to-capacity ratio
 2 Delay – Control delay per vehicle
 3 LOS – Level-of-Service
 4 50th – 50th percentile queue length estimate, in feet
 5 95th – 95th percentile queue length estimate, in feet
 ~ Volume exceeds capacity, queue is theoretically infinite
 # 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles
 M Volume for 95th percentile queue is metered by upstream signal
 NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound; L = left-turn; T = through; R = right-turn



Unsignalized Intersection Capacity Analysis

Unsignalized intersection capacity analyses were conducted for the existing intersection of Hopmeadow Street (Route 202) at Ely Lane and the proposed full access entry/right-out only site drive (Site Drive) on Hopmeadow Street (Route 202). Capacity analyses were conducted for the 2022 Existing, 2023 No-Build (without the proposed project), and the 2023 Build conditions (with the development). The results of the analysis are shown in Table 6.

The existing intersection of Hopmeadow Street (Route 202) at Ely Lane currently operates with LOS C or better during all peak hours and is expected to do so through the 2023 No-Build Conditions. Under 2023 Build conditions, the Ely Lane approach degrades to LOS D during the weekday evening and Saturday midday peak periods. However, the additional traffic generated by the development is only expected to cause a minimal increase in delays of approximately 7 seconds per vehicle.

The proposed full access entry/right-out only site drive on Hopmeadow Street (Route 202) operates with acceptable levels of service B or better during all peak hours under 2023 Build conditions.



Table 6 Unsignalized Intersection Capacity Analysis Summary

| Location | Period | Movement | 2022 Existing | | | | 2023 No-Build | | | | 2023 Build | | | |
|--|-----------------|----------|--------------------|------------------|--------------------|------------------|---------------|------|-------|-----|------------|------|-------|-----|
| | | | Queue ^a | v/c ^b | Delay ^c | LOS ^d | Queue | v/c | Delay | LOS | Queue | v/c | Delay | LOS |
| Ely Lane at Hopmeadow Street (Route 202) | Weekday Morning | EB-LR | 11 | 0.12 | 14.0 | B | 11 | 0.13 | 14.0 | B | 15 | 0.17 | 16.1 | C |
| | | NB-LT | 4 | 0.05 | 1.3 | A | 4 | 0.05 | 1.3 | A | 4 | 0.05 | 1.3 | A |
| | | SB-TR | 0 | 0.35 | 0.0 | - | 0 | 0.36 | 0.0 | - | 0 | 0.39 | 0.0 | - |
| | Weekday Evening | EB-LR | 66 | 0.49 | 21.8 | C | 66 | 0.49 | 21.8 | C | 77 | 0.54 | 24.5 | C |
| | | NB-LT | 9 | 0.11 | 2.8 | A | 9 | 0.11 | 2.8 | A | 10 | 0.12 | 3.0 | A |
| | | SB-TR | 0 | 0.38 | 0.0 | - | 0 | 0.39 | 0.0 | - | 0 | 0.41 | 0.0 | - |
| | Saturday Midday | EB-LR | 77 | 0.54 | 24.7 | C | 77 | 0.54 | 24.9 | C | 104 | 0.64 | 32.4 | D |
| | | NB-LT | 9 | 0.11 | 2.7 | A | 9 | 0.11 | 2.7 | A | 10 | 0.12 | 2.9 | A |
| | | SB-TR | 0 | 0.33 | 0.0 | - | 0 | 0.33 | 0.0 | - | 0 | 0.37 | 0.0 | - |
| Site Drive at Hopmeadow Street (Route 202) | Weekday Morning | EB-R | - | - | - | - | - | - | - | - | 9 | 0.11 | 11.1 | B |
| | | NB-LT | - | - | - | - | - | - | - | - | 7 | 0.08 | 1.2 | A |
| | Weekday Evening | EB-R | - | - | - | - | - | - | - | - | 7 | 0.09 | 11.6 | B |
| | | NB-LT | - | - | - | - | - | - | - | - | 5 | 0.06 | 0.7 | A |
| | Saturday Midday | EB-R | - | - | - | - | - | - | - | - | 12 | 0.14 | 11.5 | B |
| | | NB-LT | - | - | - | - | - | - | - | - | 8 | 0.10 | 1.2 | A |

a 95th percentile vehicle queue in feet
 b volume-to-capacity ratio for the critical movement
 c delay of critical approach only
 d level of service of the critical movement
 EB, WB Eastbound, westbound,
 NB, SB Northbound, southbound
 LR shared left/right-turn movements;
 LTR shared left/through/right turn movements
 L left-turn movement
 LT shared left/through movement



5

Conclusions

This study has been prepared to evaluate the traffic impacts associated with a proposed mixed-use development on currently a vacant lot located at 1263 Hopmeadow Street (Route 202) in Simsbury, Connecticut. The Project involves the creation of a 2,400 square foot coffee shop with drive through and patio, a 2,325 square foot fast-food restaurant with online order pick-up window and patio, a 11,600 square foot retail building, and a drive-up ATM.

A new full-access entrance/right-out only driveway onto Route 202 is proposed between the coffee shop and fast-food restaurant pad sites. A new internal connection to the adjacent Big Y shopping plaza is also proposed, which will provide access to the project site via the existing signalized driveway to the Big Y shopping plaza.

The project is anticipated to generate 206 net new trips (108 entering, 98 exiting) during the morning peak hour, 168 trips (85 entering, 83 exiting) during the evening peak hour, and 256 trips (130 entering, 126 exiting) during the Saturday midday peak hour.

Capacity analyses indicate that the signalized intersections of Hopmeadow Street (Route 202) at Big Y Driveway and Hopmeadow Street (Route 202) at Hoskins Road will continue operating at an overall acceptable LOS C or better under future Build conditions.



Capacity analyses were also conducted for the unsignalized intersections of Hopmeadow Street (Route 202) at Ely Lane and Hopmeadow Street (Route 202) at the proposed Site Drive. The proposed site driveway is expected to operate at LOS B or better during the peak traffic periods with minimal delays. The intersection of Hopmeadow Street at Ely Lane is projected to operate with LOS D or better conditions during the peak hours under future Build conditions, and the additional traffic generated by the development is only expected to cause a minimal increase in delays of approximately 7 seconds per vehicle.

It is therefore the conclusion of this Traffic Impact Assessment that the surrounding roadway network will not be greatly impacted by the traffic increases anticipated by the proposed development.



Appendix

Appendix No. & Title

Attachment A – Preliminary Site Plan

Attachment B – Traffic Counts

Attachment C – Crash Data

Attachment D – Trip Generation and Distribution

Attachment E – Capacity Analyses



Attachment A – Preliminary Site Plan



100 Great Meadow Road
Suite 200
Wethersfield, CT 06109
860.807.4300

Zoning Summary Chart

| | | |
|---------------------------------------|-----------------------------------|------------|
| Zoning District(S): | B2 - General Business | |
| Overlay District(S): | Level A - Aquifer Projection Zone | |
| Zoning Regulation Requirements | Required* | Provided |
| MINIMUM LOT AREA | NONE | ±4.45 AC |
| FRONTAGE | NONE | 371.7 Feet |
| FRONT YARD BUILDING SETBACK | 25 Feet | 64.2 Feet |
| FRONT YARD PARKING SETBACK | 25 Feet | 25 Feet |
| SIDE YARD BUILDING SETBACK | 20 Feet | 52.3 Feet |
| SIDE YARD PARKING SETBACK | 15 Feet | 15 Feet |
| REAR YARD BUILDING SETBACK | 25 Feet | 69.1 Feet |
| REAR YARD PARKING SETBACK | 25 Feet | 34.2 Feet |
| REAR YARD RESIDENTIAL LOADING SETBACK | 50 Feet | 59.1 Feet |
| MAXIMUM BUILDING HEIGHT | 40 Feet | <40 Feet |
| MAXIMUM IMPERVIOUS | 40.0%/60.0% ** | 59.7 % |

* Zoning regulation requirements as specified in Simsbury Zoning Regulations dated 03/01/2022
 ** Per Section 4.4.B. The Zoning Commission may, after notice and public hearing, grant a special exception to allow up to 50 percent increase to the maximum coverage allowed in any zone.

Parking Summary Chart

| Description | Size (FT) | | Spaces | |
|------------------------------------|-----------|----------|----------|----------|
| | Required | Provided | Required | Provided |
| STANDARD SPACES | 9 x 18 | 9 x 18 | 92 | 108 |
| COMPACT SPACES (50% ALLOWED W/ SE) | 8 x 16 | 8 x 16 | N/A | N/A |
| STANDARD ACCESSIBLE SPACES * | 15 x 18 | 15 x 18 | 3 | 4 |
| VAN ACCESSIBLE SPACES | 16 x 18 | 16 x 18 | 1 | 3 |
| TOTAL SPACES | | | 96 | 115 |

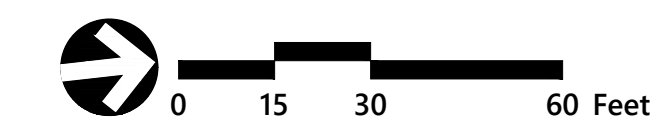
* ADA/STATE/LOCAL REGULATIONS REQUIRE 5 ACCESSIBLE PARKING SPACES FOR LOTS BETWEEN 101 TO 150 PARKING SPACES - 1 OF WHICH BEING VAN ACCESSIBLE

Parking Requirements:

| | | | | | | | |
|--------------------------|-----------|---|------|---|-----|---|-----------|
| RETAIL (OVER 10,000 GSF) | 11,600 SF | x | 2.75 | / | 500 | = | 64 SPACES |
| RESTAURANT 1 | 2,400 SF | x | 3.3 | / | 500 | = | 16 SPACES |
| RESTAURANT 2 | 2,325 SF | x | 3.3 | / | 500 | = | 16 SPACES |
| TOTAL PARKING REQUIRED = | | | | | | | 96 SPACES |

Sign Summary

| CONNDOT Number | Specification Width | Specification Height | Desc. |
|----------------|---------------------|----------------------|-------|
| 31-0552 | 30" | 30" | |
| 31-1119 | 30" | 30" | |
| 31-0662 | 12" | 24" | |
| 31-0648 | 12" | 6" | |



Proposed Commercial Development

1263 Hopmeadow Street
Simsbury, Connecticut

No. Revision Date Appr.

| | | | |
|--|--|--|--|
| | | | |
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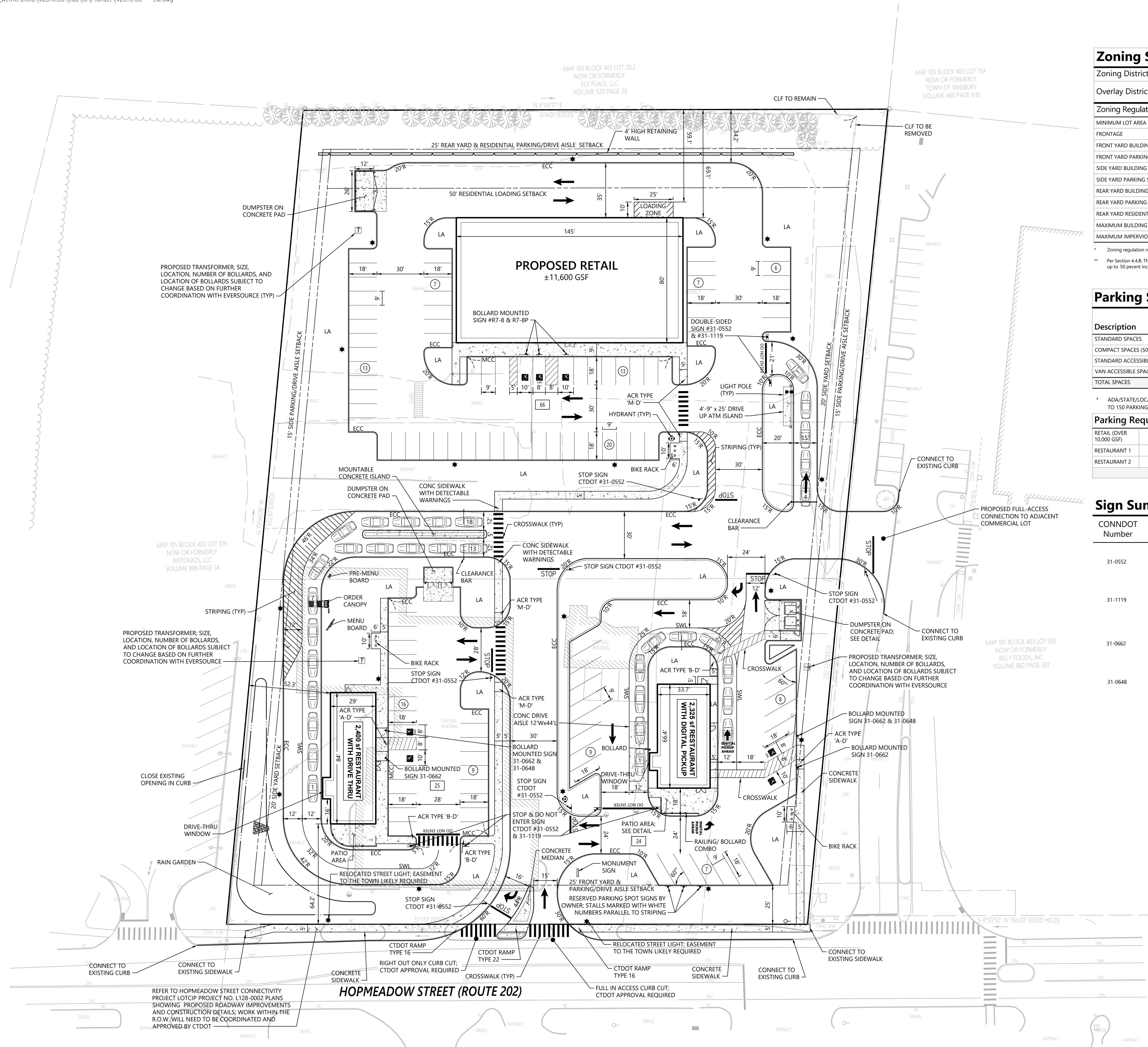
Designed by _____ Checked by _____

Issued for _____ Date _____
Local Approvals May 26, 2023

Layout and Materials Plan

Drawing Number

C-2



PROPOSED TRANSFORMER, SIZE, LOCATION, NUMBER OF BOLLARDS, AND LOCATION OF BOLLARDS SUBJECT TO CHANGE BASED ON FURTHER COORDINATION WITH EVERSOURCE (TYP)

PROPOSED TRANSFORMER, SIZE, LOCATION, NUMBER OF BOLLARDS, AND LOCATION OF BOLLARDS SUBJECT TO CHANGE BASED ON FURTHER COORDINATION WITH EVERSOURCE

CLOSE EXISTING OPENING IN CURB

REFER TO HOPMEADOW STREET CONNECTIVITY PROJECT LOTCIP PROJECT NO. 1128-0002 PLANS SHOWING PROPOSED ROADWAY IMPROVEMENTS AND CONSTRUCTION DETAILS. WORK WITHIN THE R.O.W. WILL NEED TO BE COORDINATED AND APPROVED BY CTDOT



Attachment B – Traffic Counts

Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 828-1693

Route 202 at Big Y Drive
 Simsbury, Connecticut

File Name : 23307
 Site Code : 23307
 Start Date : 7/14/2022
 Page No : 1

Groups Printed- Lights - Trucks - Buses

| Start Time | Route 202 From North | | | | | From East | | | | | Route 202 From South | | | | | Big Y Drive From West | | | | | Int. Total |
|-------------|-------------------------|------|------|------|------------|-----------|------|------|------|------------|-------------------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| 07:00 AM | 5 | 77 | 0 | 0 | 82 | 0 | 0 | 0 | 0 | 0 | 0 | 72 | 2 | 0 | 74 | 2 | 1 | 11 | 0 | 14 | 170 |
| 07:15 AM | 9 | 100 | 0 | 0 | 109 | 0 | 0 | 0 | 0 | 0 | 0 | 89 | 3 | 0 | 92 | 1 | 0 | 8 | 0 | 9 | 210 |
| 07:30 AM | 14 | 102 | 0 | 0 | 116 | 0 | 0 | 0 | 0 | 0 | 0 | 68 | 4 | 0 | 72 | 5 | 0 | 20 | 0 | 25 | 213 |
| 07:45 AM | 11 | 108 | 0 | 0 | 119 | 0 | 0 | 0 | 0 | 0 | 0 | 75 | 3 | 0 | 78 | 3 | 0 | 18 | 0 | 21 | 218 |
| Total | 39 | 387 | 0 | 0 | 426 | 0 | 0 | 0 | 0 | 0 | 0 | 304 | 12 | 0 | 316 | 11 | 1 | 57 | 0 | 69 | 811 |
| 08:00 AM | 13 | 121 | 0 | 0 | 134 | 0 | 0 | 0 | 0 | 0 | 0 | 93 | 4 | 0 | 97 | 4 | 0 | 15 | 0 | 19 | 250 |
| 08:15 AM | 15 | 130 | 0 | 0 | 145 | 0 | 0 | 0 | 0 | 0 | 0 | 114 | 4 | 0 | 118 | 9 | 0 | 20 | 0 | 29 | 292 |
| 08:30 AM | 20 | 145 | 0 | 0 | 165 | 0 | 0 | 0 | 0 | 0 | 0 | 133 | 1 | 0 | 134 | 5 | 0 | 21 | 0 | 26 | 325 |
| 08:45 AM | 6 | 98 | 0 | 0 | 104 | 0 | 0 | 0 | 0 | 0 | 0 | 111 | 2 | 0 | 113 | 4 | 0 | 5 | 0 | 9 | 226 |
| Total | 54 | 494 | 0 | 0 | 548 | 0 | 0 | 0 | 0 | 0 | 0 | 451 | 11 | 0 | 462 | 22 | 0 | 61 | 0 | 83 | 1093 |
| Grand Total | 93 | 881 | 0 | 0 | 974 | 0 | 0 | 0 | 0 | 0 | 0 | 755 | 23 | 0 | 778 | 33 | 1 | 118 | 0 | 152 | 1904 |
| Apprch % | 9.5 | 90.5 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 97 | 3 | 0 | | 21.7 | 0.7 | 77.6 | 0 | | |
| Total % | 4.9 | 46.3 | 0 | 0 | 51.2 | 0 | 0 | 0 | 0 | 0 | 0 | 39.7 | 1.2 | 0 | 40.9 | 1.7 | 0.1 | 6.2 | 0 | 8 | |
| Lights | 92 | 859 | 0 | 0 | 951 | 0 | 0 | 0 | 0 | 0 | 0 | 738 | 23 | 0 | 761 | 32 | 1 | 117 | 0 | 150 | 1862 |
| % Lights | 98.9 | 97.5 | 0 | 0 | 97.6 | 0 | 0 | 0 | 0 | 0 | 0 | 97.7 | 100 | 0 | 97.8 | 97 | 100 | 99.2 | 0 | 98.7 | 97.8 |
| Trucks | 1 | 18 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 0 | 14 | 1 | 0 | 1 | 0 | 2 | 35 |
| % Trucks | 1.1 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1.9 | 0 | 0 | 1.8 | 3 | 0 | 0.8 | 0 | 1.3 | 1.8 |
| Buses | 0 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 7 |
| % Buses | 0 | 0.5 | 0 | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0 | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0.4 |

Connecticut Counts LLC

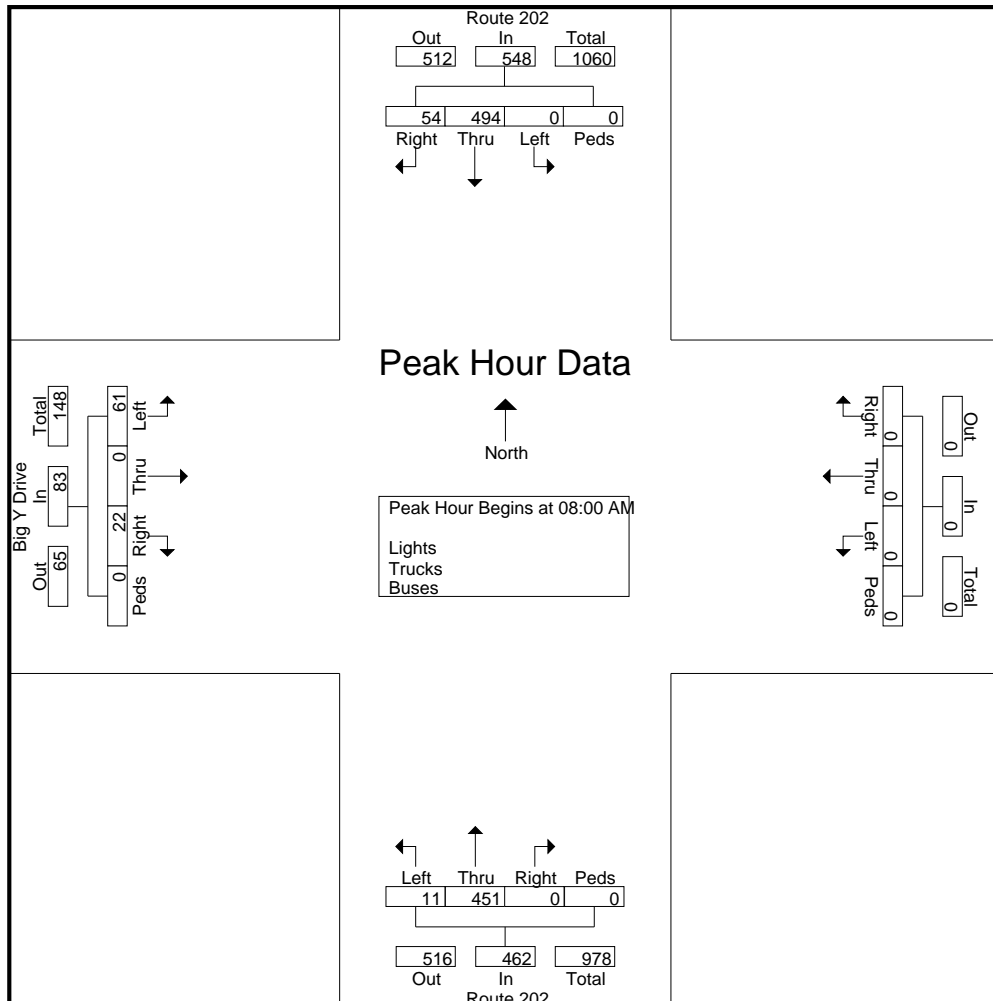
Kensington, Connecticut 06037
(860) 828-1693

File Name : 23307
Site Code : 23307
Start Date : 7/14/2022
Page No : 2

| Start Time | Route 202 From North | | | | | From East | | | | | Route 202 From South | | | | | Big Y Drive From West | | | | | Int. Total |
|------------|----------------------|------|------|------|------------|-----------|------|------|------|------------|----------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 08:00 AM

| | | | | | | | | | | | | | | | | | | | | | |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 08:00 AM | 13 | 121 | 0 | 0 | 134 | 0 | 0 | 0 | 0 | 0 | 0 | 93 | 4 | 0 | 97 | 4 | 0 | 15 | 0 | 19 | 250 |
| 08:15 AM | 15 | 130 | 0 | 0 | 145 | 0 | 0 | 0 | 0 | 0 | 0 | 114 | 4 | 0 | 118 | 9 | 0 | 20 | 0 | 29 | 292 |
| 08:30 AM | 20 | 145 | 0 | 0 | 165 | 0 | 0 | 0 | 0 | 0 | 0 | 133 | 1 | 0 | 134 | 5 | 0 | 21 | 0 | 26 | 325 |
| 08:45 AM | 6 | 98 | 0 | 0 | 104 | 0 | 0 | 0 | 0 | 0 | 0 | 111 | 2 | 0 | 113 | 4 | 0 | 5 | 0 | 9 | 226 |
| Total Volume | 54 | 494 | 0 | 0 | 548 | 0 | 0 | 0 | 0 | 0 | 0 | 451 | 11 | 0 | 462 | 22 | 0 | 61 | 0 | 83 | 1093 |
| % App. Total | 9.9 | 90.1 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 97.6 | 2.4 | 0 | | 26.5 | 0 | 73.5 | 0 | | |
| PHF | .675 | .852 | .000 | .000 | .830 | .000 | .000 | .000 | .000 | .000 | .000 | .848 | .688 | .000 | .862 | .611 | .000 | .726 | .000 | .716 | .841 |



Connecticut Counts LLC

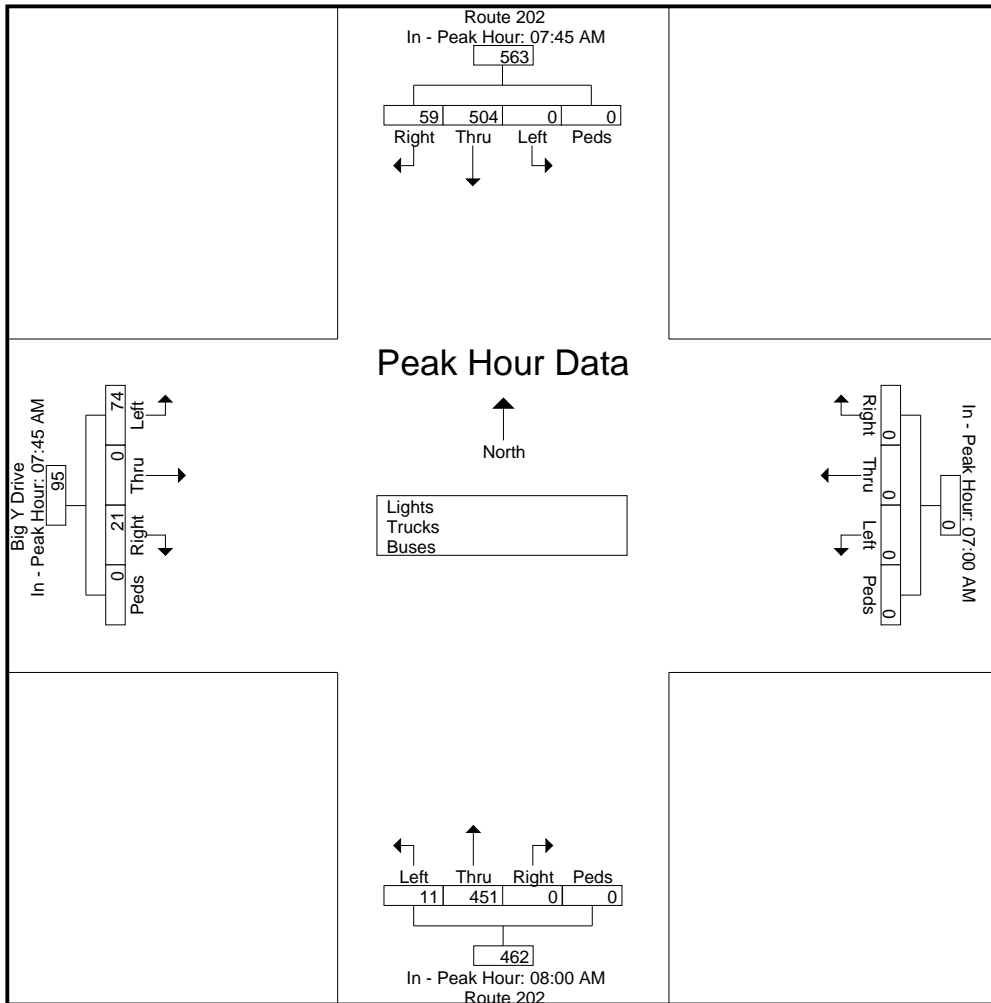
Kensington, Connecticut 06037
(860) 828-1693

File Name : 23307
 Site Code : 23307
 Start Date : 7/14/2022
 Page No : 3

| Start Time | Route 202 From North | | | | | From East | | | | | Route 202 From South | | | | | Big Y Drive From West | | | | | Int. Total |
|------------|----------------------|------|------|------|------------|-----------|------|------|------|------------|----------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 07:45 AM | | | | | 07:00 AM | | | | | 08:00 AM | | | | | 07:45 AM | | | | |
|--------------|----------|------|------|------|------|----------|------|------|------|------|----------|------|------|------|------|----------|------|------|------|------|
| +0 mins. | 11 | 108 | 0 | 0 | 119 | 0 | 0 | 0 | 0 | 0 | 0 | 93 | 4 | 0 | 97 | 3 | 0 | 18 | 0 | 21 |
| +15 mins. | 13 | 121 | 0 | 0 | 134 | 0 | 0 | 0 | 0 | 0 | 0 | 114 | 4 | 0 | 118 | 4 | 0 | 15 | 0 | 19 |
| +30 mins. | 15 | 130 | 0 | 0 | 145 | 0 | 0 | 0 | 0 | 0 | 0 | 133 | 1 | 0 | 134 | 9 | 0 | 20 | 0 | 29 |
| +45 mins. | 20 | 145 | 0 | 0 | 165 | 0 | 0 | 0 | 0 | 0 | 0 | 111 | 2 | 0 | 113 | 5 | 0 | 21 | 0 | 26 |
| Total Volume | 59 | 504 | 0 | 0 | 563 | 0 | 0 | 0 | 0 | 0 | 0 | 451 | 11 | 0 | 462 | 21 | 0 | 74 | 0 | 95 |
| % App. Total | 10.5 | 89.5 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 97.6 | 2.4 | 0 | | 22.1 | 0 | 77.9 | 0 | |
| PHF | .738 | .869 | .000 | .000 | .853 | .000 | .000 | .000 | .000 | .000 | .000 | .848 | .688 | .000 | .862 | .583 | .000 | .881 | .000 | .819 |



Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 828-1693

Route 202 at Big Y Drive
Simsbury, Connecticut

File Name : 23308
Site Code : 23308
Start Date : 7/14/2022
Page No : 1

Groups Printed- Lights - Trucks - Buses

| Start Time | Route 202 From North | | | | | From East | | | | | Route 202 From South | | | | | Big Y Drive From West | | | | | Int. Total |
|-------------|-------------------------|------|------|------|------------|-----------|------|------|------|------------|-------------------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| 04:00 PM | 28 | 136 | 0 | 0 | 164 | 0 | 0 | 0 | 0 | 0 | 0 | 146 | 3 | 0 | 149 | 7 | 0 | 8 | 0 | 15 | 328 |
| 04:15 PM | 33 | 129 | 0 | 0 | 162 | 0 | 0 | 0 | 0 | 0 | 0 | 158 | 3 | 0 | 161 | 7 | 1 | 6 | 0 | 14 | 337 |
| 04:30 PM | 46 | 149 | 0 | 0 | 195 | 0 | 0 | 0 | 0 | 0 | 0 | 194 | 6 | 0 | 200 | 9 | 0 | 12 | 0 | 21 | 416 |
| 04:45 PM | 30 | 134 | 0 | 0 | 164 | 0 | 0 | 0 | 0 | 0 | 0 | 177 | 3 | 0 | 180 | 3 | 0 | 8 | 0 | 11 | 355 |
| Total | 137 | 548 | 0 | 0 | 685 | 0 | 0 | 0 | 0 | 0 | 0 | 675 | 15 | 0 | 690 | 26 | 1 | 34 | 0 | 61 | 1436 |
| 05:00 PM | 28 | 130 | 0 | 0 | 158 | 0 | 0 | 0 | 0 | 0 | 0 | 155 | 2 | 0 | 157 | 2 | 0 | 10 | 0 | 12 | 327 |
| 05:15 PM | 26 | 132 | 0 | 0 | 158 | 0 | 0 | 0 | 0 | 0 | 0 | 135 | 4 | 0 | 139 | 2 | 0 | 17 | 0 | 19 | 316 |
| 05:30 PM | 23 | 104 | 0 | 0 | 127 | 0 | 0 | 0 | 0 | 0 | 0 | 150 | 0 | 0 | 150 | 2 | 0 | 7 | 0 | 9 | 286 |
| 05:45 PM | 31 | 135 | 0 | 0 | 166 | 0 | 0 | 0 | 0 | 0 | 0 | 132 | 4 | 0 | 136 | 1 | 0 | 12 | 0 | 13 | 315 |
| Total | 108 | 501 | 0 | 0 | 609 | 0 | 0 | 0 | 0 | 0 | 0 | 572 | 10 | 0 | 582 | 7 | 0 | 46 | 0 | 53 | 1244 |
| Grand Total | 245 | 1049 | 0 | 0 | 1294 | 0 | 0 | 0 | 0 | 0 | 0 | 1247 | 25 | 0 | 1272 | 33 | 1 | 80 | 0 | 114 | 2680 |
| Apprch % | 18.9 | 81.1 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 98 | 2 | 0 | | 28.9 | 0.9 | 70.2 | 0 | | |
| Total % | 9.1 | 39.1 | 0 | 0 | 48.3 | 0 | 0 | 0 | 0 | 0 | 0 | 46.5 | 0.9 | 0 | 47.5 | 1.2 | 0 | 3 | 0 | 4.3 | |
| Lights | 245 | 1044 | | | | | | | | | | 1233 | | | | | | | | | |
| % Lights | 100 | 99.5 | 0 | 0 | 99.6 | 0 | 0 | 0 | 0 | 0 | 0 | 98.9 | 100 | 0 | 98.9 | 100 | 100 | 100 | 0 | 100 | 99.3 |
| Trucks | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 13 |
| % Trucks | 0 | 0.3 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0.8 | 0 | 0 | 0.8 | 0 | 0 | 0 | 0 | 0 | 0.5 |
| Buses | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 6 |
| % Buses | 0 | 0.2 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0 | 0 | 0.3 | 0 | 0 | 0 | 0 | 0 | 0.2 |

Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

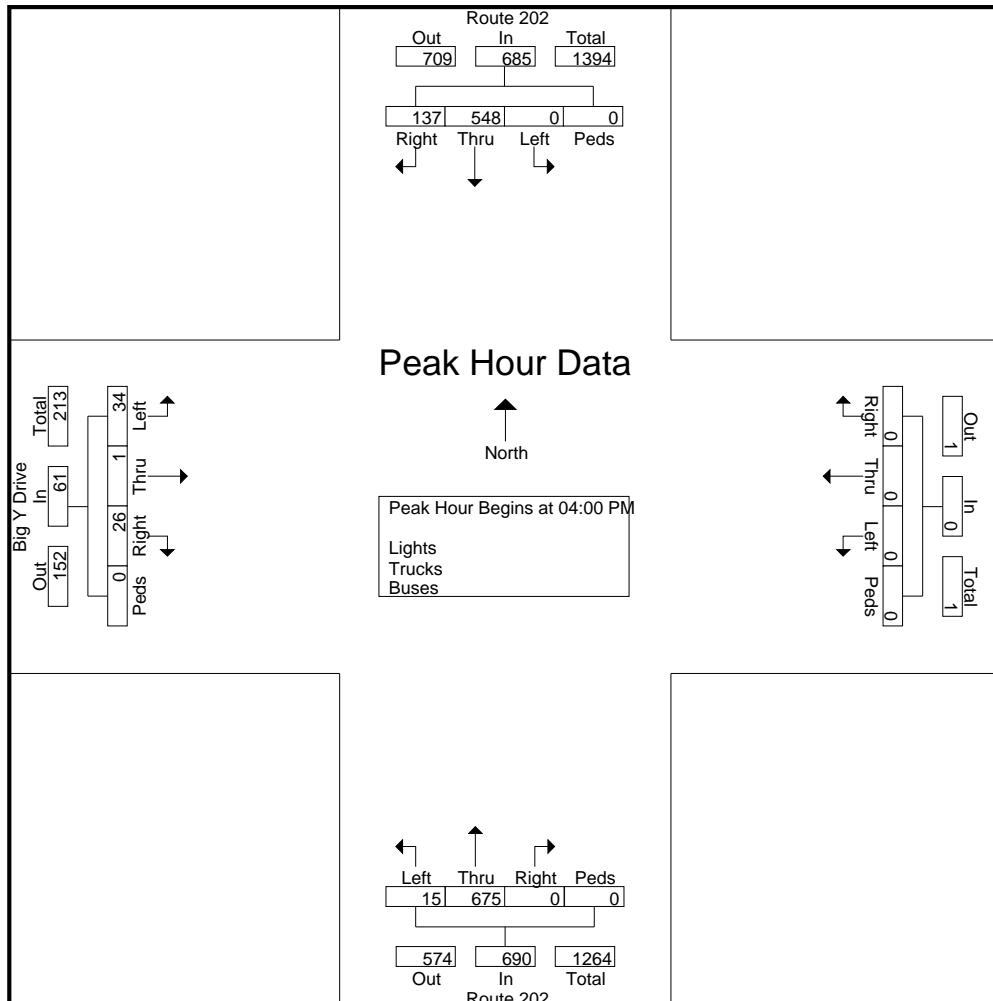
File Name : 23308
Site Code : 23308
Start Date : 7/14/2022
Page No : 2

| Start Time | Route 202 From North | | | | | From East | | | | | Route 202 From South | | | | | Big Y Drive From West | | | | | Int. Total |
|------------|----------------------|------|------|------|------------|-----------|------|------|------|------------|----------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:00 PM

| | | | | | | | | | | | | | | | | | | | | | |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 04:00 PM | 28 | 136 | 0 | 0 | 164 | 0 | 0 | 0 | 0 | 0 | 0 | 146 | 3 | 0 | 149 | 7 | 0 | 8 | 0 | 15 | 328 |
| 04:15 PM | 33 | 129 | 0 | 0 | 162 | 0 | 0 | 0 | 0 | 0 | 0 | 158 | 3 | 0 | 161 | 7 | 1 | 6 | 0 | 14 | 337 |
| 04:30 PM | 46 | 149 | 0 | 0 | 195 | 0 | 0 | 0 | 0 | 0 | 0 | 194 | 6 | 0 | 200 | 9 | 0 | 12 | 0 | 21 | 416 |
| 04:45 PM | 30 | 134 | 0 | 0 | 164 | 0 | 0 | 0 | 0 | 0 | 0 | 177 | 3 | 0 | 180 | 3 | 0 | 8 | 0 | 11 | 355 |
| Total Volume | 137 | 548 | 0 | 0 | 685 | 0 | 0 | 0 | 0 | 0 | 0 | 675 | 15 | 0 | 690 | 26 | 1 | 34 | 0 | 61 | 1436 |
| % App. Total | 20 | 80 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 97.8 | 2.2 | 0 | | 42.6 | 1.6 | 55.7 | 0 | | |
| PHF | .745 | .919 | .000 | .000 | .878 | .000 | .000 | .000 | .000 | .000 | .000 | .870 | .625 | .000 | .863 | .722 | .250 | .708 | .000 | .726 | .863 |



