Hernando County

Planning & Zoning Commission

John Law Ayers Commission Chambers, Room 160
20 North Main Street, Brooksville, FL 34601

Regular Meeting

Agenda

Monday, April 13, 2026 - 9:00 A.M.

THE MEETING AGENDA AND BACK-UP MATERIAL ARE AVAILABLE ONLINE AT WWW.HERNANDOCOUNTY.US. THE AGENDA AND ATTACHMENTS ARE FINALIZED ONE WEEK PRIOR TO THE HEARING.

IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT, PERSONS WITH DISABILITIES NEEDING A SPECIAL ACCOMMODATION TO PARTICIPATE IN THIS PROCEEDING SHOULD CONTACT MARYELLEN WAITE, HERNANDO COUNTY RISK MANAGEMENT MANAGER, 15470 FLIGHT PATH DRIVE, BROOKSVILLE, FL 34604, (352) 442-7787. IF HEARING IMPAIRED, PLEASE CALL 1-800-676-3777.

IF A PERSON DECIDES TO APPEAL ANY QUASI-JUDICIAL DECISION MADE BY THE BOARD, AGENCY, OR COMMISSION WITH RESPECT TO ANY MATTER CONSIDERED AT SUCH HEARING OR MEETING, HE OR SHE WILL NEED A RECORD OF THE PROCEEDING, AND THAT, FOR SUCH PURPOSE, HE OR SHE MAY NEED TO ENSURE THAT A VERBATIM RECORD OF THE PROCEEDING IS MADE, WHICH RECORD INCLUDES THE TESTIMONY AND EVIDENCE UPON WHICH THE APPEAL IS TO BE BASED.

PLEASE NOTE THAT THIS MEETING HAS A START TIME OF 9:00 AM AND ALL ITEMS MAY BE HEARD ANY TIME THERE AFTER.

A. CALL TO ORDER

1. **Invocation**
2. **Pledge of Allegiance**
3. **Poll Commission for Ex Parte Communications**
4. **County Attorney Statement**
5. **Administering of the Oath**

B. STAFF ANNOUNCEMENTS

C. APPROVAL/MODIFICATION OF AGENDA

D. ADOPTION OF THE INFORMATION PACKETS INTO EVIDENCE

PUBLIC HEARINGS

E. UNIFIED AGENDA

17366 Approval of Minutes for Regular Meeting of March 09, 2026

17342 Conditional Plat File # 1514936 Waterford Phase 6

F. STANDARD AGENDA

17348 Conditional Use Permit Petition Submitted by Kathleen Senn (CU2604)

17349 Conditional Use Permit Petition Submitted by Miledy M. Sanchez, Regus A. Rafael, and Johanna Regus f/k/a Johanna Brown (CU2605)

17347 Special Exception Permit Petition Submitted by Daryl Bryant and Mildred Carlton (SE2604)

17339 Special Exception Permit Petition Submitted by Yarelis Gonzalez (SE2603)

17352 Master Plan Revision Petition Submitted by Wal-Mart Stores East, L.P. (H2609)

G. COMMISSIONERS AND STAFF ISSUES

H. ADJOURNMENT

UPCOMING MEETINGS

The next regular meeting of the Planning and Zoning Commission is scheduled for Monday, May 11, 2026, beginning at 9:00 AM, in the Commission Chambers

Meeting: 04/13/2026
Department: Planning
Prepared By: Victoria Via
Initiator: Omar DePablo
DOC ID: 17366
Legal Request Number:
Bid/Contract Number:

TITLE
Approval of Minutes for Regular Meeting of March 09, 2026

BRIEF OVERVIEW
The attached Minutes for the Regular Meeting of the Planning and Zoning Commission on March 09, 2026, are submitted for review and approval.

FINANCIAL IMPACT
N/A

LEGAL NOTE
N/A

RECOMMENDATION
The attached Minutes for the Regular Meeting of the Planning and Zoning Commission on March 09, 2026, are submitted for review and approval.

REVIEW PROCESS

Michelle Miller	Approved	04/07/2026	8:24 AM
Victoria Via	Approved	04/07/2026	8:25 AM

Hernando County

Planning & Zoning Commission

Regular Meeting

Minutes

March 9, 2026

CALL TO ORDER

The public meeting was called to order at 9:00 a.m. on Monday, March 09, 2026, in the John Law Ayers Room, Government Center, Brooksville, Florida. This meeting was advertised in the Hernando Sun newspaper and the Agenda Packet was available online at www.hernandocounty.us.

Attendee Name	Title
Kathryn Birren	Chairwoman
Nicholas Holmes	Vice Chairman
Steven Markford	Regular Member
Jonathan McDonald	Regular Member
Justin Noe	Regular Member
James Lipsey	Ex Officio Non-voting Member (School Board Rep.)
Natasha Lopez Perez	Assistant County Attorney
Michelle Miller	Planning Manager
Scott Herring	Public Works Director
Scott Rimby	Interim Capital Program Manager
Robin Reinhart	Planner I
Haydee Padin Alvarez	Community Development Specialist
Victoria Via	Agenda Coordinator

Invocation

Pledge of Allegiance

Poll Commission for Ex Parte Communications

Members McDonald and Noe announced that they had had no ex parte communications concerning the quasi-judicial petitions being considered at this meeting.

Chairwoman Birren, Vice Chairman Holmes, and Member Markford announced the ex parte communications that they had had concerning the quasi-judicial petitions being considered at this meeting.

County Attorney Statement

Administering of the Oath

STAFF ANNOUNCEMENTS

Presentation on Florida Sunshine Law and Ex Parte Communications

APPROVAL/MODIFICATION OF AGENDA

Motion
To approve the Agenda.

RESULT:	**ADOPTED**
MOVER:	Justin Noe
SECONDER:	Jonathan McDonald
AYES:	Birren, Holmes, Markford, McDonald and Noe

ADOPTION OF THE INFORMATION PACKETS INTO EVIDENCE

Motion
To adopt the information packets info evidence.

RESULT:	**ADOPTED**
MOVER:	Justin Noe
SECONDER:	Steven Markford
AYES:	Birren, Holmes, Markford, McDonald and Noe

PUBLIC HEARINGS

UNIFIED AGENDA

Approval of Minutes for Regular Meeting of October 09, 2023

Approval of Minutes for Regular Meeting of February 09, 2026

Conditional Plat File # 1504234 Lake Mirage

Special Exception Use Permit Submitted by Yarelis Gonzalez (SE2603)

This item was pulled and voted and on separately.

Conditional Use Permit Petition for a Temporary Structure Submitted by Robert Best (CU2603)

Conditional Use Permit Petition Submitted by Richard and Debra Deroxtro (CU2606)

Motion
To approve the Unified Agenda and pull Agenda Item No. 17214 [Special Exception Use Permit Submitted by Yarelis Gonzalez (SE2603)] to the Standard Agenda.

RESULT:	**ADOPTED**
MOVER:	Justin Noe
SECONDER:	Steven Markford
AYES:	Birren, Holmes, Markford, McDonald and Noe

STANDARD AGENDA

Special Exception Use Permit Submitted by Yarelis Gonzalez (SE2603)

There was no public input.

Motion
To postpone to a date uncertain with all advertising costs paid by the applicant.

RESULT:	**ADOPTED**
MOVER:	Justin Noe
SECONDER:	Steven Markford
AYES:	Birren, Holmes, Markford, McDonald and Noe

RECESS/RECONVENE

The Board recessed at 9:20 a.m. and reconvened at 9:25 a.m.

Presentation on the Final Proposed South Brooksville Community Redevelopment Plan

There was no public input.

Motion
To approve.

RESULT:	**ADOPTED**
MOVER:	Justin Noe
SECONDER:	Jonathan McDonald
AYES:	Birren, Holmes, Markford, McDonald and Noe

RECESS/RECONVENE

The Board recessed at 9:45 a.m. and reconvened at 9:50 a.m.

Rezoning Petition Submitted by Veronica Johnson (H2604)

There was no public input.

Motion
To approve the staff recommendation.

RESULT:	**ADOPTED**
MOVER:	Nicholas Holmes
SECONDER:	Steven Markford
AYES:	Birren, Holmes, Markford, McDonald and Noe

Master Plan Revision Petition Submitted by ART ERI, LLC (H2607)

The Board accepted public input on this matter.

Motion
To approve the staff recommendation.

RESULT:	**ADOPTED**
MOVER:	Justin Noe
SECONDER:	Jonathan McDonald
AYES:	Birren, Holmes, Markford, McDonald and Noe

Master Plan Revision Petition Submitted by 15464 Cortez Blvd, LLC (H2541)

The Board accepted public input on this matter.

Motion
To approve the staff recommendation.

RESULT:	**ADOPTED**
MOVER:	Justin Noe
SECONDER:	Nicholas Holmes
AYES:	Birren, Holmes, McDonald and Noe
NAYES:	Markford

RECESS/RECONVENE

The Board recessed at 10:30 a.m. and reconvened at 10:40 a.m.

Rezoning Petition Submitted by Dirt Doctor 11011 LLC (H2550)

The Board accepted public input on this matter.

Motion
To approve the staff recommendation with modifications.

(Note: The Motion pertained to Modified Performance Condition Nos. 14 and 15 as approved by the Planning Department).

RESULT:	**ADOPTED**
MOVER:	Nicholas Holmes
SECONDER:	Justin Noe
AYES:	Holmes, McDonald and Noe
NAYES:	Birren and Markford

RECESS/RECONVENE

The Board recessed at 11:20 a.m. and reconvened at 11:30 a.m.

Rezoning Petition Submitted by Jack Melton Family, Inc (H2540)

The Board accepted public input on this matter.

Member McDonald temporarily left the meeting.

RECESS/RECONVENE

The Board recessed at 1:10 p.m. and reconvened at 1:20 p.m.

Rezoning Petition Submitted by Jack Melton Family, Inc (H2540)

Motion
To approve the staff recommendation with modifications.

(Note: The Motion pertained to Modified Performance Condition Nos. 16, 20, 21, 23, and 24 as approved by the Planning Department).

RESULT:	**ADOPTED**
MOVER:	Nicholas Holmes
SECONDER:	Jonathan McDonald
AYES:	Birren, Holmes, McDonald and Noe
NAYES:	Markford

Rezoning Petition Submitted by Jack Melton Family Inc (H2539)

The Board accepted public input on this matter.

Motion
To approve the staff recommendation with modifications.

(Note: The Motion pertained to Modified Performance Condition Nos. 6, 7, and 8 as approved by the Planning Department).

RESULT:	**ADOPTED**
MOVER:	Nicholas Holmes
SECONDER:	Justin Noe
AYES:	Birren, Holmes, Markford and Noe
NAYES:	McDonald

COMMISSIONERS AND STAFF ISSUES

The Board and staff discussed various issues.

ADJOURNMENT

The meeting was adjourned at 2:30 p.m.

UPCOMING MEETINGS

The next regular meeting of the Planning and Zoning Commission is scheduled for Monday, April 13, 2026, beginning at 9:00 AM, in the Commission Chambers

Meeting: 04/13/2026
Department: Planning
Prepared By: William Hunt
Initiator: Omar DePablo
DOC ID: 17342
Legal Request Number:
Bid/Contract Number:

TITLE
Conditional Plat File # 1514936 Waterford Phase 6

BRIEF OVERVIEW
Conditional Plat for Waterford Phase 6

STRATEGIC PLAN INITIATIVES
The request is consistent with Strategic Theme D, "Quality of Life".

FINANCIAL IMPACT
A matter of policy. There is no financial impact.

LEGAL NOTE
The Planning and Zoning Commission has the authority to review this item in accordance with Chapter 26 (Subdivision Regulations), Article II (Procedures for County review and approval), Section 26-21 (procedure for approval of a Conditional Plat) of the Hernando County Code of Ordinances.

RECOMMENDATION
It is recommended that the Planning and Zoning Commission approve the Conditional Plat for Waterford Phase 6.

REVIEW PROCESS

Michelle Miller	Approved	03/31/2026 12:00 PM
Victoria Via	Approved	03/31/2026 1:36 PM
Natasha Lopez Perez	Approved	03/31/2026 2:00 PM
Toni Brady	Approved	04/01/2026 10:17 AM

STAFF REPORT

HEARINGS: Planning & Zoning Commission: April 07, 2026

APPLICANT: Oak Hill Land, LLC.

FILE NUMBER: 1514936

PURPOSE: Conditional Plat Approval for Waterford Phase 6

GENERAL LOCATION: North side of Cortez Boulevard, approximately 800' east of Nightwalker Road

PARCEL KEY NUMBER: 1800126 & 1801848

The conditional plat for the Waterford Phase 6 is for 89 single family residential lots on approximately 29.43 +/- acres of undeveloped land, located on the north side of Cortez Blvd, approximately 800' east of Nightwalker Road.

The conditional plat has been reviewed by various County agencies and found to be consistent with County standards. A certificate of concurrency has been issued for this conditional plat.

STAFF RECOMMENDATION:

It is recommended that the Planning and Zoning Commission approve the conditional plat of the Waterford Phase 6 with the following performance conditions:

1. The conditional plat shall expire in two (2) years if no further approvals in the subdivision process are obtained.

2. The developer must conform to all Hernando County Facility Design Guidelines.

3. The petitioner must meet the minimum requirements of Florida-Friendly Landscaping publications and the Florida Yards and Neighborhoods Program For design techniques, principles, materials, and plantings for required landscaping.

4. A burrow survey and FWC permit are required to be provided to the County prior to tortoise relocation and site clearing/alteration. A limited site clearing permit for tortoise relocating can be obtained from Zoning. The after-action-report and FWC acceptance email is required prior to site clearing, or any site alteration. Eastern

Indigo snake protection method notes need to be added to environmental plan notes on construction drawings.

BOCC ACTION:

On August 13, 2019, the Board of County Commissioners voted 5-0 to adopt Resolution 2019-128 approving the petitioner's request to revise a Master Plan on property zoned CPDP/(Combined Planned Development Project) which includes SF/(Single Family), MF/(Multifamily), GC/(General Commercial) with specific C-2 uses, OP/(Office Professional), and Congregate Care Facility; and a Rezoning from AG/(Agricultural) to CPDP/(Combined Planned Development Project to include SF/(Single Family), MF/(Multifamily), GC/(General Commercial) with specific C-2 uses, OP/(Office Professional) with specific C-1 uses; with deviations, with the following modified performance conditions:

1. The petitioner must obtain all permits from Hernando County and other applicable agencies and meet all applicable land development regulations, for either construction or use or the property, and complete all applicable development review processes.

2. The property must apply for and receive a Finding of School Capacity from the School District prior to the approval of the conditional plat or the functional equivalent. The County will only issue a certificate of concurrency for schools upon the School District's written determination that adequate school capacity will be in place or under actual construction within three (3) years after the issuance of subdivision approval or site plan approval (or functional equivalent) for each level of school without mitigation, or with the execution of a legally binding proportionate share mitigation agreement between the applicant, the school board and the county.

3. The petitioner shall provide a wildlife and aquatic survey (associated with caverns), prepared by a qualified professional prior to any development occurring on the property. Furthermore, copies of any required permits shall be provided prior to the issuance of development permits by Hernando County.

4. Approved wetland jurisdictional lines shall be shown on all conditional plats, development plans, and constructions plans.

5. The development shall meet the minimum open space requirements of the County's LDRs.

6. The developer shall meet the treed roadway/access requirements of the County's LDRs and must provide a minimum of two (2) access points for the single-family development and multifamily development/mixed use areas. Any individual development pods that exceed 50 units shall meet the two (2) access point requirement.

7. Development of the property shall comply with the County's flood plain management ordinance, the requirements of the County Engineer, and Facility Design Guidelines pertaining to development in the 100-year floodplain.

8. The developer shall provide an access management study and traffic analysis for the overall project build-out and future connections for review and approval by the County Engineer prior to the issuance of any permits for the project. The developer shall be responsible for all operational and/or link improvements determined necessary by the access management study and traffic analysis.

9. The developer shall be required to install bus stops at locations determined by the Transit Division meeting ADA requirements consistent with the FDOT 2013 Accessing Transit Design Handbook.

10. The petitioner shall meet the following requirements for the collector roadway:
    - The required rights-of-way for the north south collector roadway must be established prior to development.
    - The collector roadway will be the responsibility of the developer to build.
    - The proper roadway cross sections (e.g.: HCFDG: 4-lane Collector, 2-lane Collector) are to be provided to ensure adequate roadway capacity at build-out.
    - This proposed project is to define the widths and limits of right-of-way for the new collector roadway. The right-of-way shall be 130' wide from SR 50 to 1,000' north of the new hospital entrance/west roadway, then 80' wide for a 2-lane collector terminating at the north property line. The County will issue impact fee credits for any additional right-of-way needed, beyond what is describe above. The value of the right-of-way shall be determined by a licensed Florida real estate appraiser.
    - The horizontal and vertical curves to be designed per the proper design speed of the specific class roadway (e.g. horizontal 690' radius at 40 MPH).
    - Auxiliary turn lanes at all intersections are to be provided as warranted to ensure adequate roadway and intersection capacity.
    - The north/south collector roadway is to provide sufficient spacing to facilitate any warranted turn lanes and traffic stacking between its intersection with SR 50 and a proposed new hospital entrance drive and the roadway to the west.
    - Signalization of the new collector road intersection at SR 50 has been proposed. The traffic signal at SR50 at the existing Oak Hill Hospital entrance is less than 1,200 feet from this new intersection. The County and the FDOT will need to approve signal spacing at this distance, as it would be less than the standard ½ mile spacing. The existing signal may be eliminated to accommodate the new signal. The petitioner shall be responsible for a proportionate share of the cost of a new signal with the project to the east. Impact fee credits will be issued for the balance of the cost to construct the new signal.

11. A Cross Access Agreement shall be provided between commercial outparcels.

12. A frontage road shall be provided across the site at a location determined by the County Engineer. A frontage road that provides direct cross access to the commercial areas may also be required.

13. The applicant shall provide neighborhood parks for all residential uses in accordance with the requirements of Section 26-75 of Article III, Chapter 26 of the Hernando County Code of Ordinances.

14. All onsite lighting for the commercial areas shall meet the requirements of the land development regulations for large retail development.

15. Minimum Perimeter Project Setbacks:
    - South (Where Adjacent to Cortez Boulevard ROW): 75' (Deviation from 125')
    - South (Where Adjacent to Oak Hill Hospital): 15' (Deviation from 20')
    - North, West and East (Where Adjacent to Royal Highlands and High Point): 50'
    - Adjacent to Duke Energy Power Line Easement: 15' (Deviation from 20')

16. Minimum Setbacks from Internal Roads:
    - From Project Frontage Road: 35'
    - From Project Boulevard Collector Road (Single Family Residential): 35'
    - From Project Boulevard Collector Road (all other uses): 75'

17. Minimum Project Buffers: Where Adjacent to Royal Highlands: 50'
    - Where Adjacent to High Point Subdivision Lots: 50'
    - Where Adjacent to Project Boulevard Collector Road (Single Family): 20'
    - Where Adjacent to Project Boulevard Collector Road (Commercial/Mixed Use): 35'
    - Where Adjacent to Frontage Road and SR 50 (Commercial/Mixed Use): 35'

18. All required buffers shall be landscaped or enhanced to achieve a minimum opacity of 80%. Buffers may be augmented through the use of fences or walls as desired.

19. Minimum Residential Setbacks:
    Single-Family Residential
    - Front: 20' (Deviation from 25')
    - Side: 5' (Deviation from 10')
    - Rear: 15' (Deviation from 20')

    Villa Lots:
    - Front: 20' (Deviation from 25')
    - Side: 0/~~10~~ **5**' (Deviation from 10' on both sides)
    - Rear: 15' (Deviation from 20')

20. Minimum Office Professional and Commercial Building Setbacks:
    - Front: 35'
    - Side: 20'
    - Rear: 35'

21. Multifamily and Congregate Care Setbacks:
    - Front: 25'
    - Side: 10'
    - Rear: 20'

22. Minimum County Required Sign Setbacks:
    - Up to 75 square feet in area: 5' from property line
    - 75 square feet and up to 150 square feet in area: 10' from property line
    - 150 square feet or greater: 20' from property line

23. The predominant sign material shall be similar to the material (e.g., brick, stone, etc.) of the buildings developed on the commercial property. All on-site advertising signs, including outparcels, shall be designed as part of a complete signage system, and shall be limited to ground mounted monument type signs. Ground mounted monument type signs are signs where the bottom edge of the sign is no greater than ten (10) feet above grade and which otherwise meets all sign requirements in this code.

24. The petitioner shall comply with all Large Retail Project design standards of the County's Land Development Regulations for the designated commercial and office areas.

25. The project shall be limited to a maximum of:
    - 80,000 square feet of office
    - 980 residential units
    - 500 Single Family units
    - 320 attached villas located west of the Duke Energy Power Lines
    - 180 Multifamily units located in the mixed-use areas including 75 independent living units
    - 216 Skilled Nursing Units
    - 120 Assisted Living/Memory Care Units
    - 140,000 square feet of Commercial
    - Commercial uses located in the mixed-use section west of the Duke Energy Power Lines are limited to a maximum of 16,650 square feet.
    - Up to 45,000 square feet of commercial is set aside for Parcel Key 1765744.
    - 80,000 square feet of Office.

26. The site design shall provide that pedestrian circulation is coordinated on site and between adjacent properties.

27. The only additional C-2 use permitted in the commercial area shall be for Alcoholic Beverage Dispensation.

28. The petitioner shall meet the minimum recommendations of the Florida Yards & Neighborhoods (FYN) Program for design techniques and principles for all required landscaping.

29. This project is located within the Weeki Wachee Basin identified by FDEP as contributing nutrients to the Weeki Wachee Riverine System. The developer/HOA shall provide new property owners with written program materials and owners shall be encouraged to utilize Florida-Friendly Landscaping™ Program principles, techniques, and landscaping.

30. A geotechnical evaluation identifying all sink features located on the site and report with recommendations for site development prepared by a qualified professional shall be used in the design and layout of the project/infrastructure and shall be submitted to the County in connection with construction plan or site development plan review for each phase to demonstrate that efforts have been made to avoid adverse impacts to subsurface karst sensitive features.

31. Geotechnical subsurface testing and reporting in accordance with the County's Facility Design Guidelines shall be conducted for drainage retention areas (DRAs) within the project.

32. An improved 50-foot upland/wetland buffer with post-outfall treatment for stormwater shall be retained and remain undisturbed around the sinks (aka – Joe, Mary, the Lost 40, and any other sink features as determined by a qualified geotechnical professional) measured from the High-Water Mark landward. The buffers shall be planted with native vegetation, where needed, to control erosion and shall be maintained (invasive exotic species are to be removed). A conservation easement over the wetlands and required upland buffers shall be provided at the time of final platting or prior to development where platting is not required.

33. The collector roadway shall be constructed as a boulevard roadway to the reverse frontage road and construction shall be continued to the north as development occurs.

34. The petitioner shall contact the Department of State, Division of Historic Resources for any additional archaeological compliance survey requirements.

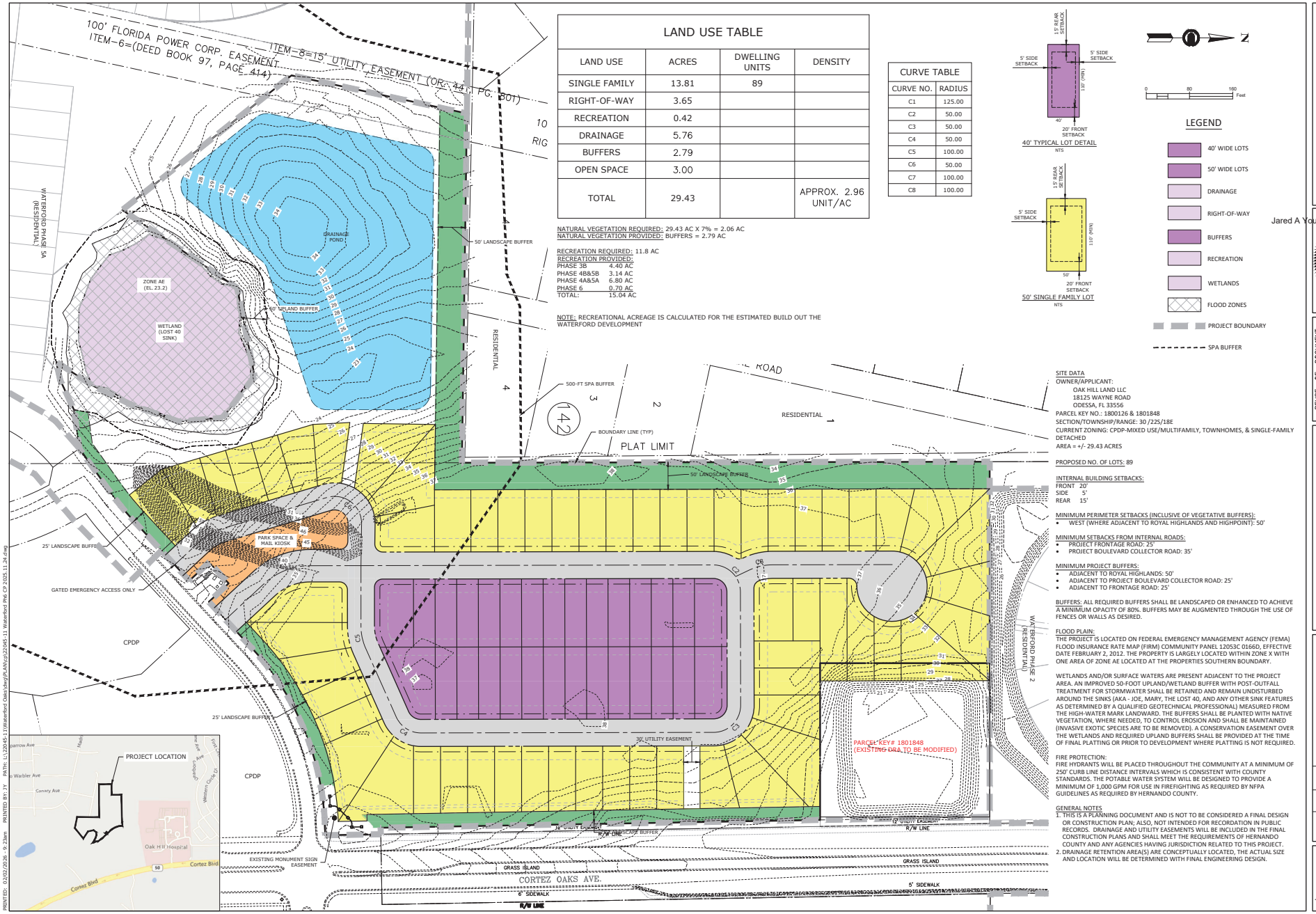
35. The landscape plan shall be designed to provide clear sight windows and sight triangles at all points of external access and along the internal roadways.

36. No access shall be from existing residential roads within the Royal Highlands or High Point communities unless emergency access is required by the Fire Department in

which case it shall be gated and designed in accordance with the Fire Department Standards.

37. A water and sewer capacity analysis shall be required in accordance with the standards/requirements of the Hernando County Utilities Department.

38. The petitioner shall provide a revised plan in compliance with all the performance conditions within 30 calendar days of BCC approval. Failure to submit the revised plan will result in no further development permits being issued.



LAND USE TABLE

LAND USE	ACRES	DWELLING UNITS	DENSITY
SINGLE FAMILY	13.81	89	
RIGHT-OF-WAY	3.65		
RECREATION	0.42		
DRAINAGE	5.76		
BUFFERS	2.79		
OPEN SPACE	3.00		
TOTAL	29.43		APPROX. 2.96 UNIT/AC

NATURAL VEGETATION REQUIRED: 29.43 AC X 7% = 2.06 AC
NATURAL VEGETATION PROVIDED: BUFFERS = 2.79 AC

RECREATION REQUIRED: 11.8 AC
RECREATION PROVIDED:
PHASE 3B 4.40 AC
PHASE 4B&5B 3.14 AC
PHASE 4A&5A 6.80 AC
PHASE 6 0.70 AC
TOTAL: 15.04 AC

NOTE: RECREATIONAL ACREAGE IS CALCULATED FOR THE ESTIMATED BUILD OUT THE WATERFORD DEVELOPMENT

CURVE TABLE	
CURVE NO.	RADIUS
C1	125.00
C2	50.00
C3	50.00
C4	50.00
C5	100.00
C6	50.00
C7	100.00
C8	100.00

40' TYPICAL LOT DETAIL
NTS

50' SINGLE FAMILY LOT
NTS

N

0 80 160 Feet

LEGEND
- 40' WIDE LOTS
- 50' WIDE LOTS
- DRAINAGE
- RIGHT-OF-WAY
- BUFFERS
- RECREATION
- WETLANDS
- FLOOD ZONES
- PROJECT BOUNDARY
- SPA BUFFER

SITE DATA
OWNER/APPLICANT:
OAK HILL LAND LLC
18125 WAYNE ROAD
ODESSA, FL 33556
PARCEL KEY NO.: 1800126 & 1801848
SECTION/TOWNSHIP/RANGE: 30 /22S/18E
CURRENT ZONING: CPDP-MIXED USE/MULTIFAMILY, TOWNHOMES, & SINGLE-FAMILY DETACHED
AREA = +/- 29.43 ACRES

PROPOSED NO. OF LOTS: 89

INTERNAL BUILDING SETBACKS:
FRONT 20'
SIDE 5'
REAR 15'

MINIMUM PERIMETER SETBACKS (INCLUSIVE OF VEGETATIVE BUFFERS):
- WEST (WHERE ADJACENT TO ROYAL HIGHLANDS AND HIGHPOINT): 50'

MINIMUM SETBACKS FROM INTERNAL ROADS:
- PROJECT FRONTAGE ROAD: 25'
- PROJECT BOULEVARD COLLECTOR ROAD: 35'

MINIMUM PROJECT BUFFERS:
- ADJACENT TO ROYAL HIGHLANDS: 50'
- ADJACENT TO PROJECT BOULEVARD COLLECTOR ROAD: 25'
- ADJACENT TO FRONTAGE ROAD: 25'

BUFFERS: ALL REQUIRED BUFFERS SHALL BE LANDSCAPED OR ENHANCED TO ACHIEVE A MINIMUM OPACITY OF 80%. BUFFERS MAY BE AUGMENTED THROUGH THE USE OF FENCES OR WALLS AS DESIRED.

FLOOD PLAIN:
THE PROJECT IS LOCATED ON FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL 12053C 0166D, EFFECTIVE DATE FEBRUARY 2, 2012. THE PROPERTY IS LARGELY LOCATED WITHIN ZONE X WITH ONE AREA OF ZONE AE LOCATED AT THE PROPERTIES SOUTHERN BOUNDARY.

WETLANDS AND/OR SURFACE WATERS ARE PRESENT ADJACENT TO THE PROJECT AREA. AN IMPROVED 50-FOOT UPLAND/WETLAND BUFFER WITH POST-OUTFALL TREATMENT FOR STORMWATER SHALL BE RETAINED AND REMAIN UNDISTURBED AROUND THE SINKS (AKA - JOE, MARY, THE LOST 40, AND ANY OTHER SINK FEATURES AS DETERMINED BY A QUALIFIED GEOTECHNICAL PROFESSIONAL) MEASURED FROM THE HIGH-WATER MARK LANDWARD. THE BUFFERS SHALL BE PLANTED WITH NATIVE VEGETATION, WHERE NEEDED, TO CONTROL EROSION AND SHALL BE MAINTAINED (INVASIVE EXOTIC SPECIES ARE TO BE REMOVED). A CONSERVATION EASEMENT OVER THE WETLANDS AND REQUIRED UPLAND BUFFERS SHALL BE PROVIDED AT THE TIME OF FINAL PLATTING OR PRIOR TO DEVELOPMENT WHERE PLATTING IS NOT REQUIRED.

FIRE PROTECTION:
FIRE HYDRANTS WILL BE PLACED THROUGHOUT THE COMMUNITY AT A MINIMUM OF 250' CURB LINE DISTANCE INTERVALS WHICH IS CONSISTENT WITH COUNTY STANDARDS. THE POTABLE WATER SYSTEM WILL BE DESIGNED TO PROVIDE A MINIMUM OF 1,000 GPM FOR USE IN FIREFIGHTING AS REQUIRED BY NFPA GUIDELINES AS REQUIRED BY HERNANDO COUNTY.

GENERAL NOTES
1. THIS IS A PLANNING DOCUMENT AND IS NOT TO BE CONSIDERED A FINAL DESIGN OR CONSTRUCTION PLAN; ALSO, NOT INTENDED FOR RECORDATION IN PUBLIC RECORDS. DRAINAGE AND UTILITY EASEMENTS WILL BE INCLUDED IN THE FINAL CONSTRUCTION PLANS AND SHALL MEET THE REQUIREMENTS OF HERNANDO COUNTY AND ANY AGENCIES HAVING JURISDICTION RELATED TO THIS PROJECT.
2. DRAINAGE RETENTION AREA(S) ARE CONCEPTUALLY LOCATED, THE ACTUAL SIZE AND LOCATION WILL BE DETERMINED WITH FINAL ENGINEERING DESIGN.