Connecticut Counts LLC

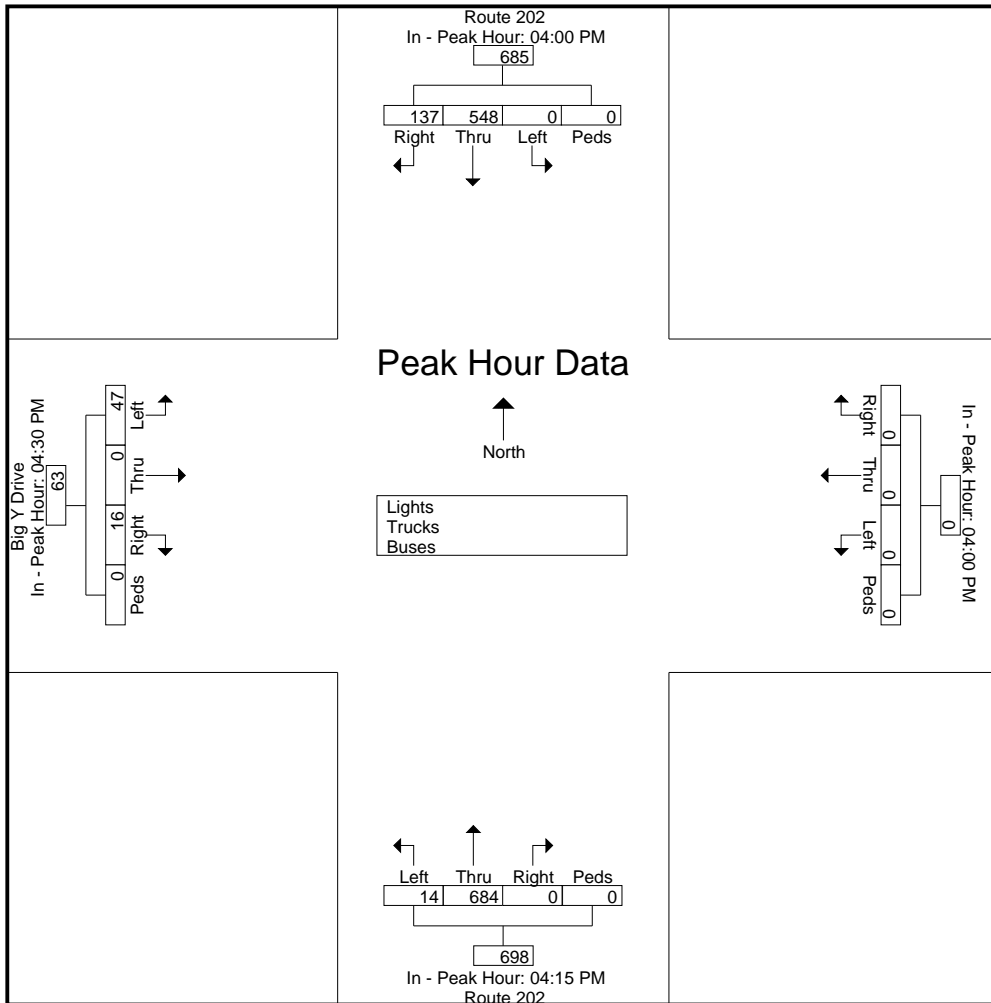
Kensington, Connecticut 06037
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File Name : 23308
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| Start Time | Route 202 From North | | | | | From East | | | | | Route 202 From South | | | | | Big Y Drive From West | | | | | Int. Total |
|------------|----------------------|------|------|------|------------|-----------|------|------|------|------------|----------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 04:00 PM | | | | | 04:00 PM | | | | | 04:15 PM | | | | | 04:30 PM | | | | |
|--------------|----------|------|------|------|------|----------|------|------|------|------|----------|------|------|------|------|----------|------|------|------|------|
| +0 mins. | 28 | 136 | 0 | 0 | 164 | 0 | 0 | 0 | 0 | 0 | 0 | 158 | 3 | 0 | 161 | 9 | 0 | 12 | 0 | 21 |
| +15 mins. | 33 | 129 | 0 | 0 | 162 | 0 | 0 | 0 | 0 | 0 | 0 | 194 | 6 | 0 | 200 | 3 | 0 | 8 | 0 | 11 |
| +30 mins. | 46 | 149 | 0 | 0 | 195 | 0 | 0 | 0 | 0 | 0 | 0 | 177 | 3 | 0 | 180 | 2 | 0 | 10 | 0 | 12 |
| +45 mins. | 30 | 134 | 0 | 0 | 164 | 0 | 0 | 0 | 0 | 0 | 0 | 155 | 2 | 0 | 157 | 2 | 0 | 17 | 0 | 19 |
| Total Volume | 137 | 548 | 0 | 0 | 685 | 0 | 0 | 0 | 0 | 0 | 0 | 684 | 14 | 0 | 698 | 16 | 0 | 47 | 0 | 63 |
| % App. Total | 20 | 80 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 98 | 2 | 0 | | 25.4 | 0 | 74.6 | 0 | |
| PHF | .745 | .919 | .000 | .000 | .878 | .000 | .000 | .000 | .000 | .000 | .000 | .881 | .583 | .000 | .873 | .444 | .000 | .691 | .000 | .750 |



Connecticut Counts LLC

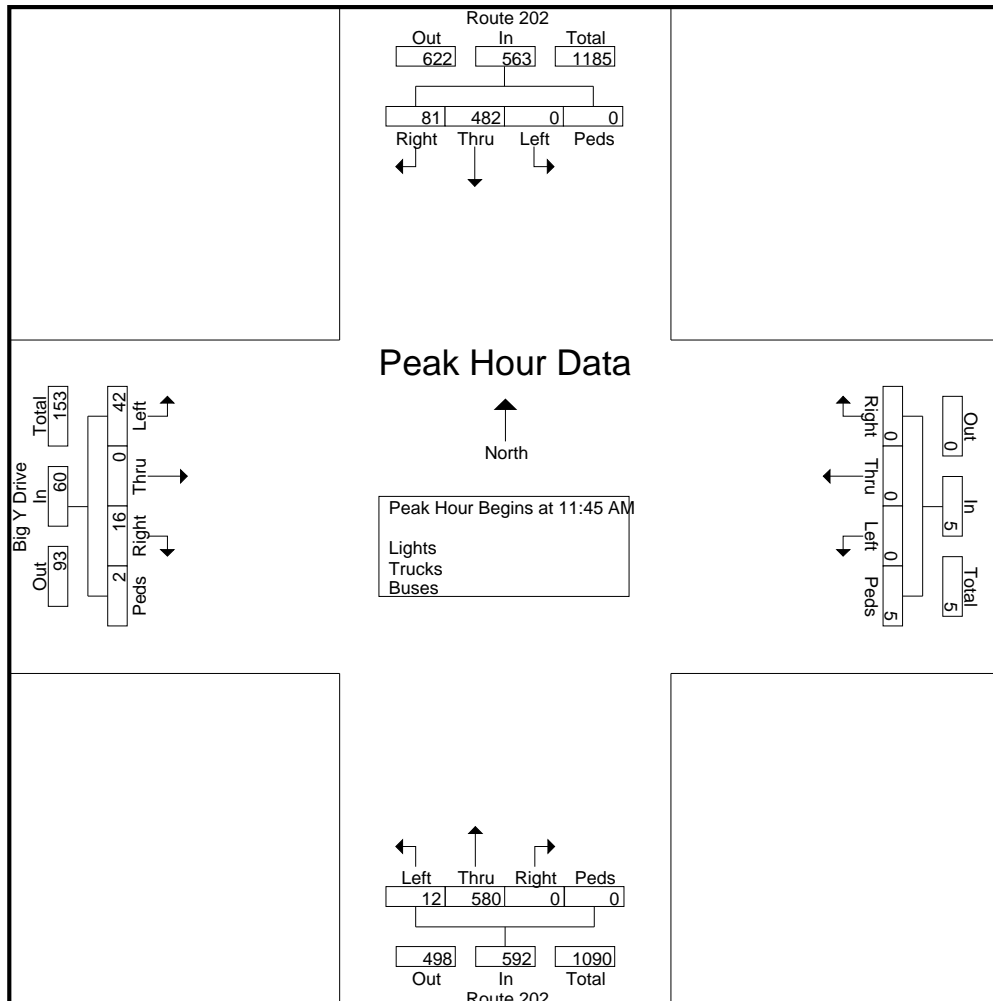
Kensington, Connecticut 06037
(860) 828-1693

File Name : 23309
Site Code : 23309
Start Date : 7/16/2022
Page No : 2

| Start Time | Route 202 From North | | | | | From East | | | | | Route 202 From South | | | | | Big Y Drive From West | | | | | Int. Total |
|------------|----------------------|------|------|------|------------|-----------|------|------|------|------------|----------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |

Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 11:45 AM

| | | | | | | | | | | | | | | | | | | | | | |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 11:45 AM | 21 | 123 | 0 | 0 | 144 | 0 | 0 | 0 | 0 | 0 | 0 | 159 | 4 | 0 | 163 | 3 | 0 | 17 | 2 | 22 | 329 |
| 12:00 PM | 13 | 105 | 0 | 0 | 118 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 1 | 0 | 129 | 3 | 0 | 2 | 0 | 5 | 252 |
| 12:15 PM | 20 | 130 | 0 | 0 | 150 | 0 | 0 | 0 | 3 | 3 | 0 | 166 | 3 | 0 | 169 | 7 | 0 | 11 | 0 | 18 | 340 |
| 12:30 PM | 27 | 124 | 0 | 0 | 151 | 0 | 0 | 0 | 2 | 2 | 0 | 127 | 4 | 0 | 131 | 3 | 0 | 12 | 0 | 15 | 299 |
| Total Volume | 81 | 482 | 0 | 0 | 563 | 0 | 0 | 0 | 5 | 5 | 0 | 580 | 12 | 0 | 592 | 16 | 0 | 42 | 2 | 60 | 1220 |
| % App. Total | 14.4 | 85.6 | 0 | 0 | | 0 | 0 | 0 | 100 | | 0 | 98 | 2 | 0 | | 26.7 | 0 | 70 | 3.3 | | |
| PHF | .750 | .927 | .000 | .000 | .932 | .000 | .000 | .000 | .417 | .417 | .000 | .873 | .750 | .000 | .876 | .571 | .000 | .618 | .250 | .682 | .897 |



Connecticut Counts LLC

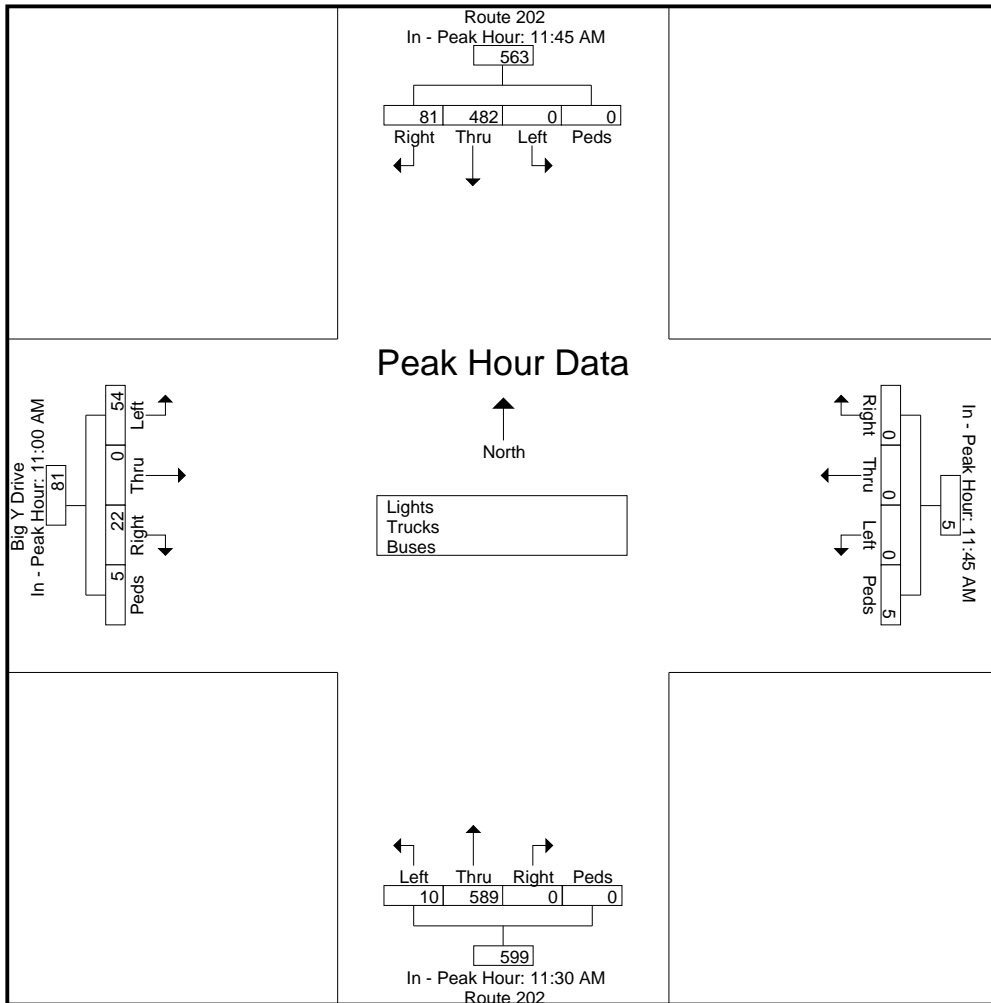
Kensington, Connecticut 06037
(860) 828-1693

File Name : 23309
 Site Code : 23309
 Start Date : 7/16/2022
 Page No : 3

| Start Time | Route 202 From North | | | | | From East | | | | | Route 202 From South | | | | | Big Y Drive From West | | | | | Int. Total |
|------------|----------------------|------|------|------|------------|-----------|------|------|------|------------|----------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |

Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 11:45 AM | | | | | 11:45 AM | | | | | 11:30 AM | | | | | 11:00 AM | | | | |
|--------------|----------|------|------|------|------|----------|------|------|------|------|----------|------|------|------|------|----------|------|------|------|------|
| +0 mins. | 21 | 123 | 0 | 0 | 144 | 0 | 0 | 0 | 0 | 0 | 0 | 136 | 2 | 0 | 138 | 8 | 0 | 18 | 0 | 26 |
| +15 mins. | 13 | 105 | 0 | 0 | 118 | 0 | 0 | 0 | 0 | 0 | 0 | 159 | 4 | 0 | 163 | 9 | 0 | 12 | 0 | 21 |
| +30 mins. | 20 | 130 | 0 | 0 | 150 | 0 | 0 | 0 | 3 | 3 | 0 | 128 | 1 | 0 | 129 | 2 | 0 | 7 | 3 | 12 |
| +45 mins. | 27 | 124 | 0 | 0 | 151 | 0 | 0 | 0 | 2 | 2 | 0 | 166 | 3 | 0 | 169 | 3 | 0 | 17 | 2 | 22 |
| Total Volume | 81 | 482 | 0 | 0 | 563 | 0 | 0 | 0 | 5 | 5 | 0 | 589 | 10 | 0 | 599 | 22 | 0 | 54 | 5 | 81 |
| % App. Total | 14.4 | 85.6 | 0 | 0 | | 0 | 0 | 0 | 100 | | 0 | 98.3 | 1.7 | 0 | | 27.2 | 0 | 66.7 | 6.2 | |
| PHF | .750 | .927 | .000 | .000 | .932 | .000 | .000 | .000 | .417 | .417 | .000 | .887 | .625 | .000 | .886 | .611 | .000 | .750 | .417 | .779 |



Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 828-1693

Route 202 at Ely Lane
Simsbury, Connecticut

File Name : 23310
Site Code : 23310
Start Date : 7/14/2022
Page No : 1

Groups Printed- Lights - Trucks - Buses

| Start Time | Route 202 From North | | | | | From East | | | | | Route 202 From South | | | | | Ely Lane From West | | | | | Int. Total |
|-------------|-------------------------|------|------|------|------------|-----------|------|------|------|------------|-------------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| 07:00 AM | 2 | 80 | 0 | 0 | 82 | 0 | 0 | 0 | 0 | 0 | 0 | 76 | 7 | 0 | 83 | 0 | 0 | 2 | 0 | 2 | 167 |
| 07:15 AM | 3 | 134 | 0 | 0 | 137 | 0 | 0 | 0 | 0 | 0 | 0 | 96 | 7 | 0 | 103 | 5 | 0 | 3 | 0 | 8 | 248 |
| 07:30 AM | 0 | 74 | 0 | 0 | 74 | 0 | 0 | 0 | 0 | 0 | 0 | 56 | 2 | 0 | 58 | 2 | 0 | 0 | 0 | 2 | 134 |
| 07:45 AM | 2 | 130 | 0 | 0 | 132 | 0 | 0 | 0 | 0 | 0 | 0 | 77 | 6 | 0 | 83 | 7 | 0 | 2 | 0 | 9 | 224 |
| Total | 7 | 418 | 0 | 0 | 425 | 0 | 0 | 0 | 0 | 0 | 0 | 305 | 22 | 0 | 327 | 14 | 0 | 7 | 0 | 21 | 773 |
| 08:00 AM | 1 | 117 | 0 | 0 | 118 | 0 | 0 | 0 | 0 | 0 | 0 | 91 | 5 | 0 | 96 | 4 | 0 | 3 | 0 | 7 | 221 |
| 08:15 AM | 2 | 138 | 4 | 0 | 144 | 0 | 0 | 0 | 0 | 0 | 0 | 106 | 13 | 0 | 119 | 8 | 0 | 2 | 0 | 10 | 273 |
| 08:30 AM | 2 | 117 | 0 | 0 | 119 | 0 | 0 | 0 | 0 | 0 | 0 | 98 | 9 | 0 | 107 | 4 | 0 | 5 | 0 | 9 | 235 |
| 08:45 AM | 0 | 115 | 0 | 0 | 115 | 0 | 0 | 0 | 0 | 0 | 0 | 115 | 12 | 0 | 127 | 12 | 0 | 2 | 0 | 14 | 256 |
| Total | 5 | 487 | 4 | 0 | 496 | 0 | 0 | 0 | 0 | 0 | 0 | 410 | 39 | 0 | 449 | 28 | 0 | 12 | 0 | 40 | 985 |
| Grand Total | 12 | 905 | 4 | 0 | 921 | 0 | 0 | 0 | 0 | 0 | 0 | 715 | 61 | 0 | 776 | 42 | 0 | 19 | 0 | 61 | 1758 |
| Apprch % | 1.3 | 98.3 | 0.4 | 0 | | 0 | 0 | 0 | 0 | | 0 | 92.1 | 7.9 | 0 | | 68.9 | 0 | 31.1 | 0 | | |
| Total % | 0.7 | 51.5 | 0.2 | 0 | 52.4 | 0 | 0 | 0 | 0 | 0 | 0 | 40.7 | 3.5 | 0 | 44.1 | 2.4 | 0 | 1.1 | 0 | 3.5 | |
| Lights | 12 | 884 | 4 | 0 | 900 | 0 | 0 | 0 | 0 | 0 | 0 | 701 | 60 | 0 | 761 | 42 | 0 | 19 | 0 | 61 | 1722 |
| % Lights | 100 | 97.7 | 100 | 0 | 97.7 | 0 | 0 | 0 | 0 | 0 | 0 | 98 | 98.4 | 0 | 98.1 | 100 | 0 | 100 | 0 | 100 | 98 |
| Trucks | 0 | 17 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 1 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 30 |
| % Trucks | 0 | 1.9 | 0 | 0 | 1.8 | 0 | 0 | 0 | 0 | 0 | 0 | 1.7 | 1.6 | 0 | 1.7 | 0 | 0 | 0 | 0 | 0 | 1.7 |
| Buses | 0 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 6 |
| % Buses | 0 | 0.4 | 0 | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0 | 0 | 0.3 | 0 | 0 | 0 | 0 | 0 | 0.3 |

Connecticut Counts LLC

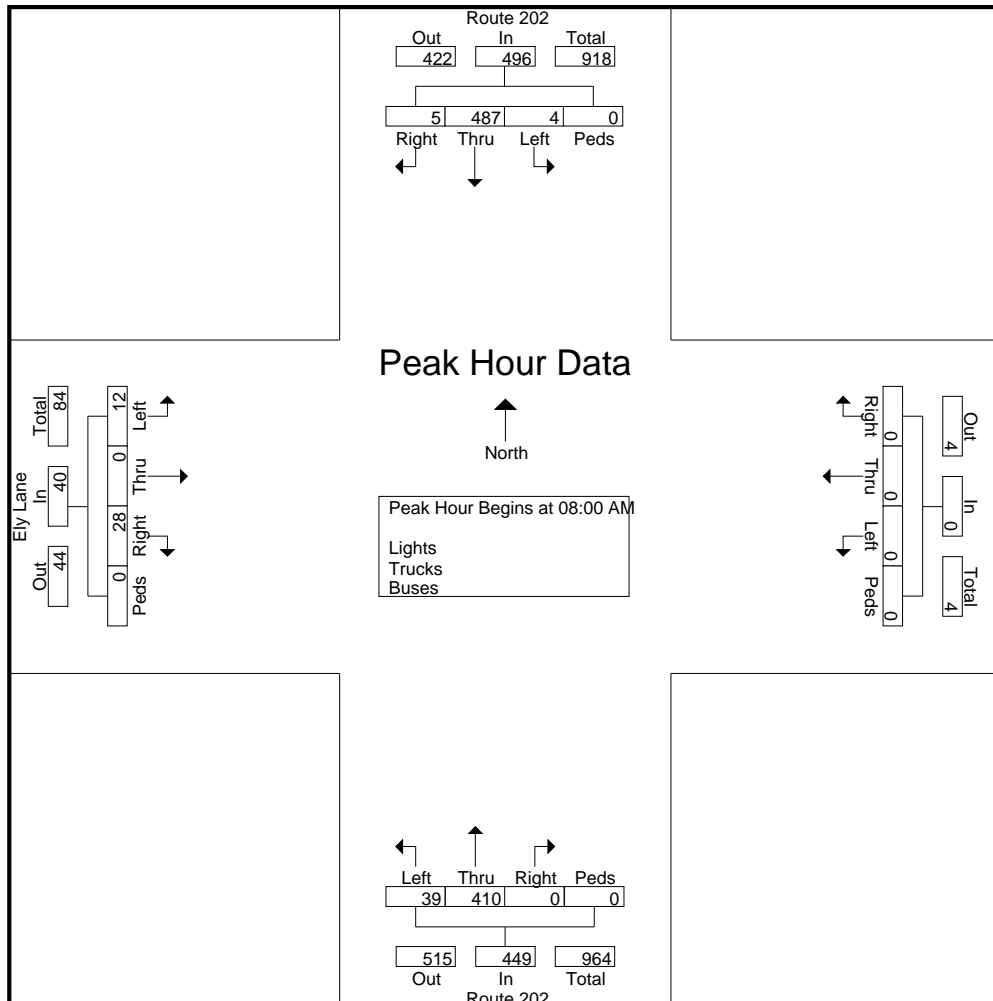
Kensington, Connecticut 06037
(860) 828-1693

File Name : 23310
Site Code : 23310
Start Date : 7/14/2022
Page No : 2

| Start Time | Route 202 From North | | | | | From East | | | | | Route 202 From South | | | | | Ely Lane From West | | | | | Int. Total |
|------------|----------------------|------|------|------|------------|-----------|------|------|------|------------|----------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 08:00 AM

| | | | | | | | | | | | | | | | | | | | | | |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 08:00 AM | 1 | 117 | 0 | 0 | 118 | 0 | 0 | 0 | 0 | 0 | 0 | 91 | 5 | 0 | 96 | 4 | 0 | 3 | 0 | 7 | 221 |
| 08:15 AM | 2 | 138 | 4 | 0 | 144 | 0 | 0 | 0 | 0 | 0 | 0 | 106 | 13 | 0 | 119 | 8 | 0 | 2 | 0 | 10 | 273 |
| 08:30 AM | 2 | 117 | 0 | 0 | 119 | 0 | 0 | 0 | 0 | 0 | 0 | 98 | 9 | 0 | 107 | 4 | 0 | 5 | 0 | 9 | 235 |
| 08:45 AM | 0 | 115 | 0 | 0 | 115 | 0 | 0 | 0 | 0 | 0 | 0 | 115 | 12 | 0 | 127 | 12 | 0 | 2 | 0 | 14 | 256 |
| Total Volume | 5 | 487 | 4 | 0 | 496 | 0 | 0 | 0 | 0 | 0 | 0 | 410 | 39 | 0 | 449 | 28 | 0 | 12 | 0 | 40 | 985 |
| % App. Total | 1 | 98.2 | 0.8 | 0 | | 0 | 0 | 0 | 0 | | 0 | 91.3 | 8.7 | 0 | | 70 | 0 | 30 | 0 | | |
| PHF | .625 | .882 | .250 | .000 | .861 | .000 | .000 | .000 | .000 | .000 | .000 | .891 | .750 | .000 | .884 | .583 | .000 | .600 | .000 | .714 | .902 |



Connecticut Counts LLC

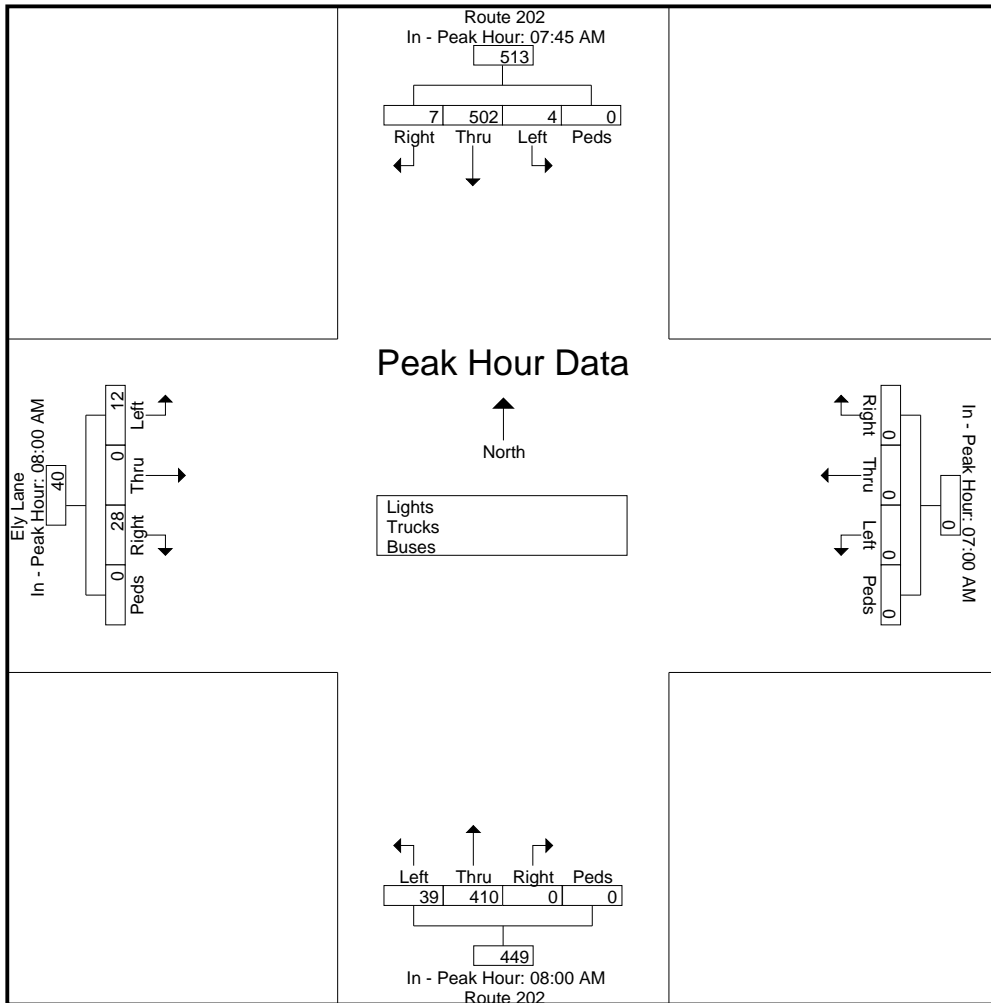
Kensington, Connecticut 06037
(860) 828-1693

File Name : 23310
 Site Code : 23310
 Start Date : 7/14/2022
 Page No : 3

| Start Time | Route 202 From North | | | | | From East | | | | | Route 202 From South | | | | | Ely Lane From West | | | | | Int. Total |
|------------|----------------------|------|------|------|------------|-----------|------|------|------|------------|----------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 07:45 AM | | | | | 07:00 AM | | | | | 08:00 AM | | | | | 08:00 AM | | | | |
|--------------|----------|------|------|------|------|----------|------|------|------|------|----------|------|------|------|------|----------|------|------|------|------|
| +0 mins. | 2 | 130 | 0 | 0 | 132 | 0 | 0 | 0 | 0 | 0 | 0 | 91 | 5 | 0 | 96 | 4 | 0 | 3 | 0 | 7 |
| +15 mins. | 1 | 117 | 0 | 0 | 118 | 0 | 0 | 0 | 0 | 0 | 0 | 106 | 13 | 0 | 119 | 8 | 0 | 2 | 0 | 10 |
| +30 mins. | 2 | 138 | 4 | 0 | 144 | 0 | 0 | 0 | 0 | 0 | 0 | 98 | 9 | 0 | 107 | 4 | 0 | 5 | 0 | 9 |
| +45 mins. | 2 | 117 | 0 | 0 | 119 | 0 | 0 | 0 | 0 | 0 | 0 | 115 | 12 | 0 | 127 | 12 | 0 | 2 | 0 | 14 |
| Total Volume | 7 | 502 | 4 | 0 | 513 | 0 | 0 | 0 | 0 | 0 | 0 | 410 | 39 | 0 | 449 | 28 | 0 | 12 | 0 | 40 |
| % App. Total | 1.4 | 97.9 | 0.8 | 0 | | 0 | 0 | 0 | 0 | | 0 | 91.3 | 8.7 | 0 | | 70 | 0 | 30 | 0 | |
| PHF | .875 | .909 | .250 | .000 | .891 | .000 | .000 | .000 | .000 | .000 | .000 | .891 | .750 | .000 | .884 | .583 | .000 | .600 | .000 | .714 |



Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 828-1693

Route 202 at Ely Lane
Simsbury, Connecticut

File Name : 23311
Site Code : 23311
Start Date : 7/14/2022
Page No : 1

Groups Printed- Lights - Trucks - Buses

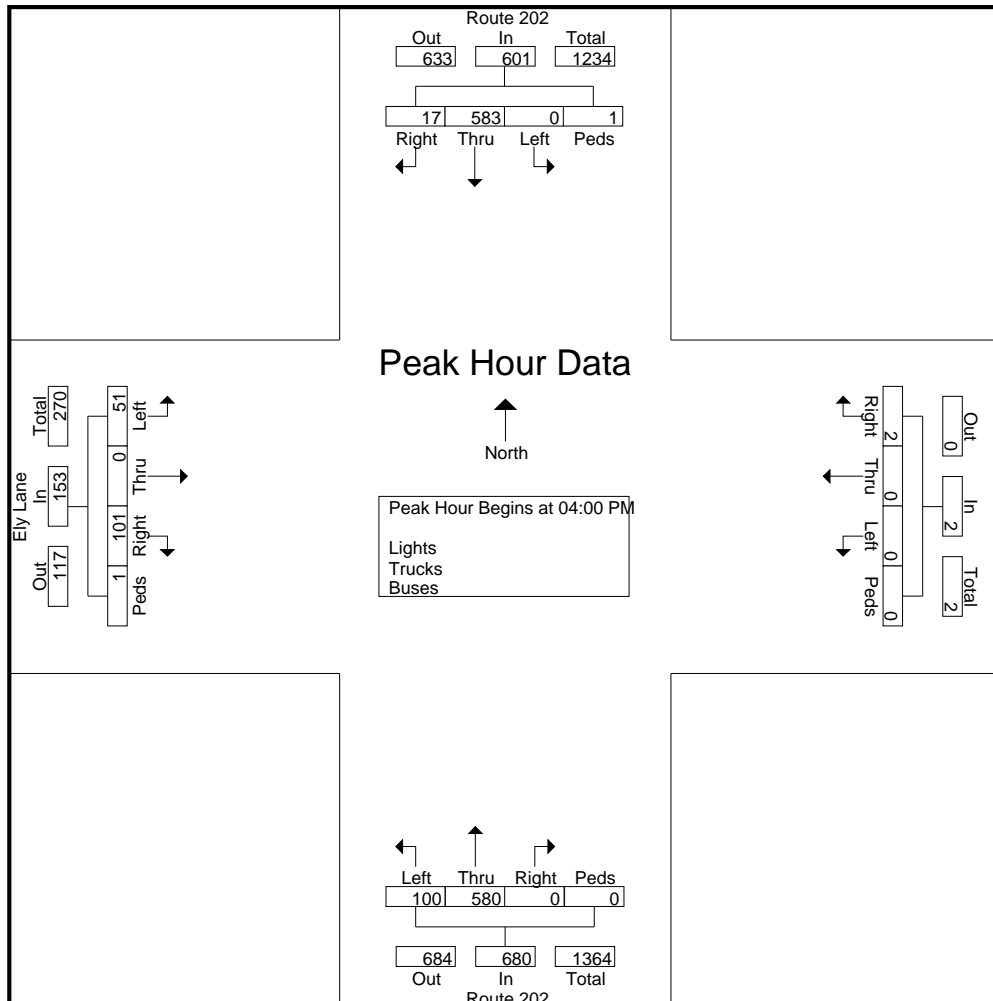
| Start Time | Route 202 From North | | | | | From East | | | | | Route 202 From South | | | | | Ely Lane From West | | | | | Int. Total |
|-------------|-------------------------|------|------|------|------------|-----------|------|------|------|------------|-------------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| 04:00 PM | 7 | 156 | 0 | 0 | 163 | 0 | 0 | 0 | 0 | 0 | 0 | 139 | 27 | 0 | 166 | 33 | 0 | 16 | 1 | 50 | 379 |
| 04:15 PM | 4 | 146 | 0 | 0 | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 152 | 20 | 0 | 172 | 20 | 0 | 12 | 0 | 32 | 354 |
| 04:30 PM | 4 | 126 | 0 | 1 | 131 | 0 | 0 | 0 | 0 | 0 | 0 | 144 | 26 | 0 | 170 | 20 | 0 | 11 | 0 | 31 | 332 |
| 04:45 PM | 2 | 155 | 0 | 0 | 157 | 2 | 0 | 0 | 0 | 2 | 0 | 145 | 27 | 0 | 172 | 28 | 0 | 12 | 0 | 40 | 371 |
| Total | 17 | 583 | 0 | 1 | 601 | 2 | 0 | 0 | 0 | 2 | 0 | 580 | 100 | 0 | 680 | 101 | 0 | 51 | 1 | 153 | 1436 |
| 05:00 PM | 5 | 147 | 0 | 1 | 153 | 0 | 0 | 0 | 0 | 0 | 0 | 152 | 26 | 0 | 178 | 28 | 0 | 11 | 0 | 39 | 370 |
| 05:15 PM | 2 | 139 | 0 | 0 | 141 | 0 | 0 | 0 | 0 | 0 | 0 | 135 | 28 | 0 | 163 | 26 | 0 | 13 | 0 | 39 | 343 |
| 05:30 PM | 4 | 104 | 0 | 0 | 108 | 0 | 0 | 0 | 0 | 0 | 0 | 144 | 14 | 0 | 158 | 29 | 0 | 7 | 0 | 36 | 302 |
| 05:45 PM | 6 | 132 | 0 | 0 | 138 | 0 | 0 | 0 | 0 | 0 | 0 | 116 | 19 | 0 | 135 | 28 | 0 | 9 | 0 | 37 | 310 |
| Total | 17 | 522 | 0 | 1 | 540 | 0 | 0 | 0 | 0 | 0 | 0 | 547 | 87 | 0 | 634 | 111 | 0 | 40 | 0 | 151 | 1325 |
| Grand Total | 34 | 1105 | 0 | 2 | 1141 | 2 | 0 | 0 | 0 | 2 | 0 | 1127 | 187 | 0 | 1314 | 212 | 0 | 91 | 1 | 304 | 2761 |
| Apprch % | 3 | 96.8 | 0 | 0.2 | | 100 | 0 | 0 | 0 | | 0 | 85.8 | 14.2 | 0 | | 69.7 | 0 | 29.9 | 0.3 | | |
| Total % | 1.2 | 40 | 0 | 0.1 | 41.3 | 0.1 | 0 | 0 | 0 | 0.1 | 0 | 40.8 | 6.8 | 0 | 47.6 | 7.7 | 0 | 3.3 | 0 | 11 | |
| Lights | 33 | 1097 | | | | | | | | | | 1118 | | | | | | | | | |
| % Lights | 97.1 | 99.3 | 0 | 100 | 99.2 | 100 | 0 | 0 | 0 | 100 | 0 | 99.2 | 100 | 0 | 99.3 | 100 | 0 | 100 | 100 | 100 | 99.3 |
| Trucks | 1 | 4 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 10 |
| % Trucks | 2.9 | 0.4 | 0 | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0 | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0.4 |
| Buses | 0 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 8 |
| % Buses | 0 | 0.4 | 0 | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0 | 0 | 0.3 | 0 | 0 | 0 | 0 | 0 | 0.3 |

Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

File Name : 23311
 Site Code : 23311
 Start Date : 7/14/2022
 Page No : 2

| Start Time | Route 202 From North | | | | | From East | | | | | Route 202 From South | | | | | Ely Lane From West | | | | | Int. Total |
|--|----------------------|------|------|------|------------|-----------|------|------|------|------------|----------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 04:00 PM | | | | | | | | | | | | | | | | | | | | | |
| 04:00 PM | 7 | 156 | 0 | 0 | 163 | 0 | 0 | 0 | 0 | 0 | 0 | 139 | 27 | 0 | 166 | 33 | 0 | 16 | 1 | 50 | 379 |
| 04:15 PM | 4 | 146 | 0 | 0 | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 152 | 20 | 0 | 172 | 20 | 0 | 12 | 0 | 32 | 354 |
| 04:30 PM | 4 | 126 | 0 | 1 | 131 | 0 | 0 | 0 | 0 | 0 | 0 | 144 | 26 | 0 | 170 | 20 | 0 | 11 | 0 | 31 | 332 |
| 04:45 PM | 2 | 155 | 0 | 0 | 157 | 2 | 0 | 0 | 0 | 2 | 0 | 145 | 27 | 0 | 172 | 28 | 0 | 12 | 0 | 40 | 371 |
| Total Volume | 17 | 583 | 0 | 1 | 601 | 2 | 0 | 0 | 0 | 2 | 0 | 580 | 100 | 0 | 680 | 101 | 0 | 51 | 1 | 153 | 1436 |
| % App. Total | 2.8 | 97 | 0 | 0.2 | | 100 | 0 | 0 | 0 | | 0 | 85.3 | 14.7 | 0 | | 66 | 0 | 33.3 | 0.7 | | |
| PHF | .607 | .934 | .000 | .250 | .922 | .250 | .000 | .000 | .000 | .250 | .000 | .954 | .926 | .000 | .988 | .765 | .000 | .797 | .250 | .765 | .947 |



Connecticut Counts LLC

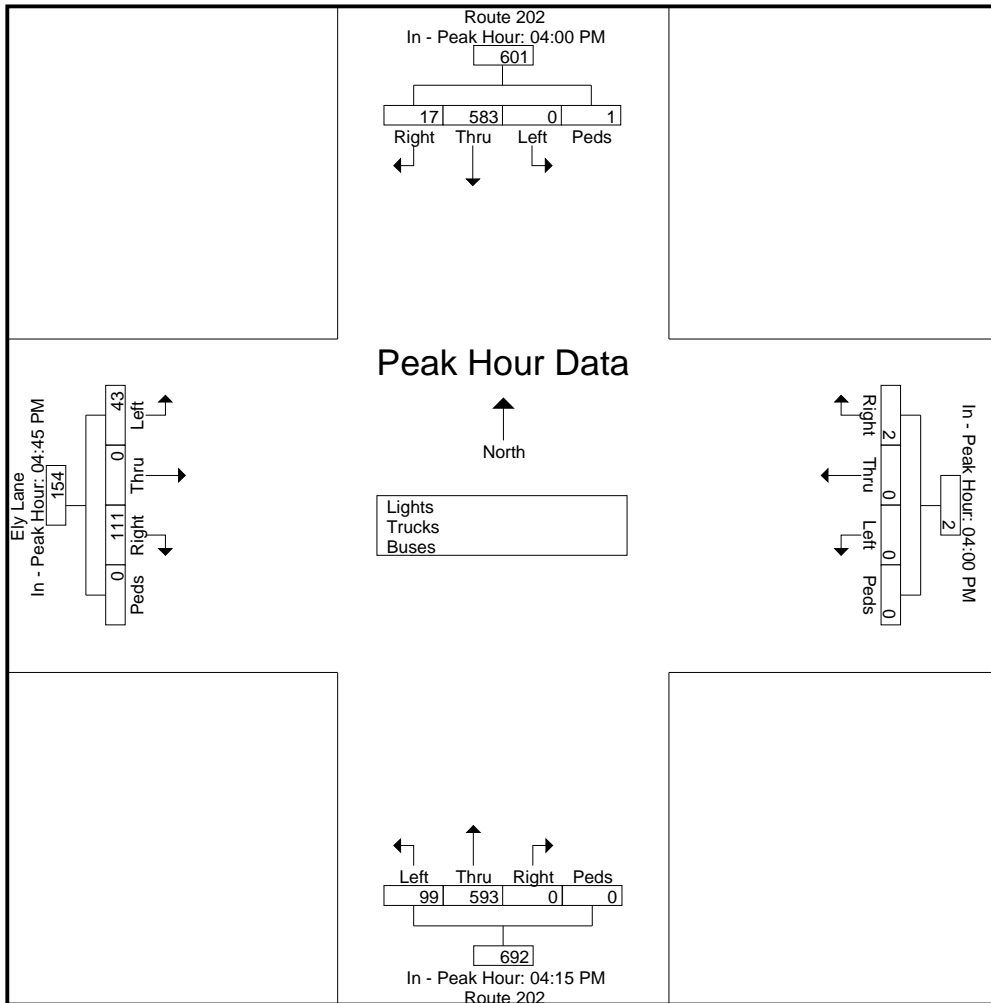
Kensington, Connecticut 06037
(860) 828-1693