CONDITIONAL PLAT

WATERFORD PHASE 6

Digitally signed by Jared A Young
Jared A Young
FLORIDA REGISTERED ENGINEER No. 86187 STATE OF

REUSE OF DOCUMENT
THIS DOCUMENT, COMPRISED OF THE GRAPHICAL AND TEXTUAL MATERIAL, IS AN INSTRUMENT OF PROFESSIONAL SERVICE PREPARED BY COASTAL ENGINEERING ASSOCIATES, INC. AND IS NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN AUTHORIZATION OF COASTAL ENGINEERING ASSOCIATES, INC.

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY JARED A. YOUNG, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT SHALL NOT BE VERIFIED ON ANY ELECTRONIC COPIES.

Coastal
Engineering
Planning
Surveying
Environmental
Transportation
Construction Management
engineering & boscables, inc.
966 Candlelight Boulevard - Brooksville - Florida 34601
(352) 796-9404 - Fax (352) 796-2550
EB-0000142

DATE	REV. BY	REV. NO.	REVISION

WHEN PRINTED TO SCALE, DRAWING SIZE SHALL BE 22" X 34"

SHEET
1

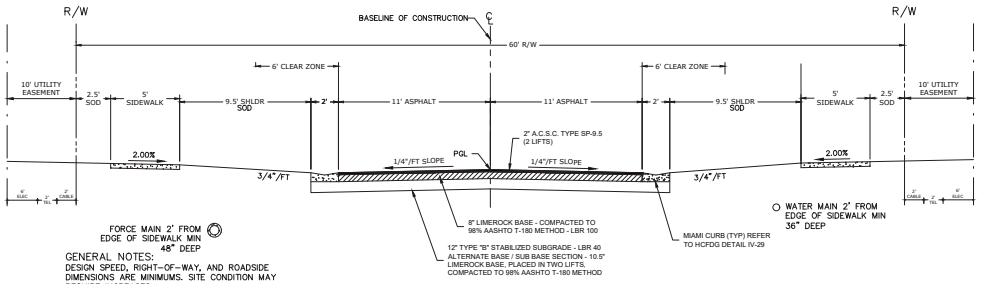
JOB No.: 22045-11

PRINTED: 02/02/2026 - 9:23am PRINTED BY: JY PATH: I:\22045-11\Waterford Oaks\dwg\PLAN\cp\22045-11 Waterford Ph6 CP 2025.11.24.dwg

MODIFIED MAJOR/LOCAL ROAD – CLOSED DRAINAGE

DESIGN SPEED = 35 MPH*

HERNANDO COUNTY ROADWAY STANDARD DETAIL (IV-06)

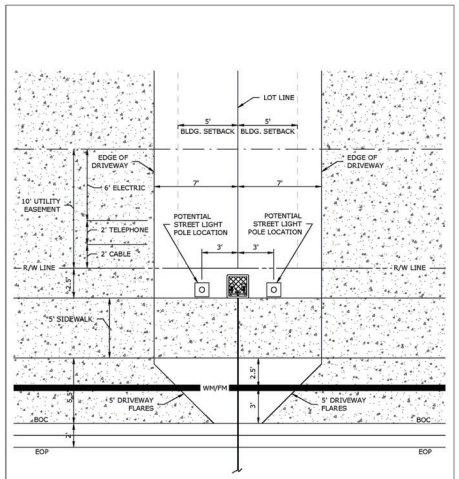


GENERAL NOTES:
DESIGN SPEED, RIGHT-OF-WAY, AND ROADSIDE DIMENSIONS ARE MINIMUMS. SITE CONDITION MAY REQUIRE INCREASES.

* VARIANCE IN HORIZONTAL DESIGN SPEED ALLOWED WITH JUSTIFICATION AND APPROPRIATE SIGNAGE

ALL DIMENSIONS & LABELS ARE TYPICAL

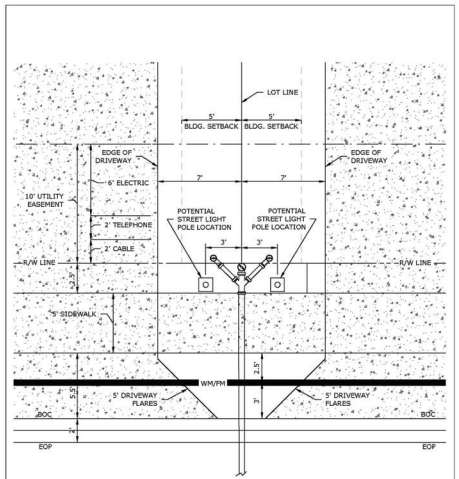
MODIFIED MAJOR/LOCAL ROADS 60' R/W
TYPICAL SECTION



1" = 5' SCALE

Coastal Engineering Associates, Inc.	STANDARD UTILITY LOCATION W/ 5' SETBACKS	DATE 06/21/21
	WATER SERVICE	1

PRINTED: 04/25/2022 - 3:18pm PRINTED BY: JB PATH: S:_CAD\Blocks\[STD Util Loc Details.dwg



1" = 5' SCALE

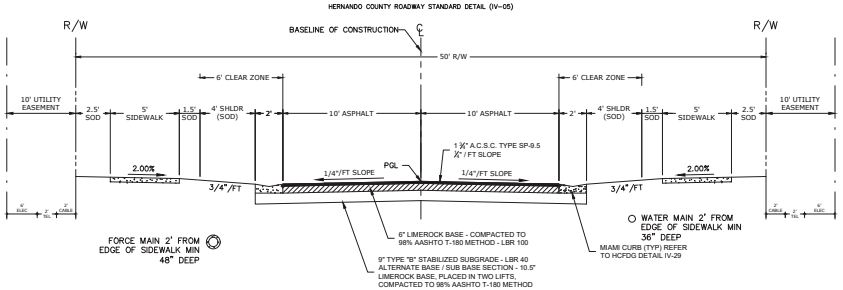
Coastal Engineering Associates, Inc.	STANDARD UTILITY LOCATION W/ 5' SETBACKS	DATE 06/21/21
	SANITARY SEWER SERVICE	2

PRINTED: 04/23/2022 - 3:24pm PRINTED BY: JB PATH: S:_CAD\Blocks\[STD Util Loc Details.dwg

LOCAL ROAD – CLOSED DRAINAGE

DESIGN SPEED = 30 MPH*

HERNANDO COUNTY ROADWAY STANDARD DETAIL (IV-05)



GENERAL NOTES:
DESIGN SPEED, RIGHT-OF-WAY, AND ROADSIDE DIMENSIONS ARE MINIMUMS. SITE CONDITION MAY REQUIRE INCREASES.

* VARIANCE IN HORIZONTAL DESIGN SPEED ALLOWED WITH JUSTIFICATION AND APPROPRIATE SIGNAGE

ALL DIMENSIONS & LABELS ARE TYPICAL

LOCAL ROADS TYPICAL SECTION
NOT TO SCALE

TYPICAL SECTIONS

WATERFORD PHASE 6

REUSE OF DOCUMENT
THIS DOCUMENT, COMPRISED OF THE INDICATED DRAWINGS AND SPECIFICATIONS, IS AN INSTRUMENT OF PROFESSIONAL SERVICE PREPARED BY COASTAL ENGINEERING ASSOCIATES, INC. AND IS NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN AUTHORIZATION OF COASTAL ENGINEERING ASSOCIATES, INC.

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY JAMES A. YOUNG, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

Coastal Engineering Associates, Inc.
Engineering Planning Surveying Environmental Transportation Construction Management
966 Candlelight Boulevard - Brooksville - Florida 34601
(352) 799-0429 - Fax (352) 799-2532
EB-0000142

DATE	REV. BY	REV. NO.	REVISION

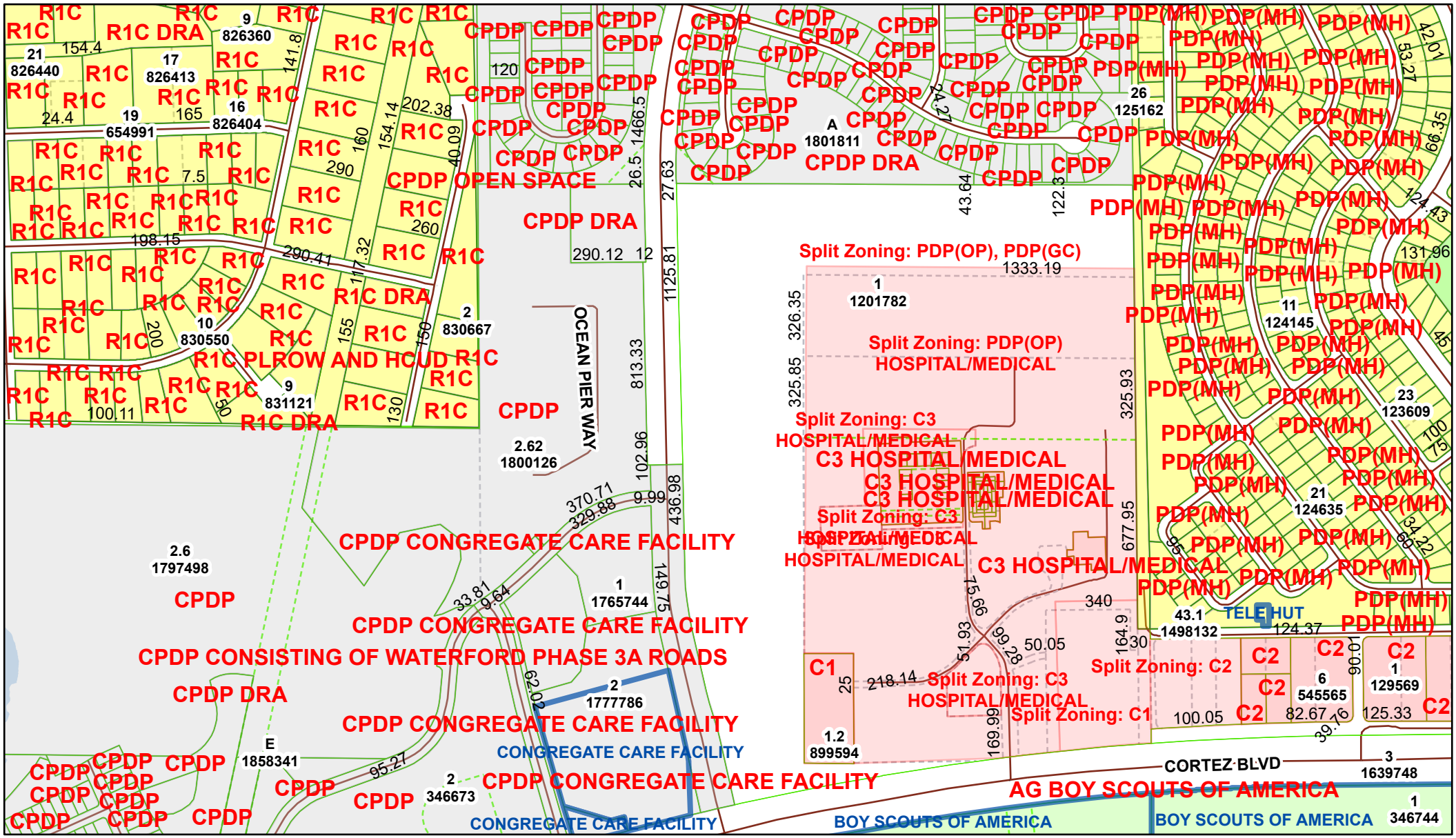
WHEN PRINTED TO SCALE, DRAWING SIZE SHALL BE 22" X 34"

SHEET 2

JOB No.: 22045-11

PRINTED: 02/02/2026 - 9:23am PRINTED BY: JY PATH: L:\22045-11\Waterford Oaks\dwg\R-MAN\rpt\22045-11 Waterford Ph6 CP 2025.11.24.dwg

Waterford Phase 6 Conditional Plat 1514936 Zoning Map



3/30/2026, 3:14:35 PM

Special Use Zoning

Split Zoning

Commercial

Zoning (Hernando Builders)

Agricultural

Commercial

Planned Development

Residential

Recreation

Parcels

Parcels (Labels)

Parcel Lines (Easement Historic)

Easement

Historic

Cross Streets

Streets

Lakes

1:7,284

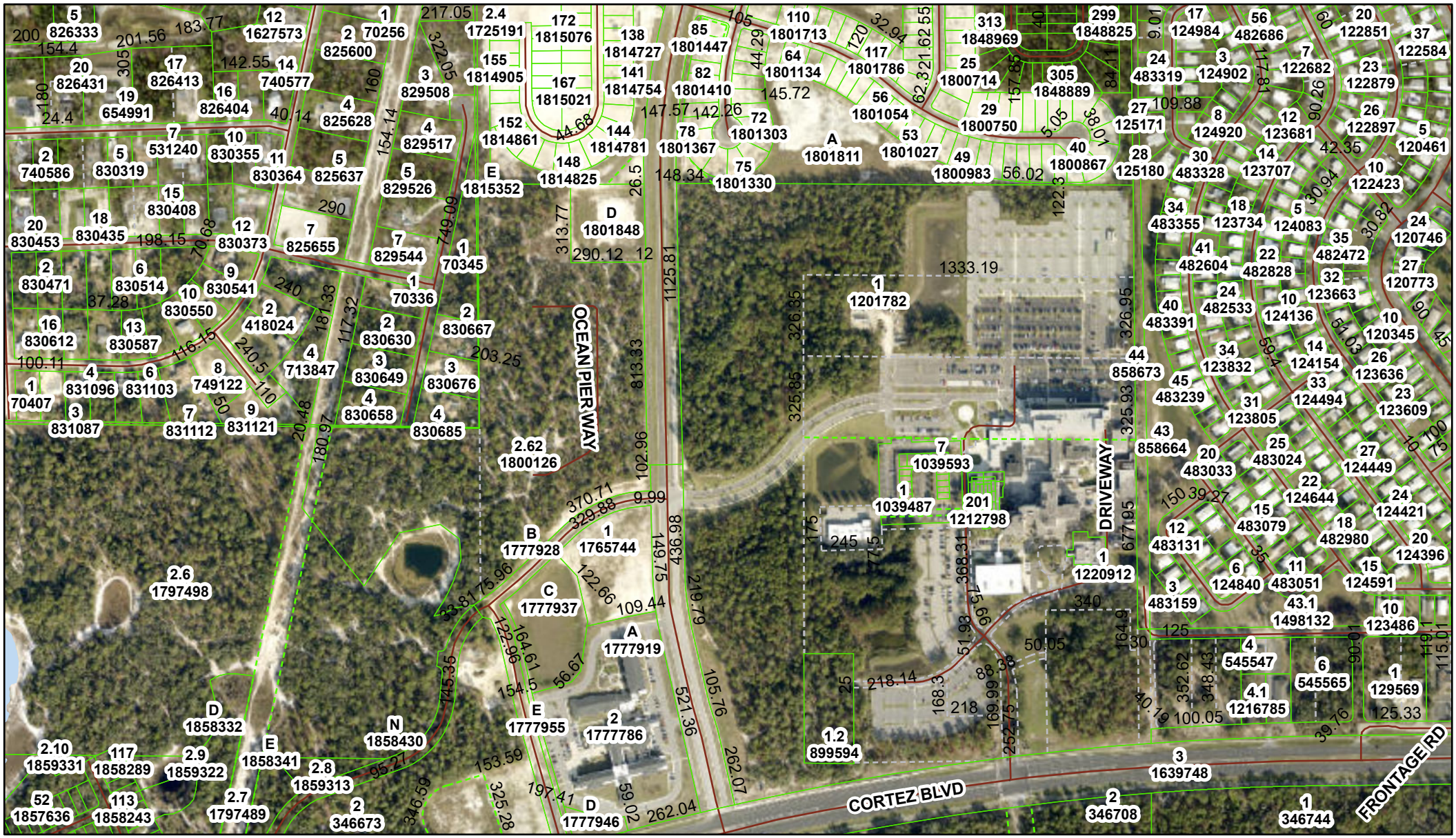
0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Hernando County Central GIS
© Hernando County Central GIS

Waterford Phase 6 Conditional Plat 1514936 Aerial Map



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Parcels

Parcels (Labels)

Parcel Lines (Easement Historic)

Easement

Historic

Cross Streets

Streets

Lakes

1:7,284

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

State of Florida, Vantor

Hernando County Central GIS

© Hernando County Central GIS

TITLE
Conditional Use Permit Petition Submitted by Kathleen Senn (CU2604)

BRIEF OVERVIEW
Request:
Conditional Use Permit for a Temporary Structure

General Location:
East side of Chimney Road Drive approximately 200' north of Creek Stone Street.