File Name : 23311
 Site Code : 23311
 Start Date : 7/14/2022
 Page No : 3

| Start Time | Route 202 From North | | | | | From East | | | | | Route 202 From South | | | | | Ely Lane From West | | | | | Int. Total |
|------------|----------------------|------|------|------|------------|-----------|------|------|------|------------|----------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 04:00 PM | | | | | 04:00 PM | | | | | 04:15 PM | | | | | 04:45 PM | | | | |
|--------------|----------|------|------|------|------|----------|------|------|------|------|----------|------|------|------|------|----------|------|------|------|------|
| +0 mins. | 7 | 156 | 0 | 0 | 163 | 0 | 0 | 0 | 0 | 0 | 0 | 152 | 20 | 0 | 172 | 28 | 0 | 12 | 0 | 40 |
| +15 mins. | 4 | 146 | 0 | 0 | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 144 | 26 | 0 | 170 | 28 | 0 | 11 | 0 | 39 |
| +30 mins. | 4 | 126 | 0 | 1 | 131 | 0 | 0 | 0 | 0 | 0 | 0 | 145 | 27 | 0 | 172 | 26 | 0 | 13 | 0 | 39 |
| +45 mins. | 2 | 155 | 0 | 0 | 157 | 2 | 0 | 0 | 0 | 2 | 0 | 152 | 26 | 0 | 178 | 29 | 0 | 7 | 0 | 36 |
| Total Volume | 17 | 583 | 0 | 1 | 601 | 2 | 0 | 0 | 0 | 2 | 0 | 593 | 99 | 0 | 692 | 111 | 0 | 43 | 0 | 154 |
| % App. Total | 2.8 | 97 | 0 | 0.2 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 85.7 | 14.3 | 0 | 72.1 | 0 | 0 | 27.9 | 0 | 0 |
| PHF | .607 | .934 | .000 | .250 | .922 | .250 | .000 | .000 | .000 | .250 | .000 | .975 | .917 | .000 | .972 | .957 | .000 | .827 | .000 | .963 |



Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

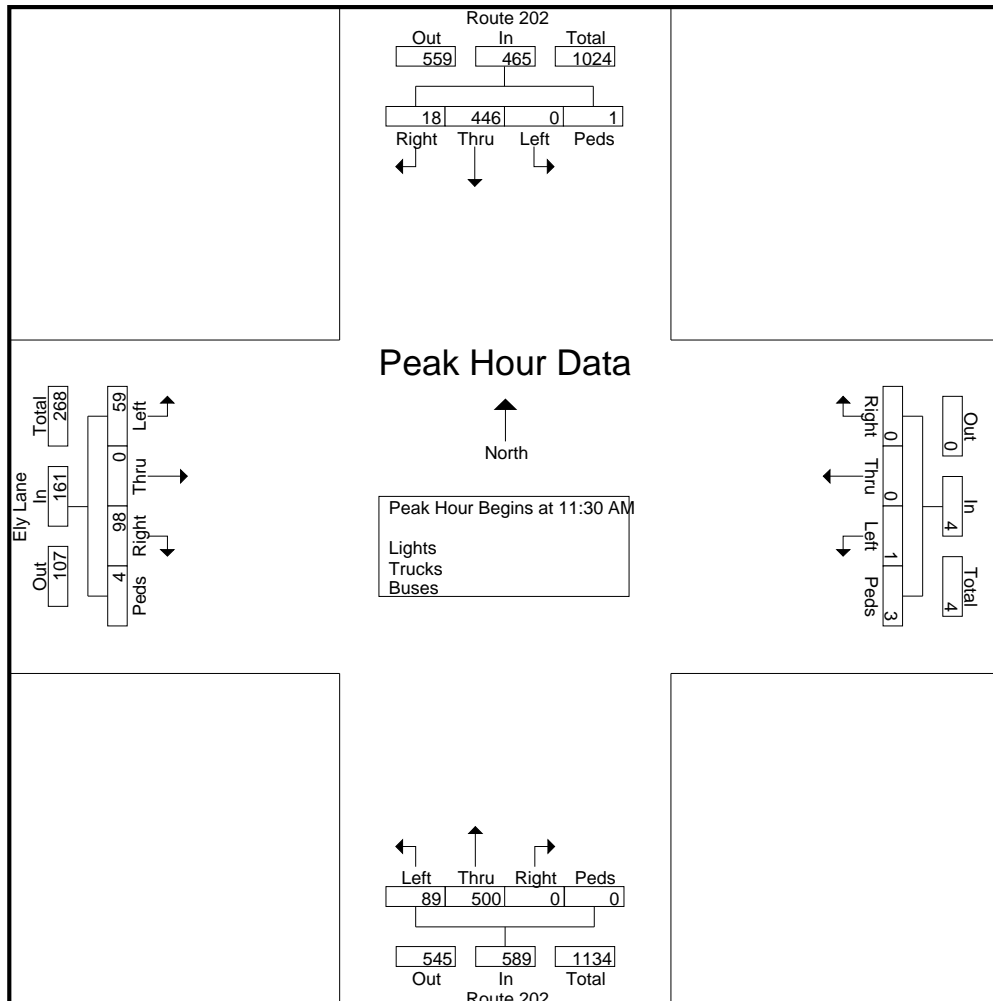
File Name : 23312
Site Code : 23312
Start Date : 7/16/2022
Page No : 2

| Start Time | Route 202 From North | | | | | From East | | | | | Route 202 From South | | | | | Ely Lane From West | | | | | Int. Total |
|------------|----------------------|------|------|------|------------|-----------|------|------|------|------------|----------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |

Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 11:30 AM

| | | | | | | | | | | | | | | | | | | | | | |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 11:30 AM | 4 | 125 | 0 | 1 | 130 | 0 | 0 | 1 | 0 | 1 | 0 | 139 | 16 | 0 | 155 | 32 | 0 | 19 | 2 | 53 | 339 |
| 11:45 AM | 4 | 111 | 0 | 0 | 115 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 25 | 0 | 153 | 21 | 0 | 13 | 0 | 34 | 302 |
| 12:00 PM | 6 | 85 | 0 | 0 | 91 | 0 | 0 | 0 | 0 | 0 | 0 | 91 | 24 | 0 | 115 | 21 | 0 | 15 | 2 | 38 | 244 |
| 12:15 PM | 4 | 125 | 0 | 0 | 129 | 0 | 0 | 0 | 3 | 3 | 0 | 142 | 24 | 0 | 166 | 24 | 0 | 12 | 0 | 36 | 334 |
| Total Volume | 18 | 446 | 0 | 1 | 465 | 0 | 0 | 1 | 3 | 4 | 0 | 500 | 89 | 0 | 589 | 98 | 0 | 59 | 4 | 161 | 1219 |
| % App. Total | 3.9 | 95.9 | 0 | 0.2 | | 0 | 0 | 25 | 75 | | 0 | 84.9 | 15.1 | 0 | | 60.9 | 0 | 36.6 | 2.5 | | |
| PHF | .750 | .892 | .000 | .250 | .894 | .000 | .000 | .250 | .250 | .333 | .000 | .880 | .890 | .000 | .887 | .766 | .000 | .776 | .500 | .759 | .899 |



Connecticut Counts LLC

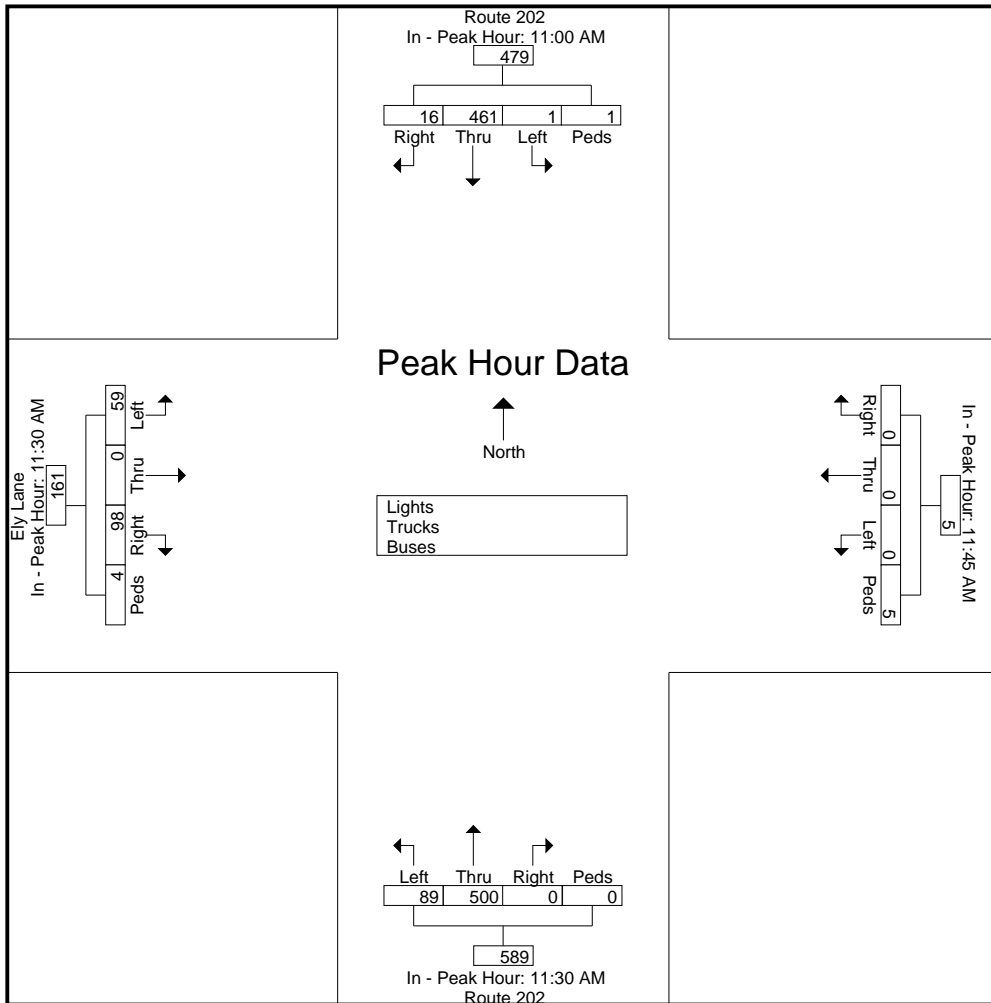
Kensington, Connecticut 06037
(860) 828-1693

File Name : 23312
 Site Code : 23312
 Start Date : 7/16/2022
 Page No : 3

| Start Time | Route 202 From North | | | | | From East | | | | | Route 202 From South | | | | | Ely Lane From West | | | | | Int. Total |
|------------|----------------------|------|------|------|------------|-----------|------|------|------|------------|----------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |

Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 11:00 AM | | | | | 11:45 AM | | | | | 11:30 AM | | | | | 11:30 AM | | | | |
|--------------|----------|------|------|------|------|----------|------|------|------|------|----------|------|------|------|------|----------|------|------|------|------|
| +0 mins. | 4 | 129 | 0 | 0 | 133 | 0 | 0 | 0 | 0 | 0 | 0 | 139 | 16 | 0 | 155 | 32 | 0 | 19 | 2 | 53 |
| +15 mins. | 4 | 96 | 1 | 0 | 101 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 25 | 0 | 153 | 21 | 0 | 13 | 0 | 34 |
| +30 mins. | 4 | 125 | 0 | 1 | 130 | 0 | 0 | 0 | 3 | 3 | 0 | 91 | 24 | 0 | 115 | 21 | 0 | 15 | 2 | 38 |
| +45 mins. | 4 | 111 | 0 | 0 | 115 | 0 | 0 | 0 | 2 | 2 | 0 | 142 | 24 | 0 | 166 | 24 | 0 | 12 | 0 | 36 |
| Total Volume | 16 | 461 | 1 | 1 | 479 | 0 | 0 | 0 | 5 | 5 | 0 | 500 | 89 | 0 | 589 | 98 | 0 | 59 | 4 | 161 |
| % App. Total | 3.3 | 96.2 | 0.2 | 0.2 | | 0 | 0 | 0 | 100 | | 0 | 84.9 | 15.1 | 0 | | 60.9 | 0 | 36.6 | 2.5 | |
| PHF | 1.000 | .893 | .250 | .250 | .900 | .000 | .000 | .000 | .417 | .417 | .000 | .880 | .890 | .000 | .887 | .766 | .000 | .776 | .500 | .759 |



Connecticut DOT
P.O. Box 317546

Newington, Connecticut, United States 06131
(860) 594-2087 dhruval.patel@ct.gov

Count Name: Route 10/U.S. Route 202 at
Hoskins Road (128-245) - Simsbury
Site Code: 12
Start Date: 12/08/2021
Page No: 1

Turning Movement Data

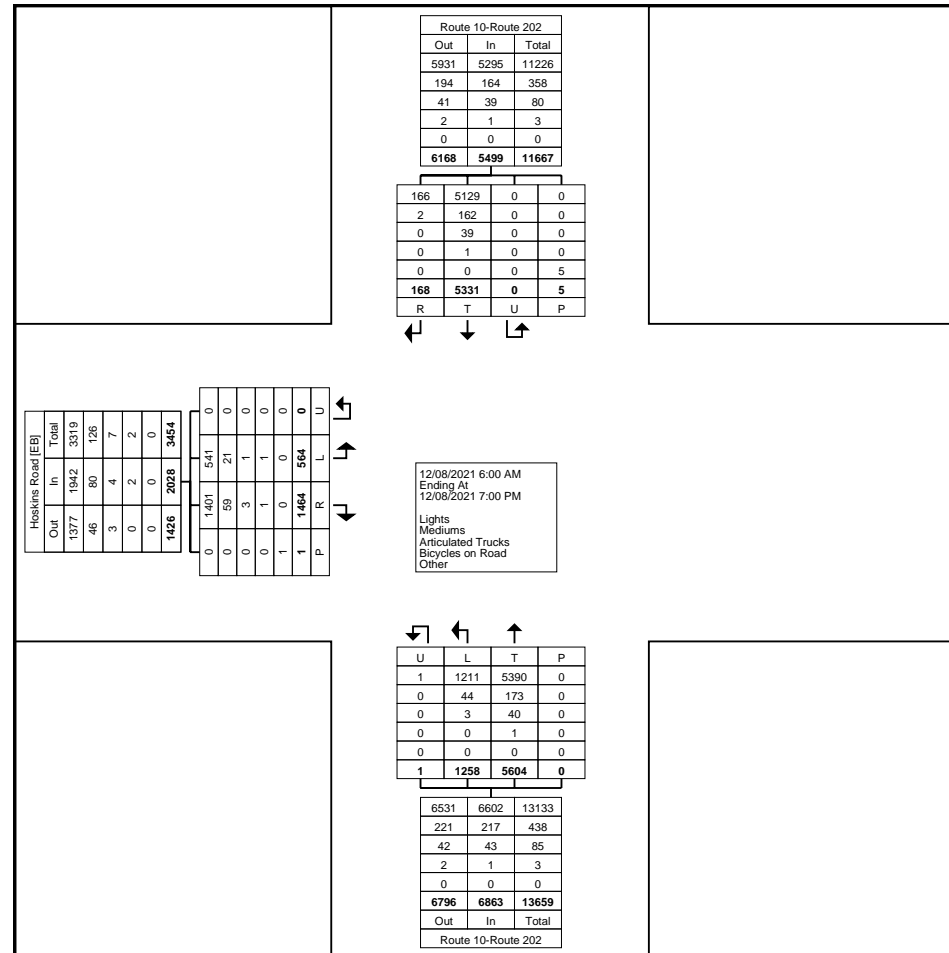
| Start Time | Route 10-Route 202 (Hopmeadow Street) Southbound | | | | | Route 10-Route 202 (Hopmeadow Street) Northbound | | | | | Hoskins Road Eastbound | | | | | Int. Total |
|--------------|---|------|--------|------|------------|---|------|--------|------|------------|---------------------------|------|--------|------|------------|------------|
| | Right | Thru | U-Turn | Peds | App. Total | Thru | Left | U-Turn | Peds | App. Total | Right | Left | U-Turn | Peds | App. Total | |
| 6:00 AM | 0 | 37 | 0 | 0 | 37 | 26 | 3 | 0 | 0 | 29 | 18 | 2 | 0 | 0 | 20 | 86 |
| 6:15 AM | 0 | 52 | 0 | 0 | 52 | 39 | 2 | 0 | 0 | 41 | 13 | 2 | 0 | 0 | 15 | 108 |
| 6:30 AM | 1 | 64 | 0 | 0 | 65 | 54 | 2 | 0 | 0 | 56 | 21 | 4 | 0 | 0 | 25 | 146 |
| 6:45 AM | 2 | 95 | 0 | 0 | 97 | 70 | 4 | 0 | 0 | 74 | 35 | 2 | 0 | 0 | 37 | 208 |
| Hourly Total | 3 | 248 | 0 | 0 | 251 | 189 | 11 | 0 | 0 | 200 | 87 | 10 | 0 | 0 | 97 | 548 |
| 7:00 AM | 1 | 74 | 0 | 0 | 75 | 69 | 14 | 0 | 0 | 83 | 49 | 6 | 0 | 0 | 55 | 213 |
| 7:15 AM | 1 | 97 | 0 | 0 | 98 | 76 | 16 | 0 | 0 | 92 | 50 | 6 | 0 | 0 | 56 | 246 |
| 7:30 AM | 1 | 140 | 0 | 0 | 141 | 93 | 11 | 0 | 0 | 104 | 40 | 5 | 0 | 0 | 45 | 290 |
| 7:45 AM | 1 | 127 | 0 | 0 | 128 | 84 | 20 | 0 | 0 | 104 | 59 | 3 | 0 | 0 | 62 | 294 |
| Hourly Total | 4 | 438 | 0 | 0 | 442 | 322 | 61 | 0 | 0 | 383 | 198 | 20 | 0 | 0 | 218 | 1043 |
| 8:00 AM | 7 | 115 | 0 | 0 | 122 | 102 | 26 | 0 | 0 | 128 | 37 | 7 | 0 | 0 | 44 | 294 |
| 8:15 AM | 4 | 135 | 0 | 0 | 139 | 89 | 21 | 0 | 0 | 110 | 53 | 13 | 0 | 0 | 66 | 315 |
| 8:30 AM | 2 | 99 | 0 | 0 | 101 | 90 | 27 | 0 | 0 | 117 | 69 | 17 | 0 | 0 | 86 | 304 |
| 8:45 AM | 2 | 117 | 0 | 0 | 119 | 116 | 27 | 0 | 0 | 143 | 38 | 16 | 0 | 0 | 54 | 316 |
| Hourly Total | 15 | 466 | 0 | 0 | 481 | 397 | 101 | 0 | 0 | 498 | 197 | 53 | 0 | 0 | 250 | 1229 |
| 9:00 AM | 3 | 87 | 0 | 0 | 90 | 91 | 25 | 0 | 0 | 116 | 44 | 13 | 0 | 0 | 57 | 263 |
| 9:15 AM | 4 | 102 | 0 | 0 | 106 | 83 | 23 | 0 | 0 | 106 | 22 | 5 | 0 | 0 | 27 | 239 |
| 9:30 AM | 1 | 103 | 0 | 0 | 104 | 87 | 17 | 0 | 0 | 104 | 21 | 13 | 0 | 0 | 34 | 242 |
| 9:45 AM | 3 | 87 | 0 | 0 | 90 | 90 | 13 | 0 | 0 | 103 | 26 | 12 | 0 | 0 | 38 | 231 |
| Hourly Total | 11 | 379 | 0 | 0 | 390 | 351 | 78 | 0 | 0 | 429 | 113 | 43 | 0 | 0 | 156 | 975 |
| 10:00 AM | 4 | 81 | 0 | 0 | 85 | 83 | 14 | 0 | 0 | 97 | 14 | 9 | 0 | 0 | 23 | 205 |
| 10:15 AM | 2 | 105 | 0 | 0 | 107 | 103 | 12 | 0 | 0 | 115 | 17 | 8 | 0 | 0 | 25 | 247 |
| 10:30 AM | 2 | 125 | 0 | 0 | 127 | 98 | 11 | 0 | 0 | 109 | 33 | 13 | 0 | 0 | 46 | 282 |
| 10:45 AM | 2 | 94 | 0 | 0 | 96 | 98 | 16 | 0 | 0 | 114 | 25 | 10 | 0 | 0 | 35 | 245 |
| Hourly Total | 10 | 405 | 0 | 0 | 415 | 382 | 53 | 0 | 0 | 435 | 89 | 40 | 0 | 0 | 129 | 979 |
| 11:00 AM | 2 | 98 | 0 | 0 | 100 | 86 | 20 | 0 | 0 | 106 | 20 | 12 | 0 | 0 | 32 | 238 |
| 11:15 AM | 1 | 87 | 0 | 0 | 88 | 115 | 18 | 0 | 0 | 133 | 21 | 16 | 0 | 0 | 37 | 258 |
| 11:30 AM | 3 | 109 | 0 | 0 | 112 | 126 | 18 | 0 | 0 | 144 | 15 | 9 | 0 | 0 | 24 | 280 |
| 11:45 AM | 1 | 123 | 0 | 1 | 124 | 126 | 24 | 0 | 0 | 150 | 36 | 9 | 0 | 0 | 45 | 319 |
| Hourly Total | 7 | 417 | 0 | 1 | 424 | 453 | 80 | 0 | 0 | 533 | 92 | 46 | 0 | 0 | 138 | 1095 |
| 12:00 PM | 8 | 107 | 0 | 0 | 115 | 133 | 30 | 0 | 0 | 163 | 27 | 9 | 0 | 0 | 36 | 314 |
| 12:15 PM | 6 | 113 | 0 | 0 | 119 | 122 | 24 | 0 | 0 | 146 | 16 | 11 | 0 | 0 | 27 | 292 |
| 12:30 PM | 5 | 118 | 0 | 0 | 123 | 128 | 25 | 1 | 0 | 154 | 40 | 15 | 0 | 0 | 55 | 332 |
| 12:45 PM | 1 | 117 | 0 | 0 | 118 | 109 | 25 | 0 | 0 | 134 | 42 | 24 | 0 | 0 | 66 | 318 |
| Hourly Total | 20 | 455 | 0 | 0 | 475 | 492 | 104 | 1 | 0 | 597 | 125 | 59 | 0 | 0 | 184 | 1256 |
| 1:00 PM | 1 | 107 | 0 | 0 | 108 | 100 | 31 | 0 | 0 | 131 | 30 | 11 | 0 | 0 | 41 | 280 |
| 1:15 PM | 8 | 93 | 0 | 0 | 101 | 105 | 27 | 0 | 0 | 132 | 30 | 17 | 0 | 0 | 47 | 280 |
| 1:30 PM | 4 | 113 | 0 | 0 | 117 | 107 | 25 | 0 | 0 | 132 | 24 | 14 | 0 | 0 | 38 | 287 |
| 1:45 PM | 5 | 109 | 0 | 0 | 114 | 101 | 15 | 0 | 0 | 116 | 29 | 13 | 0 | 0 | 42 | 272 |

| | | | | | | | | | | | | | | | | |
|-------------------------|------|------|-----|------|------|------|------|-------|---|------|------|------|-----|-------|------|-------|
| Hourly Total | 18 | 422 | 0 | 0 | 440 | 413 | 98 | 0 | 0 | 511 | 113 | 55 | 0 | 0 | 168 | 1119 |
| 2:00 PM | 2 | 103 | 0 | 0 | 105 | 116 | 19 | 0 | 0 | 135 | 23 | 8 | 0 | 0 | 31 | 271 |
| 2:15 PM | 2 | 119 | 0 | 0 | 121 | 128 | 24 | 0 | 0 | 152 | 31 | 9 | 0 | 0 | 40 | 313 |
| 2:30 PM | 4 | 92 | 0 | 0 | 96 | 144 | 19 | 0 | 0 | 163 | 17 | 7 | 0 | 0 | 24 | 283 |
| 2:45 PM | 5 | 122 | 0 | 0 | 127 | 141 | 24 | 0 | 0 | 165 | 17 | 11 | 0 | 1 | 28 | 320 |
| Hourly Total | 13 | 436 | 0 | 0 | 449 | 529 | 86 | 0 | 0 | 615 | 88 | 35 | 0 | 1 | 123 | 1187 |
| 3:00 PM | 6 | 112 | 0 | 0 | 118 | 119 | 18 | 0 | 0 | 137 | 18 | 11 | 0 | 0 | 29 | 284 |
| 3:15 PM | 4 | 92 | 0 | 0 | 96 | 153 | 34 | 0 | 0 | 187 | 37 | 15 | 0 | 0 | 52 | 335 |
| 3:30 PM | 10 | 112 | 0 | 3 | 122 | 135 | 39 | 0 | 0 | 174 | 29 | 12 | 0 | 0 | 41 | 337 |
| 3:45 PM | 5 | 112 | 0 | 0 | 117 | 144 | 39 | 0 | 0 | 183 | 23 | 18 | 0 | 0 | 41 | 341 |
| Hourly Total | 25 | 428 | 0 | 3 | 453 | 551 | 130 | 0 | 0 | 681 | 107 | 56 | 0 | 0 | 163 | 1297 |
| 4:00 PM | 4 | 148 | 0 | 0 | 152 | 141 | 41 | 0 | 0 | 182 | 16 | 15 | 0 | 0 | 31 | 365 |
| 4:15 PM | 4 | 114 | 0 | 0 | 118 | 157 | 43 | 0 | 0 | 200 | 25 | 13 | 0 | 0 | 38 | 356 |
| 4:30 PM | 3 | 98 | 0 | 0 | 101 | 171 | 50 | 0 | 0 | 221 | 31 | 14 | 0 | 0 | 45 | 367 |
| 4:45 PM | 2 | 119 | 0 | 0 | 121 | 154 | 34 | 0 | 0 | 188 | 21 | 13 | 0 | 0 | 34 | 343 |
| Hourly Total | 13 | 479 | 0 | 0 | 492 | 623 | 168 | 0 | 0 | 791 | 93 | 55 | 0 | 0 | 148 | 1431 |
| 5:00 PM | 6 | 98 | 0 | 1 | 104 | 134 | 44 | 0 | 0 | 178 | 29 | 19 | 0 | 0 | 48 | 330 |
| 5:15 PM | 4 | 95 | 0 | 0 | 99 | 140 | 50 | 0 | 0 | 190 | 30 | 19 | 0 | 0 | 49 | 338 |
| 5:30 PM | 5 | 111 | 0 | 0 | 116 | 148 | 37 | 0 | 0 | 185 | 21 | 16 | 0 | 0 | 37 | 338 |
| 5:45 PM | 5 | 107 | 0 | 0 | 112 | 117 | 42 | 0 | 0 | 159 | 19 | 7 | 0 | 0 | 26 | 297 |
| Hourly Total | 20 | 411 | 0 | 1 | 431 | 539 | 173 | 0 | 0 | 712 | 99 | 61 | 0 | 0 | 160 | 1303 |
| 6:00 PM | 2 | 101 | 0 | 0 | 103 | 109 | 34 | 0 | 0 | 143 | 17 | 6 | 0 | 0 | 23 | 269 |
| 6:15 PM | 4 | 87 | 0 | 0 | 91 | 104 | 37 | 0 | 0 | 141 | 20 | 6 | 0 | 0 | 26 | 258 |
| 6:30 PM | 3 | 81 | 0 | 0 | 84 | 67 | 28 | 0 | 0 | 95 | 11 | 7 | 0 | 0 | 18 | 197 |
| 6:45 PM | 0 | 78 | 0 | 0 | 78 | 83 | 16 | 0 | 0 | 99 | 15 | 12 | 0 | 0 | 27 | 204 |
| Hourly Total | 9 | 347 | 0 | 0 | 356 | 363 | 115 | 0 | 0 | 478 | 63 | 31 | 0 | 0 | 94 | 928 |
| Grand Total | 168 | 5331 | 0 | 5 | 5499 | 5604 | 1258 | 1 | 0 | 6863 | 1464 | 564 | 0 | 1 | 2028 | 14390 |
| Approach % | 3.1 | 96.9 | 0.0 | - | - | 81.7 | 18.3 | 0.0 | - | - | 72.2 | 27.8 | 0.0 | - | - | - |
| Total % | 1.2 | 37.0 | 0.0 | - | 38.2 | 38.9 | 8.7 | 0.0 | - | 47.7 | 10.2 | 3.9 | 0.0 | - | 14.1 | - |
| Lights | 166 | 5129 | 0 | - | 5295 | 5390 | 1211 | 1 | - | 6602 | 1401 | 541 | 0 | - | 1942 | 13839 |
| % Lights | 98.8 | 96.2 | - | - | 96.3 | 96.2 | 96.3 | 100.0 | - | 96.2 | 95.7 | 95.9 | - | - | 95.8 | 96.2 |
| Mediums | 2 | 162 | 0 | - | 164 | 173 | 44 | 0 | - | 217 | 59 | 21 | 0 | - | 80 | 461 |
| % Mediums | 1.2 | 3.0 | - | - | 3.0 | 3.1 | 3.5 | 0.0 | - | 3.2 | 4.0 | 3.7 | - | - | 3.9 | 3.2 |
| Articulated Trucks | 0 | 39 | 0 | - | 39 | 40 | 3 | 0 | - | 43 | 3 | 1 | 0 | - | 4 | 86 |
| % Articulated Trucks | 0.0 | 0.7 | - | - | 0.7 | 0.7 | 0.2 | 0.0 | - | 0.6 | 0.2 | 0.2 | - | - | 0.2 | 0.6 |
| Bicycles on Road | 0 | 1 | 0 | - | 1 | 1 | 0 | 0 | - | 1 | 1 | 1 | 0 | - | 2 | 4 |
| % Bicycles on Road | 0.0 | 0.0 | - | - | 0.0 | 0.0 | 0.0 | 0.0 | - | 0.0 | 0.1 | 0.2 | - | - | 0.1 | 0.0 |
| Bicycles on Crosswalk | - | - | - | 2 | - | - | - | - | 0 | - | - | - | - | 0 | - | - |
| % Bicycles on Crosswalk | - | - | - | 40.0 | - | - | - | - | - | - | - | - | - | 0.0 | - | - |
| Pedestrians | - | - | - | 3 | - | - | - | - | 0 | - | - | - | - | 1 | - | - |
| % Pedestrians | - | - | - | 60.0 | - | - | - | - | - | - | - | - | - | 100.0 | - | - |

Connecticut DOT
P.O. Box 317546

Newington, Connecticut, United States 06131
(860) 594-2087 dhruval.patel@ct.gov

Count Name: Route 10/U.S. Route 202 at
Hoskins Road (128-245) - Simsbury
Site Code: 12
Start Date: 12/08/2021
Page No: 3

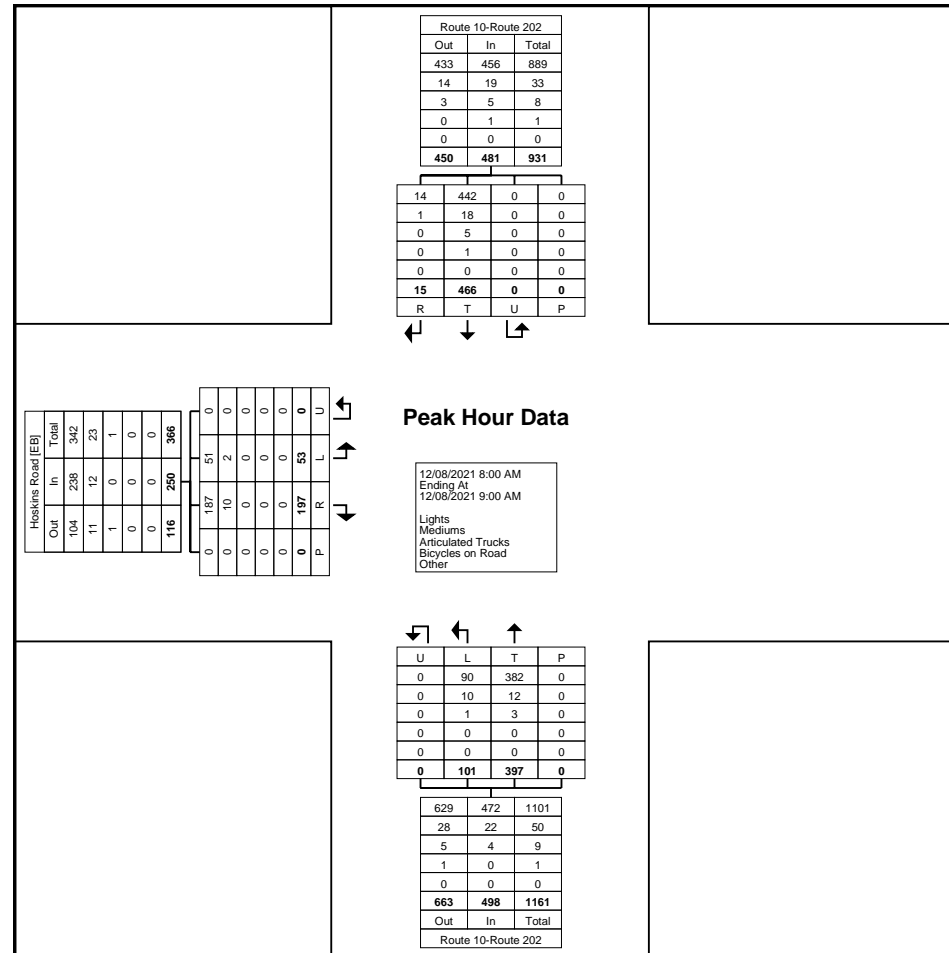


Turning Movement Data Plot

Connecticut DOT
P.O. Box 317546

Newington, Connecticut, United States 06131
(860) 594-2087 dhruval.patel@ct.gov

Count Name: Route 10/U.S. Route 202 at
Hoskins Road (128-245) - Simsbury
Site Code: 12
Start Date: 12/08/2021
Page No: 5

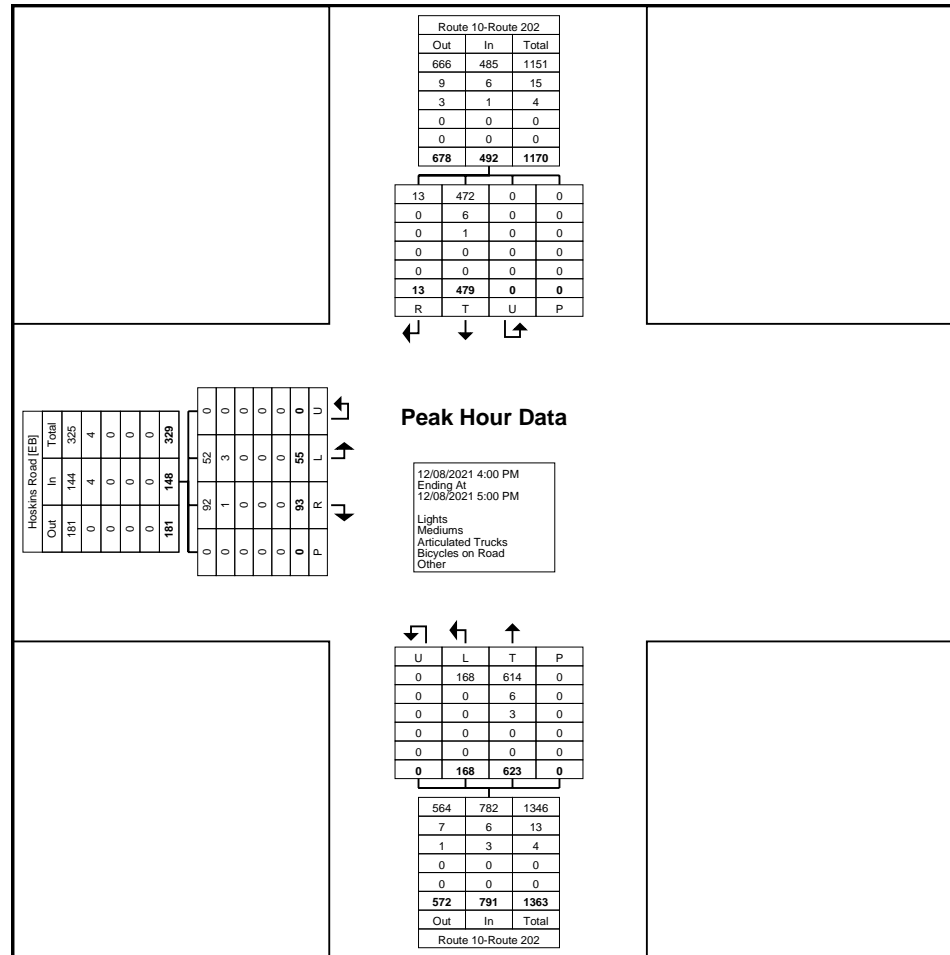


Turning Movement Peak Hour Data Plot (8:00 AM)

Connecticut DOT
P.O. Box 317546

Newington, Connecticut, United States 06131
(860) 594-2087 dhruval.patel@ct.gov

Count Name: Route 10/U.S. Route 202 at
Hoskins Road (128-245) - Simsbury
Site Code: 12
Start Date: 12/08/2021
Page No: 7



Turning Movement Peak Hour Data Plot (4:00 PM)



Attachment C – Crash Data

2019-2021 Crash Data: Hopmeadow Street at Ely Lane

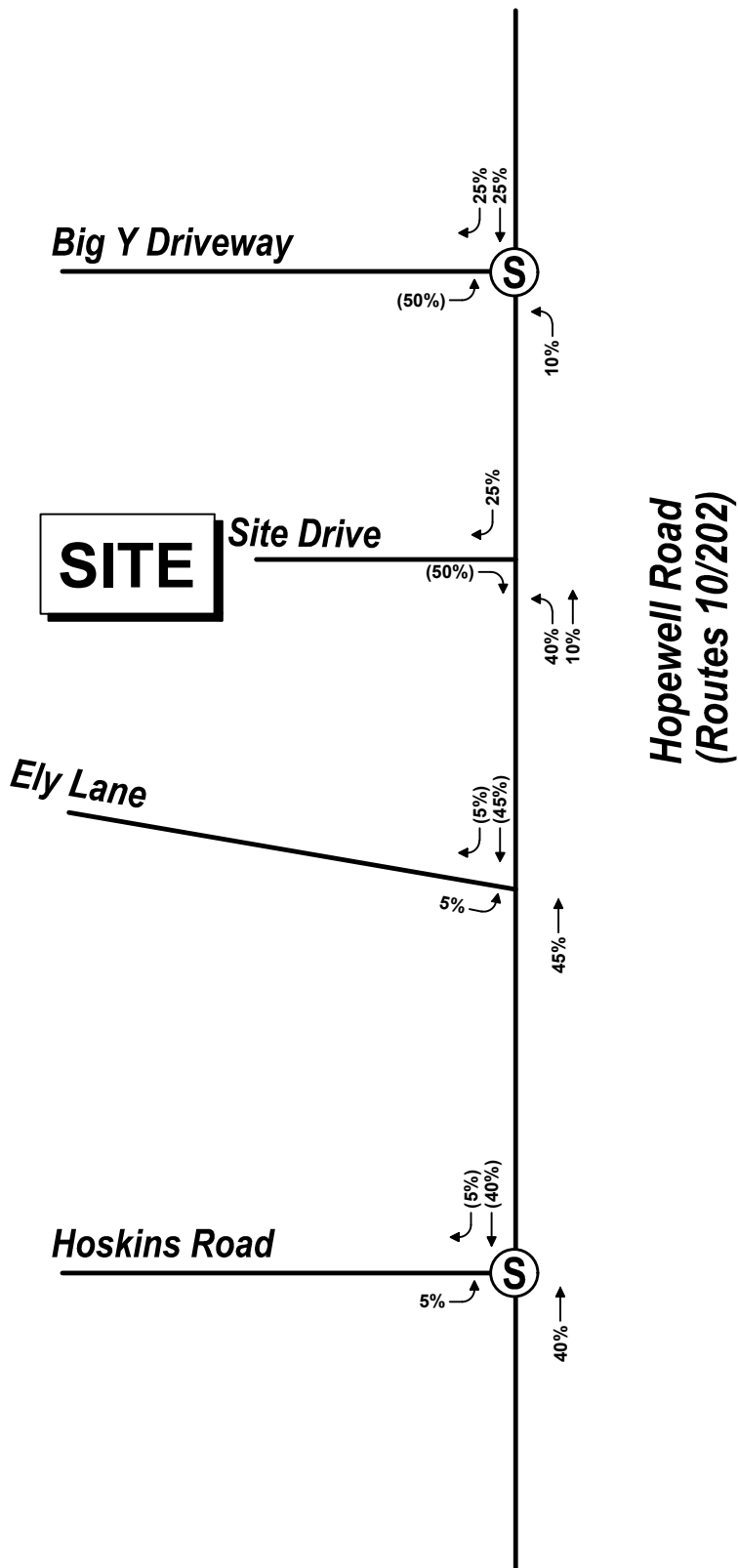
| CrashId | Town Name | Date Of Crash | Time of Crash | Crash Severity | Manner of Crash / Collision Impact | Light Condition | Road Surface Condition |
|----------------|------------------|----------------------|----------------------|---|---|------------------------|-------------------------------|
| 584066 | Simsbury | 8/21/2019 | 8:34:00 | Injury of any type (Serious, Minor, Possible) | Angle | Daylight | Dry |
| 608224 | Simsbury | 10/25/2019 | 8:43:00 | Property Damage Only | Front to rear | Daylight | Dry |
| 776370 | Simsbury | 12/31/2020 | 14:29:00 | Property Damage Only | Angle | Daylight | Dry |