Parcel Key Number:
833502

Summary of Applicant's Request:
The petitioner is requesting approval of a Conditional Use Permit to allow the use of a Recreational Vehicle (RV) as a temporary security residence and storage building. The Petitioner is requesting to stay on site while they build their family home.

According to Appendix A, Article I, Section 3, Paragraph 129 of the Hernando County Code of Ordinance, a "structure" is defined as "any combination of materials fabricated to fulfill a function in a fixed location on the land includes buildings and signs."

STRATEGIC PLAN INITIATIVES
The request is consistent with Strategic Theme A, "Economic and Workforce Development" and Theme C "Stewardship of Natural Resources".

FINANCIAL IMPACT
A matter of policy. There is no financial impact.

LEGAL NOTE
The Planning and Zoning Commission has approval jurisdiction over the subject application. The Applicable Criteria for conditional use approval are contained in Appendix A (Zoning Code), Article V, Section 4. The Conditional Use Approval must be consistent with the Comprehensive Plan.

RECOMMENDATION
It is recommended that the Planning and Zoning Commission determine whether a Recreational Vehicle (RV) qualifies as a structure; if such a determination is made, the Planning & Zoning Commission may approve the request for a Conditional Use Permit for a Temporary Structure for a Recreational Vehicle (RV) as a temporary security residence with performance conditions.

REVIEW PROCESS

Michelle Miller	Approved	04/03/2026 10:56 AM
Victoria Via	Approved	04/03/2026 2:37 PM
Natasha Lopez Perez	Approved	04/07/2026 1:16 PM
Toni Brady	Approved	04/07/2026 1:28 PM
Natasha Lopez Perez	Approved	04/08/2026 1:29 PM

STAFF REPORT

HEARINGS: Planning & Zoning Commission: April 13, 2026

APPLICANT: Kathleen Senn

FILE NUMBER: CU-26-04

REQUEST: Conditional Use Permit for a Temporary Security Residence

GENERAL LOCATION: East side of Chimney Road Drive approximately 200' north of Creek Stone Street.

PARCEL KEY NUMBER: 833502

APPLICANT'S REQUEST

The petitioner is requesting approval of a Conditional Use Permit to allow the use of a Recreational Vehicle (RV) as a temporary security residence and storage building. The Petitioner is requesting to stay on site while they build their family home.

According to Appendix A, Article I, Section 3, Paragraph 129 of the Hernando County Code of Ordinance, a "structure" is defined as "any combination of materials fabricated to fulfill a function in a fixed location on the land includes buildings and signs."

SITE CHARACTERISTICS

Site Size	1.2 Acres	
Surrounding Zoning; Land Uses	North:	R1C; Residential
	South:	R1C; Residential
	East:	ROW/R1C; Right of Way / Residential
	West:	R1C; Residential
Current Zoning:	Residential	
Future Land Use Map Designation:	Rural	

UTILITIES REVIEW

Hernando County Utilities Department (HCUD) does not currently supply water or wastewater service to this parcel. Water and wastewater service are not available to this parcel. HCUD has no objection to the conditional use to allow a security residence and three shipping containers on the parcel for storage.

ENGINEERING REVIEW

The subject site is located on the east side of Chimney Road Drive, approximately 200 feet north of Creek Stone Street. The County Engineer has reviewed the petitioner's request and has determined that only one (1) driveway apron will be permitted for access to Chimney Road Drive. The driveway apron must be installed in accordance with the requirements of the Hernando County Facility Design Guidelines, Section IV-26. Additionally, a right-of-way use permit must be obtained prior to the installation of the driveway apron.

LAND USE REVIEW

Minimum Building Setbacks Required in the R1C/Residential District:

- Front: 25'
- Side: 10'
- Rear: 20'

A conditional use permit is intended to be used as a special permit which temporarily allows uses not otherwise permitted by the ordinance. The Commission can grant a conditional use permit for a period up to two years if they determine that a hardship exists.

NOTICE OF APPLICANT RESPONSIBILITY

The conditional use permit process is a land use determination and does not constitute a permit for either construction, or use of, the property, or a Certificate of Concurrency. Prior to use of, or construction on, the property, the petitioner must receive approval from the appropriate County department(s) for the proposed use.

The granting of this land use determination does not protect the owner from civil liability for recorded deed restrictions which may exceed any county land use ordinances. Homeowner associations or architectural review committees require submission of plans for review and approval. The applicant for this land use request should contact the local association or the Public Records for all restrictions applicable to this property.

STAFF RECOMMENDATION:

It is recommended that the Planning and Zoning Commission determine whether a Recreational Vehicle (RV) qualifies as a structure; if such a determination is made, the Planning & Zoning Commission may approve the request for a Conditional Use Permit for a Temporary Structure for a Recreational Vehicle (RV) as a temporary security residence with the following performance conditions:

1. The petitioner shall obtain all permits from Hernando County and other applicable agencies and meet all applicable land development regulations, for either construction or use of the property, and complete all applicable development review processes.

2. No attachments or other structures shall be erected on the property or attached to the RV.

3. The proposed RV shall meet the setbacks of the R1C (Residential) zoning district.
   Front: 25'
   Side: 10'
   Rear: 20'

4. The petitioner shall permit onsite well and septic through the Florida Department of Health in Hernando County.

5. The petitioner shall install one (1) driveway apron connection in accordance with single-family residential permit requirements.

6. County personnel shall have the ability to inspect the property periodically for the duration of the permit to verify that performance conditions are being followed, and the use has not been abandoned. A final inspection by county staff will occur within thirty (30) days immediately following the expiration of this permit to verify that the use has been discontinued.

7. The Conditional Use Permit shall expire on April 13, 2027.

HERNANDO COUNTY CONDITIONAL USE PERMIT *OR* SPECIAL EXCEPTION USE PERMIT PETITION

File No. CU-26-04 Official Date Stamp:

Received
APR 08 2026
Planning Department
Hernando County, Florida

Application request *(check one)*:
☑ **Conditional Use Permit**
☐ **Special Exception Use Permit**

PRINT OR TYPE ALL INFORMATION

Date: 4/8/2026

APPLICANT NAME: Kathleen Frances Senn

Address: 8484 Chimney Rock
City: Webster State: FL Zip: 33597
Phone: 863-899-4779 Email:
Property owner's name: *(if not the applicant)*

REPRESENTATIVE/CONTACT NAME:

Company Name:
Address:
City: State: Zip:
Phone: Email:

HOME OWNERS ASSOCIATION: ☐ Yes ☐ No *(if applicable provide name)*

Contact Name:
Address: City: State: Zip:

PROPERTY INFORMATION:

1. PARCEL(S) **KEY** NUMBER(S): 833502
2. SECTION 24, TOWNSHIP 22, RANGE 21
3. Current zoning classification: R1C
4. Desired use: Temporary Security Residence
5. Size of area covered by application: 1.26 Acres
6. Highway and street boundaries: Chimney Rock & Conerstone
7. Has a public hearing been held on this property within the past twelve months? ☐ Yes ☑ No
8. Will expert witness(es) be utilized during the public hearings? ☐ Yes ☑ No (If yes, identify on an attached list.)
9. Will additional time be required during the public hearing(s) and how much? ☐ Yes ☑ No (Time needed:)

PROPERTY OWNER AFFIDIVAT

I, Kathleen Senn, have thoroughly examined the instructions for filing this application and state and affirm that all information submitted within this petition are true and correct to the best of my knowledge and belief and are a matter of public record, and that (**check one**):

☐ I am the owner of the property and am making this application **OR**

☑ I am the owner of the property and am authorizing *(applicant)*: Mark Senn
and *(representative, if applicable)*:
to submit an application for the described property.

Kathleen Senn
Signature of Property Owner

STATE OF FLORIDA
COUNTY OF HERNANDO

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 8th day of April, 2026, by Kathleen Senn who is ☐ personally known to me or ☑ produced FL DL as identification.

Signature of Notary Public

VICTORIA L. VIA
MY COMMISSION # HH 724777
EXPIRES: September 25, 2029
Notary Seal/Stamp

Effective Date: 05/15/20 Last Revision: 05/15/20

Kathleen Senn
Cell # 863-899-4779

Security Residence
+
Security Storage Request

Key # 833502
8484 Chimney Rock Rd
Webster FL 33597

I as an owner builder would like to request Security Residences and storage for My building Materials which are locked in Brand New shipping containers. We have had lots of unwanted ATVS as well as people stealing Generators and tools while we were putting up fencing. I've paid to put up security lights and No Trespassing signs and still are battling with same issues. I have 3 40 High cube new shipping containers full of tools and Building Materials as well as one 20 ft New shipping container with personal possesions.

My son Mark is Assisting with all permitting and procedures because I'm disabled and not able to do alot with My very low Vision.

Thanks for Your Time!

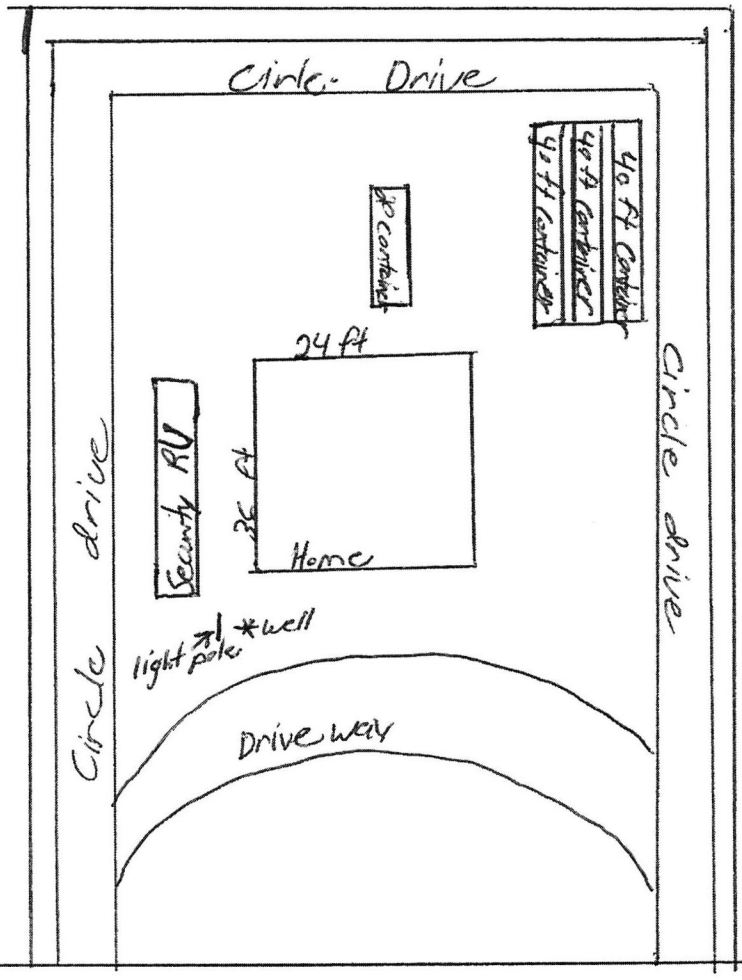
Kathy Senn

January 6, 2026

Kathleen F. Senn
863-899-4779
KFSenn57@GMAIL.com

Site Plan

8484 Chimney Rock
Webster FL 33597
Key # 833502



~~*well~~

Road Chimney Rock

CU-26-04 Aerial Map

3/12/2026, 2:12:15 PM

Parcels

Parcels (Labels)

Parcel Dimensions

Parcel Lines (Easement Historic)

Historic

Cross Streets

Streets

1:2,501

0 0.02 0.04 0.07 mi

0 0.03 0.06 0.11 km

State of Florida, Vantor

Hernando County Central GIS

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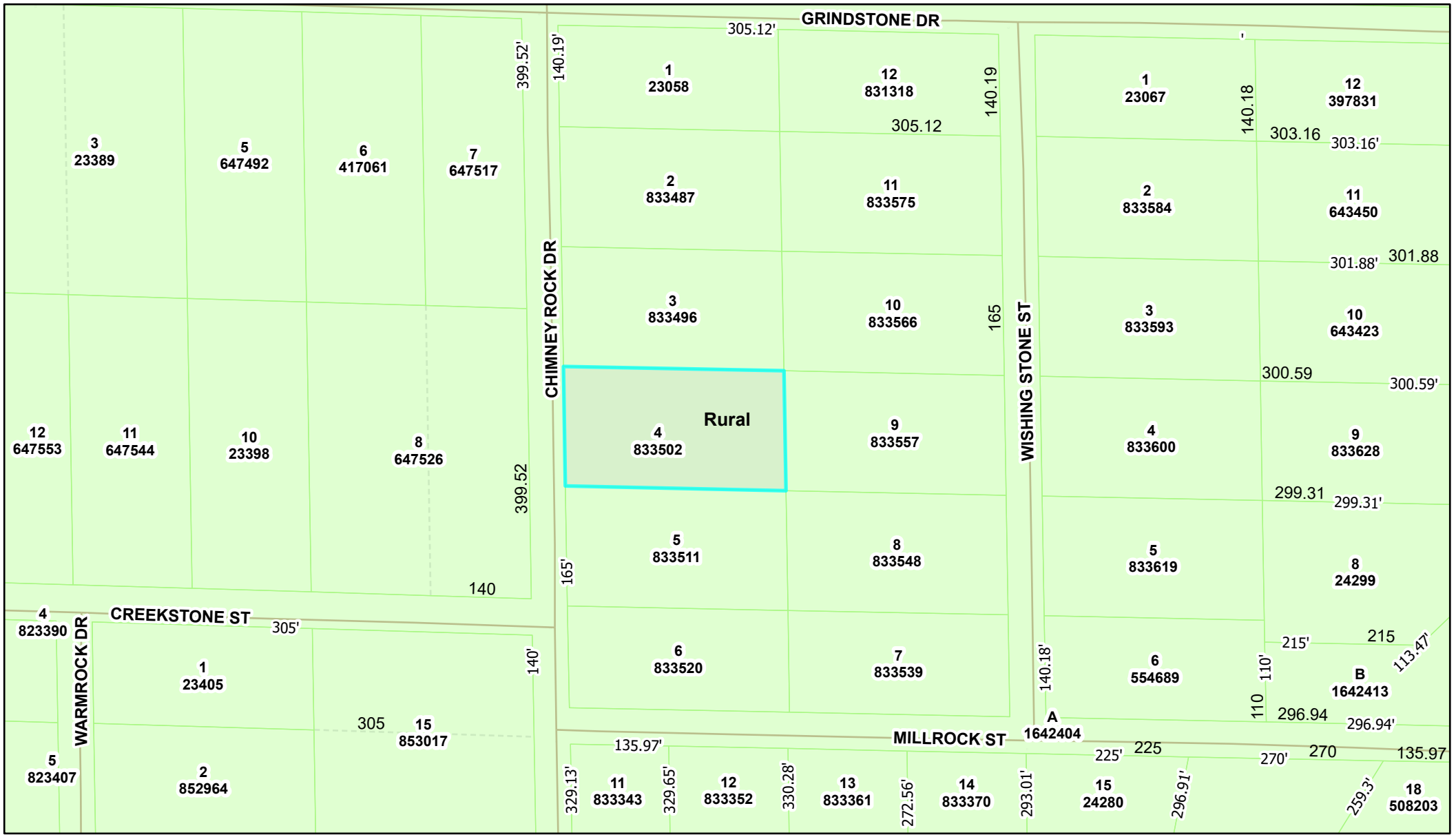
CU-26-04 FLU Map



3/12/2026, 2:12:32 PM

All Future Landuse Categories

RURAL

Parcels

Parcels (Labels)

Parcel Dimensions

Parcel Lines (Easement Historic)

Historic

Cross Streets

Streets

1:2,501

0 0.02 0.04 0.07 mi

0 0.03 0.06 0.11 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Hernando County Central GIS