2019-2021 Crash Data: Hopmeadow Street at Hoskins Road

| CrashId | Town Name | Date Of Crash | Time of Crash | Crash Severity | Manner of Crash / Collision Impact | Light Condition | Road Surface Condition |
|----------------|------------------|----------------------|----------------------|---|---|------------------------|-------------------------------|
| 510935 | Simsbury | 1/30/2019 | 17:25:00 | Property Damage Only | Not Applicable | Dark-Not Lighted | Snow |
| 564784 | Simsbury | 5/29/2019 | 8:28:00 | Property Damage Only | Front to rear | Daylight | Dry |
| 611840 | Simsbury | 10/28/2019 | 6:49:00 | Injury of any type (Serious, Minor, Possible) | Angle | Daylight | Dry |
| 674897 | Simsbury | 3/31/2020 | 14:06:00 | Property Damage Only | Angle | Daylight | Dry |
| 685245 | Simsbury | 5/26/2020 | 12:44:00 | Property Damage Only | Front to rear | Daylight | Dry |



Attachment D – Trip Generation and Distribution



Entering Trips
 # (Exiting Trips)



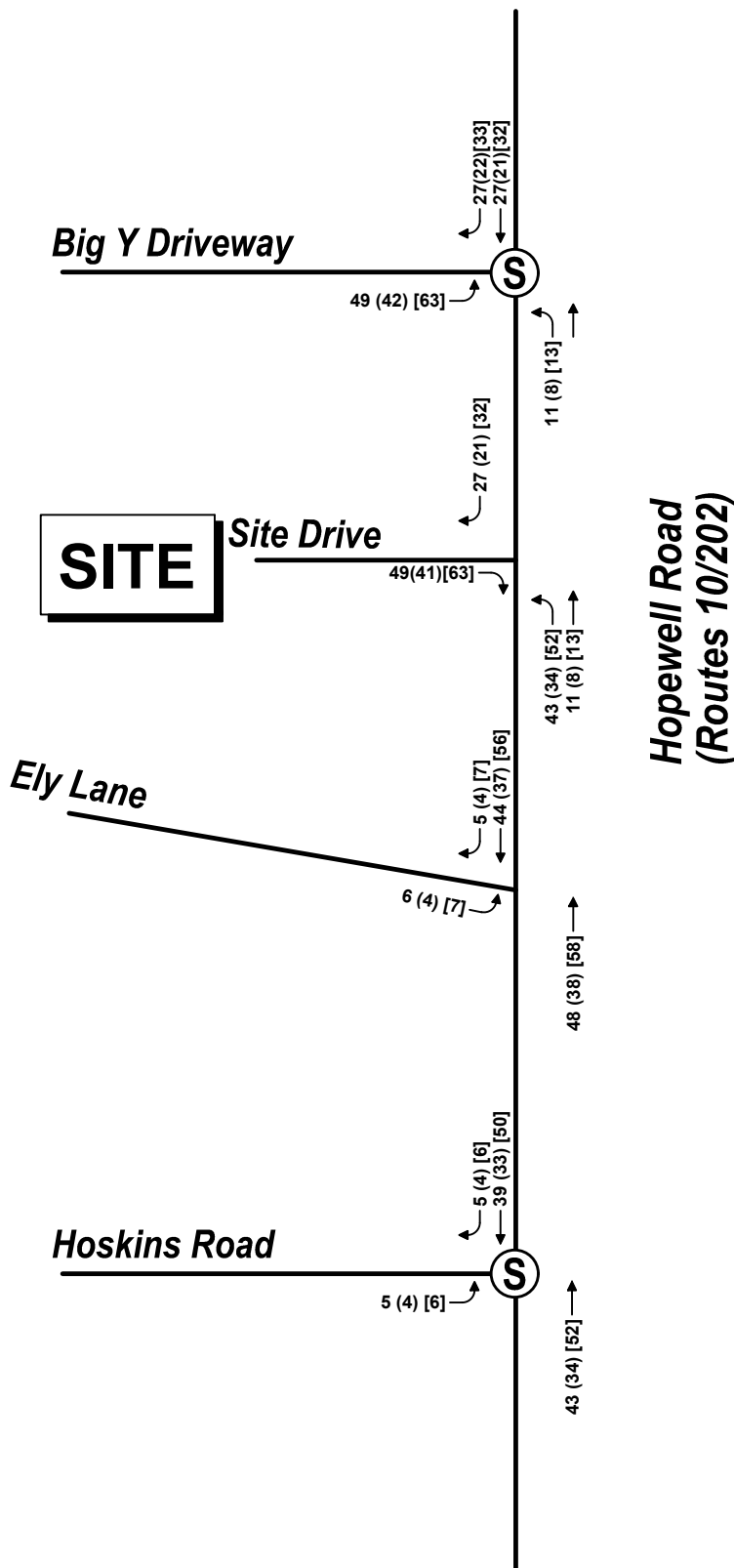
Not to Scale



Trip Distribution

Mixed-Use Development
 Simsbury, CT

Figure



Weekday Morning Peak Hour
 # (Weekday Evening Peak Hour)
 # [Saturday Midday Peak Hour]



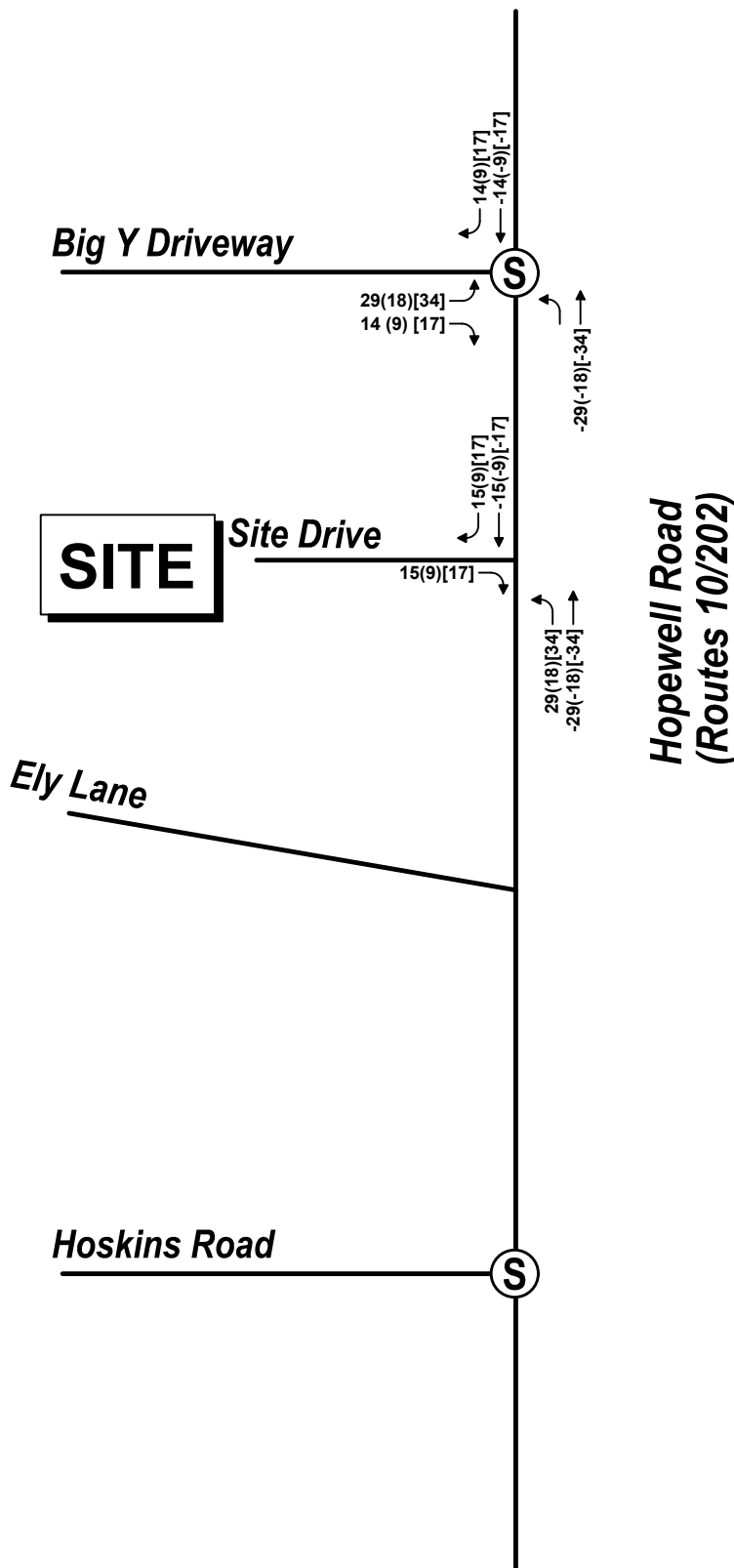
Not to Scale



Primary Trips

Figure

Mixed-Use Development
 Simsbury, CT



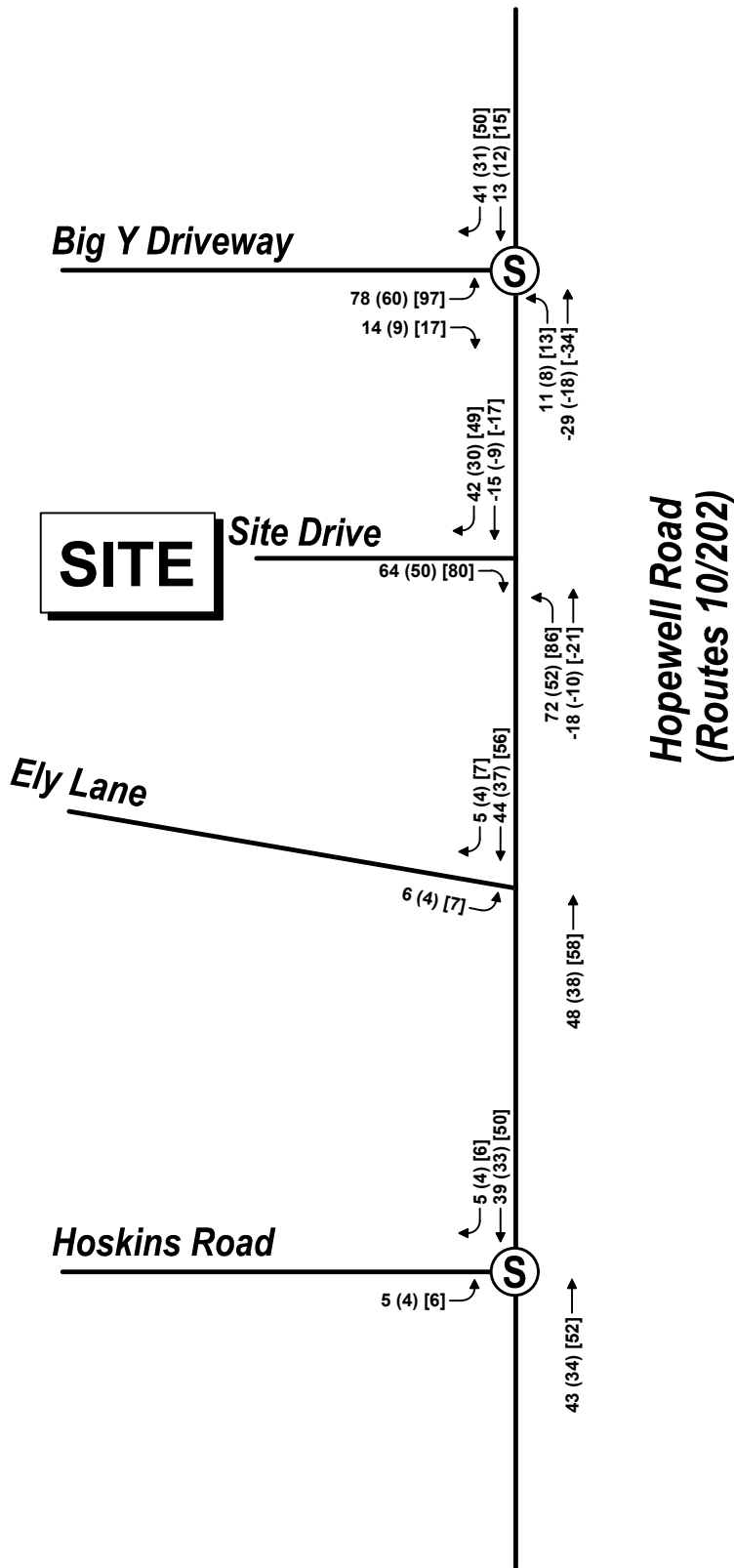
Weekday Morning Peak Hour
 # (Weekday Evening Peak Hour)
 # [Saturday Midday Peak Hour]

 **Not to Scale**

 **Pass-by Trips**

Figure

Mixed-Use Development
 Simsbury, CT



Weekday Morning Peak Hour
 # (Weekday Evening Peak Hour)
 # [Saturday Midday Peak Hour]

 **Not to Scale**



Site Generated Traffic Volumes

Figure 4

Mixed-Use Development
 Simsbury, CT

Strip Retail Plaza (<40k) (822)

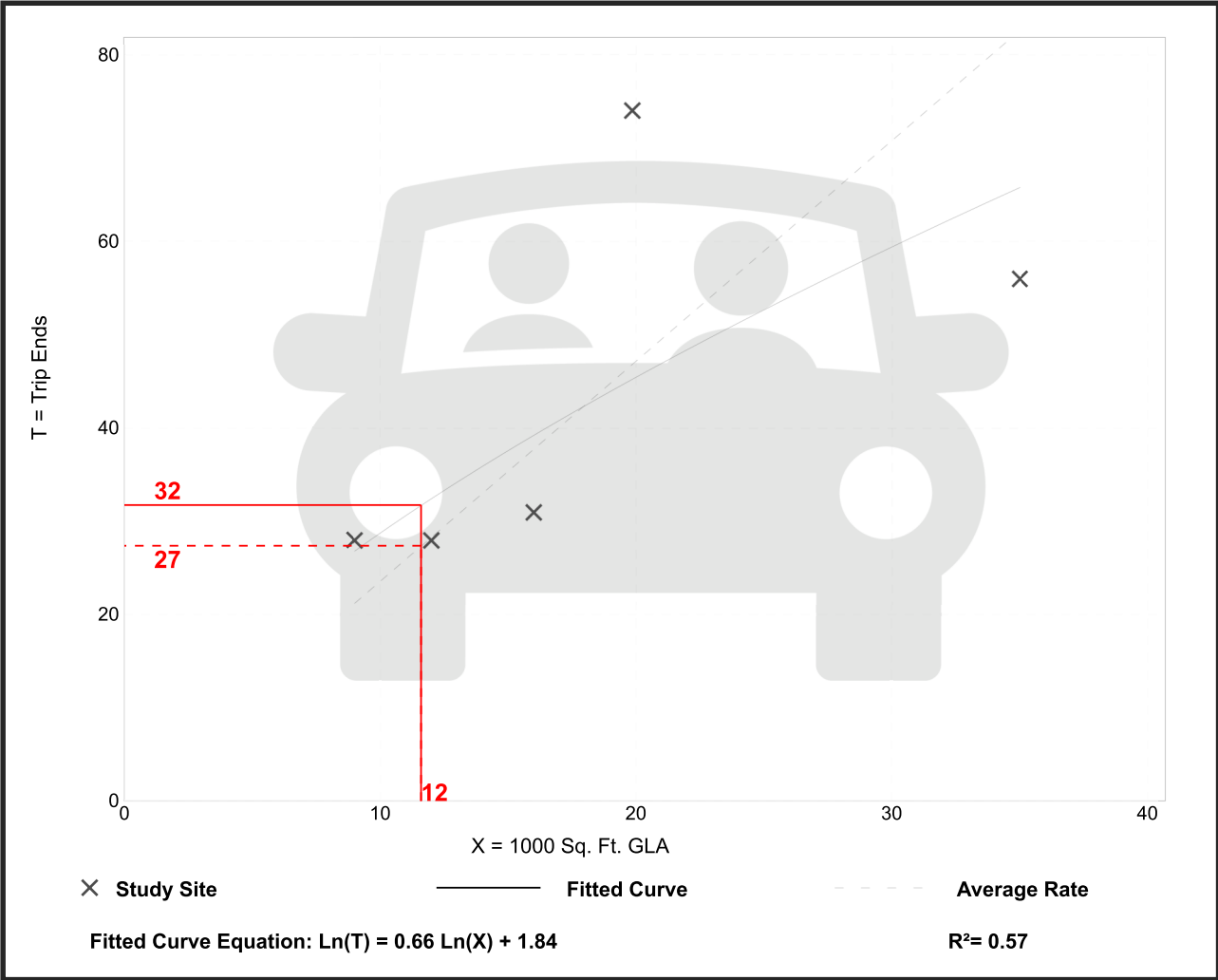
Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 5
 Avg. 1000 Sq. Ft. GLA: 18
 Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 2.36 | 1.60 - 3.73 | 0.94 |

Data Plot and Equation

Caution – Small Sample Size



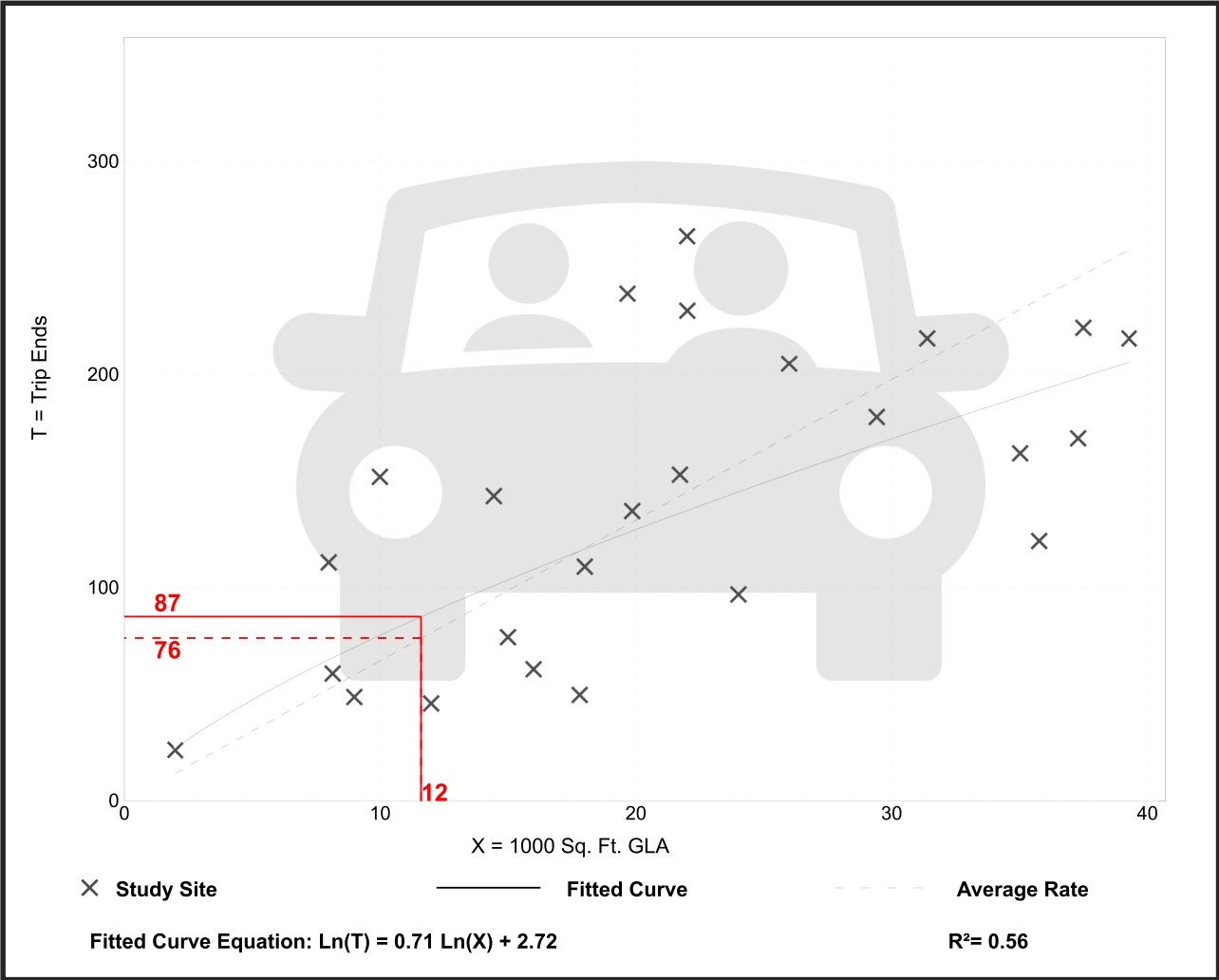
Strip Retail Plaza (<40k) (822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 25
 Avg. 1000 Sq. Ft. GLA: 21
 Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 6.59 | 2.81 - 15.20 | 2.94 |

Data Plot and Equation



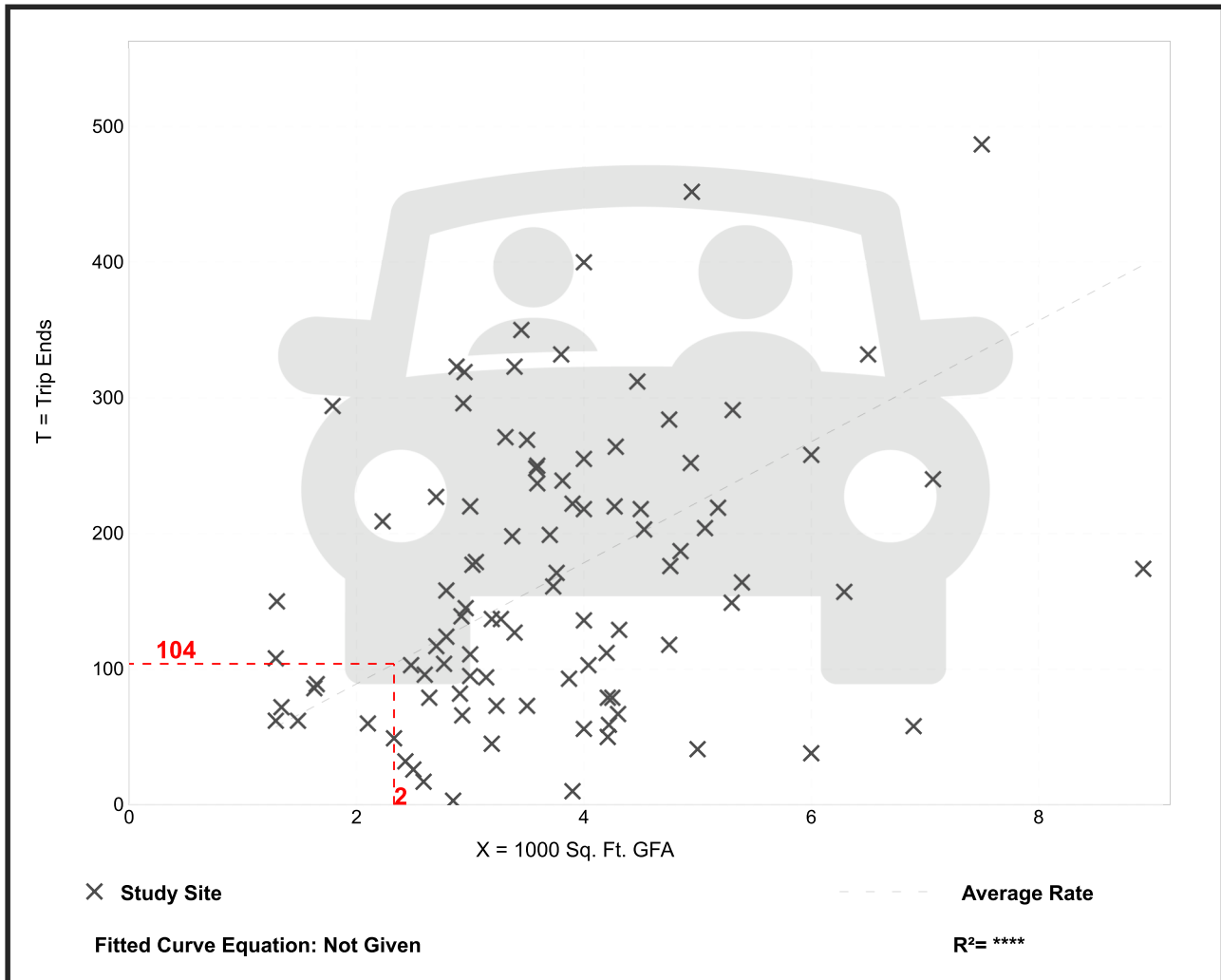
Fast-Food Restaurant with Drive-Through Window (934)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 96
 Avg. 1000 Sq. Ft. GFA: 4
 Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 44.61 | 1.05 - 164.25 | 27.14 |

Data Plot and Equation



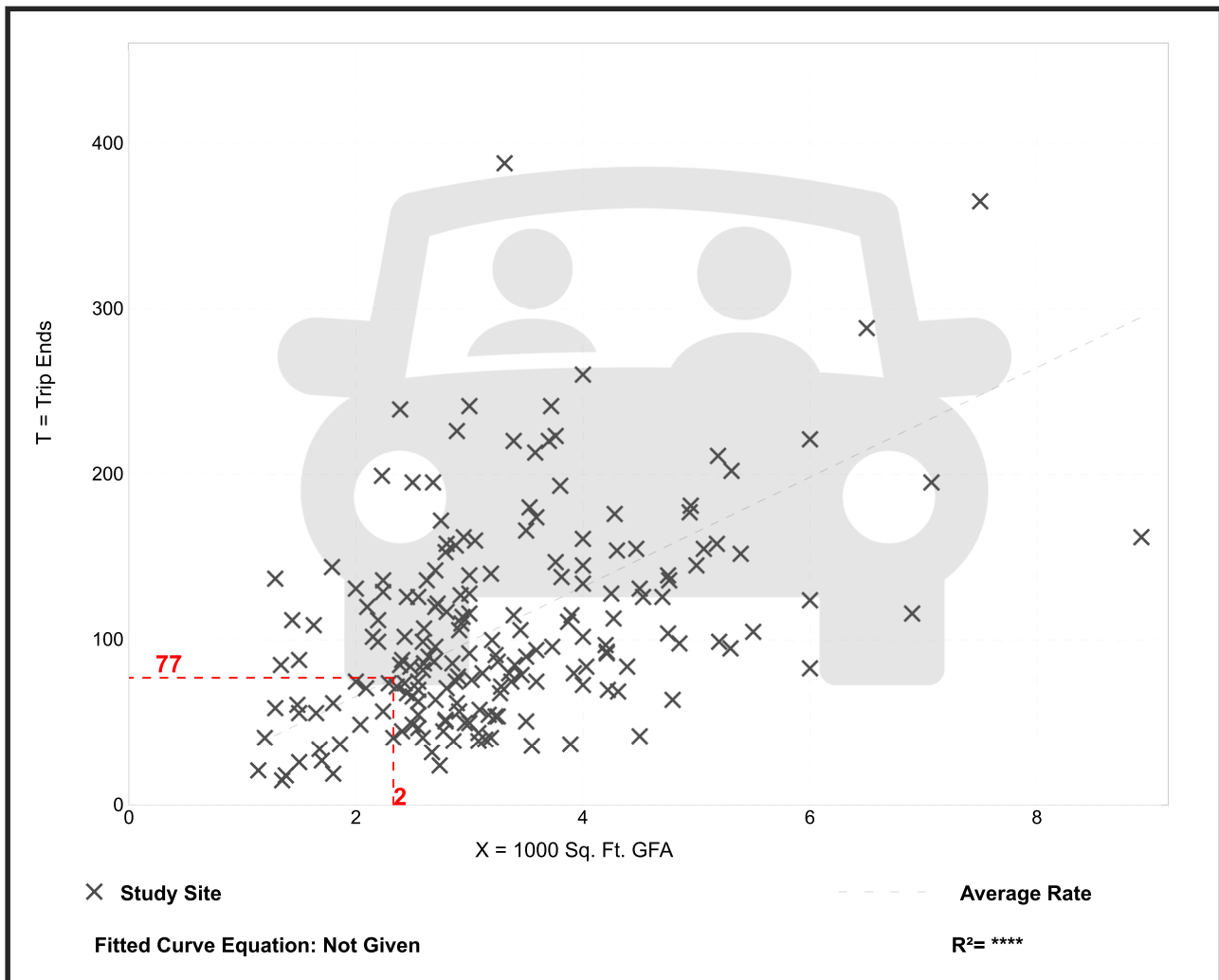
Fast-Food Restaurant with Drive-Through Window (934)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 4 and 6 p.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 190
 Avg. 1000 Sq. Ft. GFA: 3
 Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 33.03 | 8.77 - 117.22 | 17.59 |

Data Plot and Equation



Fast-Food Restaurant with Drive-Through Window (934)

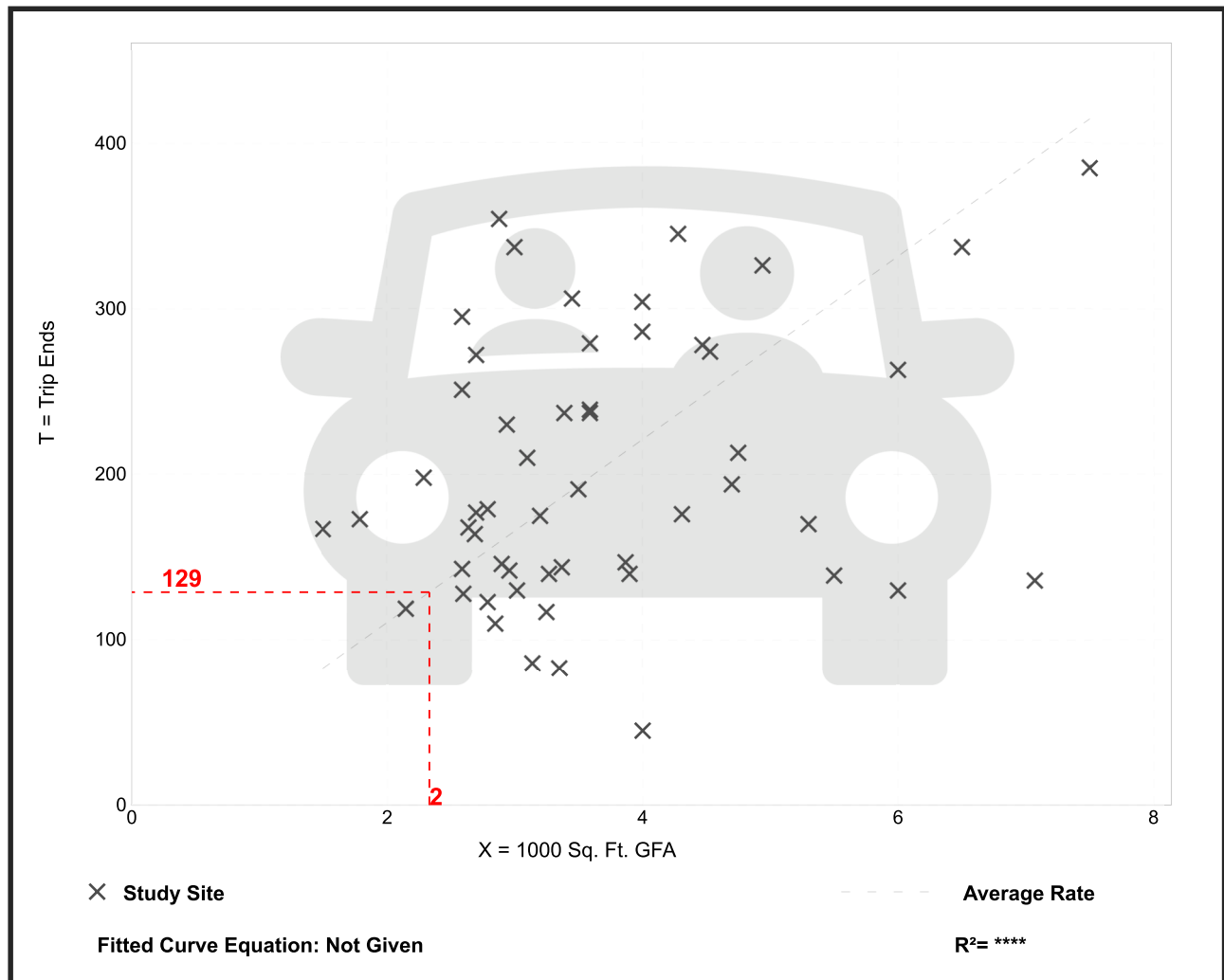
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 53
Avg. 1000 Sq. Ft. GFA: 4
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 55.25 | 11.25 - 122.92 | 24.62 |

Data Plot and Equation



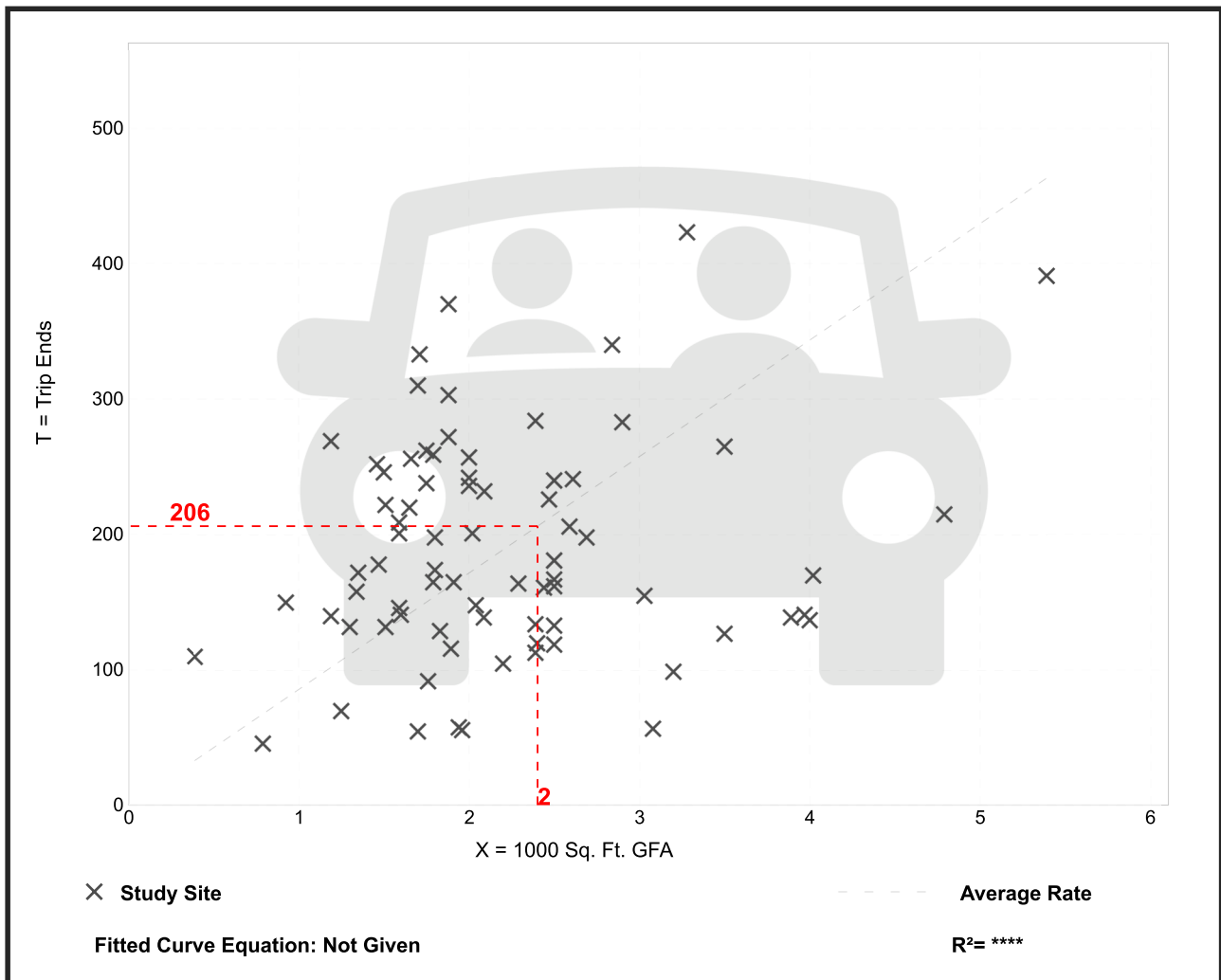
Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 78
 Avg. 1000 Sq. Ft. GFA: 2
 Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 85.88 | 18.51 - 282.05 | 44.92 |

Data Plot and Equation



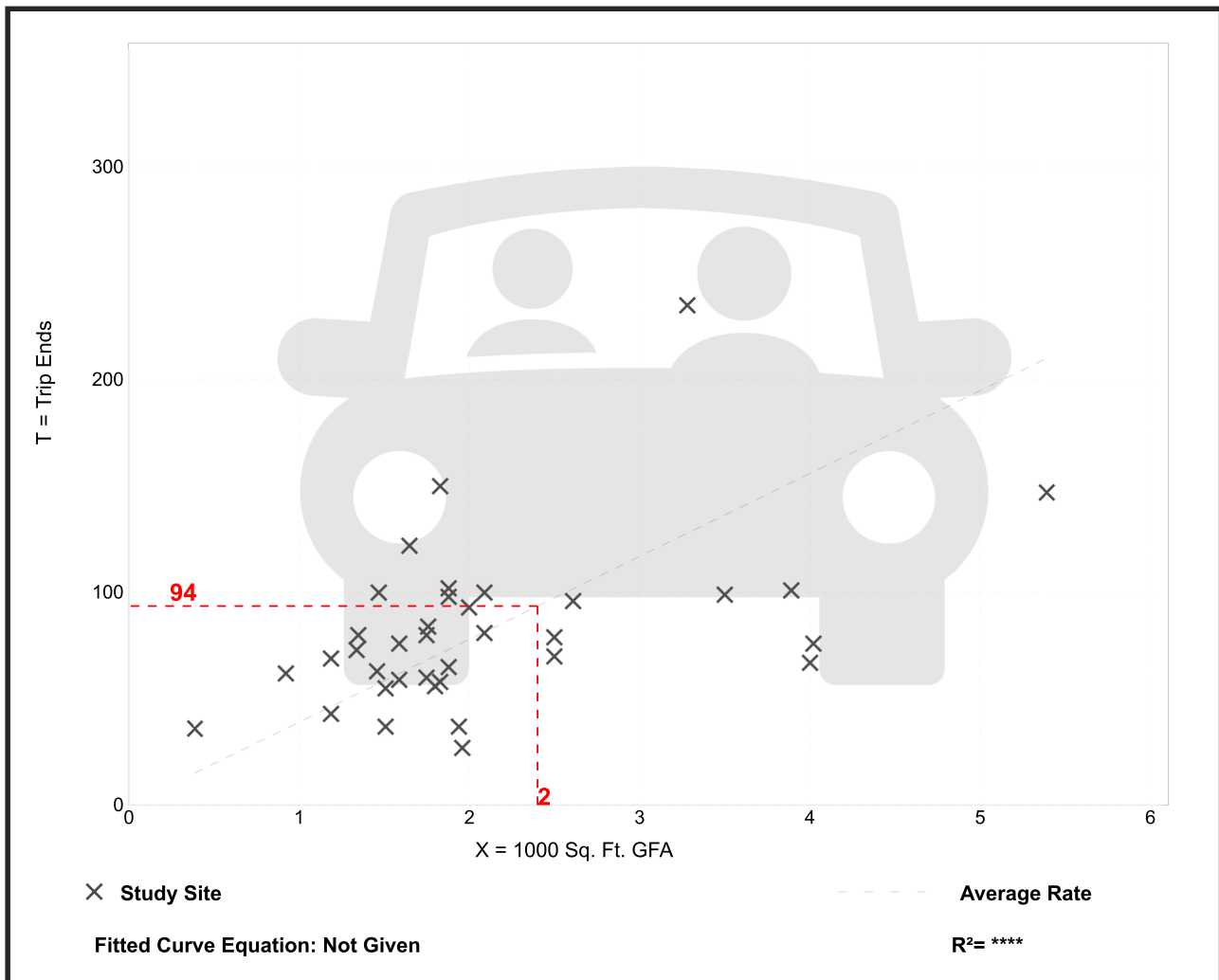
Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 36
 Avg. 1000 Sq. Ft. GFA: 2
 Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 38.99 | 13.78 - 92.31 | 17.79 |