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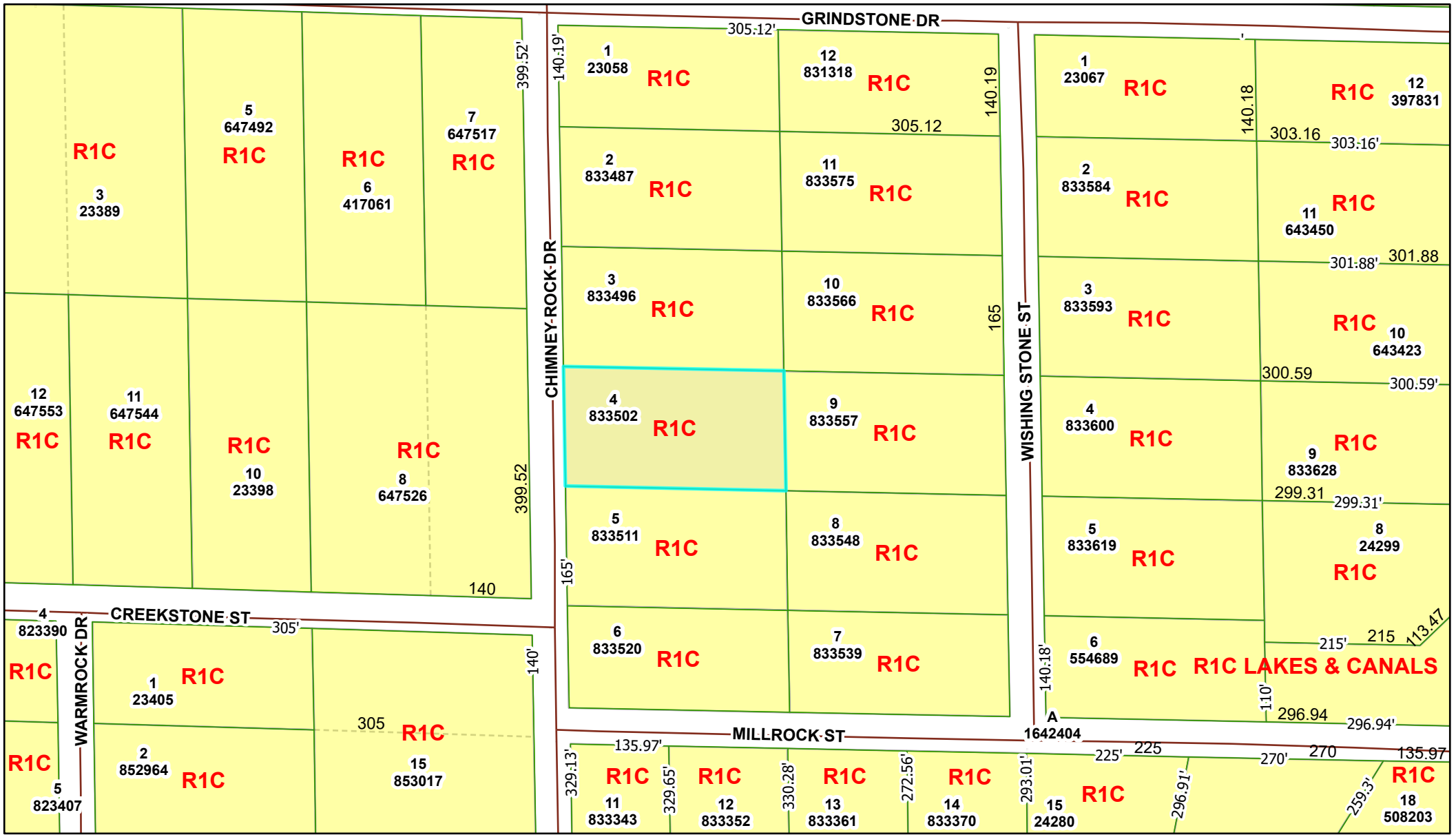
CU-26-04 Zoning Map



3/12/2026, 2:12:48 PM

Zoning (Hernando Builders)

- Residential
- Parcels
- Parcels (Labels)
- Parcel Dimensions
- Parcel Lines (Easement Historic)
- Historic
- Cross Streets
- Streets

1:2,501

0 0.02 0.04 0.07 mi

0 0.03 0.06 0.11 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Hernando County Central GIS
© Hernando County Central GIS

Meeting: 04/13/2026
Department: Planning
Prepared By: Victoria Via
Initiator: Omar DePablo
DOC ID: 17349
Legal Request Number:
Bid/Contract Number:

TITLE

Conditional Use Permit Petition Submitted by Miledy M. Sanchez, Regus A. Rafael, and Johanna Regus f/k/a Johanna Brown (CU2605)

BRIEF OVERVIEW

Request:
Conditional Use Permit for a Second Residence Due to Medical Hardship

General Location:
Southwest corner of Evening Star Avenue and Station Boulevard.

Parcel Key Number:
203229

Summary of Applicant's Request:
The petitioner has submitted a request for a Conditional Use Permit for a second residence due to a medical hardship. The family's physician has recommended that the petitioners' son move into the second residence to provide for an on-site caregiver.

STRATEGIC PLAN INITIATIVES

FINANCIAL IMPACT

A matter of policy. There is no financial impact.

LEGAL NOTE

The Planning and Zoning Commission has approval jurisdiction over the subject application. The Applicable Criteria for conditional use approval are contained in Appendix A, (Zoning Code) Article V, Section 4. The Conditional Use Approval must be consistent with the Comprehensive Plan.

RECOMMENDATION

It is recommended that the Planning and Zoning Commission determine whether a hardship exists; if such a determination is made, the Planning & Zoning Commission may approve the request for a Second Residence Due to Medical Hardship with performance conditions.

REVIEW PROCESS

Michelle Miller	Approved	04/03/2026 10:57 AM
Victoria Via	Approved	04/03/2026 2:37 PM
Natasha Lopez Perez	Approved	04/07/2026 1:16 PM
Toni Brady	Approved	04/07/2026 1:30 PM
Natasha Lopez Perez	Approved	04/08/2026 1:35 PM

STAFF REPORT

HEARINGS: Planning & Zoning Commission: April 13, 2026

APPLICANT: Sanchez Miledy M, Regus Rafael A, Brown Johanna

FILE NUMBER: CU-26-05

REQUEST: Conditional Use Permit for a Second Residence Due to Medical Hardship

GENERAL LOCATION: Southwest corner of Evening Star Avenue and Station Boulevard.

PARCEL KEY NUMBER: 203229

APPLICANT'S REQUEST

The petitioner has submitted a request for a Conditional Use Permit for a second residence due to a medical hardship. The family's physician has recommended that the petitioners' son move into the second residence to provide for an on-site caregiver.

According to Appendix A, Article I, Section 3, Paragraph 129 of the Hernando County Code of Ordinance, a "structure" is defined as "any combination of materials fabricated to fulfill a function in a fixed location on the land includes buildings and signs."

SITE CHARACTERISTICS

Site Size	.5 Acres	
Surrounding Zoning; Land Uses	North:	Right-of-Way (ROW)/R1A; Residential
	South:	R1A; Residential
	East:	Right-of-Way (ROW)/AG; Agricultural
	West:	R1A; Residential
Current Zoning:	Residential	
Future Land Use Map Designation:	Residential	

UTILITIES REVIEW

Hernando County Utilities Department (HCUD) does not currently supply water or wastewater service to this parcel. Water and wastewater service are not available to this parcel. HCUD has no objections to the conditional use of allowing a mobile home on the property to take care of a family member.

ENGINEERING REVIEW

The subject site is located at the Southwest corner of Evening Star Avenue and Station Boulevard. The Hernando County Department of Public Works – Engineering has reviewed the request for a Conditional Use for a second residence and has advised that the driveway apron to Evening Star Avenue be improved (paved). The driveway apron must be installed in accordance with the requirements of the Hernando County Facility Design Guidelines, Section IV-26. Additionally, a right-of-way use permit must be obtained prior to installation of the driveway apron.

LAND USE REVIEW

Minimum Building Setbacks Required in the R1A/Residential District:

- Front: 25’
- Side: 10’
- Rear: 20’

A conditional use permit is intended to be used as a special permit which temporarily allows uses not otherwise permitted by the ordinance. The Commission can grant a conditional use permit for a period of up to two years if they determine that a hardship exists.

NOTICE OF APPLICANT RESPONSIBILITY

The conditional use permit process is a land use determination and does not constitute a permit for either construction, or use of, the property, or a Certificate of Concurrency. Prior to use of, or construction on, the property, the petitioner must receive approval from the appropriate County department(s) for the proposed use.

The granting of this land use determination does not protect the owner from civil liability for recorded deed restrictions which may exceed any county land use ordinances. Homeowner associations or architectural review committees require submission of plans for review and approval. The applicant for this land use request should contact the local association or the Public Records for all restrictions applicable to this property.

STAFF RECOMMENDATION:

It is recommended that the Planning and Zoning Commission determine whether a hardship exists; if such a determination is made, the Planning & Zoning Commission may approve the request for a Second Residence Due to Medical Hardship with the following performance conditions:

1. The petitioner shall obtain all permits from Hernando County and other applicable agencies and meet all applicable land development regulations, for either construction or use of the property, and complete all applicable development review processes.

2. No attachments or other structures shall be erected on the property or attached to the RV.

3. The proposed RV shall meet the setbacks of the R1A (Residential) zoning district.
   Front: 25'
   Side: 10'
   Rear: 20'

4. The petitioner shall permit onsite well and septic through the Florida Department of Health in Hernando County.

5. The petitioner shall improve (pave) the driveway apron to Evening Star Avenue. The driveway apron must be installed in accordance with the requirements of the Hernando County Facility Design Guidelines, Section IV-26.

6. The petitioner shall obtain a right-of-way use permit prior to the installation of the driveway apron.

7. County personnel shall have the ability to inspect the property periodically for the duration of the permit to verify that performance conditions are being followed, and the use has not been abandoned. A final inspection by county staff will occur within thirty (30) days immediately following the expiration of this permit to verify that the use has been discontinued.

8. The Conditional Use Permit shall expire on April 13, 2028.

HERNANDO COUNTY CONDITIONAL USE PERMIT *OR* SPECIAL EXCEPTION USE PERMIT PETITION

File No. CU-26-05 Official Date Stamp:

RECEIVED
APR 08 2026
Hernando County Development Services
Zoning Division

Application request *(check one)*:
- ☑ **Conditional Use Permit**
- ☐ **Special Exception Use Permit**

PRINT OR TYPE ALL INFORMATION

Date: 4/8/2026

APPLICANT NAME: Miledy Sanchez, Rafael Regus, Johanna Regus (formerly Brown)

Address: 18178 Evening Star Ave
City: Brooksville State: FL Zip: 34604
Phone: 352-842-7623 Email: johanna.r1975@hotmail.com
Property owner's name: *(if not the applicant)*

REPRESENTATIVE/CONTACT NAME:

Company Name:
Address:
City: State: Zip:
Phone: Email:

HOME OWNERS ASSOCIATION: ☐ Yes ☐ No *(if applicable provide name)*

Contact Name:
Address: City: State: Zip:

PROPERTY INFORMATION:

1. PARCEL(S) **KEY** NUMBER(S): 203229
2. SECTION 17, TOWNSHIP 23, RANGE 19
3. Current zoning classification: R1A
4. Desired use: 2nd Residence for Medical Hardship
5. Size of area covered by application: 5
6. Highway and street boundaries: Evening Star and Station Blvd
7. Has a public hearing been held on this property within the past twelve months? ☑ Yes ☐ No
8. Will expert witness(es) be utilized during the public hearings? ☐ Yes ☒ No (If yes, identify on an attached list.)
9. Will additional time be required during the public hearing(s) and how much? ☐ Yes ☒ No (Time needed:)

PROPERTY OWNER AFFIDIVAT

I, Johanna Regus Miledy Sanchez Rafael Regus, have thoroughly examined the instructions for filing this application and state and affirm that all information submitted within this petition are true and correct to the best of my knowledge and belief and are a matter of public record, and that (**check one**):

- ☑ I am the owner of the property and am making this application **OR**
- ☐ I am the owner of the property and am authorizing *(applicant)*:
  and *(representative, if applicable)*:
  to submit an application for the described property.

R R Miledy Sanchez
Signature of Property Owner

STATE OF FLORIDA
COUNTY OF HERNANDO

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 8th day of April, 2026, by Johanna Regus Miledy Sanchez Rafael Regus who is ☐ personally known to me or ☑ produced FL DL's as identification.

Signature of Notary Public

VICTORIA L. VIA
MY COMMISSION # HH 724777
EXPIRES: September 25, 2029

Notary Seal/Stamp

Effective Date: 05/15/20 Last Revision: 05/15/20

To Whom It May Concern,

My name is Johanna Regus, and I am writing to formally request approval to place an additional mobile home on our property.

My father, Rafael Regus, is 79 years old and has suffered several strokes. As a result, he is no longer able to care for himself independently. Recently, he became severely ill and unresponsive, and after medical testing, doctors discovered a cyst surrounding his pituitary gland. This condition has caused significant deterioration in his health, including loss of vision, memory impairment, and difficulty walking without assistance. Unfortunately, his condition is not expected to improve and continues to decline.

Currently, my father lives with my mother in the manufactured home on our property. My mother is 82 years old and is struggling to meet my father's daily care needs on her own. The physical and emotional demands of caregiving have become overwhelming for her.

Approval to place an additional mobile home on the property would allow me to live nearby and provide consistent support and care for both of my parents. Being on the property would give them peace of mind knowing that help is always available, and it would greatly ease the emotional strain my mother is experiencing as she worries about managing alone.

This arrangement has become a necessity for our family, and your approval would significantly improve our ability to care for my parents during this difficult time. Thank you for your time and consideration.

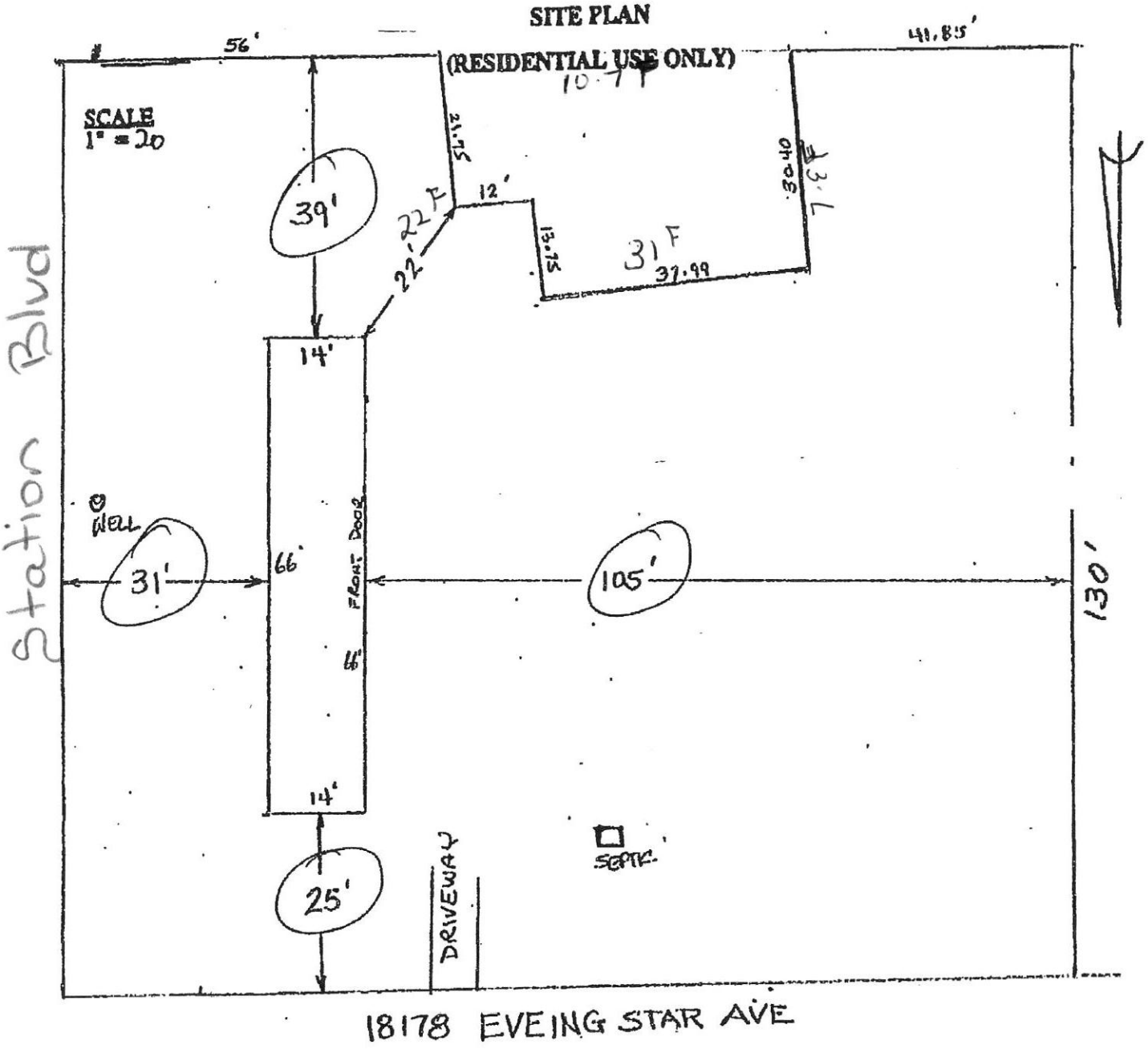
Sincerely,

Johanna Regus

1/2/26

SITE PLAN

(RESIDENTIAL USE ONLY)



18178 EVEING STAR AVE

SITE PLAN:

1. This sheet is to be used if no survey sheet is available.
2. Site plans shall be drawn to scale.
3. Show any lake, canal, or river frontage.
4. Show property shape and size.
5. Show all existing and proposed structures and their dimensions, and identify them.
6. Show street frontage(s).
7. Show distances in feet and inches from property line to all structures.
8. Show any driveway on site plan.
9. Direct any questions to the Zoning Office at (904)754-4055.

Baird Mobile Homes of Florida, Inc.
19280 Cortez Blvd.
Brooksville, FL 34601
(352) 796-3925

John

CU-26-05 Aerial Map

3/12/2026, 2:15:12 PM

Parcels

Parcels (Labels)

Parcel Dimensions

Parcel Lines (Easement Historic)

Historic

Cross Streets

Streets

1:751

0 0.01 0.01 0.02 mi

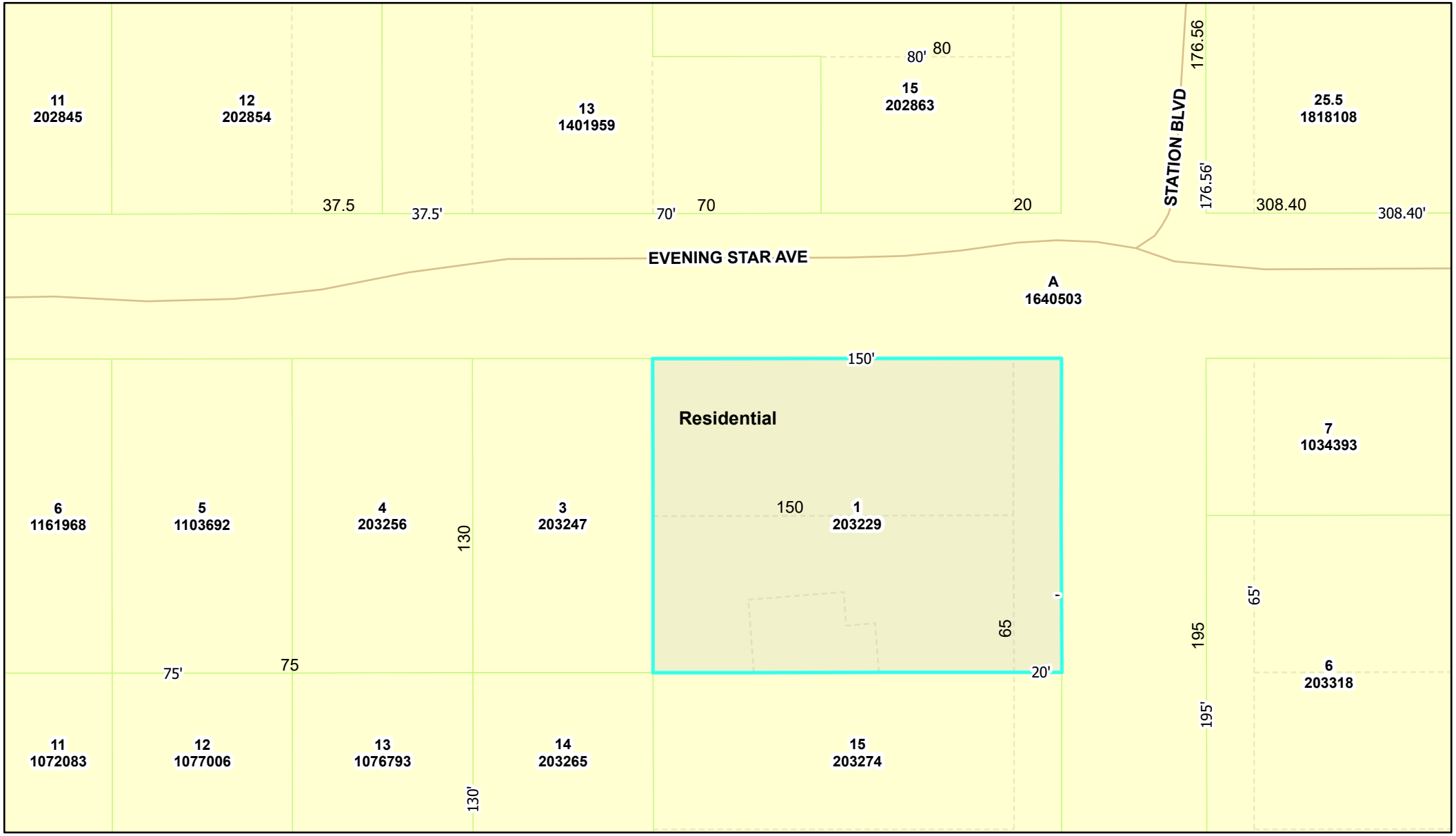
0 0.01 0.01 0.03 km

State of Florida, Microsoft, Vantor

Hernando County Central GIS

© Hernando County Central GIS

CU-26-05 FLU Map



3/12/2026, 2:15:00 PM

All Future Landuse Categories

RESIDENTIAL

Parcels

Parcels (Labels)

Parcel Dimensions

Parcel Lines (Easement Historic)

Historic

Cross Streets

Streets

1:751

0 0.01 0.01 0.02 mi

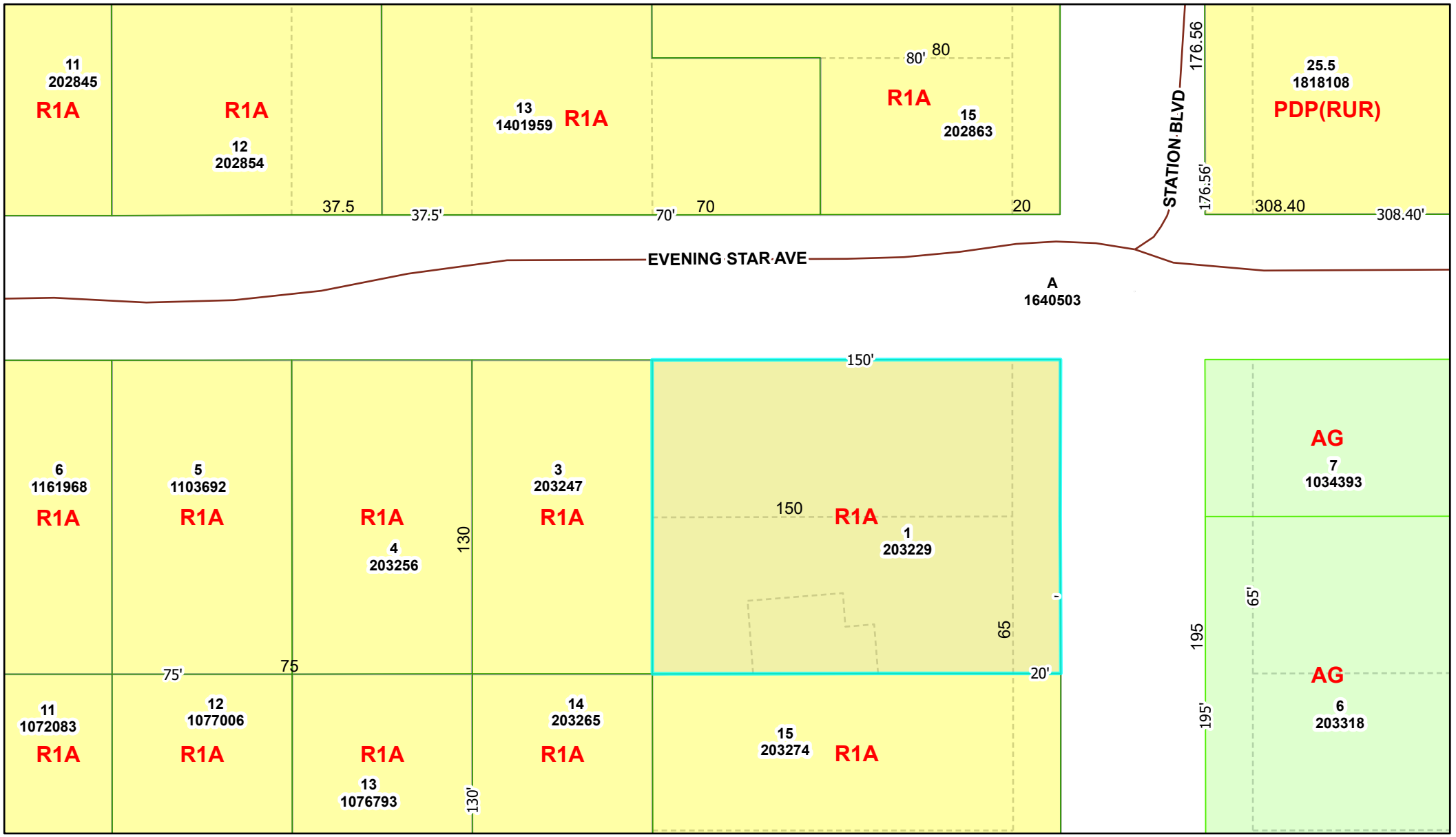
0 0.01 0.01 0.03 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Hernando County Central GIS

© Hernando County Central GIS

CU-26-05 Zoning Map



3/12/2026, 2:14:48 PM

Zoning (Hernando Builders)

- Agricultural
- Residential
- Parcels

Parcels (Labels)

Parcel Dimensions

Parcel Lines (Easement Historic)

- Historic

Cross Streets

- Streets

1:751

0 0.01 0.01 0.02 mi

0 0.01 0.01 0.03 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Hernando County Central GIS

© Hernando County Central GIS

Meeting: 04/13/2026
Department: Planning
Prepared By: Victoria Via
Initiator: Omar DePablo
DOC ID: 17347
Legal Request Number:
Bid/Contract Number:

TITLE
Special Exception Permit Petition Submitted by Daryl Bryant and Mildred Carlton (SE2604)

BRIEF OVERVIEW
Request:
Special Exception Use Permit to allow 2 goats as emotional support animals

General Location:
South side of Quigley Ave at the intersection of Gonzo Road

Parcel Key Number:
754142

Summary of Applicant's Request:
The petitioner is requesting a Special Exception Use Permit for the subject property, which is zoned R-1C (Residential), to allow for the construction and maintenance of goat stalls for two (2) goats to be kept as emotional support animals.

STRATEGIC PLAN INITIATIVES
The request is consistent with Strategic Theme A, "Economic and Workforce Development".

FINANCIAL IMPACT
A matter of policy. There is no financial impact.

LEGAL NOTE
The Planning and Zoning Commission has jurisdiction over the subject application; the Commission has the ability to approve special exceptions with appropriate conditions and safeguards or deny special exceptions not in harmony with the Land Development Regulations. The Applicable Criteria for a special exception are contained in Appendix A, (Zoning Code) Article V, Section 8. The Special Exception must be consistent with the Comprehensive Plan.

RECOMMENDATION
It is recommended that the Planning and Zoning Commission approve the petitioner's request for a Special Exception Use Permit for two (2) Goats, with performance conditions.

REVIEW PROCESS

Michelle Miller	Approved	03/31/2026	2:52 PM
Victoria Via	Approved	03/31/2026	3:35 PM
Natasha Lopez Perez	Approved	04/03/2026	9:13 AM
Toni Brady	Approved	04/05/2026	7:46 PM

STAFF REPORT

HEARINGS: Planning & Zoning Commission: April 13, 2026

APPLICANT: Daryl Bryant and Mildred Carlton

FILE NUMBER: SE-26-04

PURPOSE: Special Exception Use Permit to allow 2 goats as emotional support animals

GENERAL LOCATION: South side of Quigley Ave at the intersection of Gonzo Road

PARCEL KEY NUMBER: 754142

APPLICANT'S REQUEST:
The petitioner is requesting a Special Exception Use Permit for the subject property, which is zoned R-1C (Residential), to allow for the construction and maintenance of goat stalls for two (2) goats to be kept as emotional support animals.

The Hernando County Land Development Code permits grazing animals within AR (Agricultural/Residential) zoning districts. Therefore, the applicant is requesting a Special Exception to allow goat stalls on property currently zoned R-1C (Residential), where this use is not otherwise permitted. The proposed use includes a structure measuring 8 feet by 8 feet (64 square feet) with a 10-foot by 10-foot cattle fence enclosure surrounding the structure. The pen and stall are proposed to be located approximately 75 feet from the southern property line, 30 feet from the western property line, and 60 feet from the eastern property line.

This request is being made as a reasonable accommodation for a qualifying service-related disability pursuant to the Fair Housing Act. The goats will serve as emotional support animals to assist the petitioner and his family.

SITE CHARACTERISTICS:

Site Size .60 Acres

Surrounding Zoning; Land Uses

North:	ROW/R1C; Residential
South:	AG: Agricultural
East:	R1C; Residential
West:	R1C; Residential use

Current Zoning: Residential

Future Land Use Map Designation: Residential

UTILITIES REVIEW:
Hernando County Utilities Department (HCUD) does not currently supply water or wastewater service to this parcel. Water and wastewater service are not available to this parcel. HCUD has no objection to special exemption to allow two goats on the property.

ENGINEERING REVIEW:
The subject site is located on the south side of Quigley Ave at the intersection of Gonzo Road. The County Engineer has reviewed the petitioner's request and has No comments on the Special Exception request.

LAND USE REVIEW:

EXISTING BUILDING SETBACKS:

- Front: 25'
- Side: 7.5
- Rear: 7.5

Comments: The Goat stall is considered an accessory structure and must meet the minimum accessory structure setbacks for the R1-C (Residential) zoning district. Furthermore, the Goat Pen and Stall shall be shield by an opaque fence from neighboring parcels

A Special Exception Use Permit is an additional use which may be granted by the Planning and Zoning Commission (P&Z) in accordance with the Land Development Regulations (LDRs). As part of the review, the P&Z must determine that the tract of land is suitable for the type of special exception use proposed by virtue of its location, shape, topography, and nature of surrounding development. The P&Z has the ability to assign reasonable conditions to the approval.

The Special Exception Use Permit is a land use determination only. All applicable development rules would have to be met if the permit is approved. Furthermore, Special Exception Use Permits shall be in compliance with the minimum Special Exception Use General Standards, Appendix A, Article V, Section 8(B) of the Hernando County Code.

If a developer fails to obtain a building permit for the vertical construction of the principal or primary building or the special exception use is not established within a period of not more than two (2) years from the approval date, then the Special Exception Use Permit shall be null and void.

COMPREHENSIVE PLAN REVIEW:

The subject property is located within the Residential Land Use classification on the adopted Future Land Use Map.

The area is characterized by half acre R1-C (Residential) parcels. The petitioners request, although specifically permitted in the AR (Agricultural/Residential) zoning districts, is being requested on the subject site as part of Reasonable Accommodation under the Fair Housing Act due to the subject site not qualifying for a rezoning.

FINDINGS OF FACT:
The request for a Special Exception Use Permit for two (2) goats is appropriate based on the following conclusions:

1. The proposed use is compatible with the surrounding area, is not adverse to the public interest, and is consistent with the County's adopted Comprehensive Plan with appropriate performance conditions.

2. The request meets the minimum requirements for Reasonable Accommodation.

NOTICE OF APPLICANT RESPONSIBILITY:

The special exception process is a land use determination and does not constitute a permit for either construction on, or use of, the property, or a Certificate of Concurrency. Prior to use of, or construction on, the property, the petitioner must receive approval from the appropriate County department(s) for the proposed use.

The granting of this land use determination does not protect the owner from civil liability for recorded deed restrictions which may exceed any county land use ordinances. Homeowner associations or architectural review committees require submission of plans for review and approval. The applicant for this land use request should contact the local association or the Public Records for all restrictions applicable to this property.