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

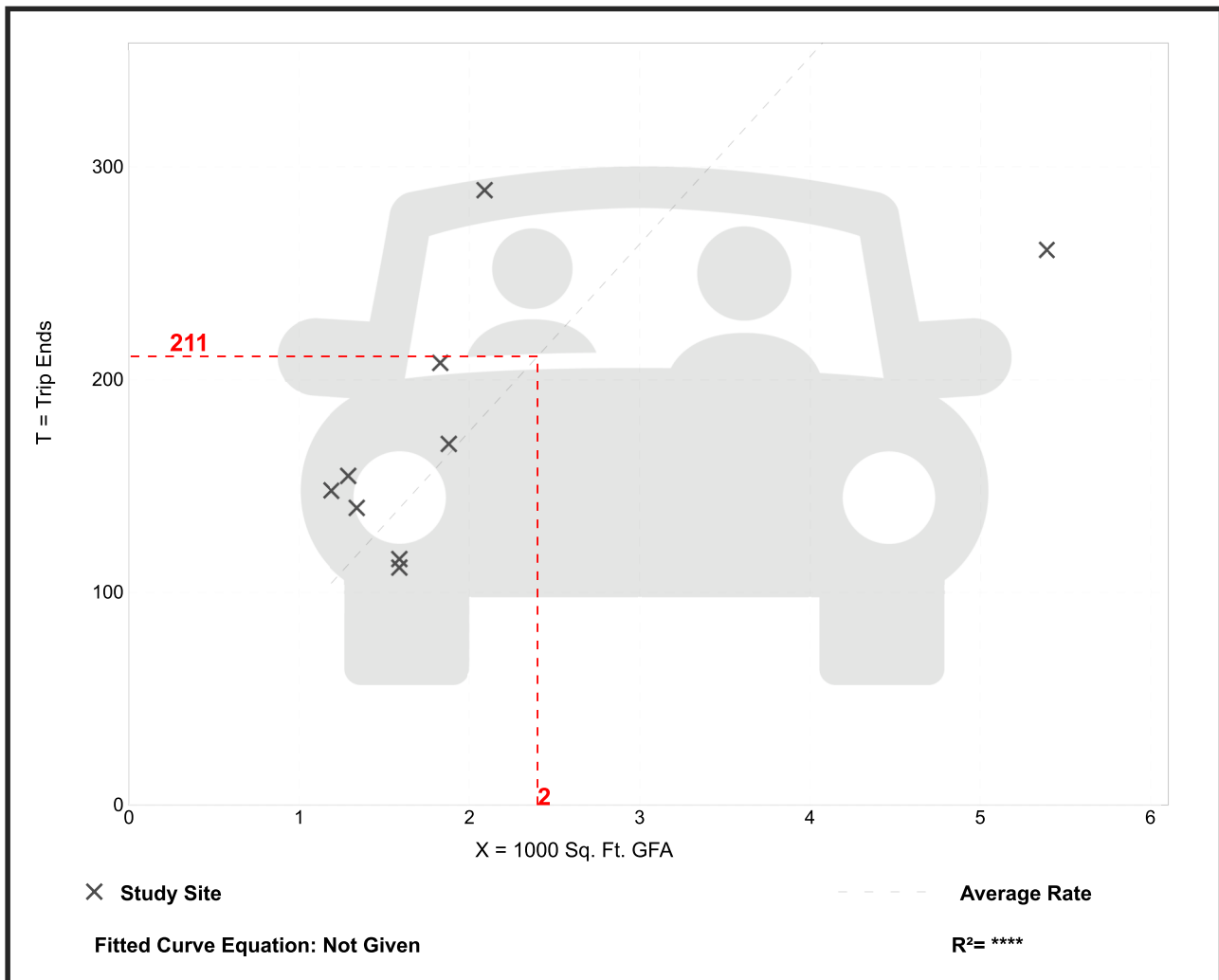
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Saturday, Peak Hour of Generator

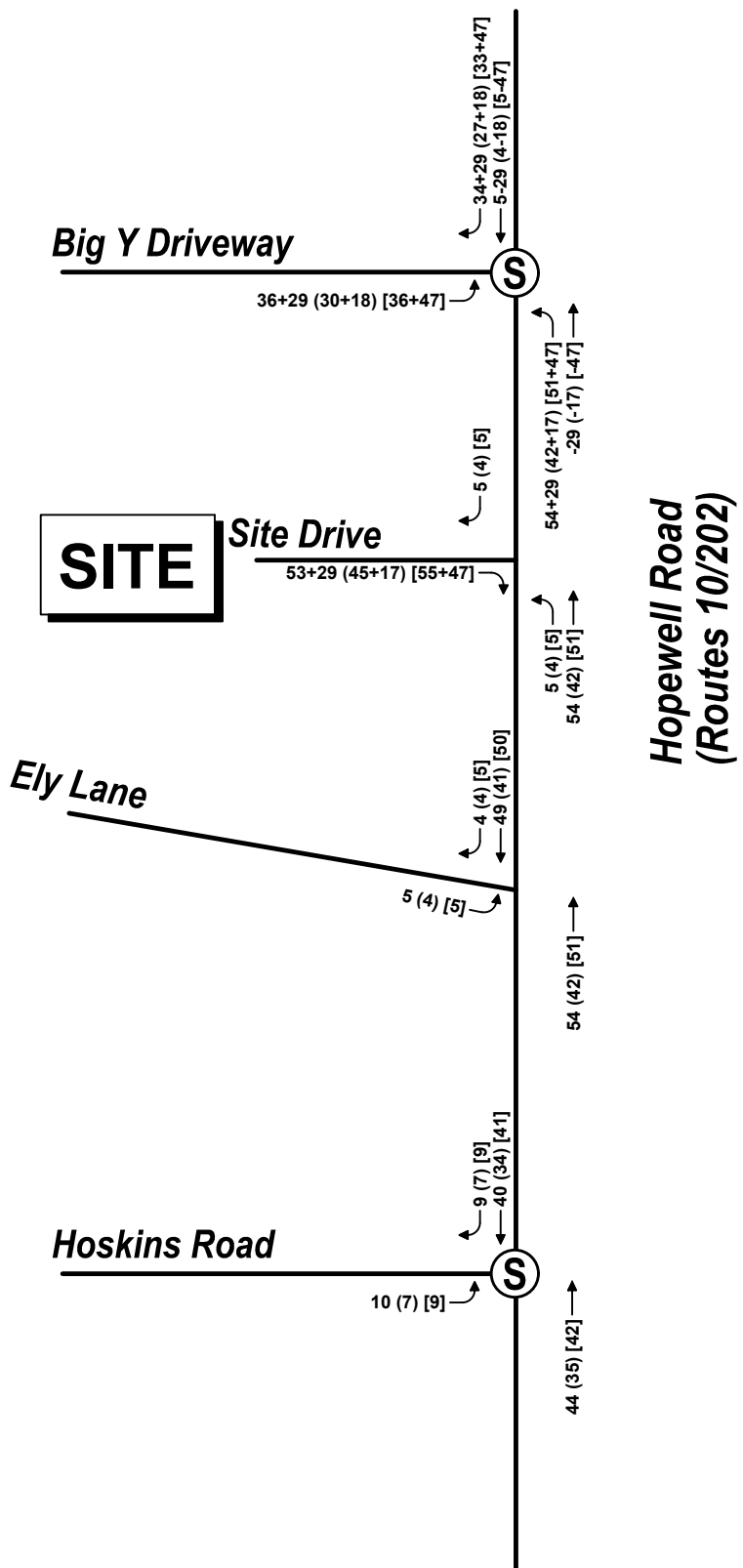
Setting/Location: General Urban/Suburban
Number of Studies: 9
Avg. 1000 Sq. Ft. GFA: 2
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 87.91 | 48.42 - 138.28 | 34.34 |

Data Plot and Equation





Weekday Morning Peak Hour
 # (Weekday Evening Peak Hour)
 # [Saturday Midday Peak Hour]

 **Not to Scale**

 **vhb** Site Generated Trips

Figure

Mixed-Use Development
 Simsbury, CT



Attachment E – Capacity Analyses

HCM Unsignalized Intersection Capacity Analysis
3: Route 10/202 & Ely Lane

2022 Existing Conditions
Weekday Morning Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|-----------------------------------|-------------|-------------|-------------|----------------------|------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 13 | 28 | 39 | 449 | 511 | 5 |
| Future Volume (Veh/h) | 13 | 28 | 39 | 449 | 511 | 5 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.71 | 0.71 | 0.88 | 0.88 | 0.86 | 0.86 |
| Hourly flow rate (vph) | 18 | 39 | 44 | 510 | 594 | 6 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 365 | 948 | |
| pX, platoon unblocked | 0.80 | 0.72 | 0.72 | | | |
| vC, conflicting volume | 1195 | 597 | 600 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 688 | 251 | 255 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 94 | 93 | 95 | | | |
| cM capacity (veh/h) | 317 | 573 | 947 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 57 | 554 | 600 | | | |
| Volume Left | 18 | 44 | 0 | | | |
| Volume Right | 39 | 0 | 6 | | | |
| cSH | 456 | 947 | 1700 | | | |
| Volume to Capacity | 0.12 | 0.05 | 0.35 | | | |
| Queue Length 95th (ft) | 11 | 4 | 0 | | | |
| Control Delay (s) | 14.0 | 1.3 | 0.0 | | | |
| Lane LOS | B | A | | | | |
| Approach Delay (s) | 14.0 | 1.3 | 0.0 | | | |
| Approach LOS | B | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | 1.2 | | | | | |
| Intersection Capacity Utilization | 65.9% | | | ICU Level of Service | C | |
| Analysis Period (min) | 15 | | | | | |

Queues
5: Route 10/202 & Hoskins Road

2022 Existing Conditions
Weekday Morning Peak Hour

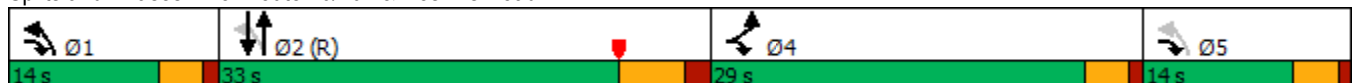


| Lane Group | EBL | EBR | NBL | NBT | SBT | Ø5 |
|-------------------------|-------|--------|--------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 57 | 197 | 101 | 431 | 522 | |
| Future Volume (vph) | 57 | 197 | 101 | 431 | 522 | |
| Lane Group Flow (vph) | 78 | 270 | 116 | 495 | 620 | |
| Turn Type | Prot | custom | custom | NA | NA | |
| Protected Phases | 4 | 1 4 5 | 1 | 2 | 2 | 5 |
| Permitted Phases | | | 2 5 | | | |
| Detector Phase | 4 | 4 | 1 | 2 | 2 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 9.0 | | 6.0 | 15.0 | 15.0 | 6.0 |
| Minimum Split (s) | 22.5 | | 10.5 | 22.5 | 22.5 | 10.0 |
| Total Split (s) | 29.0 | | 14.0 | 33.0 | 33.0 | 14.0 |
| Total Split (%) | 32.2% | | 15.6% | 36.7% | 36.7% | 16% |
| Yellow Time (s) | 3.0 | | 3.0 | 4.4 | 4.4 | 3.0 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.7 | 1.7 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.0 | | 4.0 | 6.1 | 6.1 | |
| Lead/Lag | Lead | | Lead | Lag | Lag | Lag |
| Lead-Lag Optimize? | Yes | | Yes | Yes | Yes | Yes |
| Recall Mode | None | | None | C-Min | C-Min | None |
| v/c Ratio | 0.25 | 0.54 | 0.23 | 0.44 | 0.58 | |
| Control Delay | 31.9 | 20.8 | 5.6 | 14.3 | 17.0 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 31.9 | 20.8 | 5.6 | 14.3 | 17.0 | |
| Queue Length 50th (ft) | 39 | 88 | 16 | 150 | 210 | |
| Queue Length 95th (ft) | 57 | 94 | 39 | 287 | 399 | |
| Internal Link Dist (ft) | 612 | | | 389 | 285 | |
| Turn Bay Length (ft) | 230 | | 160 | | | |
| Base Capacity (vph) | 484 | 548 | 525 | 1113 | 1072 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.16 | 0.49 | 0.22 | 0.44 | 0.58 | |

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 10 (11%), Referenced to phase 2:NBSB, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 5: Route 10/202 & Hoskins Road



HCM Signalized Intersection Capacity Analysis
5: Route 10/202 & Hoskins Road

2022 Existing Conditions
Weekday Morning Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------|--------|--------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 57 | 197 | 101 | 431 | 522 | 17 |
| Future Volume (vph) | 57 | 197 | 101 | 431 | 522 | 17 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 12 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 6.1 | 6.1 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1745 | 1507 | 1668 | 1881 | 1811 | |
| Flt Permitted | 0.95 | 1.00 | 0.32 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1745 | 1507 | 559 | 1881 | 1811 | |
| Peak-hour factor, PHF | 0.73 | 0.73 | 0.87 | 0.87 | 0.87 | 0.87 |
| Adj. Flow (vph) | 78 | 270 | 116 | 495 | 600 | 20 |
| RTOR Reduction (vph) | 0 | 52 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 78 | 218 | 116 | 495 | 619 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 1% | 1% | 1% | 1% |
| Turn Type | Prot | custom | custom | NA | NA | |
| Protected Phases | 4 | 1 4 5 | 1 | 2 | 2 | |
| Permitted Phases | | | 2 5 | | | |
| Actuated Green, G (s) | 16.0 | 27.4 | 59.9 | 52.5 | 52.5 | |
| Effective Green, g (s) | 16.0 | 27.4 | 59.9 | 52.5 | 52.5 | |
| Actuated g/C Ratio | 0.18 | 0.30 | 0.67 | 0.58 | 0.58 | |
| Clearance Time (s) | 4.0 | | 4.0 | 6.1 | 6.1 | |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 310 | 458 | 463 | 1097 | 1056 | |
| v/s Ratio Prot | 0.04 | c0.14 | 0.02 | 0.26 | c0.34 | |
| v/s Ratio Perm | | | 0.15 | | | |
| v/c Ratio | 0.25 | 0.48 | 0.25 | 0.45 | 0.59 | |
| Uniform Delay, d1 | 31.8 | 25.5 | 6.6 | 10.6 | 11.9 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.4 | 0.8 | 0.3 | 1.3 | 2.4 | |
| Delay (s) | 32.3 | 26.2 | 6.9 | 11.9 | 14.3 | |
| Level of Service | C | C | A | B | B | |
| Approach Delay (s) | 27.6 | | | 11.0 | 14.3 | |
| Approach LOS | C | | | B | B | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 15.9 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.61 | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 18.1 |
| Intersection Capacity Utilization | 53.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

Queues
8: Route 10/202 & Big Y

2022 Existing Conditions
Weekday Morning Peak Hour



| Lane Group | EBL | EBR | NBL | NBT | SBT |
|-------------------------|-------|-------|-------|------|-------|
| Lane Configurations | | | | | |
| Traffic Volume (vph) | 61 | 22 | 11 | 451 | 494 |
| Future Volume (vph) | 61 | 22 | 11 | 451 | 494 |
| Lane Group Flow (vph) | 85 | 31 | 13 | 524 | 660 |
| Turn Type | Perm | pt+ov | D.P+P | NA | NA |
| Protected Phases | | 1 4 | 1 | 1 2 | 2 |
| Permitted Phases | 4 | | 2 | | |
| Detector Phase | 4 | 1 4 | 1 | 1 2 | 2 |
| Switch Phase | | | | | |
| Minimum Initial (s) | 9.0 | | 5.0 | | 15.0 |
| Minimum Split (s) | 22.5 | | 9.0 | | 30.6 |
| Total Split (s) | 29.0 | | 19.0 | | 30.6 |
| Total Split (%) | 36.9% | | 24.2% | | 38.9% |
| Yellow Time (s) | 3.0 | | 3.0 | | 4.0 |
| All-Red Time (s) | 1.0 | | 1.0 | | 1.6 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | | 0.0 |
| Total Lost Time (s) | 4.0 | | 4.0 | | 5.6 |
| Lead/Lag | | | Lead | | Lag |
| Lead-Lag Optimize? | | | Yes | | Yes |
| Recall Mode | None | | None | | Min |
| v/c Ratio | 0.30 | 0.05 | 0.02 | 0.38 | 0.78 |
| Control Delay | 26.3 | 4.3 | 2.8 | 4.3 | 24.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 26.3 | 4.3 | 2.8 | 4.3 | 24.6 |
| Queue Length 50th (ft) | 27 | 0 | 1 | 57 | 194 |
| Queue Length 95th (ft) | 52 | 8 | 4 | 99 | #377 |
| Internal Link Dist (ft) | 149 | | | 868 | 614 |
| Turn Bay Length (ft) | 130 | | 215 | | |
| Base Capacity (vph) | 765 | 820 | 668 | 1369 | 847 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.11 | 0.04 | 0.02 | 0.38 | 0.78 |

Intersection Summary

Cycle Length: 78.6
 Actuated Cycle Length: 56.1
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 8: Route 10/202 & Big Y



HCM Signalized Intersection Capacity Analysis
8: Route 10/202 & Big Y

2022 Existing Conditions
Weekday Morning Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|-------|-------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 61 | 22 | 11 | 451 | 494 | 54 |
| Future Volume (vph) | 61 | 22 | 11 | 451 | 494 | 54 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 12 | 11 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 5.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1668 | 1599 | 1770 | 1801 | 1838 | |
| Flt Permitted | 0.95 | 1.00 | 0.21 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1668 | 1599 | 400 | 1801 | 1838 | |
| Peak-hour factor, PHF | 0.72 | 0.72 | 0.86 | 0.86 | 0.83 | 0.83 |
| Adj. Flow (vph) | 85 | 31 | 13 | 524 | 595 | 65 |
| RTOR Reduction (vph) | 0 | 19 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 85 | 12 | 13 | 524 | 656 | 0 |
| Heavy Vehicles (%) | 1% | 1% | 2% | 2% | 2% | 2% |
| Turn Type | Perm | pt+ov | D.P+P | NA | NA | |
| Protected Phases | | 1 4 | 1 | 1 2 | 2 | |
| Permitted Phases | 4 | | 2 | | | |
| Actuated Green, G (s) | 7.0 | 21.5 | 36.3 | 40.3 | 25.8 | |
| Effective Green, g (s) | 7.0 | 21.5 | 36.3 | 40.3 | 25.8 | |
| Actuated g/C Ratio | 0.12 | 0.38 | 0.64 | 0.71 | 0.45 | |
| Clearance Time (s) | 4.0 | | 4.0 | | 5.6 | |
| Vehicle Extension (s) | 2.0 | | 1.5 | | 2.5 | |
| Lane Grp Cap (vph) | 205 | 604 | 507 | 1275 | 833 | |
| v/s Ratio Prot | | 0.01 | 0.00 | c0.29 | c0.36 | |
| v/s Ratio Perm | c0.05 | | 0.01 | | | |
| v/c Ratio | 0.41 | 0.02 | 0.03 | 0.41 | 0.79 | |
| Uniform Delay, d1 | 23.1 | 11.1 | 5.1 | 3.4 | 13.2 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.5 | 0.0 | 0.0 | 0.1 | 4.8 | |
| Delay (s) | 23.6 | 11.1 | 5.1 | 3.5 | 18.0 | |
| Level of Service | C | B | A | A | B | |
| Approach Delay (s) | 20.2 | | | 3.5 | 18.0 | |
| Approach LOS | C | | | A | B | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 12.3 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.65 | | |
| Actuated Cycle Length (s) | 56.9 | Sum of lost time (s) | 13.6 |
| Intersection Capacity Utilization | 44.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 3: Route 10/202 & Ely Lane

2022 Existing Conditions
 Weekday Evening Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|-----------------------------------|-------------|-------------|-------------|----------------------|------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 56 | 101 | 100 | 634 | 583 | 17 |
| Future Volume (Veh/h) | 56 | 101 | 100 | 634 | 583 | 17 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.77 | 0.77 | 0.99 | 0.99 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 73 | 131 | 101 | 640 | 634 | 18 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 365 | 948 | |
| pX, platoon unblocked | 0.80 | 0.66 | 0.66 | | | |
| vC, conflicting volume | 1485 | 643 | 652 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 713 | 210 | 224 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 74 | 76 | 89 | | | |
| cM capacity (veh/h) | 286 | 555 | 902 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 204 | 741 | 652 | | | |
| Volume Left | 73 | 101 | 0 | | | |
| Volume Right | 131 | 0 | 18 | | | |
| cSH | 415 | 902 | 1700 | | | |
| Volume to Capacity | 0.49 | 0.11 | 0.38 | | | |
| Queue Length 95th (ft) | 66 | 9 | 0 | | | |
| Control Delay (s) | 21.8 | 2.8 | 0.0 | | | |
| Lane LOS | C | A | | | | |
| Approach Delay (s) | 21.8 | 2.8 | 0.0 | | | |
| Approach LOS | C | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 4.1 | | | |
| Intersection Capacity Utilization | | | 89.9% | ICU Level of Service | E | |
| Analysis Period (min) | | | 15 | | | |

Queues
5: Route 10/202 & Hoskins Road

2022 Existing Conditions
Weekday Evening Peak Hour

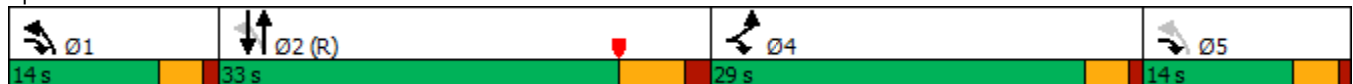


| Lane Group | EBL | EBR | NBL | NBT | SBT | Ø5 |
|-------------------------|-------|--------|--------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 60 | 93 | 168 | 674 | 666 | |
| Future Volume (vph) | 60 | 93 | 168 | 674 | 666 | |
| Lane Group Flow (vph) | 73 | 113 | 187 | 749 | 844 | |
| Turn Type | Prot | custom | custom | NA | NA | |
| Protected Phases | 4 | 1 4 5 | 1 | 2 | 2 | 5 |
| Permitted Phases | | | 2 5 | | | |
| Detector Phase | 4 | 4 | 1 | 2 | 2 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 9.0 | | 5.0 | 15.0 | 15.0 | 6.0 |
| Minimum Split (s) | 16.0 | | 9.0 | 32.6 | 32.6 | 10.0 |
| Total Split (s) | 29.0 | | 14.0 | 33.0 | 33.0 | 14.0 |
| Total Split (%) | 32.2% | | 15.6% | 36.7% | 36.7% | 16% |
| Yellow Time (s) | 3.0 | | 3.0 | 4.4 | 4.4 | 3.0 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.7 | 1.7 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.0 | | 4.0 | 6.1 | 6.1 | |
| Lead/Lag | Lead | | Lead | Lag | Lag | Lag |
| Lead-Lag Optimize? | Yes | | Yes | Yes | Yes | Yes |
| Recall Mode | None | | None | C-Min | C-Min | None |
| v/c Ratio | 0.36 | 0.24 | 0.44 | 0.67 | 0.78 | |
| Control Delay | 41.7 | 18.1 | 6.4 | 17.5 | 22.1 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 41.7 | 18.1 | 6.4 | 17.5 | 22.1 | |
| Queue Length 50th (ft) | 39 | 37 | 17 | 258 | 326 | |
| Queue Length 95th (ft) | 71 | 61 | 39 | 490 | #510 | |
| Internal Link Dist (ft) | 612 | | | 389 | 285 | |
| Turn Bay Length (ft) | 230 | | 160 | | | |
| Base Capacity (vph) | 484 | 487 | 435 | 1126 | 1085 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.15 | 0.23 | 0.43 | 0.67 | 0.78 | |

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 39 (43%), Referenced to phase 2:NBSB, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Route 10/202 & Hoskins Road



HCM Signalized Intersection Capacity Analysis
5: Route 10/202 & Hoskins Road

2022 Existing Conditions
Weekday Evening Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|--------|--------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 60 | 93 | 168 | 674 | 666 | 18 |
| Future Volume (vph) | 60 | 93 | 168 | 674 | 666 | 18 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 12 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 6.1 | 6.1 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1745 | 1507 | 1685 | 1900 | 1830 | |
| Flt Permitted | 0.95 | 1.00 | 0.18 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1745 | 1507 | 315 | 1900 | 1830 | |
| Peak-hour factor, PHF | 0.82 | 0.82 | 0.90 | 0.90 | 0.81 | 0.81 |
| Adj. Flow (vph) | 73 | 113 | 187 | 749 | 822 | 22 |
| RTOR Reduction (vph) | 0 | 18 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 73 | 95 | 187 | 749 | 843 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% |
| Turn Type | Prot | custom | custom | NA | NA | |
| Protected Phases | 4 | 1 4 5 | 1 | 2 | 2 | |
| Permitted Phases | | | 2 5 | | | |
| Actuated Green, G (s) | 10.3 | 26.5 | 65.6 | 53.4 | 53.4 | |
| Effective Green, g (s) | 10.3 | 26.5 | 65.6 | 53.4 | 53.4 | |
| Actuated g/C Ratio | 0.11 | 0.29 | 0.73 | 0.59 | 0.59 | |
| Clearance Time (s) | 4.0 | | 4.0 | 6.1 | 6.1 | |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 199 | 443 | 415 | 1127 | 1085 | |
| v/s Ratio Prot | c0.04 | 0.06 | c0.06 | 0.39 | c0.46 | |
| v/s Ratio Perm | | | 0.27 | | | |
| v/c Ratio | 0.37 | 0.21 | 0.45 | 0.66 | 0.78 | |
| Uniform Delay, d1 | 36.8 | 23.9 | 9.2 | 12.3 | 13.8 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.1 | 0.2 | 0.8 | 3.1 | 5.5 | |
| Delay (s) | 38.0 | 24.1 | 10.0 | 15.4 | 19.3 | |
| Level of Service | D | C | A | B | B | |
| Approach Delay (s) | 29.6 | | | 14.3 | 19.3 | |
| Approach LOS | C | | | B | B | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 17.9 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.71 | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 18.1 |
| Intersection Capacity Utilization | 64.7% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

Queues
8: Route 10/202 & Big Y

2022 Existing Conditions
Weekday Evening Peak Hour



| Lane Group | EBL | EBR | NBL | NBT | SBT |
|-------------------------|-------|-------|-------|------|-------|
| Lane Configurations | | | | | |
| Traffic Volume (vph) | 34 | 27 | 15 | 675 | 573 |
| Future Volume (vph) | 34 | 27 | 15 | 675 | 573 |
| Lane Group Flow (vph) | 47 | 37 | 17 | 785 | 807 |
| Turn Type | Perm | pt+ov | D.P+P | NA | NA |
| Protected Phases | | 1 4 | 1 | 1 2 | 2 |
| Permitted Phases | 4 | | 2 | | |
| Detector Phase | 4 | 1 4 | 1 | 1 2 | 2 |
| Switch Phase | | | | | |
| Minimum Initial (s) | 9.0 | | 5.0 | | 15.0 |
| Minimum Split (s) | 22.5 | | 9.0 | | 32.6 |
| Total Split (s) | 29.0 | | 24.0 | | 40.6 |
| Total Split (%) | 31.0% | | 25.6% | | 43.4% |
| Yellow Time (s) | 3.0 | | 3.0 | | 4.0 |
| All-Red Time (s) | 1.0 | | 1.0 | | 1.6 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | | 0.0 |
| Total Lost Time (s) | 4.0 | | 4.0 | | 5.6 |
| Lead/Lag | | | Lead | | Lag |
| Lead-Lag Optimize? | | | Yes | | Yes |
| Recall Mode | None | | None | | Min |
| v/c Ratio | 0.21 | 0.06 | 0.03 | 0.53 | 0.85 |
| Control Delay | 33.6 | 5.1 | 2.1 | 4.6 | 29.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 33.6 | 5.1 | 2.1 | 4.6 | 29.5 |
| Queue Length 50th (ft) | 20 | 0 | 1 | 106 | 336 |
| Queue Length 95th (ft) | 42 | 11 | 4 | 151 | #581 |
| Internal Link Dist (ft) | 149 | | | 868 | 614 |
| Turn Bay Length (ft) | 130 | | 215 | | |
| Base Capacity (vph) | 611 | 743 | 636 | 1482 | 948 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.08 | 0.05 | 0.03 | 0.53 | 0.85 |

Intersection Summary

Cycle Length: 93.6

Actuated Cycle Length: 70.8

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 8: Route 10/202 & Big Y



HCM Signalized Intersection Capacity Analysis
8: Route 10/202 & Big Y

2022 Existing Conditions
Weekday Evening Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|-------|-------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 34 | 27 | 15 | 675 | 573 | 137 |
| Future Volume (vph) | 34 | 27 | 15 | 675 | 573 | 137 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 12 | 11 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 5.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1685 | 1615 | 1787 | 1818 | 1850 | |
| Flt Permitted | 0.95 | 1.00 | 0.13 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1685 | 1615 | 241 | 1818 | 1850 | |
| Peak-hour factor, PHF | 0.73 | 0.73 | 0.86 | 0.86 | 0.88 | 0.88 |
| Adj. Flow (vph) | 47 | 37 | 17 | 785 | 651 | 156 |
| RTOR Reduction (vph) | 0 | 24 | 0 | 0 | 7 | 0 |
| Lane Group Flow (vph) | 47 | 13 | 17 | 785 | 800 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 1% | 1% | 0% | 0% |
| Turn Type | Perm | pt+ov | D.P+P | NA | NA | |
| Protected Phases | | 1 4 | 1 | 1 2 | 2 | |
| Permitted Phases | 4 | | 2 | | | |
| Actuated Green, G (s) | 6.7 | 25.9 | 51.2 | 55.2 | 36.0 | |
| Effective Green, g (s) | 6.7 | 25.9 | 51.2 | 55.2 | 36.0 | |
| Actuated g/C Ratio | 0.09 | 0.36 | 0.72 | 0.77 | 0.50 | |
| Clearance Time (s) | 4.0 | | 4.0 | | 5.6 | |
| Vehicle Extension (s) | 2.0 | | 1.5 | | 2.5 | |
| Lane Grp Cap (vph) | 157 | 585 | 501 | 1403 | 931 | |
| v/s Ratio Prot | | 0.01 | 0.01 | c0.43 | c0.43 | |
| v/s Ratio Perm | c0.03 | | 0.02 | | | |
| v/c Ratio | 0.30 | 0.02 | 0.03 | 0.56 | 0.86 | |
| Uniform Delay, d1 | 30.2 | 14.7 | 6.8 | 3.3 | 15.5 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.4 | 0.0 | 0.0 | 0.3 | 7.9 | |
| Delay (s) | 30.6 | 14.7 | 6.8 | 3.5 | 23.4 | |
| Level of Service | C | B | A | A | C | |
| Approach Delay (s) | 23.6 | | | 3.6 | 23.4 | |
| Approach LOS | C | | | A | C | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 14.0 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 71.5 | Sum of lost time (s) | 13.6 |
| Intersection Capacity Utilization | 54.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
3: Route 10/202 & Ely Lane

2022 Existing Conditions
Saturday Midday Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|-----------------------------------|-------------|-------------|-------------|-------|----------------------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 59 | 99 | 98 | 533 | 473 | 25 |
| Future Volume (Veh/h) | 59 | 99 | 98 | 533 | 473 | 25 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.76 | 0.76 | 0.89 | 0.89 | 0.89 | 0.89 |
| Hourly flow rate (vph) | 78 | 130 | 110 | 599 | 531 | 28 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 365 | 948 | |
| pX, platoon unblocked | 0.87 | 0.78 | 0.78 | | | |
| vC, conflicting volume | 1364 | 545 | 559 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 889 | 277 | 295 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 68 | 78 | 89 | | | |
| cM capacity (veh/h) | 243 | 597 | 998 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 208 | 709 | 559 | | | |
| Volume Left | 78 | 110 | 0 | | | |
| Volume Right | 130 | 0 | 28 | | | |
| cSH | 386 | 998 | 1700 | | | |
| Volume to Capacity | 0.54 | 0.11 | 0.33 | | | |
| Queue Length 95th (ft) | 77 | 9 | 0 | | | |
| Control Delay (s) | 24.7 | 2.7 | 0.0 | | | |
| Lane LOS | C | A | | | | |
| Approach Delay (s) | 24.7 | 2.7 | 0.0 | | | |
| Approach LOS | C | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | | 4.8 | | |
| Intersection Capacity Utilization | | | | 79.2% | ICU Level of Service | D |
| Analysis Period (min) | | | | 15 | | |

Queues
5: Route 10/202 & Hoskins Road

2022 Existing Conditions
Saturday Midday Peak Hour

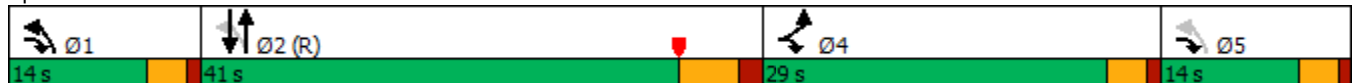


| Lane Group | EBL | EBR | NBL | NBT | SBT | Ø5 |
|-------------------------|-------|--------|--------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 50 | 119 | 103 | 581 | 548 | |
| Future Volume (vph) | 50 | 119 | 103 | 581 | 548 | |
| Lane Group Flow (vph) | 54 | 129 | 112 | 632 | 622 | |
| Turn Type | Prot | custom | custom | NA | NA | |
| Protected Phases | 4 | 1 4 5 | 1 | 2 | 2 | 5 |
| Permitted Phases | | | 2 5 | | | |
| Detector Phase | 4 | 4 | 1 | 2 | 2 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 9.0 | | 6.0 | 15.0 | 15.0 | 6.0 |
| Minimum Split (s) | 22.5 | | 10.0 | 24.1 | 24.1 | 10.0 |
| Total Split (s) | 29.0 | | 14.0 | 41.0 | 41.0 | 14.0 |
| Total Split (%) | 29.6% | | 14.3% | 41.8% | 41.8% | 14% |
| Yellow Time (s) | 3.0 | | 3.0 | 4.4 | 4.4 | 3.0 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.7 | 1.7 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.0 | | 4.0 | 6.1 | 6.1 | |
| Lead/Lag | Lead | | Lead | Lag | Lag | Lag |
| Lead-Lag Optimize? | Yes | | Yes | Yes | Yes | Yes |
| Recall Mode | None | | None | C-Min | C-Min | None |
| v/c Ratio | 0.32 | 0.31 | 0.20 | 0.50 | 0.51 | |
| Control Delay | 46.1 | 9.0 | 2.7 | 9.6 | 9.8 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 46.1 | 9.0 | 2.7 | 9.6 | 9.8 | |
| Queue Length 50th (ft) | 32 | 5 | 9 | 158 | 157 | |
| Queue Length 95th (ft) | 68 | 49 | 21 | 290 | 291 | |
| Internal Link Dist (ft) | 612 | | | 389 | 285 | |
| Turn Bay Length (ft) | 230 | | 160 | | | |
| Base Capacity (vph) | 436 | 468 | 613 | 1271 | 1222 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.12 | 0.28 | 0.18 | 0.50 | 0.51 | |

Intersection Summary

Cycle Length: 98
 Actuated Cycle Length: 98
 Offset: 10 (10%), Referenced to phase 2:NBSB and 6:, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 5: Route 10/202 & Hoskins Road



HCM Signalized Intersection Capacity Analysis
5: Route 10/202 & Hoskins Road

2022 Existing Conditions
Saturday Midday Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|--------|--------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 50 | 119 | 103 | 581 | 548 | 24 |
| Future Volume (vph) | 50 | 119 | 103 | 581 | 548 | 24 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 12 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 6.1 | 6.1 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1478 | 1652 | 1863 | 1790 | |
| Flt Permitted | 0.95 | 1.00 | 0.36 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1478 | 631 | 1863 | 1790 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 54 | 129 | 112 | 632 | 596 | 26 |
| RTOR Reduction (vph) | 0 | 94 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 54 | 36 | 112 | 632 | 621 | 0 |
| Turn Type | Prot | custom | custom | NA | NA | |
| Protected Phases | 4 | 1 4 5 | 1 | 2 | 2 | |
| Permitted Phases | | | 2 5 | | | |
| Actuated Green, G (s) | 9.7 | 21.0 | 74.2 | 66.9 | 66.9 | |
| Effective Green, g (s) | 9.7 | 21.0 | 74.2 | 66.9 | 66.9 | |
| Actuated g/C Ratio | 0.10 | 0.21 | 0.76 | 0.68 | 0.68 | |
| Clearance Time (s) | 4.0 | | 4.0 | 6.1 | 6.1 | |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 169 | 316 | 553 | 1271 | 1221 | |
| v/s Ratio Prot | c0.03 | 0.02 | c0.02 | 0.34 | c0.35 | |
| v/s Ratio Perm | | | 0.14 | | | |
| v/c Ratio | 0.32 | 0.11 | 0.20 | 0.50 | 0.51 | |
| Uniform Delay, d1 | 41.1 | 31.0 | 3.7 | 7.5 | 7.6 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.1 | 0.2 | 0.2 | 1.4 | 1.5 | |
| Delay (s) | 42.2 | 31.2 | 3.9 | 8.9 | 9.1 | |
| Level of Service | D | C | A | A | A | |
| Approach Delay (s) | 34.4 | | | 8.1 | 9.1 | |
| Approach LOS | C | | | A | A | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 11.6 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.48 | | |
| Actuated Cycle Length (s) | 98.0 | Sum of lost time (s) | 18.1 |
| Intersection Capacity Utilization | 55.3% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

Queues
8: Route 10/202 & Big Y

2022 Existing Conditions
Saturday Midday Peak Hour



| Lane Group | EBL | EBR | NBL | NBT | SBT |
|-------------------------|-------|-------|-------|------|-------|
| Lane Configurations | | | | | |
| Traffic Volume (vph) | 42 | 16 | 12 | 580 | 482 |
| Future Volume (vph) | 42 | 16 | 12 | 580 | 482 |
| Lane Group Flow (vph) | 62 | 24 | 14 | 659 | 605 |
| Turn Type | Perm | pt+ov | D.P+P | NA | NA |
| Protected Phases | | 1 4 | 1 | 1 2 | 2 |
| Permitted Phases | 4 | | 2 | | |
| Detector Phase | 4 | 1 4 | 1 | 1 2 | 2 |
| Switch Phase | | | | | |
| Minimum Initial (s) | 9.0 | | 5.0 | | 15.0 |
| Minimum Split (s) | 22.5 | | 9.0 | | 32.6 |
| Total Split (s) | 29.0 | | 24.0 | | 40.6 |
| Total Split (%) | 31.0% | | 25.6% | | 43.4% |
| Yellow Time (s) | 3.0 | | 3.0 | | 4.0 |
| All-Red Time (s) | 1.0 | | 1.0 | | 1.6 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | | 0.0 |
| Total Lost Time (s) | 4.0 | | 4.0 | | 5.6 |
| Lead/Lag | | | Lead | | Lag |
| Lead-Lag Optimize? | | | Yes | | Yes |
| Recall Mode | None | | None | | Min |
| v/c Ratio | 0.24 | 0.04 | 0.02 | 0.45 | 0.68 |
| Control Delay | 32.2 | 5.9 | 2.2 | 4.1 | 19.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 32.2 | 5.9 | 2.2 | 4.1 | 19.5 |
| Queue Length 50th (ft) | 25 | 0 | 1 | 79 | 190 |
| Queue Length 95th (ft) | 47 | 8 | 4 | 131 | 357 |
| Internal Link Dist (ft) | 149 | | | 868 | 614 |
| Turn Bay Length (ft) | 130 | | 215 | | |
| Base Capacity (vph) | 709 | 836 | 848 | 1523 | 1111 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.09 | 0.03 | 0.02 | 0.43 | 0.54 |