STAFF RECOMMENDATIONS:

It is recommended that the Planning and Zoning Commission approve the petitioner's request for a Special Exception Use Permit for two (2) Goats, with the following performance conditions:

1. The petitioner must obtain all permits from Hernando County and other applicable agencies and meet all applicable land development regulations, for either construction or use of the property, and complete all applicable development review processes.

2. The subject site shall be limited to two (2) goats.

3. The Goat pen and stall shall be screened by an opaque fence and shall not be visible from neighboring parcels.

4. The Goat pen and stalls shall be kept clean, and the industry's Best Management Practices shall be followed to ensure no odor leaves the subject site.

5. Goat waste shall be disposed of in accordance with the Hernando County Health Department.

6. The Special Exception shall run with the petitioner and shall not be transferable should the parcel be sold.

HERNANDO COUNTY CONDITIONAL USE PERMIT *OR* SPECIAL EXCEPTION USE PERMIT PETITION

File No. SE-26-04 Official Date Stamp:

RECEIVED

FEB 25 2026

Hernando County Development Services
Zoning Division

Application request *(check one)*:
- ☐ **Conditional Use Permit**
- ☑ **Special Exception Use Permit**

PRINT OR TYPE ALL INFORMATION

Date: _____

APPLICANT NAME: Mildred Carlton

Address: 12412 Quigley Ave
City: Weeki-Wachee State: FL Zip: 34614
Phone: 904 445 3805 Email: Millicarlton03@gmail.com
Property owner's name: *(if not the applicant)* _____

REPRESENTATIVE/CONTACT NAME: _____

Company Name: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Email: _____

HOME OWNERS ASSOCIATION: ☐ Yes ☑ No *(if applicable provide name)* _____

Contact Name: _____
Address: _____ City: _____ State: _____ Zip: _____

PROPERTY INFORMATION:

1. PARCEL(S) **KEY** NUMBER(S): 754142
2. SECTION 21, TOWNSHIP 21, RANGE 18
3. Current zoning classification: Residential
4. Desired use: Keep goats as husbands (Daryl Bryant) emotional support animals.
5. Size of area covered by application: 8x8
6. Highway and street boundaries: Quigley Ave
7. Has a public hearing been held on this property within the past twelve months? ☐ Yes ☑ No
8. Will expert witness(es) be utilized during the public hearings? ☐ Yes ☑ No (If yes, identify on an attached list.)
9. Will additional time be required during the public hearing(s) and how much? ☐ Yes ☑ No (Time needed: _____)

PROPERTY OWNER AFFIDIVAT

I, Mildred Carlton, have thoroughly examined the instructions for filing this application and state and affirm that all information submitted within this petition are true and correct to the best of my knowledge and belief and are a matter of public record, and that (**check one**):

- ☑ I am the owner of the property and am making this application **OR**
- ☐ I am the owner of the property and am authorizing *(applicant)*: _____ and *(representative, if applicable)*: _____ to submit an application for the described property.

Mildred Carlton
Signature of Property Owner

STATE OF FLORIDA
COUNTY OF HERNANDO

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 25th day of February, 2026, by Mildred Carlton who is ☐ personally known to me or ☑ produced FL DL as identification.

Hope Figueroa
Signature of Notary Public

HOPE FIGUEROA
Notary Public - State of Florida
Commission # HH 725733
My Comm. Expires Sep 29, 2029
Bonded through National Notary Assn.

Notary Seal/Stamp

Effective Date: 05/15/20 Last Revision: 05/15/20

HERNANDO COUNTY CONDITIONAL USE PERMIT *OR* SPECIAL EXCEPTION USE PERMIT PETITION

File No. SE-26-04 Official Date Stamp:

RECEIVED
DEC 09 2025
HERNANDO COUNTY ZONING

Application request *(check one)*:
- ☐ **Conditional Use Permit**
- ☑ **Special Exception Use Permit**

PRINT OR TYPE ALL INFORMATION

Date: 12/9/2025

APPLICANT NAME: Daryl Bryant
Address: 12412 Quigley Ave
City: Weeki Wachee State: FL Zip: 34614
Phone: 843 377 5251 Email: daryl.bryant.96@outlook.com
Property owner's name: *(if not the applicant)* millicarlton03@gmail.com

REPRESENTATIVE/CONTACT NAME:
Company Name:
Address:
City: State: Zip:
Phone: Email:

HOME OWNERS ASSOCIATION: ☐ Yes ☑ No *(if applicable provide name)*
Contact Name:
Address: City: State: Zip:

PROPERTY INFORMATION:
1. PARCEL(S) **KEY** NUMBER(S): 754142
2. SECTION 21, TOWNSHIP 21, RANGE 18
3. Current zoning classification: Residential
4. Desired use: Keep goats as emotional support animals
5. Size of area covered by application: 45 sq. ft. (approx)
6. Highway and street boundaries: Quigley Ave.
7. Has a public hearing been held on this property within the past twelve months? ☐ Yes ☑ No
8. Will expert witness(es) be utilized during the public hearings? ☐ Yes ☑ No (If yes, identify on an attached list.)
9. Will additional time be required during the public hearing(s) and how much? ☐ Yes ☑ No (Time needed:)

PROPERTY OWNER AFFIDIVAT

I, DARYL L BRYANT, have thoroughly examined the instructions for filing this application and state and affirm that all information submitted within this petition are true and correct to the best of my knowledge and belief and are a matter of public record, and that (**check one**):

- ☑ I am the owner of the property and am making this application **OR**
- ☐ I am the owner of the property and am authorizing *(applicant)*:
  and *(representative, if applicable)*:
  to submit an application for the described property.

Signature of Property Owner

STATE OF FLORIDA
COUNTY OF HERNANDO

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 9th day of DEC., 20 25, by DARYL BRYANT JR who is ☐ personally known to me or ☑ produced FL. CDL as identification.

Candida R Turner
Signature of Notary Public

CANDIDA R. TURNER
MY COMMISSION # HH380204
EXPIRES: March 28, 2027

Notary Seal/Stamp

Effective Date: 05/15/20 Last Revision: 05/15/20

Daryl Bryant

Hernando County Planning and Zoning Commission Public Hearing

Message to the Board

Good Morning Members of the Planning and Zoning Commission. My name is Daryl Bryant and I am here this morning to ask the members to grant my wife and I a special exception use permit for our two goats, Oreo and Ginger.

A little about myself. I was born and raised in a military family, traveling the world and living all over. When I was 17, I decided it was my time to serve my country the same way my family has. I joined the Marine Corps in 2014 and served 5 years active with one year reserve. With that experience I was able to learn a lot. Ranging from my career in aviation all the way into how serious Mental Health can be.

From my time in the Marine Corps I experienced many different avenues of life. I learned a lot about myself and how I am able to deal with certain aspects. I was diagnosed with depression, anxiety, and mild bipolar disorder while serving. I have gone to counselors over time to help me manage this as well as my ADHD. I have been giving sets of different medication as well as different therapeutic exercises. One thing that I have found that is very helpful, are my animals.

My wife and I lived in downtown Tampa when we first moved to Florida and I have told her since day one that we would own a house with land- that was our dream. Few years went by and we both worked very hard to get to where we are now. We were able to purchase our dream home in June of 2025. When we first moved in, I was so excited and I started to plan the many projects that I would be taking on with our new home. One of those projects in particular, was our backyard. I couldn't wait any longer to have the land of my dreams.

I cleared out our land in the backyard and I built a chicken coop and goat pen because to me, this is therapy. The inclosure for the goats is approximately 8x8 (64 sq. Ft.) It also has a 10x10 cattle fence that wraps around. It sits 75 ft from our rear facing neighbors and 35 ft from our adjacent neighbors. Both neighbors have agreed that this is more than sufficient spacing as to

not disturb either property. Cleaning, feeding, nursing, and watching our animals grow brings me peace. Oreo and Ginger, our two goats, have brought me the peace that I have been longing for since joining the military in 2014. Over a decade later, I could finally have my life back.

Once I realized that we were out of code with our two babies, I decided to get them certified under my doctor for emotional support, you may refer to this letter in our application. However, this brings me to today. Members of the committee, I ask you for grace and understanding in these times. These two goats will not cause harm to anyone- if anything they will bring joy. My wife and I have down our absolute best at giving these two goats a life they could have never imagined. They cuddle with us, they play, run, and jump with us. We need them- the same way they need us. I would not be who I am today, without my two goats. They mean absolutely everything to me. It brings me the upmost happiness to go in the backyard and have Oreo jump on me and try to chew at my clothes or to see Ginger pop corning from one stump to the next. This is my therapy- my happiness- and honestly, one of my greatest joys in life. I am so proud to be their dad- not owner, dad.

As my time comes to a close I want to leave off on thanking the members of the Planning and Zoning Commission for giving me a chance to speak this morning and argue my case. I appreciate you all and hope that you all rule in our favor. Thank you again for your time and consideration- it does not get taken for granted.

COFFIN & McLEAN ASSOC., INC.
Professional Land Surveying
3701 Commercial Way
P.O. Box 5145
Spring Hill, FL 34611-5145
(352) 683-5993 FAX = (352) 683-9156

Party Chief:	J. PAYNTER
Drawn By:	D. WILLIAMS
Checked By:	J.COFFIN
W.O.	22-32SP
DATE:	1/18/22
F.B.	973 PG. 79 - 80

CERTIFIED TO THE FOLLOWING ONLY:
HERNANDO RESIDENTIAL INVESTMENTS, LLC.
PROBUILT U.S.

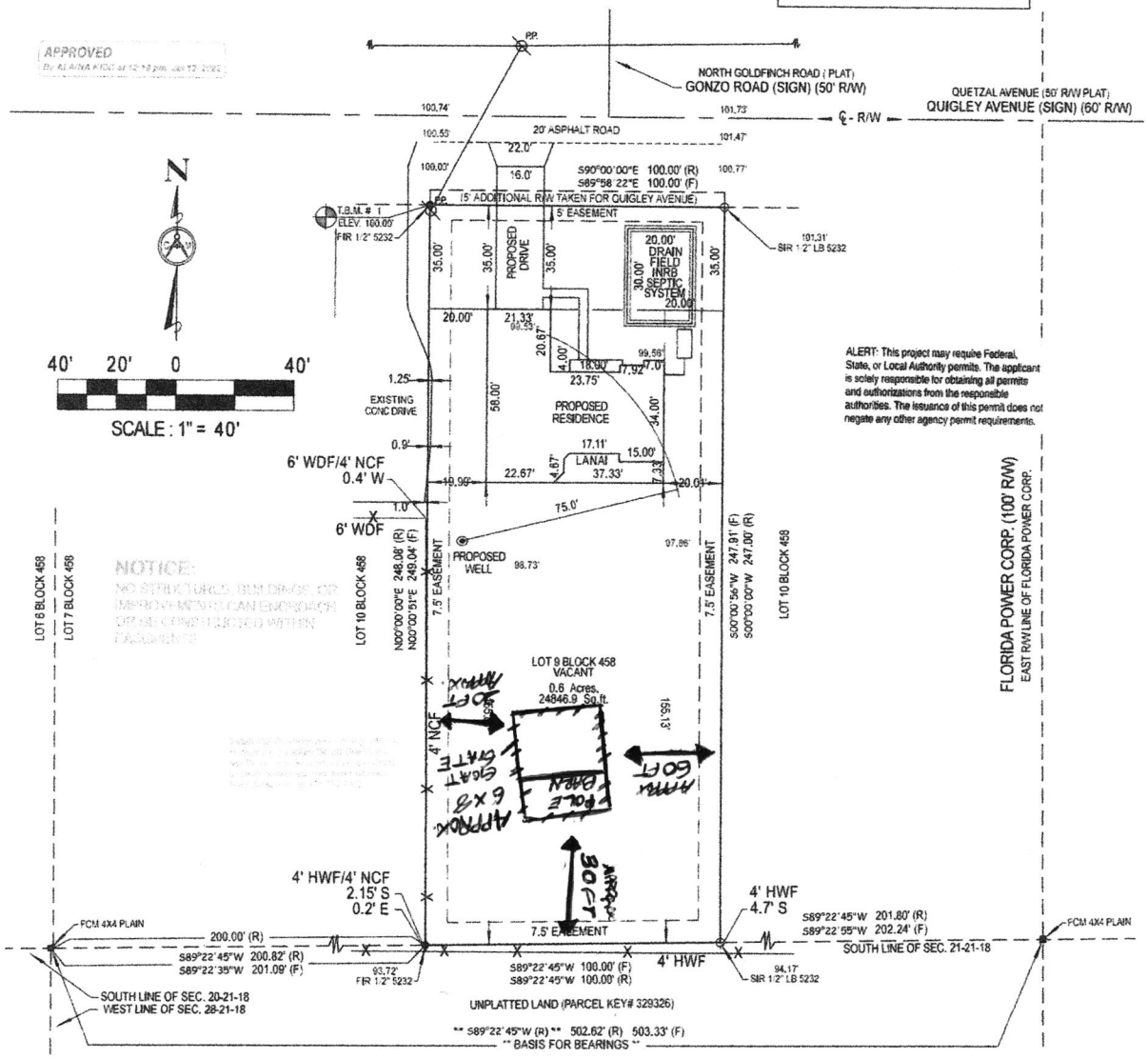
DESCRIPTION: LOT 9, LESS THE NORTH 5 FEET, BLOCK 458, UNIT 7, ROYAL HIGHLANDS, according to the Plat thereof as recorded in Plat Book 12, Pages 83 - 110, inclusive of the Public Records of Hernando County, Florida.

Physical Address: 12412 QUIGLEY AVENUE

SECTION: 21 TOWNSHIP: 21 S. RANGE: 18 E. | Parcel KEY#: 754142

MAP OF SURVEY, BOUNDARY SURVEY AND SITE PLAN

SITE PLAN PENDING APPROVAL BY BY COUNTY BUILDING DEPARTMENT.



SURVEYOR NOTES:

1. Survey based on the description furnished by the client and without benefit of a title search.
2. Bearings shown hereon are assumed by this Surveyor and Mapper in accordance with the Record Plat or Deed and the location of the line used for the "BASIS FOR BEARINGS is depicted by ** next to the bearing.
3. Underground utilities and improvements not located or shown.
4. There are no visible encroachments unless shown hereon.
5. The ownership of fences, if any, which exist on or near property lines is not known by this Surveyor and Mapper.
6. Fences located near the property line are not to scale. The distances shown as ties to said fences are correct.
7. The distances shown hereon as ties to existing occupation are at right angles to subject property line.
8. Gutters, overhangs, underground foundations and irrigation systems are not located unless shown hereon.
9. The property shown heron may be subject to the Rules, Regulations, Ordinances and/or Jurisdictions of Local, State, and/or Federal Agencies. The requirements of said Rules, Regulations, Ordinances and/or the limits of said Jurisdictions are not shown hereon, unless stated otherwise.
10. All easements shown hereon are for drainage and/or utilities unless shown otherwise.
11. The property shown heron is subject to Reservations, Restrictions, and Easements of Record and not of Record.
12. The Ties to Property Lines are Calculated from Field Measurement unless otherwise shown and are Perpendicular Ties.

THIS CERTIFIES THAT A SURVEY OF THE PROPERTY DESCRIBED HEREON, WAS MADE UNDER MY SUPERVISION AND THAT THE SURVEY MEETS THE STANDARDS OF PRACTICE SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17 (formerly 61G17-6) FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES. AND, THAT THE MAP HEREON IS A TRUE AND ACCURATE REPRESENTATION THEREOF, TO THE BEST OF MY KNOWLEDGE AND BELIEF.
SUBJECT TO NOTES AND NOTATIONS SHOWN HEREON.

JAMES W. COFFIN,
Professional Surveyor & Mapper
Florida Registration # 3882
Coffin & McLean Assoc., Inc. LB #5232

DATE OF LAST FIELD WORK

UNLESS IT BEARS THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER, THIS DRAWING, SKETCH, PLAT, OR MAP IS FOR INFORMATIONAL PURPOSES ONLY AND NOT VALID.