Intersection Summary

Cycle Length: 93.6
 Actuated Cycle Length: 63.7
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Route 10/202 & Big Y



HCM Signalized Intersection Capacity Analysis
8: Route 10/202 & Big Y

2022 Existing Conditions
Saturday Midday Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|-------|-------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 42 | 16 | 12 | 580 | 482 | 81 |
| Future Volume (vph) | 42 | 16 | 12 | 580 | 482 | 81 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 12 | 11 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 5.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1620 | 1553 | 1805 | 1837 | 1863 | |
| Flt Permitted | 0.95 | 1.00 | 0.27 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1620 | 1553 | 517 | 1837 | 1863 | |
| Peak-hour factor, PHF | 0.68 | 0.68 | 0.88 | 0.88 | 0.93 | 0.93 |
| Adj. Flow (vph) | 62 | 24 | 14 | 659 | 518 | 87 |
| RTOR Reduction (vph) | 0 | 15 | 0 | 0 | 5 | 0 |
| Lane Group Flow (vph) | 62 | 9 | 14 | 659 | 600 | 0 |
| Heavy Vehicles (%) | 4% | 4% | 0% | 0% | 0% | 0% |
| Turn Type | Perm | pt+ov | D.P+P | NA | NA | |
| Protected Phases | | 1 4 | 1 | 1 2 | 2 | |
| Permitted Phases | 4 | | 2 | | | |
| Actuated Green, G (s) | 6.7 | 23.9 | 43.5 | 47.5 | 30.3 | |
| Effective Green, g (s) | 6.7 | 23.9 | 43.5 | 47.5 | 30.3 | |
| Actuated g/C Ratio | 0.11 | 0.37 | 0.68 | 0.74 | 0.47 | |
| Clearance Time (s) | 4.0 | | 4.0 | | 5.6 | |
| Vehicle Extension (s) | 2.0 | | 1.5 | | 2.5 | |
| Lane Grp Cap (vph) | 170 | 581 | 618 | 1367 | 884 | |
| v/s Ratio Prot | | 0.01 | 0.00 | c0.36 | c0.32 | |
| v/s Ratio Perm | c0.04 | | 0.01 | | | |
| v/c Ratio | 0.36 | 0.02 | 0.02 | 0.48 | 0.68 | |
| Uniform Delay, d1 | 26.6 | 12.5 | 4.3 | 3.2 | 13.0 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.5 | 0.0 | 0.0 | 0.1 | 1.9 | |
| Delay (s) | 27.1 | 12.6 | 4.3 | 3.3 | 14.9 | |
| Level of Service | C | B | A | A | B | |
| Approach Delay (s) | 23.0 | | | 3.4 | 14.9 | |
| Approach LOS | C | | | A | B | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 9.7 | HCM 2000 Level of Service | A |
| HCM 2000 Volume to Capacity ratio | 0.60 | | |
| Actuated Cycle Length (s) | 63.8 | Sum of lost time (s) | 13.6 |
| Intersection Capacity Utilization | 45.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 3: Route 10/202 & Ely Lane

2023 No-Build Conditions
 Weekday Morning Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|-----------------------------------|-------------|-------------|-------------|----------------------|------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 13 | 28 | 39 | 452 | 514 | 5 |
| Future Volume (Veh/h) | 13 | 28 | 39 | 452 | 514 | 5 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.71 | 0.71 | 0.88 | 0.88 | 0.86 | 0.86 |
| Hourly flow rate (vph) | 18 | 39 | 44 | 514 | 598 | 6 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 365 | 948 | |
| pX, platoon unblocked | 0.80 | 0.72 | 0.72 | | | |
| vC, conflicting volume | 1203 | 601 | 604 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 687 | 251 | 255 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 94 | 93 | 95 | | | |
| cM capacity (veh/h) | 316 | 571 | 943 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 57 | 558 | 604 | | | |
| Volume Left | 18 | 44 | 0 | | | |
| Volume Right | 39 | 0 | 6 | | | |
| cSH | 455 | 943 | 1700 | | | |
| Volume to Capacity | 0.13 | 0.05 | 0.36 | | | |
| Queue Length 95th (ft) | 11 | 4 | 0 | | | |
| Control Delay (s) | 14.0 | 1.3 | 0.0 | | | |
| Lane LOS | B | A | | | | |
| Approach Delay (s) | 14.0 | 1.3 | 0.0 | | | |
| Approach LOS | B | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | 1.2 | | | | | |
| Intersection Capacity Utilization | 66.1% | | | ICU Level of Service | C | |
| Analysis Period (min) | 15 | | | | | |

Queues
5: Route 10/202 & Hoskins Road

2023 No-Build Conditions
Weekday Morning Peak Hour

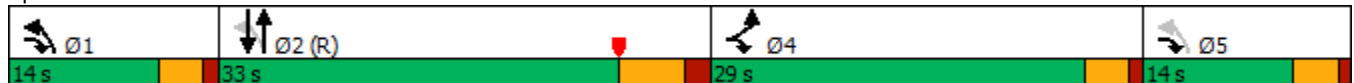


| Lane Group | EBL | EBR | NBL | NBT | SBT | Ø5 |
|-------------------------|-------|--------|--------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 57 | 198 | 102 | 434 | 525 | |
| Future Volume (vph) | 57 | 198 | 102 | 434 | 525 | |
| Lane Group Flow (vph) | 78 | 271 | 117 | 499 | 623 | |
| Turn Type | Prot | custom | custom | NA | NA | |
| Protected Phases | 4 | 1 4 5 | 1 | 2 | 2 | 5 |
| Permitted Phases | | | 2 5 | | | |
| Detector Phase | 4 | 4 | 1 | 2 | 2 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 9.0 | | 6.0 | 15.0 | 15.0 | 6.0 |
| Minimum Split (s) | 22.5 | | 10.5 | 22.5 | 22.5 | 10.0 |
| Total Split (s) | 29.0 | | 14.0 | 33.0 | 33.0 | 14.0 |
| Total Split (%) | 32.2% | | 15.6% | 36.7% | 36.7% | 16% |
| Yellow Time (s) | 3.0 | | 3.0 | 4.4 | 4.4 | 3.0 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.7 | 1.7 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.0 | | 4.0 | 6.1 | 6.1 | |
| Lead/Lag | Lead | | Lead | Lag | Lag | Lag |
| Lead-Lag Optimize? | Yes | | Yes | Yes | Yes | Yes |
| Recall Mode | None | | None | C-Min | C-Min | None |
| v/c Ratio | 0.25 | 0.54 | 0.24 | 0.45 | 0.58 | |
| Control Delay | 31.7 | 20.9 | 5.7 | 14.5 | 17.3 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 31.7 | 20.9 | 5.7 | 14.5 | 17.3 | |
| Queue Length 50th (ft) | 38 | 89 | 16 | 153 | 214 | |
| Queue Length 95th (ft) | 57 | 94 | 39 | 291 | 403 | |
| Internal Link Dist (ft) | 612 | | | 389 | 285 | |
| Turn Bay Length (ft) | 230 | | 160 | | | |
| Base Capacity (vph) | 484 | 549 | 520 | 1109 | 1069 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.16 | 0.49 | 0.23 | 0.45 | 0.58 | |

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 10 (11%), Referenced to phase 2:NBSB, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 5: Route 10/202 & Hoskins Road



HCM Signalized Intersection Capacity Analysis
5: Route 10/202 & Hoskins Road

2023 No-Build Conditions
Weekday Morning Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------|--------|--------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 57 | 198 | 102 | 434 | 525 | 17 |
| Future Volume (vph) | 57 | 198 | 102 | 434 | 525 | 17 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 12 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 6.1 | 6.1 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1745 | 1507 | 1668 | 1881 | 1811 | |
| Flt Permitted | 0.95 | 1.00 | 0.31 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1745 | 1507 | 552 | 1881 | 1811 | |
| Peak-hour factor, PHF | 0.73 | 0.73 | 0.87 | 0.87 | 0.87 | 0.87 |
| Adj. Flow (vph) | 78 | 271 | 117 | 499 | 603 | 20 |
| RTOR Reduction (vph) | 0 | 51 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 78 | 220 | 117 | 499 | 622 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 1% | 1% | 1% | 1% |
| Turn Type | Prot | custom | custom | NA | NA | |
| Protected Phases | 4 | 1 4 5 | 1 | 2 | 2 | |
| Permitted Phases | | | 2 5 | | | |
| Actuated Green, G (s) | 16.2 | 27.7 | 59.7 | 52.2 | 52.2 | |
| Effective Green, g (s) | 16.2 | 27.7 | 59.7 | 52.2 | 52.2 | |
| Actuated g/C Ratio | 0.18 | 0.31 | 0.66 | 0.58 | 0.58 | |
| Clearance Time (s) | 4.0 | | 4.0 | 6.1 | 6.1 | |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 314 | 463 | 459 | 1090 | 1050 | |
| v/s Ratio Prot | 0.04 | c0.15 | 0.02 | 0.27 | c0.34 | |
| v/s Ratio Perm | | | 0.15 | | | |
| v/c Ratio | 0.25 | 0.47 | 0.25 | 0.46 | 0.59 | |
| Uniform Delay, d1 | 31.7 | 25.3 | 6.8 | 10.8 | 12.1 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.4 | 0.8 | 0.3 | 1.4 | 2.5 | |
| Delay (s) | 32.1 | 26.0 | 7.1 | 12.2 | 14.6 | |
| Level of Service | C | C | A | B | B | |
| Approach Delay (s) | 27.4 | | | 11.2 | 14.6 | |
| Approach LOS | C | | | B | B | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 16.1 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.61 | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 18.1 |
| Intersection Capacity Utilization | 53.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

Queues
8: Route 10/202 & Big Y

2023 No-Build Conditions
Weekday Morning Peak Hour



| Lane Group | EBL | EBR | NBL | NBT | SBT |
|-------------------------|-------|--------|-------|------|-------|
| Lane Configurations | | | | | |
| Traffic Volume (vph) | 61 | 22 | 11 | 454 | 497 |
| Future Volume (vph) | 61 | 22 | 11 | 454 | 497 |
| Lane Group Flow (vph) | 85 | 31 | 13 | 528 | 664 |
| Turn Type | Perm | custom | D.P+P | NA | NA |
| Protected Phases | | 4 | 1 | 1 2 | 2 |
| Permitted Phases | 4 | 1 | 2 | | |
| Detector Phase | 4 | 4 | 1 | 1 2 | 2 |
| Switch Phase | | | | | |
| Minimum Initial (s) | 9.0 | 9.0 | 5.0 | | 15.0 |
| Minimum Split (s) | 22.5 | 22.5 | 9.0 | | 30.6 |
| Total Split (s) | 29.0 | 29.0 | 19.0 | | 30.6 |
| Total Split (%) | 36.9% | 36.9% | 24.2% | | 38.9% |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | | 4.0 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.6 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | | 5.6 |
| Lead/Lag | | | Lead | | Lag |
| Lead-Lag Optimize? | | | Yes | | Yes |
| Recall Mode | None | None | None | | Min |
| v/c Ratio | 0.30 | 0.05 | 0.03 | 0.38 | 0.78 |
| Control Delay | 26.2 | 4.4 | 2.8 | 4.3 | 24.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 26.2 | 4.4 | 2.8 | 4.3 | 24.6 |
| Queue Length 50th (ft) | 27 | 0 | 1 | 57 | 196 |
| Queue Length 95th (ft) | 52 | 8 | 4 | 100 | #380 |
| Internal Link Dist (ft) | 149 | | | 868 | 614 |
| Turn Bay Length (ft) | 130 | | 215 | | |
| Base Capacity (vph) | 767 | 778 | 667 | 1373 | 849 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.11 | 0.04 | 0.02 | 0.38 | 0.78 |

Intersection Summary

Cycle Length: 78.6
 Actuated Cycle Length: 56
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 8: Route 10/202 & Big Y



HCM Signalized Intersection Capacity Analysis
8: Route 10/202 & Big Y

2023 No-Build Conditions
Weekday Morning Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|--------|-------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 61 | 22 | 11 | 454 | 497 | 54 |
| Future Volume (vph) | 61 | 22 | 11 | 454 | 497 | 54 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 12 | 11 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 5.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1668 | 1599 | 1770 | 1801 | 1838 | |
| Flt Permitted | 0.95 | 1.00 | 0.21 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1668 | 1599 | 396 | 1801 | 1838 | |
| Peak-hour factor, PHF | 0.72 | 0.72 | 0.86 | 0.86 | 0.83 | 0.83 |
| Adj. Flow (vph) | 85 | 31 | 13 | 528 | 599 | 65 |
| RTOR Reduction (vph) | 0 | 22 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 85 | 9 | 13 | 528 | 660 | 0 |
| Heavy Vehicles (%) | 1% | 1% | 2% | 2% | 2% | 2% |
| Turn Type | Perm | custom | D.P+P | NA | NA | |
| Protected Phases | | 4 | 1 | 1 | 2 | |
| Permitted Phases | 4 | 1 | 2 | | | |
| Actuated Green, G (s) | 7.0 | 17.3 | 36.0 | 40.0 | 25.7 | |
| Effective Green, g (s) | 7.0 | 17.3 | 36.0 | 40.0 | 25.7 | |
| Actuated g/C Ratio | 0.12 | 0.31 | 0.64 | 0.71 | 0.45 | |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | | 5.6 | |
| Vehicle Extension (s) | 2.0 | 2.0 | 1.5 | | 2.5 | |
| Lane Grp Cap (vph) | 206 | 601 | 501 | 1272 | 834 | |
| v/s Ratio Prot | | 0.00 | 0.00 | c0.29 | c0.36 | |
| v/s Ratio Perm | c0.05 | 0.00 | 0.01 | | | |
| v/c Ratio | 0.41 | 0.02 | 0.03 | 0.42 | 0.79 | |
| Uniform Delay, d1 | 22.9 | 13.7 | 5.2 | 3.4 | 13.2 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.5 | 0.0 | 0.0 | 0.1 | 5.0 | |
| Delay (s) | 23.4 | 13.7 | 5.2 | 3.5 | 18.2 | |
| Level of Service | C | B | A | A | B | |
| Approach Delay (s) | 20.8 | | | 3.6 | 18.2 | |
| Approach LOS | C | | | A | B | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 12.4 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.65 | | |
| Actuated Cycle Length (s) | 56.6 | Sum of lost time (s) | 13.6 |
| Intersection Capacity Utilization | 44.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
3: Route 10/202 & Ely Lane

2023 No-Build Conditions
Weekday Evening Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|-----------------------------------|-------------|-------------|-------------|----------------------|------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 56 | 102 | 100 | 638 | 586 | 17 |
| Future Volume (Veh/h) | 56 | 102 | 100 | 638 | 586 | 17 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.77 | 0.77 | 0.99 | 0.99 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 73 | 132 | 101 | 644 | 637 | 18 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 365 | 948 | |
| pX, platoon unblocked | 0.80 | 0.66 | 0.66 | | | |
| vC, conflicting volume | 1492 | 646 | 655 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 708 | 206 | 220 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 75 | 76 | 89 | | | |
| cM capacity (veh/h) | 287 | 554 | 899 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 205 | 745 | 655 | | | |
| Volume Left | 73 | 101 | 0 | | | |
| Volume Right | 132 | 0 | 18 | | | |
| cSH | 416 | 899 | 1700 | | | |
| Volume to Capacity | 0.49 | 0.11 | 0.39 | | | |
| Queue Length 95th (ft) | 66 | 9 | 0 | | | |
| Control Delay (s) | 21.8 | 2.8 | 0.0 | | | |
| Lane LOS | C | A | | | | |
| Approach Delay (s) | 21.8 | 2.8 | 0.0 | | | |
| Approach LOS | C | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | 4.1 | | | | | |
| Intersection Capacity Utilization | 90.4% | | | ICU Level of Service | E | |
| Analysis Period (min) | 15 | | | | | |

Queues
5: Route 10/202 & Hoskins Road

2023 No-Build Conditions
Weekday Evening Peak Hour

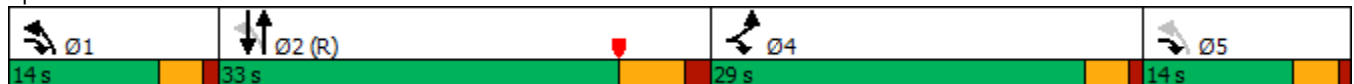


| Lane Group | EBL | EBR | NBL | NBT | SBT | Ø5 |
|-------------------------|-------|--------|--------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 60 | 94 | 169 | 678 | 670 | |
| Future Volume (vph) | 60 | 94 | 169 | 678 | 670 | |
| Lane Group Flow (vph) | 73 | 115 | 188 | 753 | 849 | |
| Turn Type | Prot | custom | custom | NA | NA | |
| Protected Phases | 4 | 1 4 5 | 1 | 2 | 2 | 5 |
| Permitted Phases | | | 2 5 | | | |
| Detector Phase | 4 | 4 | 1 | 2 | 2 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 9.0 | | 5.0 | 15.0 | 15.0 | 6.0 |
| Minimum Split (s) | 16.0 | | 9.0 | 32.6 | 32.6 | 25.5 |
| Total Split (s) | 29.0 | | 14.0 | 33.0 | 33.0 | 14.0 |
| Total Split (%) | 32.2% | | 15.6% | 36.7% | 36.7% | 16% |
| Yellow Time (s) | 3.0 | | 3.0 | 4.4 | 4.4 | 3.0 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.7 | 1.7 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.0 | | 4.0 | 6.1 | 6.1 | |
| Lead/Lag | Lead | | Lead | Lag | Lag | Lag |
| Lead-Lag Optimize? | Yes | | Yes | Yes | Yes | Yes |
| Recall Mode | None | | None | C-Min | C-Min | None |
| v/c Ratio | 0.36 | 0.25 | 0.45 | 0.67 | 0.78 | |
| Control Delay | 41.5 | 18.2 | 6.8 | 17.8 | 22.5 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 41.5 | 18.2 | 6.8 | 17.8 | 22.5 | |
| Queue Length 50th (ft) | 39 | 38 | 17 | 262 | 332 | |
| Queue Length 95th (ft) | 71 | 62 | 43 | 495 | #524 | |
| Internal Link Dist (ft) | 612 | | | 389 | 285 | |
| Turn Bay Length (ft) | 230 | | 160 | | | |
| Base Capacity (vph) | 484 | 488 | 430 | 1123 | 1084 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.15 | 0.24 | 0.44 | 0.67 | 0.78 | |

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 39 (43%), Referenced to phase 2:NBSB, Start of Yellow
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Route 10/202 & Hoskins Road



HCM Signalized Intersection Capacity Analysis
5: Route 10/202 & Hoskins Road

2023 No-Build Conditions
Weekday Evening Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|--------|--------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 60 | 94 | 169 | 678 | 670 | 18 |
| Future Volume (vph) | 60 | 94 | 169 | 678 | 670 | 18 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 12 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 6.1 | 6.1 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1745 | 1507 | 1685 | 1900 | 1830 | |
| Flt Permitted | 0.95 | 1.00 | 0.17 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1745 | 1507 | 306 | 1900 | 1830 | |
| Peak-hour factor, PHF | 0.82 | 0.82 | 0.90 | 0.90 | 0.81 | 0.81 |
| Adj. Flow (vph) | 73 | 115 | 188 | 753 | 827 | 22 |
| RTOR Reduction (vph) | 0 | 18 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 73 | 97 | 188 | 753 | 848 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% |
| Turn Type | Prot | custom | custom | NA | NA | |
| Protected Phases | 4 | 1 4 5 | 1 | 2 | 2 | |
| Permitted Phases | | | 2 5 | | | |
| Actuated Green, G (s) | 10.4 | 26.7 | 65.5 | 53.2 | 53.2 | |
| Effective Green, g (s) | 10.4 | 26.7 | 65.5 | 53.2 | 53.2 | |
| Actuated g/C Ratio | 0.12 | 0.30 | 0.73 | 0.59 | 0.59 | |
| Clearance Time (s) | 4.0 | | 4.0 | 6.1 | 6.1 | |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 201 | 447 | 411 | 1123 | 1081 | |
| v/s Ratio Prot | c0.04 | 0.06 | c0.06 | 0.40 | c0.46 | |
| v/s Ratio Perm | | | 0.27 | | | |
| v/c Ratio | 0.36 | 0.22 | 0.46 | 0.67 | 0.78 | |
| Uniform Delay, d1 | 36.7 | 23.8 | 9.5 | 12.5 | 14.0 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.1 | 0.2 | 0.8 | 3.2 | 5.7 | |
| Delay (s) | 37.9 | 24.0 | 10.3 | 15.7 | 19.8 | |
| Level of Service | D | C | B | B | B | |
| Approach Delay (s) | 29.4 | | | 14.6 | 19.8 | |
| Approach LOS | C | | | B | B | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 18.2 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.71 | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 18.1 |
| Intersection Capacity Utilization | 65.0% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

Queues
8: Route 10/202 & Big Y

2023 No-Build Conditions
Weekday Evening Peak Hour



| Lane Group | EBL | EBR | NBL | NBT | SBT |
|-------------------------|-------|-------|-------|------|-------|
| Lane Configurations | | | | | |
| Traffic Volume (vph) | 34 | 27 | 15 | 679 | 576 |
| Future Volume (vph) | 34 | 27 | 15 | 679 | 576 |
| Lane Group Flow (vph) | 47 | 37 | 17 | 790 | 811 |
| Turn Type | Perm | pt+ov | D.P+P | NA | NA |
| Protected Phases | | 1 4 | 1 | 1 2 | 2 |
| Permitted Phases | 4 | | 2 | | |
| Detector Phase | 4 | 1 4 | 1 | 1 2 | 2 |
| Switch Phase | | | | | |
| Minimum Initial (s) | 9.0 | | 5.0 | | 15.0 |
| Minimum Split (s) | 22.5 | | 9.0 | | 32.6 |
| Total Split (s) | 29.0 | | 24.0 | | 40.6 |
| Total Split (%) | 31.0% | | 25.6% | | 43.4% |
| Yellow Time (s) | 3.0 | | 3.0 | | 4.0 |
| All-Red Time (s) | 1.0 | | 1.0 | | 1.6 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | | 0.0 |
| Total Lost Time (s) | 4.0 | | 4.0 | | 5.6 |
| Lead/Lag | | | Lead | | Lag |
| Lead-Lag Optimize? | | | Yes | | Yes |
| Recall Mode | None | | None | | Min |
| v/c Ratio | 0.21 | 0.06 | 0.03 | 0.53 | 0.86 |
| Control Delay | 33.6 | 5.1 | 2.1 | 4.6 | 30.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 33.6 | 5.1 | 2.1 | 4.6 | 30.0 |
| Queue Length 50th (ft) | 20 | 0 | 1 | 107 | 340 |
| Queue Length 95th (ft) | 42 | 11 | 4 | 153 | #585 |
| Internal Link Dist (ft) | 149 | | | 868 | 614 |
| Turn Bay Length (ft) | 130 | | 215 | | |
| Base Capacity (vph) | 610 | 742 | 632 | 1482 | 947 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.08 | 0.05 | 0.03 | 0.53 | 0.86 |

Intersection Summary

Cycle Length: 93.6
 Actuated Cycle Length: 70.9
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 8: Route 10/202 & Big Y



HCM Signalized Intersection Capacity Analysis
8: Route 10/202 & Big Y

2023 No-Build Conditions
Weekday Evening Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|-------|-------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 34 | 27 | 15 | 679 | 576 | 137 |
| Future Volume (vph) | 34 | 27 | 15 | 679 | 576 | 137 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 12 | 11 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 5.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1685 | 1615 | 1787 | 1818 | 1851 | |
| Flt Permitted | 0.95 | 1.00 | 0.12 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1685 | 1615 | 233 | 1818 | 1851 | |
| Peak-hour factor, PHF | 0.73 | 0.73 | 0.86 | 0.86 | 0.88 | 0.88 |
| Adj. Flow (vph) | 47 | 37 | 17 | 790 | 655 | 156 |
| RTOR Reduction (vph) | 0 | 24 | 0 | 0 | 7 | 0 |
| Lane Group Flow (vph) | 47 | 13 | 17 | 790 | 804 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 1% | 1% | 0% | 0% |
| Turn Type | Perm | pt+ov | D.P+P | NA | NA | |
| Protected Phases | | 1 4 | 1 | 1 2 | 2 | |
| Permitted Phases | 4 | | 2 | | | |
| Actuated Green, G (s) | 6.7 | 26.0 | 51.3 | 55.3 | 36.0 | |
| Effective Green, g (s) | 6.7 | 26.0 | 51.3 | 55.3 | 36.0 | |
| Actuated g/C Ratio | 0.09 | 0.36 | 0.72 | 0.77 | 0.50 | |
| Clearance Time (s) | 4.0 | | 4.0 | | 5.6 | |
| Vehicle Extension (s) | 2.0 | | 1.5 | | 2.5 | |
| Lane Grp Cap (vph) | 157 | 586 | 499 | 1404 | 930 | |
| v/s Ratio Prot | | 0.01 | 0.01 | c0.43 | c0.43 | |
| v/s Ratio Perm | c0.03 | | 0.02 | | | |
| v/c Ratio | 0.30 | 0.02 | 0.03 | 0.56 | 0.86 | |
| Uniform Delay, d1 | 30.3 | 14.6 | 6.9 | 3.3 | 15.6 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.4 | 0.0 | 0.0 | 0.3 | 8.3 | |
| Delay (s) | 30.7 | 14.6 | 6.9 | 3.6 | 24.0 | |
| Level of Service | C | B | A | A | C | |
| Approach Delay (s) | 23.6 | | | 3.7 | 24.0 | |
| Approach LOS | C | | | A | C | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 14.3 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 71.6 | Sum of lost time (s) | 13.6 |
| Intersection Capacity Utilization | 54.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 3: Route 10/202 & Ely Lane

2023 No-Build Condition
 Saturday Midday Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|-----------------------------------|-------------|-------------|-------------|-------|----------------------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 59 | 99 | 98 | 536 | 476 | 25 |
| Future Volume (Veh/h) | 59 | 99 | 98 | 536 | 476 | 25 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.76 | 0.76 | 0.89 | 0.89 | 0.89 | 0.89 |
| Hourly flow rate (vph) | 78 | 130 | 110 | 602 | 535 | 28 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 365 | 948 | |
| pX, platoon unblocked | 0.87 | 0.78 | 0.78 | | | |
| vC, conflicting volume | 1371 | 549 | 563 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 891 | 278 | 296 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 68 | 78 | 89 | | | |
| cM capacity (veh/h) | 242 | 594 | 994 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 208 | 712 | 563 | | | |
| Volume Left | 78 | 110 | 0 | | | |
| Volume Right | 130 | 0 | 28 | | | |
| cSH | 385 | 994 | 1700 | | | |
| Volume to Capacity | 0.54 | 0.11 | 0.33 | | | |
| Queue Length 95th (ft) | 77 | 9 | 0 | | | |
| Control Delay (s) | 24.9 | 2.7 | 0.0 | | | |
| Lane LOS | C | A | | | | |
| Approach Delay (s) | 24.9 | 2.7 | 0.0 | | | |
| Approach LOS | C | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | | 4.8 | | |
| Intersection Capacity Utilization | | | | 79.5% | ICU Level of Service | D |
| Analysis Period (min) | | | | 15 | | |

Queues
5: Route 10/202 & Hoskins Road

2023 No-Build Condition
Saturday Midday Peak Hour

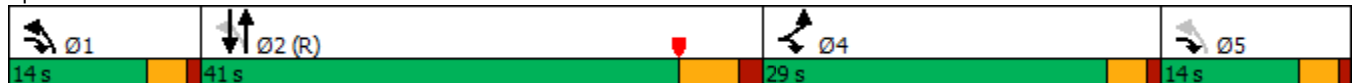


| Lane Group | EBL | EBR | NBL | NBT | SBT | Ø5 |
|-------------------------|-------|--------|--------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 50 | 120 | 104 | 584 | 551 | |
| Future Volume (vph) | 50 | 120 | 104 | 584 | 551 | |
| Lane Group Flow (vph) | 54 | 130 | 113 | 635 | 625 | |
| Turn Type | Prot | custom | custom | NA | NA | |
| Protected Phases | 4 | 1 4 5 | 1 | 2 | 2 | 5 |
| Permitted Phases | | | 2 5 | | | |
| Detector Phase | 4 | 4 | 1 | 2 | 2 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 9.0 | | 6.0 | 15.0 | 15.0 | 6.0 |
| Minimum Split (s) | 22.5 | | 10.0 | 24.1 | 24.1 | 10.0 |
| Total Split (s) | 29.0 | | 14.0 | 41.0 | 41.0 | 14.0 |
| Total Split (%) | 29.6% | | 14.3% | 41.8% | 41.8% | 14% |
| Yellow Time (s) | 3.0 | | 3.0 | 4.4 | 4.4 | 3.0 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.7 | 1.7 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.0 | | 4.0 | 6.1 | 6.1 | |
| Lead/Lag | Lead | | Lead | Lag | Lag | Lag |
| Lead-Lag Optimize? | Yes | | Yes | Yes | Yes | Yes |
| Recall Mode | None | | None | C-Min | C-Min | None |
| v/c Ratio | 0.32 | 0.32 | 0.20 | 0.50 | 0.51 | |
| Control Delay | 46.1 | 9.3 | 2.8 | 9.7 | 9.9 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 46.1 | 9.3 | 2.8 | 9.7 | 9.9 | |
| Queue Length 50th (ft) | 32 | 6 | 9 | 159 | 158 | |
| Queue Length 95th (ft) | 68 | 50 | 21 | 294 | 295 | |
| Internal Link Dist (ft) | 612 | | | 389 | 285 | |
| Turn Bay Length (ft) | 230 | | 160 | | | |
| Base Capacity (vph) | 436 | 467 | 611 | 1269 | 1220 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.12 | 0.28 | 0.18 | 0.50 | 0.51 | |

Intersection Summary

Cycle Length: 98
 Actuated Cycle Length: 98
 Offset: 10 (10%), Referenced to phase 2:NBSB and 6:, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 5: Route 10/202 & Hoskins Road



HCM Signalized Intersection Capacity Analysis
5: Route 10/202 & Hoskins Road

2023 No-Build Condition
Saturday Midday Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|--------|--------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 50 | 120 | 104 | 584 | 551 | 24 |
| Future Volume (vph) | 50 | 120 | 104 | 584 | 551 | 24 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 12 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 6.1 | 6.1 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1478 | 1652 | 1863 | 1791 | |
| Flt Permitted | 0.95 | 1.00 | 0.36 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1478 | 627 | 1863 | 1791 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 54 | 130 | 113 | 635 | 599 | 26 |
| RTOR Reduction (vph) | 0 | 93 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 54 | 37 | 113 | 635 | 624 | 0 |
| Turn Type | Prot | custom | custom | NA | NA | |
| Protected Phases | 4 | 1 4 5 | 1 | 2 | 2 | |
| Permitted Phases | | | 2 5 | | | |
| Actuated Green, G (s) | 9.7 | 21.1 | 74.2 | 66.8 | 66.8 | |
| Effective Green, g (s) | 9.7 | 21.1 | 74.2 | 66.8 | 66.8 | |
| Actuated g/C Ratio | 0.10 | 0.22 | 0.76 | 0.68 | 0.68 | |
| Clearance Time (s) | 4.0 | | 4.0 | 6.1 | 6.1 | |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 169 | 318 | 552 | 1269 | 1220 | |
| v/s Ratio Prot | c0.03 | 0.03 | c0.02 | 0.34 | c0.35 | |
| v/s Ratio Perm | | | 0.14 | | | |
| v/c Ratio | 0.32 | 0.12 | 0.20 | 0.50 | 0.51 | |
| Uniform Delay, d1 | 41.1 | 31.0 | 3.8 | 7.5 | 7.6 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.1 | 0.2 | 0.2 | 1.4 | 1.5 | |
| Delay (s) | 42.2 | 31.1 | 3.9 | 8.9 | 9.2 | |
| Level of Service | D | C | A | A | A | |
| Approach Delay (s) | 34.4 | | | 8.2 | 9.2 | |
| Approach LOS | C | | | A | A | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 11.7 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.49 | | |
| Actuated Cycle Length (s) | 98.0 | Sum of lost time (s) | 18.1 |
| Intersection Capacity Utilization | 55.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

Queues
8: Route 10/202 & Big Y

2023 No-Build Condition
Saturday Midday Peak Hour



| Lane Group | EBL | EBR | NBL | NBT | SBT |
|-------------------------|-------|--------|-------|------|-------|
| Lane Configurations | | | | | |
| Traffic Volume (vph) | 42 | 16 | 12 | 583 | 485 |
| Future Volume (vph) | 42 | 16 | 12 | 583 | 485 |
| Lane Group Flow (vph) | 62 | 24 | 14 | 663 | 609 |
| Turn Type | Perm | custom | D.P+P | NA | NA |
| Protected Phases | | 4 | 1 | 1 2 | 2 |
| Permitted Phases | 4 | 1 | 2 | | |
| Detector Phase | 4 | 4 | 1 | 1 2 | 2 |
| Switch Phase | | | | | |
| Minimum Initial (s) | 9.0 | 9.0 | 5.0 | | 15.0 |
| Minimum Split (s) | 22.5 | 22.5 | 9.0 | | 32.6 |
| Total Split (s) | 29.0 | 29.0 | 24.0 | | 40.6 |
| Total Split (%) | 31.0% | 31.0% | 25.6% | | 43.4% |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | | 4.0 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.6 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | | 5.6 |
| Lead/Lag | | | Lead | | Lag |
| Lead-Lag Optimize? | | | Yes | | Yes |
| Recall Mode | None | None | None | | Min |
| v/c Ratio | 0.24 | 0.04 | 0.02 | 0.45 | 0.68 |
| Control Delay | 32.3 | 5.9 | 2.2 | 4.1 | 19.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 32.3 | 5.9 | 2.2 | 4.1 | 19.5 |
| Queue Length 50th (ft) | 26 | 0 | 1 | 80 | 192 |
| Queue Length 95th (ft) | 47 | 8 | 4 | 133 | 361 |
| Internal Link Dist (ft) | 149 | | | 868 | 614 |
| Turn Bay Length (ft) | 130 | | 215 | | |
| Base Capacity (vph) | 705 | 755 | 844 | 1519 | 1107 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.09 | 0.03 | 0.02 | 0.44 | 0.55 |

Intersection Summary

Cycle Length: 93.6
 Actuated Cycle Length: 64
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Route 10/202 & Big Y



HCM Signalized Intersection Capacity Analysis
8: Route 10/202 & Big Y

2023 No-Build Condition
Saturday Midday Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|--------|-------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 42 | 16 | 12 | 583 | 485 | 81 |
| Future Volume (vph) | 42 | 16 | 12 | 583 | 485 | 81 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 12 | 11 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 5.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1620 | 1553 | 1805 | 1837 | 1863 | |
| Flt Permitted | 0.95 | 1.00 | 0.27 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1620 | 1553 | 513 | 1837 | 1863 | |
| Peak-hour factor, PHF | 0.68 | 0.68 | 0.88 | 0.88 | 0.93 | 0.93 |
| Adj. Flow (vph) | 62 | 24 | 14 | 662 | 522 | 87 |
| RTOR Reduction (vph) | 0 | 17 | 0 | 0 | 5 | 0 |
| Lane Group Flow (vph) | 62 | 7 | 14 | 663 | 604 | 0 |
| Heavy Vehicles (%) | 4% | 4% | 0% | 0% | 0% | 0% |
| Turn Type | Perm | custom | D.P+P | NA | NA | |
| Protected Phases | | 4 | 1 | 1 2 | 2 | |
| Permitted Phases | 4 | 1 | 2 | | | |
| Actuated Green, G (s) | 6.7 | 19.9 | 43.7 | 47.7 | 30.5 | |
| Effective Green, g (s) | 6.7 | 19.9 | 43.7 | 47.7 | 30.5 | |
| Actuated g/C Ratio | 0.10 | 0.31 | 0.68 | 0.75 | 0.48 | |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | | 5.6 | |
| Vehicle Extension (s) | 2.0 | 2.0 | 1.5 | | 2.5 | |
| Lane Grp Cap (vph) | 169 | 579 | 616 | 1369 | 887 | |
| v/s Ratio Prot | | 0.00 | 0.00 | c0.36 | c0.32 | |
| v/s Ratio Perm | c0.04 | 0.00 | 0.01 | | | |
| v/c Ratio | 0.37 | 0.01 | 0.02 | 0.48 | 0.68 | |
| Uniform Delay, d1 | 26.7 | 15.3 | 4.3 | 3.2 | 13.0 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.5 | 0.0 | 0.0 | 0.1 | 2.0 | |
| Delay (s) | 27.2 | 15.3 | 4.3 | 3.3 | 15.0 | |
| Level of Service | C | B | A | A | B | |
| Approach Delay (s) | 23.8 | | | 3.4 | 15.0 | |
| Approach LOS | C | | | A | B | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 9.8 | HCM 2000 Level of Service | A |
| HCM 2000 Volume to Capacity ratio | 0.60 | | |
| Actuated Cycle Length (s) | 64.0 | Sum of lost time (s) | 13.6 |
| Intersection Capacity Utilization | 45.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 3: Route 10/202 & Ely Lane

2023 Build Conditions
 Weekday Morning Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|-----------------------------------|-------------|-------------|-------------|----------------------|------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 19 | 28 | 39 | 500 | 558 | 10 |
| Future Volume (Veh/h) | 19 | 28 | 39 | 500 | 558 | 10 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.71 | 0.71 | 0.88 | 0.88 | 0.86 | 0.86 |
| Hourly flow rate (vph) | 27 | 39 | 44 | 568 | 649 | 12 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 365 | 948 | |
| pX, platoon unblocked | 0.83 | 0.74 | 0.74 | | | |
| vC, conflicting volume | 1311 | 655 | 661 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 781 | 362 | 371 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 91 | 92 | 95 | | | |
| cM capacity (veh/h) | 290 | 510 | 882 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 66 | 612 | 661 | | | |
| Volume Left | 27 | 44 | 0 | | | |
| Volume Right | 39 | 0 | 12 | | | |
| cSH | 389 | 882 | 1700 | | | |
| Volume to Capacity | 0.17 | 0.05 | 0.39 | | | |
| Queue Length 95th (ft) | 15 | 4 | 0 | | | |
| Control Delay (s) | 16.1 | 1.3 | 0.0 | | | |
| Lane LOS | C | A | | | | |
| Approach Delay (s) | 16.1 | 1.3 | 0.0 | | | |
| Approach LOS | C | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 1.4 | | | |
| Intersection Capacity Utilization | | 68.5% | | ICU Level of Service | | C |
| Analysis Period (min) | | | 15 | | | |

Queues
5: Route 10/202 & Hoskins Road

2023 Build Conditions
Weekday Morning Peak Hour

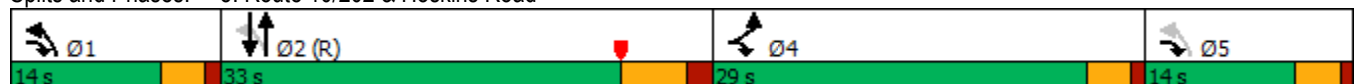


| Lane Group | EBL | EBR | NBL | NBT | SBT | Ø5 |
|-------------------------|-------|--------|--------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 62 | 198 | 102 | 477 | 564 | |
| Future Volume (vph) | 62 | 198 | 102 | 477 | 564 | |
| Lane Group Flow (vph) | 85 | 271 | 117 | 548 | 673 | |
| Turn Type | Prot | custom | custom | NA | NA | |
| Protected Phases | 4 | 1 4 5 | 1 | 2 | 2 | 5 |
| Permitted Phases | | | 2 5 | | | |
| Detector Phase | 4 | 4 | 1 | 2 | 2 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 9.0 | | 6.0 | 15.0 | 15.0 | 6.0 |
| Minimum Split (s) | 22.5 | | 10.5 | 22.5 | 22.5 | 10.0 |
| Total Split (s) | 29.0 | | 14.0 | 33.0 | 33.0 | 14.0 |
| Total Split (%) | 32.2% | | 15.6% | 36.7% | 36.7% | 16% |
| Yellow Time (s) | 3.0 | | 3.0 | 4.4 | 4.4 | 3.0 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.7 | 1.7 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.0 | | 4.0 | 6.1 | 6.1 | |
| Lead/Lag | Lead | | Lead | Lag | Lag | Lag |
| Lead-Lag Optimize? | Yes | | Yes | Yes | Yes | Yes |
| Recall Mode | None | | None | C-Min | C-Min | None |
| v/c Ratio | 0.26 | 0.54 | 0.26 | 0.50 | 0.64 | |
| Control Delay | 31.5 | 21.8 | 6.1 | 15.9 | 19.4 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 31.5 | 21.8 | 6.1 | 15.9 | 19.4 | |
| Queue Length 50th (ft) | 42 | 95 | 17 | 179 | 247 | |
| Queue Length 95th (ft) | 60 | 99 | 40 | 335 | #502 | |
| Internal Link Dist (ft) | 612 | | | 389 | 285 | |
| Turn Bay Length (ft) | 230 | | 160 | | | |
| Base Capacity (vph) | 484 | 545 | 477 | 1092 | 1052 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.18 | 0.50 | 0.25 | 0.50 | 0.64 | |

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 10 (11%), Referenced to phase 2:NBSB and 6:, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Route 10/202 & Hoskins Road



HCM Signalized Intersection Capacity Analysis
5: Route 10/202 & Hoskins Road

2023 Build Conditions
Weekday Morning Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------|--------|--------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 62 | 198 | 102 | 477 | 564 | 22 |
| Future Volume (vph) | 62 | 198 | 102 | 477 | 564 | 22 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 12 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 6.1 | 6.1 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1745 | 1507 | 1668 | 1881 | 1809 | |
| Flt Permitted | 0.95 | 1.00 | 0.27 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1745 | 1507 | 483 | 1881 | 1809 | |
| Peak-hour factor, PHF | 0.73 | 0.73 | 0.87 | 0.87 | 0.87 | 0.87 |
| Adj. Flow (vph) | 85 | 271 | 117 | 548 | 648 | 25 |
| RTOR Reduction (vph) | 0 | 41 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 85 | 230 | 117 | 548 | 672 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 1% | 1% | 1% | 1% |
| Turn Type | Prot | custom | custom | NA | NA | |
| Protected Phases | 4 | 1 4 5 | 1 | 2 | 2 | |
| Permitted Phases | | | 2 5 | | | |
| Actuated Green, G (s) | 16.8 | 28.4 | 59.1 | 51.5 | 51.5 | |
| Effective Green, g (s) | 16.8 | 28.4 | 59.1 | 51.5 | 51.5 | |
| Actuated g/C Ratio | 0.19 | 0.32 | 0.66 | 0.57 | 0.57 | |
| Clearance Time (s) | 4.0 | | 4.0 | 6.1 | 6.1 | |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 325 | 475 | 417 | 1076 | 1035 | |
| v/s Ratio Prot | 0.05 | c0.15 | 0.02 | 0.29 | c0.37 | |
| v/s Ratio Perm | | | 0.16 | | | |
| v/c Ratio | 0.26 | 0.48 | 0.28 | 0.51 | 0.65 | |
| Uniform Delay, d1 | 31.3 | 24.9 | 7.6 | 11.6 | 13.1 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.4 | 0.8 | 0.4 | 1.7 | 3.2 | |
| Delay (s) | 31.7 | 25.7 | 8.0 | 13.3 | 16.3 | |
| Level of Service | C | C | A | B | B | |
| Approach Delay (s) | 27.1 | | | 12.4 | 16.3 | |
| Approach LOS | C | | | B | B | |

| Intersection Summary | | | | |
|-----------------------------------|--|-------|---------------------------|------|
| HCM 2000 Control Delay | | 17.0 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | | 0.66 | | |
| Actuated Cycle Length (s) | | 90.0 | Sum of lost time (s) | 18.1 |
| Intersection Capacity Utilization | | 55.9% | ICU Level of Service | B |
| Analysis Period (min) | | 15 | | |

c Critical Lane Group

Queues
8: Route 10/202 & Big Y

2023 Build Conditions
Weekday Morning Peak Hour



| Lane Group | EBL | EBR | NBL | NBT | SBT |
|-------------------------|-------|--------|-------|------|-------|
| Lane Configurations | | | | | |
| Traffic Volume (vph) | 139 | 36 | 22 | 425 | 510 |
| Future Volume (vph) | 139 | 36 | 22 | 425 | 510 |
| Lane Group Flow (vph) | 193 | 50 | 26 | 494 | 728 |
| Turn Type | Perm | custom | D.P+P | NA | NA |
| Protected Phases | | 4 | 1 | 1 2 | 2 |
| Permitted Phases | 4 | 1 | 2 | | |
| Detector Phase | 4 | 4 | 1 | 1 2 | 2 |
| Switch Phase | | | | | |
| Minimum Initial (s) | 9.0 | 9.0 | 5.0 | | 15.0 |
| Minimum Split (s) | 22.5 | 22.5 | 9.0 | | 30.6 |
| Total Split (s) | 29.0 | 29.0 | 19.0 | | 30.6 |
| Total Split (%) | 36.9% | 36.9% | 24.2% | | 38.9% |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | | 4.0 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.6 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | | 5.6 |
| Lead/Lag | | | Lead | | Lag |
| Lead-Lag Optimize? | | | Yes | | Yes |
| Recall Mode | None | None | None | | Min |
| v/c Ratio | 0.59 | 0.07 | 0.06 | 0.41 | 0.98 |
| Control Delay | 31.4 | 3.3 | 4.5 | 6.2 | 51.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 31.4 | 3.3 | 4.5 | 6.2 | 51.3 |
| Queue Length 50th (ft) | 67 | 0 | 3 | 65 | 255 |
| Queue Length 95th (ft) | 100 | 9 | 10 | 138 | #508 |
| Internal Link Dist (ft) | 149 | | | 114 | 614 |
| Turn Bay Length (ft) | 130 | | 132 | | |
| Base Capacity (vph) | 673 | 770 | 550 | 1196 | 744 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.29 | 0.06 | 0.05 | 0.41 | 0.98 |

Intersection Summary

Cycle Length: 78.6

Actuated Cycle Length: 62.4

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 8: Route 10/202 & Big Y



HCM Signalized Intersection Capacity Analysis
8: Route 10/202 & Big Y

2023 Build Conditions
Weekday Morning Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|--------|-------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 139 | 36 | 22 | 425 | 510 | 95 |
| Future Volume (vph) | 139 | 36 | 22 | 425 | 510 | 95 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 12 | 11 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 5.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1668 | 1599 | 1770 | 1801 | 1823 | |
| Flt Permitted | 0.95 | 1.00 | 0.16 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1668 | 1599 | 296 | 1801 | 1823 | |
| Peak-hour factor, PHF | 0.72 | 0.72 | 0.86 | 0.86 | 0.83 | 0.83 |
| Adj. Flow (vph) | 193 | 50 | 26 | 494 | 614 | 114 |
| RTOR Reduction (vph) | 0 | 31 | 0 | 0 | 7 | 0 |
| Lane Group Flow (vph) | 193 | 19 | 26 | 494 | 721 | 0 |
| Heavy Vehicles (%) | 1% | 1% | 2% | 2% | 2% | 2% |
| Turn Type | Perm | custom | D.P+P | NA | NA | |
| Protected Phases | | 4 | 1 | 1 2 | 2 | |
| Permitted Phases | 4 | 1 | 2 | | | |
| Actuated Green, G (s) | 12.2 | 23.5 | 36.5 | 40.5 | 25.2 | |
| Effective Green, g (s) | 12.2 | 23.5 | 36.5 | 40.5 | 25.2 | |
| Actuated g/C Ratio | 0.20 | 0.38 | 0.59 | 0.65 | 0.40 | |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | | 5.6 | |
| Vehicle Extension (s) | 2.0 | 2.0 | 1.5 | | 2.5 | |
| Lane Grp Cap (vph) | 326 | 705 | 440 | 1170 | 737 | |
| v/s Ratio Prot | | 0.01 | 0.01 | c0.27 | c0.40 | |
| v/s Ratio Perm | c0.12 | 0.01 | 0.02 | | | |
| v/c Ratio | 0.59 | 0.03 | 0.06 | 0.42 | 0.98 | |
| Uniform Delay, d1 | 22.8 | 12.2 | 8.6 | 5.3 | 18.3 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.9 | 0.0 | 0.0 | 0.1 | 27.4 | |
| Delay (s) | 24.7 | 12.2 | 8.6 | 5.3 | 45.7 | |
| Level of Service | C | B | A | A | D | |
| Approach Delay (s) | 22.1 | | | 5.5 | 45.7 | |
| Approach LOS | C | | | A | D | |

| Intersection Summary | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 27.9 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.76 | | |
| Actuated Cycle Length (s) | 62.3 | Sum of lost time (s) | 13.6 |
| Intersection Capacity Utilization | 48.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
10: Route 10/202 & Site Drive

2023 Build Conditions
Weekday Morning Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|-----------------------------------|------|------|-------|------|----------------------|------|
| Lane Configurations | | ↗ | ↘ | ↑ | ↓ | ↙ |
| Traffic Volume (veh/h) | 0 | 64 | 72 | 447 | 504 | 42 |
| Future Volume (Veh/h) | 0 | 64 | 72 | 447 | 504 | 42 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 70 | 78 | 486 | 548 | 46 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 1119 | 194 | |
| pX, platoon unblocked | 0.67 | 0.63 | 0.63 | | | |
| vC, conflicting volume | 1213 | 571 | 594 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 774 | 19 | 56 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 89 | 92 | | | |
| cM capacity (veh/h) | 227 | 664 | 972 | | | |
| Direction, Lane # | EB 1 | NB 1 | NB 2 | SB 1 | | |
| Volume Total | 70 | 78 | 486 | 594 | | |
| Volume Left | 0 | 78 | 0 | 0 | | |
| Volume Right | 70 | 0 | 0 | 46 | | |
| cSH | 664 | 972 | 1700 | 1700 | | |
| Volume to Capacity | 0.11 | 0.08 | 0.29 | 0.35 | | |
| Queue Length 95th (ft) | 9 | 7 | 0 | 0 | | |
| Control Delay (s) | 11.1 | 9.0 | 0.0 | 0.0 | | |
| Lane LOS | B | A | | | | |
| Approach Delay (s) | 11.1 | 1.2 | | 0.0 | | |
| Approach LOS | B | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 1.2 | | | |
| Intersection Capacity Utilization | | | 39.7% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis

3: Route 10/202 & Ely Lane

2023 Build Conditions
Weekday Evening Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|-----------------------------------|-------------|-------------|-------------|----------------------|------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 60 | 102 | 100 | 676 | 623 | 21 |
| Future Volume (Veh/h) | 60 | 102 | 100 | 676 | 623 | 21 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.77 | 0.77 | 0.99 | 0.99 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 78 | 132 | 101 | 683 | 677 | 23 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 365 | 948 | |
| pX, platoon unblocked | 0.79 | 0.64 | 0.64 | | | |
| vC, conflicting volume | 1574 | 688 | 700 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 731 | 238 | 255 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 72 | 75 | 88 | | | |
| cM capacity (veh/h) | 274 | 518 | 849 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 210 | 784 | 700 | | | |
| Volume Left | 78 | 101 | 0 | | | |
| Volume Right | 132 | 0 | 23 | | | |
| cSH | 390 | 849 | 1700 | | | |
| Volume to Capacity | 0.54 | 0.12 | 0.41 | | | |
| Queue Length 95th (ft) | 77 | 10 | 0 | | | |
| Control Delay (s) | 24.5 | 3.0 | 0.0 | | | |
| Lane LOS | C | A | | | | |
| Approach Delay (s) | 24.5 | 3.0 | 0.0 | | | |
| Approach LOS | C | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 4.4 | | | |
| Intersection Capacity Utilization | | | 94.8% | ICU Level of Service | F | |
| Analysis Period (min) | | | 15 | | | |

Queues
5: Route 10/202 & Hoskins Road

2023 Build Conditions
Weekday Evening Peak Hour

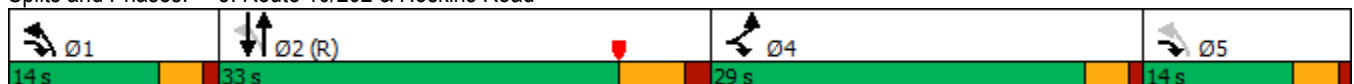


| Lane Group | EBL | EBR | NBL | NBT | SBT | Ø5 |
|-------------------------|-------|--------|--------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 64 | 94 | 169 | 712 | 703 | |
| Future Volume (vph) | 64 | 94 | 169 | 712 | 703 | |
| Lane Group Flow (vph) | 78 | 115 | 188 | 791 | 899 | |
| Turn Type | Prot | custom | custom | NA | NA | |
| Protected Phases | 4 | 1 4 5 | 1 | 2 | 2 | 5 |
| Permitted Phases | | | 2 5 | | | |
| Detector Phase | 4 | 4 | 1 | 2 | 2 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 9.0 | | 5.0 | 15.0 | 15.0 | 6.0 |
| Minimum Split (s) | 16.0 | | 9.0 | 32.6 | 32.6 | 10.0 |
| Total Split (s) | 29.0 | | 14.0 | 33.0 | 33.0 | 14.0 |
| Total Split (%) | 32.2% | | 15.6% | 36.7% | 36.7% | 16% |
| Yellow Time (s) | 3.0 | | 3.0 | 4.4 | 4.4 | 3.0 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.7 | 1.7 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.0 | | 4.0 | 6.1 | 6.1 | |
| Lead/Lag | Lead | | Lead | Lag | Lag | Lag |
| Lead-Lag Optimize? | Yes | | Yes | Yes | Yes | Yes |
| Recall Mode | None | | None | C-Min | C-Min | None |
| v/c Ratio | 0.38 | 0.25 | 0.49 | 0.71 | 0.83 | |
| Control Delay | 41.9 | 19.2 | 9.9 | 19.1 | 25.5 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 41.9 | 19.2 | 9.9 | 19.1 | 25.5 | |
| Queue Length 50th (ft) | 42 | 40 | 18 | 287 | 373 | |
| Queue Length 95th (ft) | 74 | 63 | 68 | #598 | #626 | |
| Internal Link Dist (ft) | 612 | | | 389 | 285 | |
| Turn Bay Length (ft) | 230 | | 160 | | | |
| Base Capacity (vph) | 484 | 487 | 393 | 1121 | 1078 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.16 | 0.24 | 0.48 | 0.71 | 0.83 | |

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 39 (43%), Referenced to phase 2:NBSB, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Route 10/202 & Hoskins Road



HCM Signalized Intersection Capacity Analysis
5: Route 10/202 & Hoskins Road

2023 Build Conditions
Weekday Evening Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|--------|--------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 64 | 94 | 169 | 712 | 703 | 25 |
| Future Volume (vph) | 64 | 94 | 169 | 712 | 703 | 25 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 12 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 6.1 | 6.1 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1745 | 1507 | 1685 | 1900 | 1828 | |
| Flt Permitted | 0.95 | 1.00 | 0.14 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1745 | 1507 | 248 | 1900 | 1828 | |
| Peak-hour factor, PHF | 0.82 | 0.82 | 0.90 | 0.90 | 0.81 | 0.81 |
| Adj. Flow (vph) | 78 | 115 | 188 | 791 | 868 | 31 |
| RTOR Reduction (vph) | 0 | 15 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 78 | 100 | 188 | 791 | 898 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% |
| Turn Type | Prot | custom | custom | NA | NA | |
| Protected Phases | 4 | 1 4 5 | 1 | 2 | 2 | |
| Permitted Phases | | | 2 5 | | | |
| Actuated Green, G (s) | 10.5 | 26.8 | 65.4 | 53.1 | 53.1 | |
| Effective Green, g (s) | 10.5 | 26.8 | 65.4 | 53.1 | 53.1 | |
| Actuated g/C Ratio | 0.12 | 0.30 | 0.73 | 0.59 | 0.59 | |
| Clearance Time (s) | 4.0 | | 4.0 | 6.1 | 6.1 | |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 203 | 448 | 376 | 1121 | 1078 | |
| v/s Ratio Prot | c0.04 | 0.07 | c0.07 | 0.42 | c0.49 | |
| v/s Ratio Perm | | | 0.30 | | | |
| v/c Ratio | 0.38 | 0.22 | 0.50 | 0.71 | 0.83 | |
| Uniform Delay, d1 | 36.8 | 23.8 | 11.5 | 13.0 | 14.9 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.2 | 0.3 | 1.0 | 3.7 | 7.6 | |
| Delay (s) | 38.0 | 24.0 | 12.5 | 16.7 | 22.5 | |
| Level of Service | D | C | B | B | C | |
| Approach Delay (s) | 29.7 | | | 15.9 | 22.5 | |
| Approach LOS | C | | | B | C | |

| Intersection Summary | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 20.0 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.76 | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 18.1 |
| Intersection Capacity Utilization | 67.1% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

Queues
8: Route 10/202 & Big Y

2023 Build Conditions
Weekday Evening Peak Hour



| Lane Group | EBL | EBR | NBL | NBT | SBT |
|-------------------------|-------|-------|-------|------|-------|
| Lane Configurations | | | | | |
| Traffic Volume (vph) | 94 | 36 | 23 | 661 | 588 |
| Future Volume (vph) | 94 | 36 | 23 | 661 | 588 |
| Lane Group Flow (vph) | 129 | 49 | 27 | 769 | 859 |
| Turn Type | Perm | pt+ov | D.P+P | NA | NA |
| Protected Phases | | 1 4 | 1 | 1 2 | 2 |
| Permitted Phases | 4 | | 2 | | |
| Detector Phase | 4 | 1 4 | 1 | 1 2 | 2 |
| Switch Phase | | | | | |
| Minimum Initial (s) | 9.0 | | 5.0 | | 15.0 |
| Minimum Split (s) | 22.5 | | 9.0 | | 32.6 |
| Total Split (s) | 29.0 | | 24.0 | | 40.6 |
| Total Split (%) | 31.0% | | 25.6% | | 43.4% |
| Yellow Time (s) | 3.0 | | 3.0 | | 4.0 |
| All-Red Time (s) | 1.0 | | 1.0 | | 1.6 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | | 0.0 |
| Total Lost Time (s) | 4.0 | | 4.0 | | 5.6 |
| Lead/Lag | | | Lead | | Lag |
| Lead-Lag Optimize? | | | Yes | | Yes |
| Recall Mode | None | | None | | Min |
| v/c Ratio | 0.53 | 0.07 | 0.05 | 0.56 | 1.00 |
| Control Delay | 39.7 | 4.3 | 3.2 | 6.3 | 55.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 39.7 | 4.3 | 3.2 | 6.3 | 55.9 |
| Queue Length 50th (ft) | 59 | 0 | 2 | 115 | ~411 |
| Queue Length 95th (ft) | 90 | 12 | 9 | 221 | #714 |
| Internal Link Dist (ft) | 149 | | | 117 | 614 |
| Turn Bay Length (ft) | 130 | | 132 | | |
| Base Capacity (vph) | 552 | 766 | 567 | 1354 | 855 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.23 | 0.06 | 0.05 | 0.57 | 1.00 |

Intersection Summary

Cycle Length: 93.6

Actuated Cycle Length: 76.7

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 8: Route 10/202 & Big Y



HCM Signalized Intersection Capacity Analysis
8: Route 10/202 & Big Y

2023 Build Conditions
Weekday Evening Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|-------|-------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 94 | 36 | 23 | 661 | 588 | 168 |
| Future Volume (vph) | 94 | 36 | 23 | 661 | 588 | 168 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 12 | 11 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 5.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1685 | 1615 | 1787 | 1818 | 1843 | |
| Flt Permitted | 0.95 | 1.00 | 0.11 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1685 | 1615 | 214 | 1818 | 1843 | |
| Peak-hour factor, PHF | 0.73 | 0.73 | 0.86 | 0.86 | 0.88 | 0.88 |
| Adj. Flow (vph) | 129 | 49 | 27 | 769 | 668 | 191 |
| RTOR Reduction (vph) | 0 | 29 | 0 | 0 | 10 | 0 |
| Lane Group Flow (vph) | 129 | 20 | 27 | 769 | 849 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 1% | 1% | 0% | 0% |
| Turn Type | Perm | pt+ov | D.P+P | NA | NA | |
| Protected Phases | | 1 4 | 1 | 1 2 | 2 | |
| Permitted Phases | 4 | | 2 | | | |
| Actuated Green, G (s) | 11.0 | 31.8 | 52.0 | 56.0 | 35.2 | |
| Effective Green, g (s) | 11.0 | 31.8 | 52.0 | 56.0 | 35.2 | |
| Actuated g/C Ratio | 0.14 | 0.42 | 0.68 | 0.73 | 0.46 | |
| Clearance Time (s) | 4.0 | | 4.0 | | 5.6 | |
| Vehicle Extension (s) | 2.0 | | 1.5 | | 2.5 | |
| Lane Grp Cap (vph) | 241 | 670 | 490 | 1329 | 846 | |
| v/s Ratio Prot | | 0.01 | 0.01 | c0.42 | c0.46 | |
| v/s Ratio Perm | c0.08 | | 0.03 | | | |
| v/c Ratio | 0.54 | 0.03 | 0.06 | 0.58 | 1.00 | |
| Uniform Delay, d1 | 30.4 | 13.3 | 10.5 | 4.8 | 20.7 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.1 | 0.0 | 0.0 | 0.4 | 31.9 | |
| Delay (s) | 31.6 | 13.3 | 10.5 | 5.2 | 52.6 | |
| Level of Service | C | B | B | A | D | |
| Approach Delay (s) | 26.5 | | | 5.4 | 52.6 | |
| Approach LOS | C | | | A | D | |

| Intersection Summary | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 29.5 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.82 | | |
| Actuated Cycle Length (s) | 76.6 | Sum of lost time (s) | 13.6 |
| Intersection Capacity Utilization | 56.7% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 9: Route 10/202 & Site Drive

2023 Build Conditions
 Weekday Evening Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|-----------------------------------|-------|------|------|----------------------|------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 50 | 52 | 684 | 594 | 30 |
| Future Volume (Veh/h) | 0 | 50 | 52 | 684 | 594 | 30 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 54 | 57 | 743 | 646 | 33 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 1116 | 197 | |
| pX, platoon unblocked | 0.68 | 0.56 | 0.56 | | | |
| vC, conflicting volume | 1520 | 662 | 679 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 756 | 11 | 41 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 91 | 94 | | | |
| cM capacity (veh/h) | 239 | 602 | 883 | | | |
| Direction, Lane # | EB 1 | NB 1 | NB 2 | SB 1 | | |
| Volume Total | 54 | 57 | 743 | 679 | | |
| Volume Left | 0 | 57 | 0 | 0 | | |
| Volume Right | 54 | 0 | 0 | 33 | | |
| cSH | 602 | 883 | 1700 | 1700 | | |
| Volume to Capacity | 0.09 | 0.06 | 0.44 | 0.40 | | |
| Queue Length 95th (ft) | 7 | 5 | 0 | 0 | | |
| Control Delay (s) | 11.6 | 9.4 | 0.0 | 0.0 | | |
| Lane LOS | B | A | | | | |
| Approach Delay (s) | 11.6 | 0.7 | 0.0 | | | |
| Approach LOS | B | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | 0.8 | | | | | |
| Intersection Capacity Utilization | 43.1% | | | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | | | |

HCM Unsignalized Intersection Capacity Analysis
 3: Route 10/202 & Ely Lane

2023 Build Conditions
 Saturday Midday Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|-----------------------------------|-------------|-------------|-------------|----------------------|------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 66 | 99 | 98 | 594 | 532 | 32 |
| Future Volume (Veh/h) | 66 | 99 | 98 | 594 | 532 | 32 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.76 | 0.76 | 0.89 | 0.89 | 0.89 | 0.89 |
| Hourly flow rate (vph) | 87 | 130 | 110 | 667 | 598 | 36 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 365 | 948 | |
| pX, platoon unblocked | 0.87 | 0.76 | 0.76 | | | |
| vC, conflicting volume | 1503 | 616 | 634 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 954 | 339 | 363 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 60 | 76 | 88 | | | |
| cM capacity (veh/h) | 220 | 537 | 919 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 217 | 777 | 634 | | | |
| Volume Left | 87 | 110 | 0 | | | |
| Volume Right | 130 | 0 | 36 | | | |
| cSH | 341 | 919 | 1700 | | | |
| Volume to Capacity | 0.64 | 0.12 | 0.37 | | | |
| Queue Length 95th (ft) | 104 | 10 | 0 | | | |
| Control Delay (s) | 32.4 | 2.9 | 0.0 | | | |
| Lane LOS | D | A | | | | |
| Approach Delay (s) | 32.4 | 2.9 | 0.0 | | | |
| Approach LOS | D | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 5.7 | | | |
| Intersection Capacity Utilization | | | 86.4% | ICU Level of Service | E | |
| Analysis Period (min) | | | 15 | | | |

Queues
5: Route 10/202 & Hoskins Road

2023 Build Conditions
Saturday Midday Peak Hour

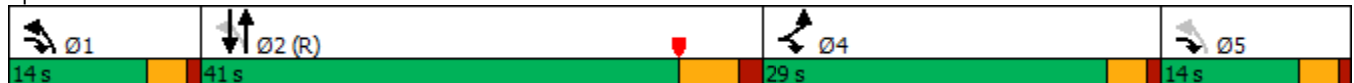


| Lane Group | EBL | EBR | NBL | NBT | SBT | Ø5 |
|-------------------------|-------|--------|--------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 56 | 120 | 104 | 636 | 601 | |
| Future Volume (vph) | 56 | 120 | 104 | 636 | 601 | |
| Lane Group Flow (vph) | 61 | 130 | 113 | 691 | 686 | |
| Turn Type | Prot | custom | custom | NA | NA | |
| Protected Phases | 4 | 1 4 5 | 1 | 2 | 2 | 5 |
| Permitted Phases | | | 2 5 | | | |
| Detector Phase | 4 | 4 | 1 | 2 | 2 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 9.0 | | 6.0 | 15.0 | 15.0 | 6.0 |
| Minimum Split (s) | 22.5 | | 10.0 | 24.1 | 24.1 | 10.0 |
| Total Split (s) | 29.0 | | 14.0 | 41.0 | 41.0 | 14.0 |
| Total Split (%) | 29.6% | | 14.3% | 41.8% | 41.8% | 14% |
| Yellow Time (s) | 3.0 | | 3.0 | 4.4 | 4.4 | 3.0 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.7 | 1.7 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.0 | | 4.0 | 6.1 | 6.1 | |
| Lead/Lag | Lead | | Lead | Lag | Lag | Lag |
| Lead-Lag Optimize? | Yes | | Yes | Yes | Yes | Yes |
| Recall Mode | None | | None | C-Min | C-Min | None |
| v/c Ratio | 0.35 | 0.32 | 0.22 | 0.56 | 0.57 | |
| Control Delay | 46.5 | 11.8 | 3.0 | 11.5 | 11.9 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 46.5 | 11.8 | 3.0 | 11.5 | 11.9 | |
| Queue Length 50th (ft) | 36 | 17 | 9 | 190 | 192 | |
| Queue Length 95th (ft) | 75 | 59 | 22 | 366 | 372 | |
| Internal Link Dist (ft) | 612 | | | 389 | 285 | |
| Turn Bay Length (ft) | 230 | | 160 | | | |
| Base Capacity (vph) | 436 | 459 | 558 | 1244 | 1196 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.14 | 0.28 | 0.20 | 0.56 | 0.57 | |

Intersection Summary

Cycle Length: 98
 Actuated Cycle Length: 98
 Offset: 10 (10%), Referenced to phase 2:NBSB, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 5: Route 10/202 & Hoskins Road



HCM Signalized Intersection Capacity Analysis
5: Route 10/202 & Hoskins Road

2023 Build Conditions
Saturday Midday Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|--------|--------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 56 | 120 | 104 | 636 | 601 | 30 |
| Future Volume (vph) | 56 | 120 | 104 | 636 | 601 | 30 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 12 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 6.1 | 6.1 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1478 | 1652 | 1863 | 1789 | |
| Flt Permitted | 0.95 | 1.00 | 0.32 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1478 | 553 | 1863 | 1789 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 61 | 130 | 113 | 691 | 653 | 33 |
| RTOR Reduction (vph) | 0 | 74 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 61 | 56 | 113 | 691 | 685 | 0 |
| Turn Type | Prot | custom | custom | NA | NA | |
| Protected Phases | 4 | 1 4 5 | 1 | 2 | 2 | |
| Permitted Phases | | | 2 5 | | | |
| Actuated Green, G (s) | 9.9 | 22.4 | 74.0 | 65.5 | 65.5 | |
| Effective Green, g (s) | 9.9 | 22.4 | 74.0 | 65.5 | 65.5 | |
| Actuated g/C Ratio | 0.10 | 0.23 | 0.76 | 0.67 | 0.67 | |
| Clearance Time (s) | 4.0 | | 4.0 | 6.1 | 6.1 | |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 172 | 337 | 512 | 1245 | 1195 | |
| v/s Ratio Prot | c0.04 | 0.04 | c0.02 | 0.37 | c0.38 | |
| v/s Ratio Perm | | | 0.15 | | | |
| v/c Ratio | 0.35 | 0.17 | 0.22 | 0.56 | 0.57 | |
| Uniform Delay, d1 | 41.1 | 30.3 | 4.3 | 8.6 | 8.7 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.3 | 0.2 | 0.2 | 1.8 | 2.0 | |
| Delay (s) | 42.3 | 30.5 | 4.6 | 10.4 | 10.7 | |
| Level of Service | D | C | A | B | B | |
| Approach Delay (s) | 34.3 | | | 9.5 | 10.7 | |
| Approach LOS | C | | | A | B | |

| Intersection Summary | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 12.8 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.54 | | |
| Actuated Cycle Length (s) | 98.0 | Sum of lost time (s) | 18.1 |
| Intersection Capacity Utilization | 58.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

Queues
8: Route 10/202 & Big Y

2023 Build Conditions
Saturday Midday Peak Hour



| Lane Group | EBL | EBR | NBL | NBT | SBT |
|-------------------------|-------|--------|-------|------|-------|
| Lane Configurations | | | | | |
| Traffic Volume (vph) | 139 | 33 | 25 | 549 | 500 |
| Future Volume (vph) | 139 | 33 | 25 | 549 | 500 |
| Lane Group Flow (vph) | 204 | 49 | 28 | 624 | 684 |
| Turn Type | Perm | custom | D.P+P | NA | NA |
| Protected Phases | | 4 | 1 | 1 2 | 2 |
| Permitted Phases | 4 | 1 | 2 | | |
| Detector Phase | 4 | 4 | 1 | 1 2 | 2 |
| Switch Phase | | | | | |
| Minimum Initial (s) | 9.0 | 9.0 | 5.0 | | 15.0 |
| Minimum Split (s) | 22.5 | 22.5 | 9.0 | | 32.6 |
| Total Split (s) | 29.0 | 29.0 | 24.0 | | 40.6 |
| Total Split (%) | 31.0% | 31.0% | 25.6% | | 43.4% |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | | 4.0 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.6 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | | 5.6 |
| Lead/Lag | | | Lead | | Lag |
| Lead-Lag Optimize? | | | Yes | | Yes |
| Recall Mode | None | None | None | | Min |
| v/c Ratio | 0.67 | 0.07 | 0.06 | 0.48 | 0.83 |
| Control Delay | 42.1 | 3.9 | 4.6 | 7.1 | 31.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 42.1 | 3.9 | 4.6 | 7.1 | 31.6 |
| Queue Length 50th (ft) | 94 | 0 | 3 | 110 | 278 |
| Queue Length 95th (ft) | 122 | 9 | 13 | 223 | #595 |
| Internal Link Dist (ft) | 149 | | | 117 | 614 |
| Turn Bay Length (ft) | 130 | | 132 | | |
| Base Capacity (vph) | 527 | 710 | 600 | 1325 | 849 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.39 | 0.07 | 0.05 | 0.47 | 0.81 |

Intersection Summary

Cycle Length: 93.6

Actuated Cycle Length: 78.2

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 8: Route 10/202 & Big Y



HCM Signalized Intersection Capacity Analysis
8: Route 10/202 & Big Y

2023 Build Conditions
Saturday Midday Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|--------|-------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 139 | 33 | 25 | 549 | 500 | 131 |
| Future Volume (vph) | 139 | 33 | 25 | 549 | 500 | 131 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 12 | 11 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 5.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1620 | 1553 | 1805 | 1837 | 1847 | |
| Flt Permitted | 0.95 | 1.00 | 0.16 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1620 | 1553 | 304 | 1837 | 1847 | |
| Peak-hour factor, PHF | 0.68 | 0.68 | 0.88 | 0.88 | 0.92 | 0.93 |
| Adj. Flow (vph) | 204 | 49 | 28 | 624 | 543 | 141 |
| RTOR Reduction (vph) | 0 | 30 | 0 | 0 | 9 | 0 |
| Lane Group Flow (vph) | 204 | 19 | 28 | 624 | 675 | 0 |
| Heavy Vehicles (%) | 4% | 4% | 0% | 0% | 0% | 0% |
| Turn Type | Perm | custom | D.P+P | NA | NA | |
| Protected Phases | | 4 | 1 | 1 2 | 2 | |
| Permitted Phases | 4 | 1 | 2 | | | |
| Actuated Green, G (s) | 14.6 | 29.7 | 49.7 | 53.7 | 34.6 | |
| Effective Green, g (s) | 14.6 | 29.7 | 49.7 | 53.7 | 34.6 | |
| Actuated g/C Ratio | 0.19 | 0.38 | 0.64 | 0.69 | 0.44 | |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | | 5.6 | |
| Vehicle Extension (s) | 2.0 | 2.0 | 1.5 | | 2.5 | |
| Lane Grp Cap (vph) | 303 | 671 | 484 | 1266 | 820 | |
| v/s Ratio Prot | | 0.01 | 0.01 | c0.34 | c0.37 | |
| v/s Ratio Perm | c0.13 | 0.01 | 0.03 | | | |
| v/c Ratio | 0.67 | 0.03 | 0.06 | 0.49 | 0.82 | |
| Uniform Delay, d1 | 29.4 | 15.1 | 8.1 | 5.7 | 19.0 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 4.6 | 0.0 | 0.0 | 0.1 | 6.6 | |
| Delay (s) | 34.0 | 15.1 | 8.1 | 5.8 | 25.5 | |
| Level of Service | C | B | A | A | C | |
| Approach Delay (s) | 30.3 | | | 5.9 | 25.5 | |
| Approach LOS | C | | | A | C | |

| Intersection Summary | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 18.3 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 77.9 | Sum of lost time (s) | 13.6 |
| Intersection Capacity Utilization | 50.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 9: Route 10/202 & Site Drive

2023 Build Conditions
 Saturday Midday Peak Hour



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|-----------------------------------|-------------|-------------|-------------|-------------|----------------------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 80 | 86 | 574 | 484 | 49 |
| Future Volume (Veh/h) | 0 | 80 | 86 | 574 | 484 | 49 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 87 | 93 | 624 | 526 | 53 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 1116 | 197 | |
| pX, platoon unblocked | 0.74 | 0.69 | 0.69 | | | |
| vC, conflicting volume | 1362 | 552 | 579 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 975 | 117 | 156 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 86 | 90 | | | |
| cM capacity (veh/h) | 187 | 641 | 976 | | | |
| Direction, Lane # | EB 1 | NB 1 | NB 2 | SB 1 | | |
| Volume Total | 87 | 93 | 624 | 579 | | |
| Volume Left | 0 | 93 | 0 | 0 | | |
| Volume Right | 87 | 0 | 0 | 53 | | |
| cSH | 641 | 976 | 1700 | 1700 | | |
| Volume to Capacity | 0.14 | 0.10 | 0.37 | 0.34 | | |
| Queue Length 95th (ft) | 12 | 8 | 0 | 0 | | |
| Control Delay (s) | 11.5 | 9.1 | 0.0 | 0.0 | | |
| Lane LOS | B | A | | | | |
| Approach Delay (s) | 11.5 | 1.2 | | 0.0 | | |
| Approach LOS | B | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 1.3 | | | |
| Intersection Capacity Utilization | | | 40.1% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |



Zoning Summary Chart

| | | |
|---------------------------------------|-----------------------------------|------------|
| Zoning District(S): | B2 - General Business | |
| Overlay District(S): | Level A - Aquifer Projection Zone | |
| Zoning Regulation Requirements | Required* | Provided |
| MINIMUM LOT AREA | NONE | ±4.45 AC |
| FRONTAGE | NONE | 371.7 Feet |
| FRONT YARD BUILDING SETBACK | 25 Feet | 64.2 Feet |
| FRONT YARD PARKING SETBACK | 25 Feet | 25 Feet |
| SIDE YARD BUILDING SETBACK | 20 Feet | 52.3 Feet |
| SIDE YARD PARKING SETBACK | 15 Feet | 15 Feet |
| REAR YARD BUILDING SETBACK | 25 Feet | 69.1 Feet |
| REAR YARD PARKING SETBACK | 25 Feet | 34.2 Feet |
| REAR YARD RESIDENTIAL LOADING SETBACK | 50 Feet | 59.1 Feet |
| MAXIMUM BUILDING HEIGHT | 40 Feet | <40 Feet |
| MAXIMUM IMPERVIOUS | 40.0%/60.0% ** | 59.7 % |

* Zoning regulation requirements as specified in Simsbury Zoning Regulations dated 03/01/2022
 ** Per Section 4.4.B, The Zoning Commission may, after notice and public hearing, grant a special exception to allow up to 50 percent increase to the maximum coverage allowed in any zone.

Parking Summary Chart

| Description | Size (FT) | | Spaces | |
|------------------------------------|-----------|----------|----------|----------|
| | Required | Provided | Required | Provided |
| STANDARD SPACES | 9 x 18 | 9 x 18 | 92 | 108 |
| COMPACT SPACES (50% ALLOWED W/ SE) | 8 x 16 | 8 x 16 | N/A | N/A |
| STANDARD ACCESSIBLE SPACES * | 15 x 18 | 15 x 18 | 3 | 4 |
| VAN ACCESSIBLE SPACES | 16 x 18 | 16 x 18 | 1 | 3 |
| TOTAL SPACES | | | 96 | 115 |

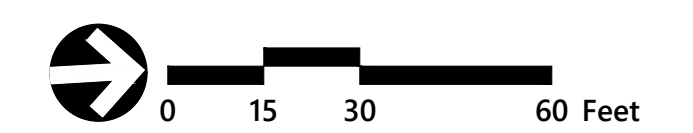
* ADA/STATE/LOCAL REGULATIONS REQUIRE 5 ACCESSIBLE PARKING SPACES FOR LOTS BETWEEN 101 TO 150 PARKING SPACES - 1 OF WHICH BEING VAN ACCESSIBLE

Parking Requirements:

| | | | | | | | | |
|-------------------------------|-----------|---|------|---|-----|---|-----------|------------------|
| RETAIL COVER (10,000 GSF) | 11,600 SF | x | 2.75 | / | 500 | = | 64 SPACES | |
| RESTAURANT 1 | 2,400 SF | x | 3.3 | / | 500 | = | 16 SPACES | |
| RESTAURANT 2 | 2,325 SF | x | 3.3 | / | 500 | = | 16 SPACES | |
| TOTAL PARKING REQUIRED | | | | | | | = | 96 SPACES |

PLANT SCHEDULE

| DECIDUOUS TREES | QTY | BOTANICAL NAME | COMMON NAME | SIZE | |
|--------------------|-----|------------------------------------|------------------------------------|-----------------|----------|
| ARO | 18 | Acer rubrum 'October Glory' | October Glory Maple | 2 1/2 - 3" CAL. | |
| GD | 5 | Gymnocladus dioica 'Prairie Titan' | Prairie Titan® Kentucky Coffeetree | 2 1/2 - 3" CAL. | |
| QR | 18 | Quercus rubra | Red Oak | 2 1/2 - 3" CAL. | |
| FLOWERING TREES | QTY | BOTANICAL NAME | COMMON NAME | SIZE | |
| MS | 14 | Malus hybrid 'Spring Snow' | Spring Snow Crab Apple | 2 - 3" CAL. | |
| SHRUBS | QTY | BOTANICAL NAME | COMMON NAME | SIZE | |
| CS | 44 | Cornus sericea 'Arctic Fire' | Arctic Fire Red Twig Dogwood | 24 - 30" HT. | |
| ICB | 3 | Ilex x meserveae 'China Bay' | China Bay® Holly | 18 - 24" HT. | |
| ICG | 30 | Ilex x meserveae 'China Girl' | China Girl® Holly | 18 - 24" HT. | |
| VC | 16 | Vaccinium corymbosum | Highbush Blueberry | 2 - 3" HT. | |
| ORNAMENTAL GRASSES | QTY | BOTANICAL NAME | COMMON NAME | SIZE | SPACING |
| ES | 69 | Eragrostis spectabilis | Purple Lovegrass | 2 GAL | 30" o.c. |
| PVN | 50 | Panicum virgatum 'Northwind' | Northwind Switch Grass | 2 GAL | 36" o.c. |
| PERENNIALS | QTY | BOTANICAL NAME | COMMON NAME | SIZE | SPACING |
| EP | 460 | Echinacea purpurea | Coneflower | 2 GAL | 18" o.c. |
| HRR | 312 | Hemerocallis x 'Rosy Returns' | Rosy Returns Daylily | 1 GAL | 24" o.c. |
| RLS | 670 | Rudbeckia fx 'Little Suzy' | Little Suzy Coneflower | 1 GAL | 12" o.c. |



Proposed Commercial Development

1263 Hopmeadow St
Simsbury, CT



EXTERIOR DESIGN PACKAGE

Proposed Commercial Development

1263 Hopmeadow Street
Simsbury, CT 06070

Owner / Applicant

Prospect Enterprises, LLC
231 Farmington Avenue
Farmington, CT 06032

Zone: General Busines (B2)

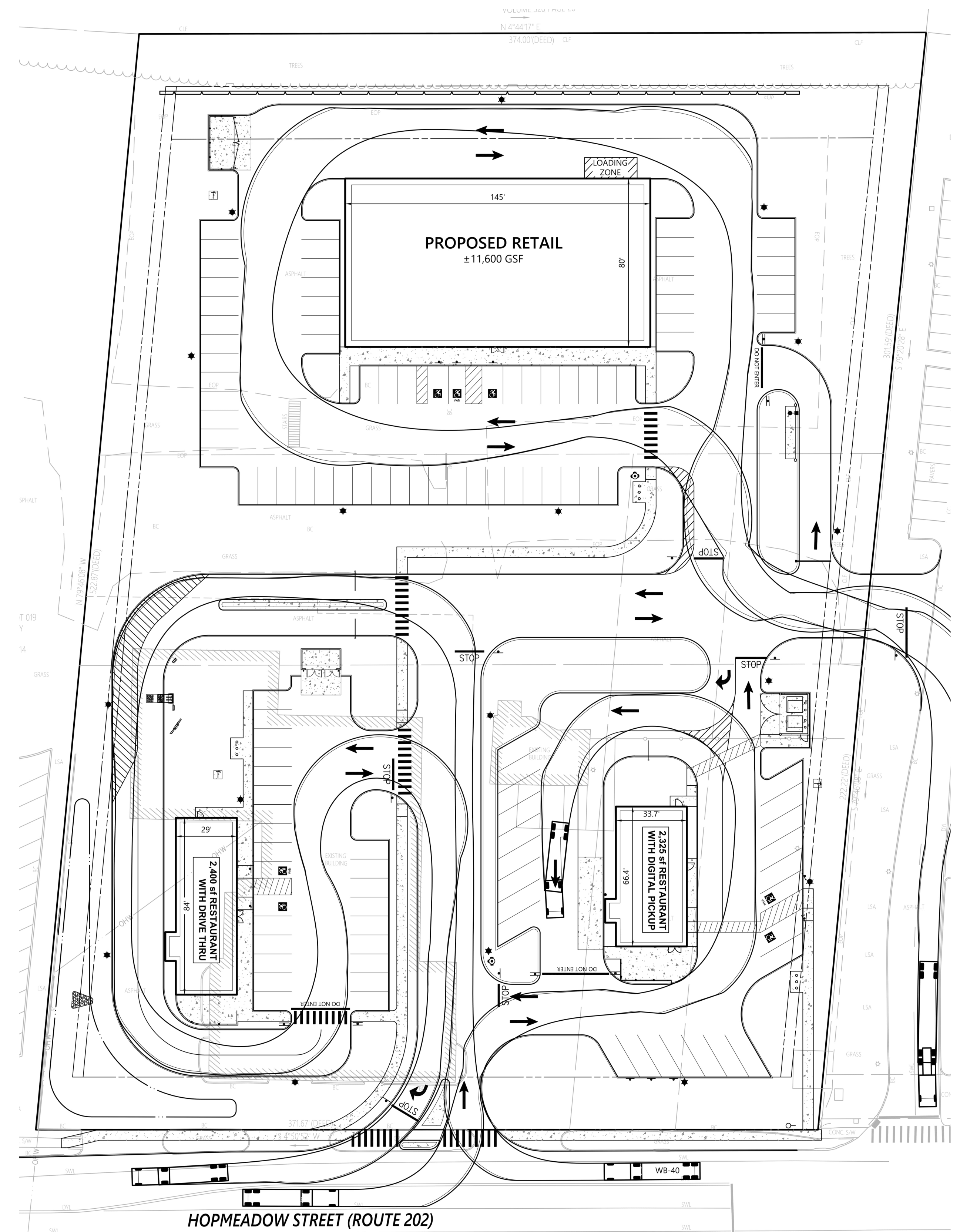
Map: 105

Block: 403

Lots: 017, 017R, 018, 020-1

Sheet Index

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- A-2 Overall Rendering - Birds Eye
- A-3 Overall Rendering - Birds Eye
- A-4 Overall Rendering - Birds Eye
- A-5 Overall Rendering - From Street Entrance
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Simsbury Retail Development
1263 Hopmeadow Street
Simsbury, CT 06070

Prospect Enterprises, LLC

Overall Rendering - Birds Eye

Drawn by: LMH

BKA #

223066

Date: 06/20/2023

A-3

BKA

ARCHITECTS

Boston +
142 Crescent
Brockton, MA
508.583.560
bkaarchitects.com

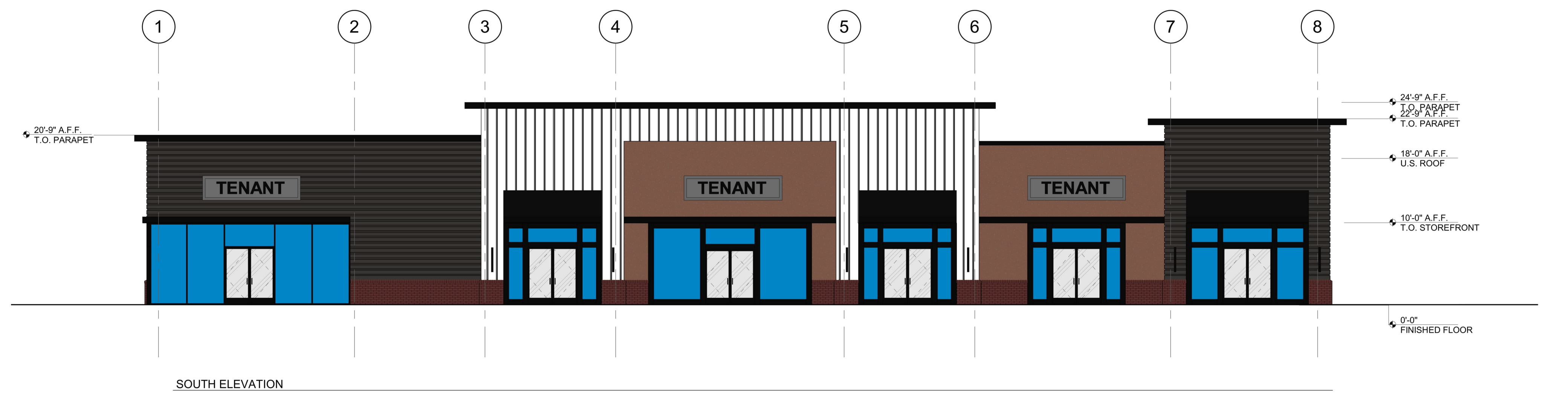
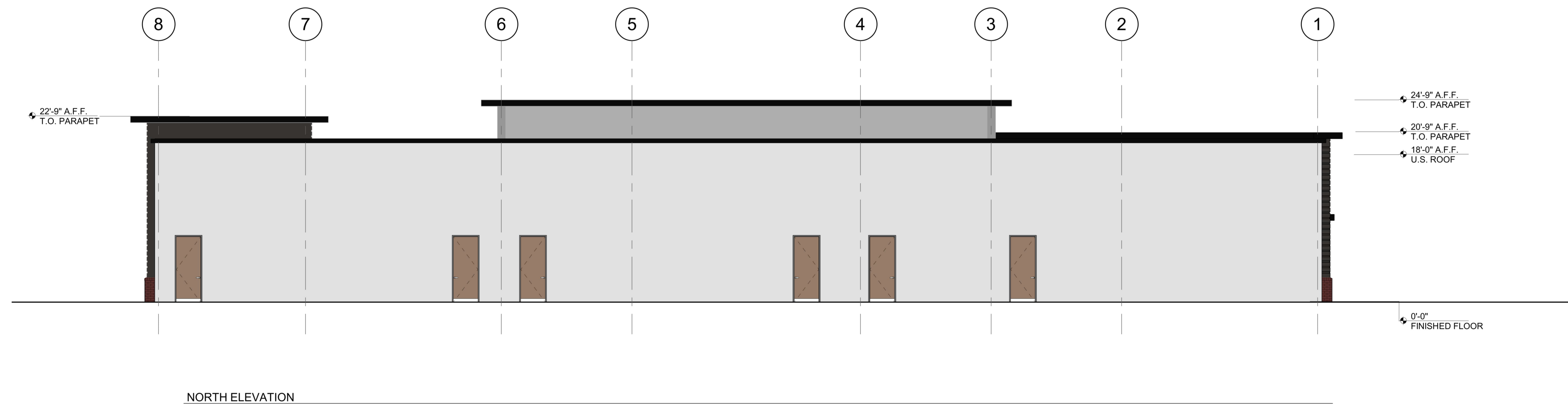
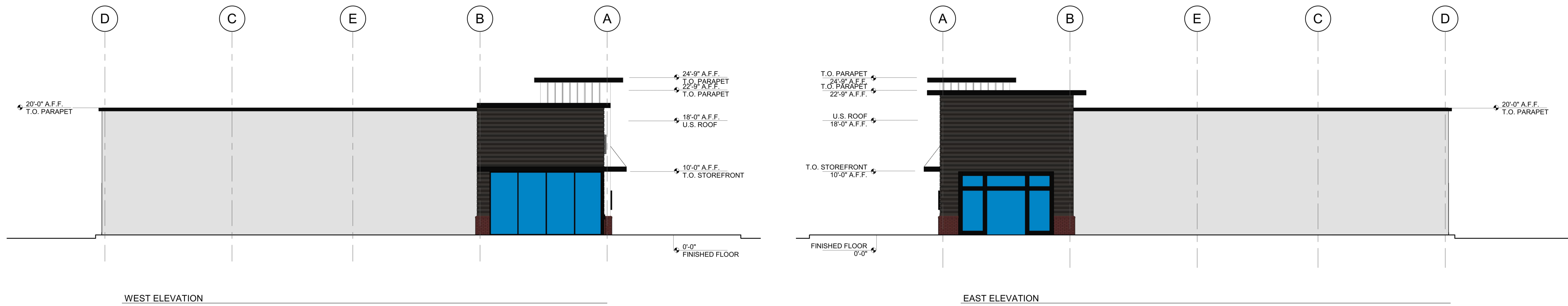
















Simsbury Retail Development
1263 Hopmeadow Street
Simsbury, CT 06070

Prospect Enterprises, LLC

Starbucks - Exterior Rendering

Drawn by: LMH

BKA #

223066

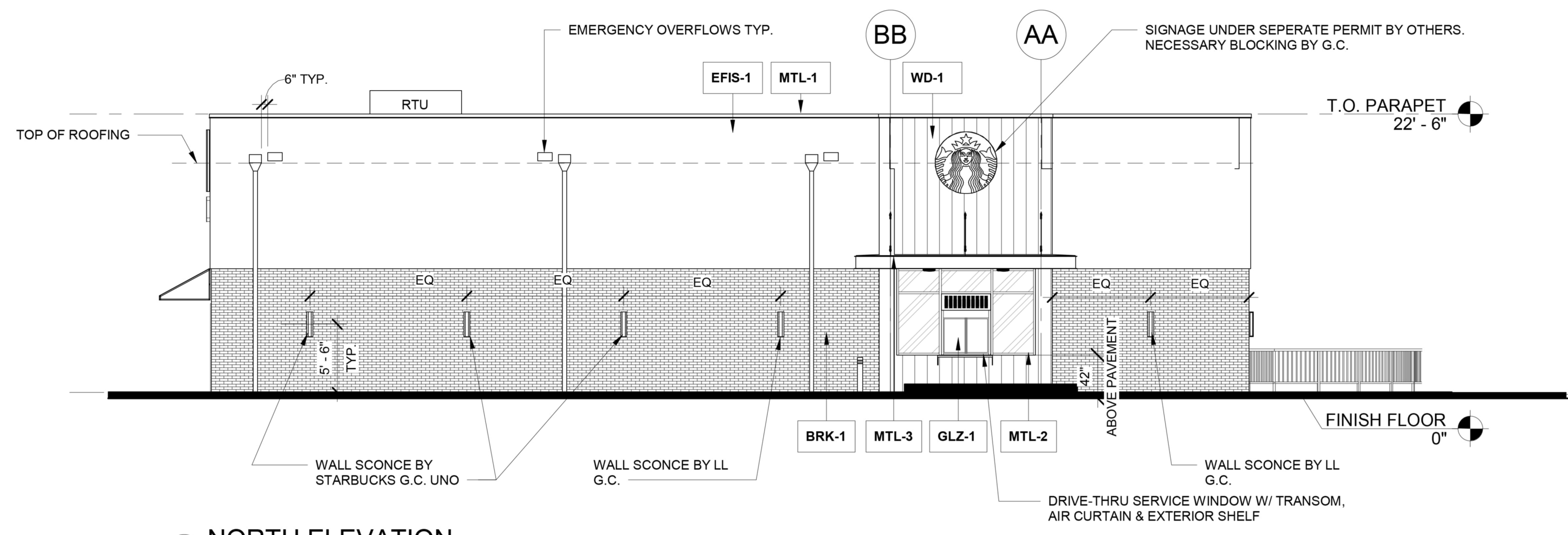
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A-11

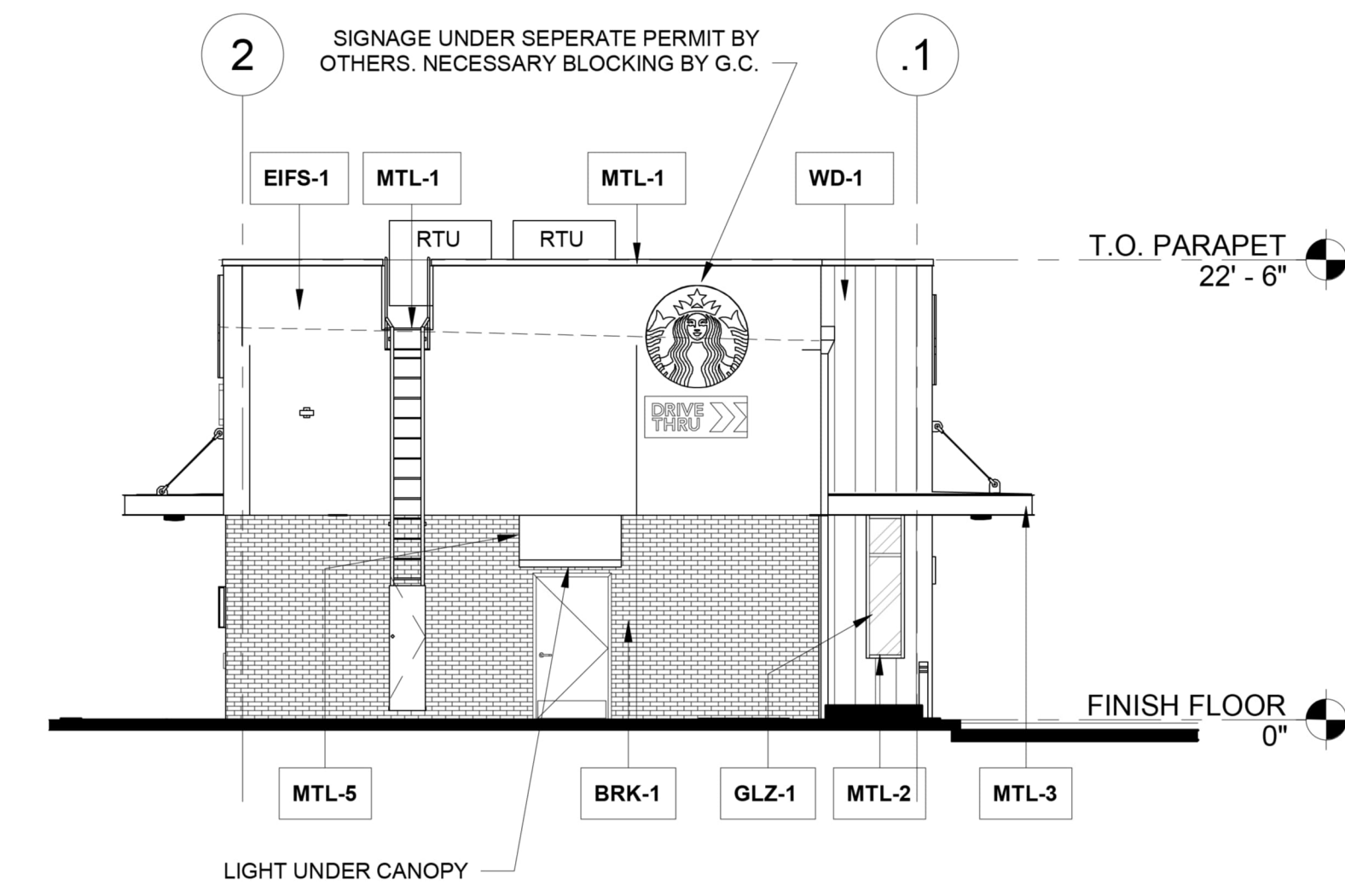
BKA

ARCHITECTS

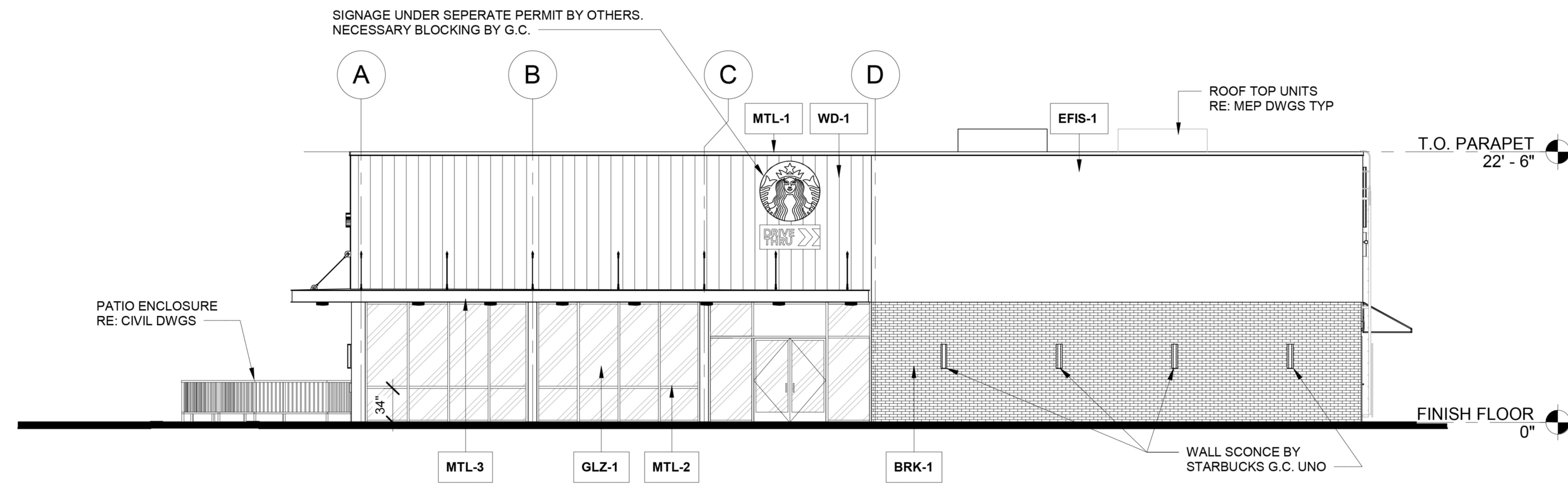
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142 Crescent
Brockton, MA
508.583.560
bkaarchitects.com



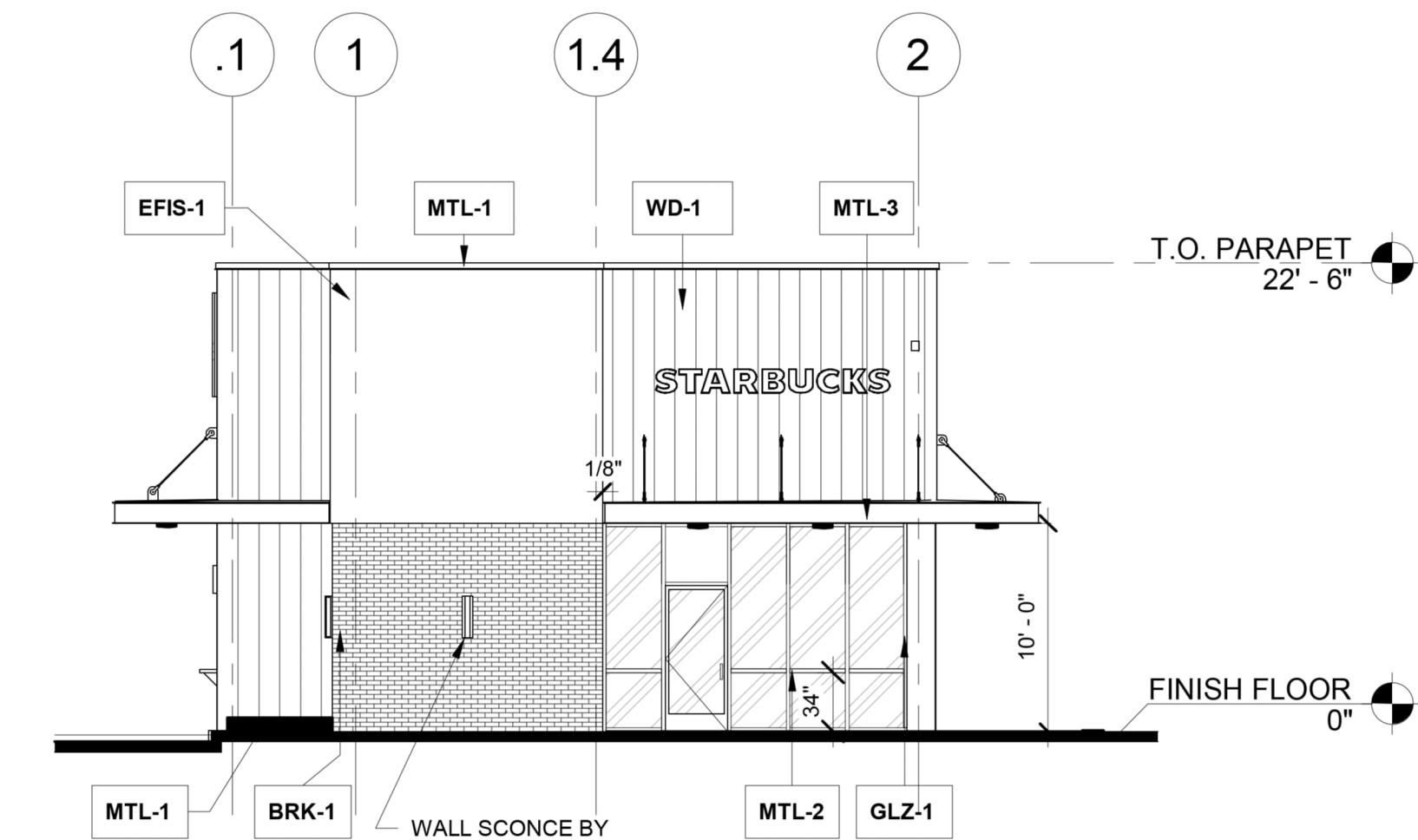
4 NORTH ELEVATION
Scale 1/8" = 1'-0"



3 EAST ELEVATION
Scale 1/8" = 1'-0"



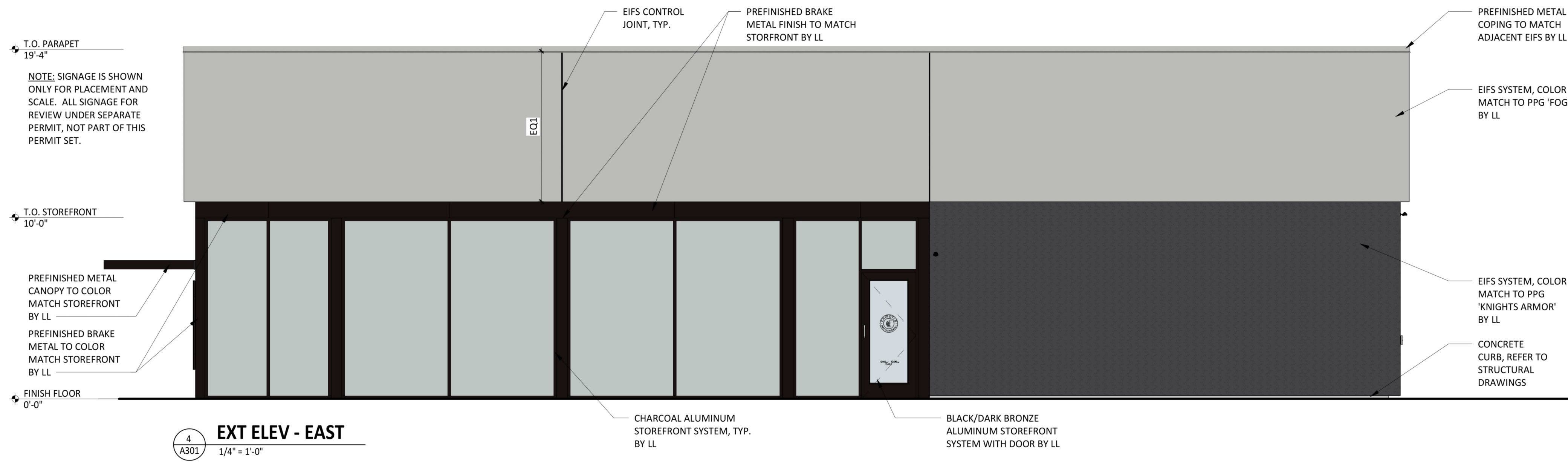
2 SOUTH ELEVATION
Scale 1/8" = 1'-0"



1 WEST ELEVATION
Scale 1/8" = 1'-0"



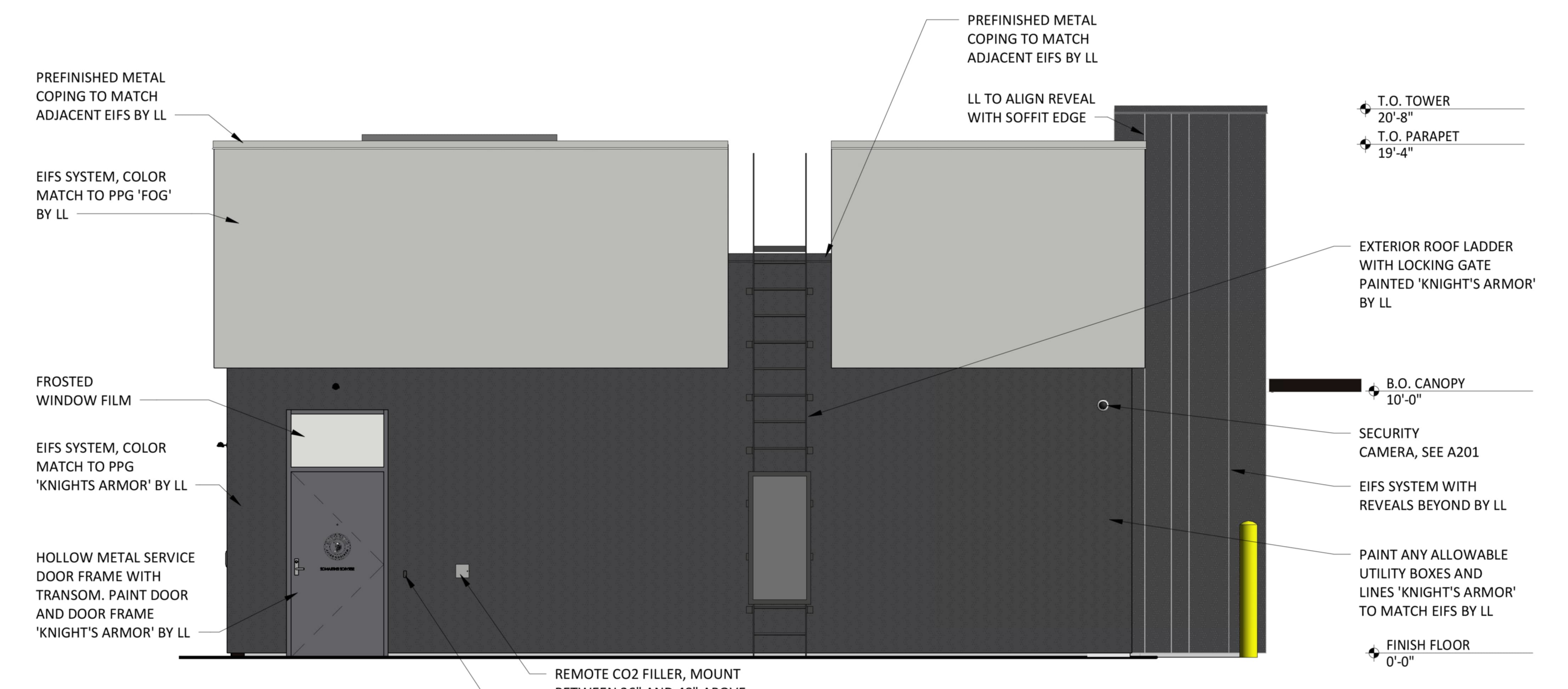




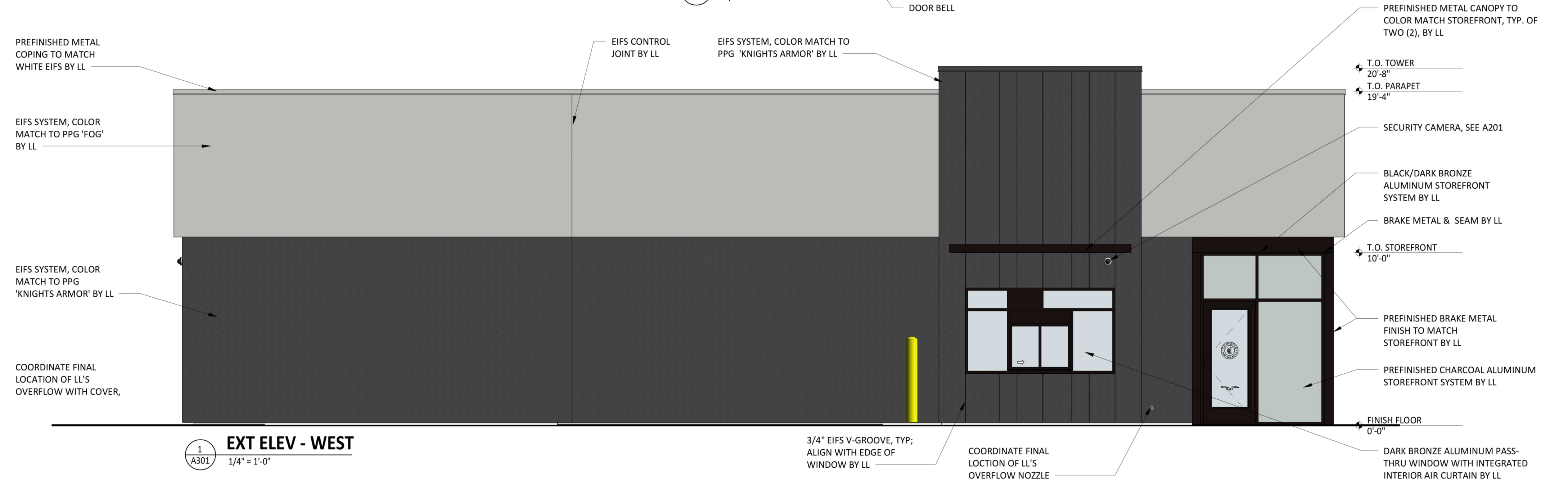
4
A301
EXT ELEV - EAST
1/4" = 1'-0"



3
A301
EXT ELEV - SOUTH
1/4" = 1'-0"



2
A301
EXT ELEV - NORTH
1/4" = 1'-0"



1
A301
EXT ELEV - WEST
1/4" = 1'-0"







WD-1

WD-1:
TONGUE AND GROOVE ACCOYA WOOD SIDING
SHOU SUGI BAN



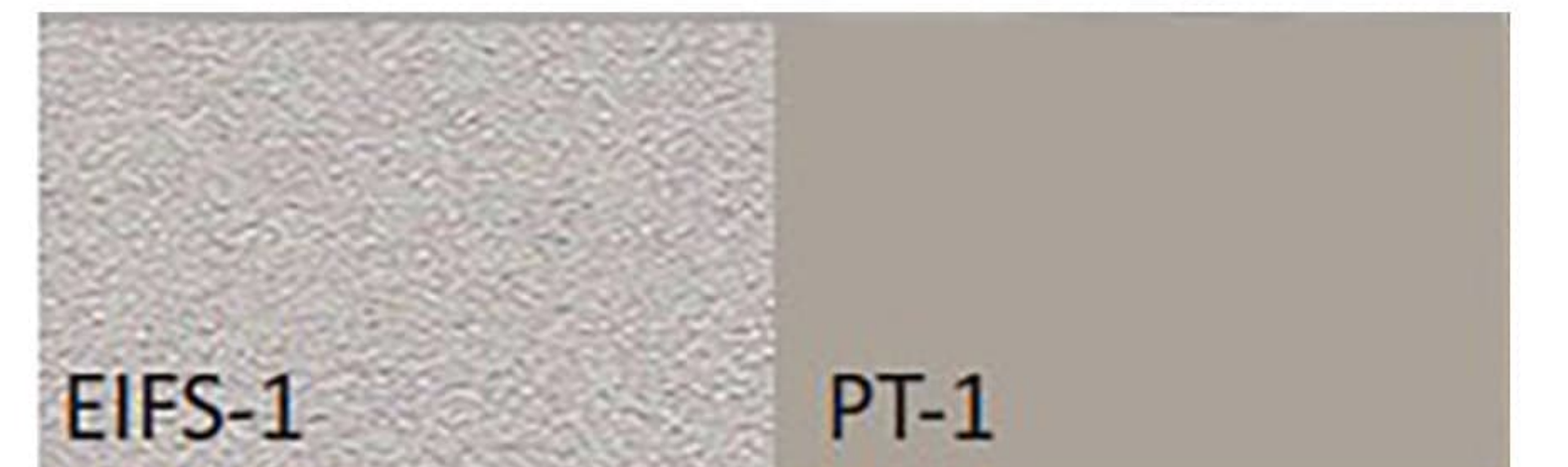
WD-4

WD-4:
ACCOYA WOOD SIDING
(UNDERSIDE OF CANOPIES) RAILAY 1C



BRK-1

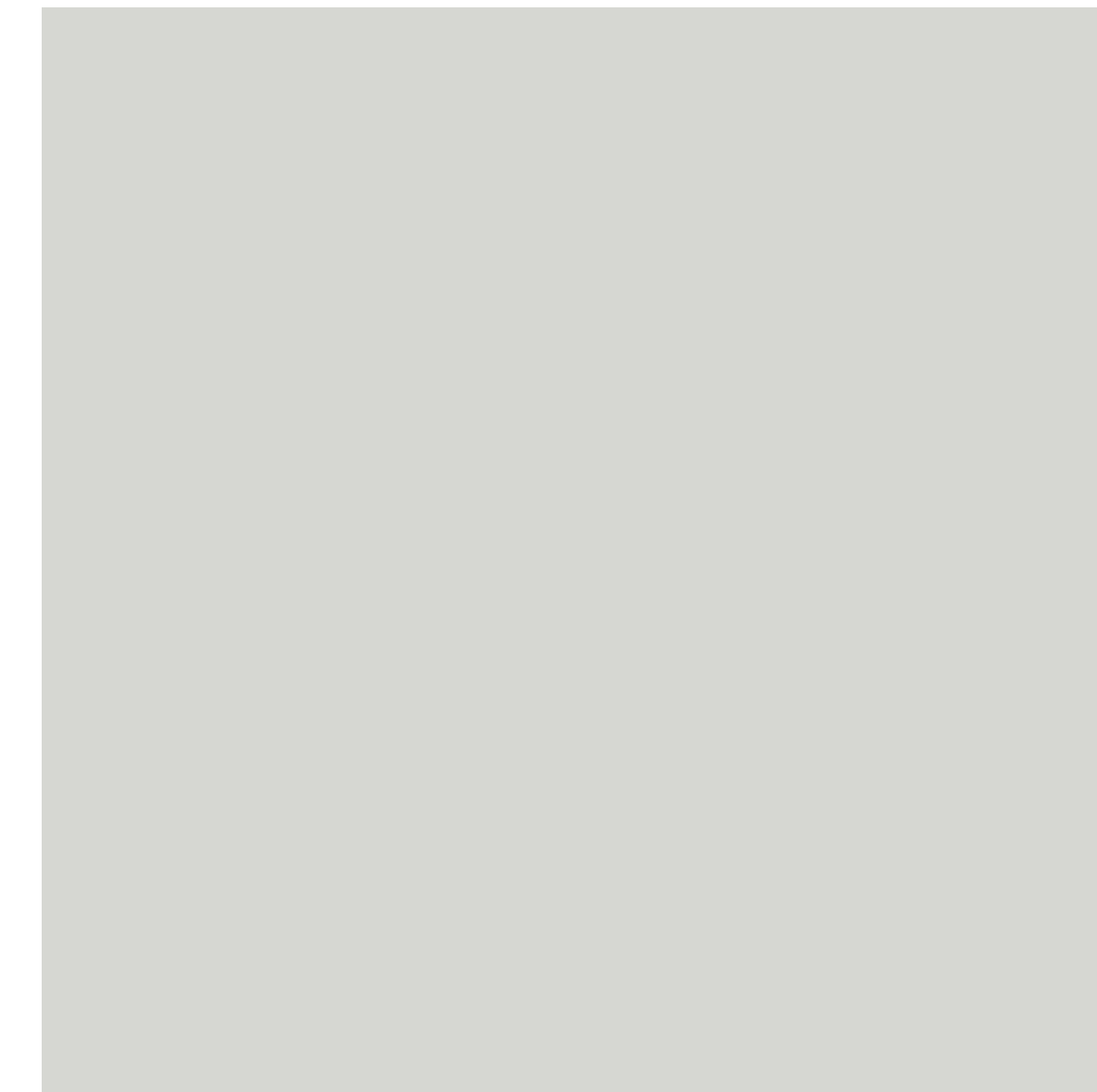
BRK-1:
SMOOTH SILVER GREY BRICK
GROUT TO MATCH



EIFS-1

PT-1

EIFS-1:
EIFS SANDPEBBLE FINE TEXTURE
PT-1:
PAINT - SW7024 FUNCTIONAL GRAY



PPG 1010-2 "FOG"



PPG 1001-6 "KNIGHTS ARMOR"



KAWNEER PERMAFLUOR
ANODIZED BLACK/DARK BRONZE