CONTROL & CORNER LEGEND

○ SIR: Set 1/2" Iron Rod LB# 5232 □ Set 4" x 4" C.M. LS# 3882 △ Set Mag Nail & Disk PLS# 3882
● Found Iron Rod ■ FCM: Found Concrete Monument ▲ Found Nail ⊕ Found Iron Pipe ⊠ Found X Cut

ABBREVIATIONS LEGEND

AC Air Conditioner	DI Drop Inlet	Enc Fence	RCP Reinforced Concrete Pipe		
AGP Above Ground Pool	D.R.A. Drainage Retention Area	GW Guy Wire	R/W Right of Way		
ASNS Aluminum Shed No Slab	D.R.O.W. Drainage Right-of-way	HWF Hog Wire Fence	SEC Section		
BLDG Building	Elev Elevation	NRB to Receive Nitrogen Reducing Biofilter	SPSCP Screened Enclosed Concrete Pool		
BWF Barbed Wire Fence	EP Edge of pavement	NV Invert	SIR Set Iron Rod		
C Calculated from Record Information	F Depicted from Field Measurement	LP Light Pole	SP Screen Porch		
C1 Curve #1	FB Field Book	MES Mitered End Section	TBM Temporary Bench Mark		
CB Catch Basin	FCMC Found Capped Iron Pipe	NM Manhole	TYP Typical		
CBS Concrete Block Structure	FCM Found Concrete Monument	NAVD North American Vertical Datum	WFSNS Wood Frame Shed No Slab		
CE Covered Entry	FF Finished Floor	NCF No Climb Fences	WFSOS Wood Frame Shed On Slab		
CLF Chain Link Fence	FH Fire Hydrant	O.R. Official Record	WM Water Meter		
CMP Corrugated Metal Pipe	FIP Found Iron Pipe	PP Power Pole	WPP Work pedge		
CONC Concrete	FIR Found Iron Rod	R Record as Plat or Deed	WRF Wood Rail Fence		
CPP Concrete Powerpole	FMN&D Found Mag Nail & Disk		WV Water Valve		

Elevations Shown Refer to: ☐ NGVD 1929 ☐ NAVD 1988 ☒ Assumed Datum.

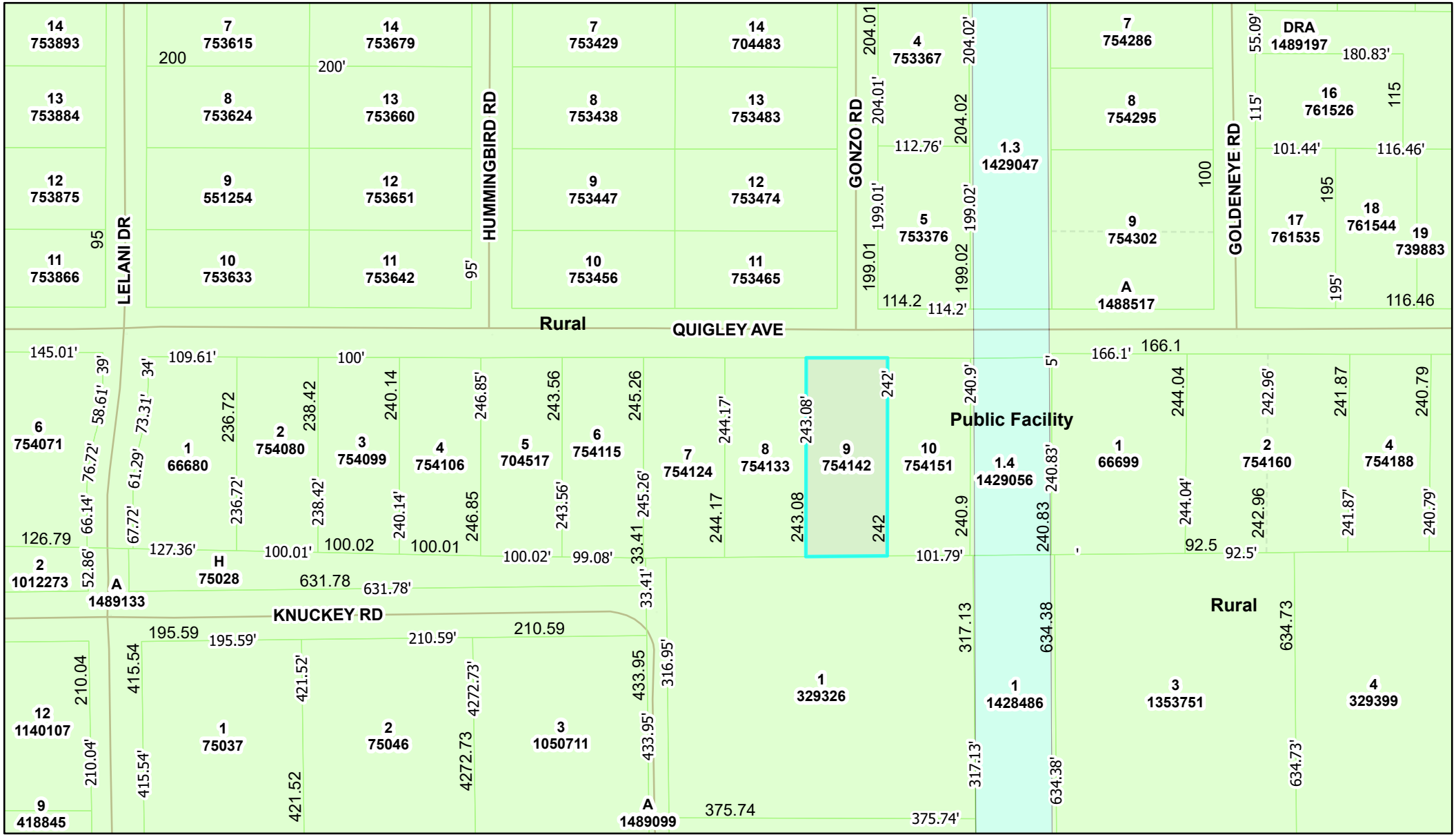
OFFICE USE ONLY: C:\DRAWING\DWG\2022\22-00\22-32SP.DWG | LAST PLOTTED: 3/14/22

Flood Plane Certification:
According to the F.I.R.M. Map,
Community Panel: 12053C 0044 D
Dated: 02-02-12
This property appears to be in
Flood Zone "X" Base Flood Elevation : N/A
Datum: N/A

REVISIONS	DATE
BOUNDARY SURVEY AND PLAT	1/25/22
SITE PLAN	3/14/22

FILE :22-32.CR5

SE-26-04 FLU Map



3/12/2026, 2:08:26 PM

All Future Landuse Categories

PUBLIC FACILITY

RURAL

Parcels

Parcels (Labels)

Parcel Dimensions

Parcel Lines (Easement Historic)

Historic

Cross Streets

Streets

1:2,225

0 0.01 0.03 0.06 mi

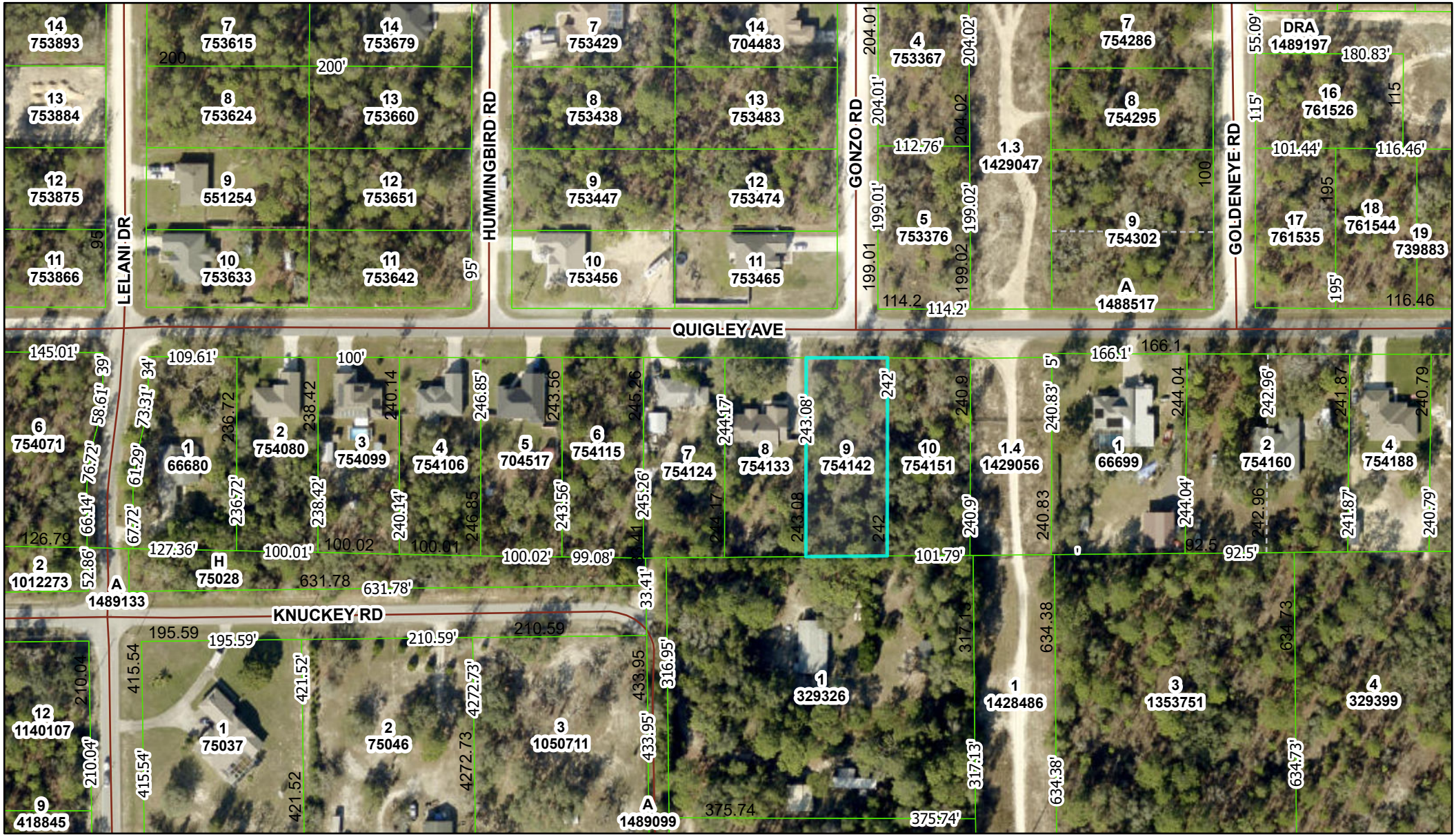
0 0.03 0.05 0.1 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Hernando County Central GIS

© Hernando County Central GIS

SE-26-04 Aerial Map



3/12/2026, 2:08:44 PM

Parcels

Parcels (Labels)

Parcel Dimensions

Parcel Lines (Easement Historic)

Historic

Cross Streets

Streets

1:2,225

0 0.01 0.03 0.06 mi

0 0.03 0.05 0.1 km

State of Florida, Vantor

Hernando County Central GIS
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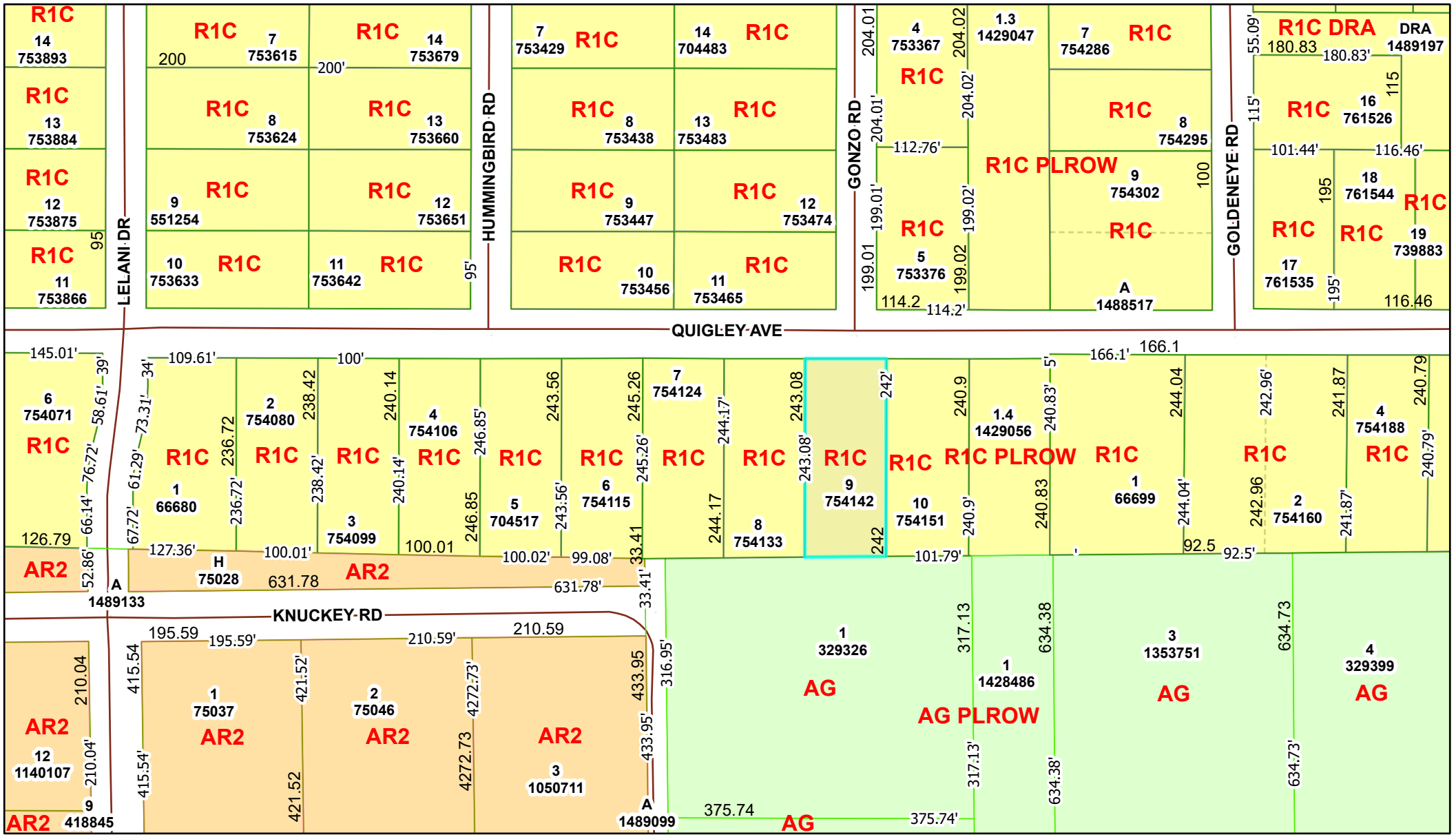
SE-26-04 Zoning Map



3/12/2026, 2:08:09 PM

Zoning (Hernando Builders)
- Agricultural
- Agricultural Residential
- Residential

Parcels
Parcels (Labels)
Parcel Dimensions

Parcel Lines (Easement Historic)
- Historic
- Cross Streets
- Streets

1:2,225

0 0.01 0.03 0.06 mi

0 0.03 0.05 0.1 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

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TITLE
Special Exception Permit Petition Submitted by Yarelis Gonzalez (SE2603)

BRIEF OVERVIEW
Request:
Special Exception Use Permit for the Parking of one (1) additional Commercial Vehicle

General Location:
East side of Old Crystal River Road, approximately 1,950 feet North of Lake Lindsey Road

Parcel Key Number:
333721

Summary of Applicant's Request:
The petitioner is requesting a Special Exception Use Permit to allow the parking of one (1) additional commercial vehicle on her 5.1-acre AG (Agricultural)-zoned parcel. The petitioner currently has one (1) commercial vehicle, a tractor-trailer. Approval of the Special Exception would allow her to park an additional commercial vehicle-a dump truck-on the parcel, with the intent of enabling her husband to work locally rather than over-the-road.

STRATEGIC PLAN INITIATIVES
The request is consistent with Strategic Theme A, "Economic and Workforce Development".

FINANCIAL IMPACT
A matter of policy. There is no financial impact.

LEGAL NOTE
According to Appendix A (Zoning), Article III, Section 3F, County Land Development Regulations allow the parking of one (1) commercial vehicle on an AG-zoned parcel when the vehicle is operated by the legal residents of the property; however, a Special Exception Use Permit is required for any additional commercial vehicle operated by the legal residents, provided the property contains a minimum of 2½ acres.

The Planning and Zoning Commission has jurisdiction over the subject application; the Commission has the ability to approve Special Exceptions with appropriate conditions and safeguards or deny special exceptions not in harmony with the Land Development Regulations. The Applicable Criteria for a Special Exceptions are contained in Appendix A (Zoning Code), Article V, Section 8. The Special Exception must be consistent with the Comprehensive Plan.

RECOMMENDATION

It is recommended that the Planning and Zoning Commission approve the petitioner's request for a Special Exception Use Permit for the Parking of one (1) additional Commercial Vehicle with performance conditions.

REVIEW PROCESS

Michelle Miller	Approved	03/30/2026 10:59 AM
Victoria Via	Approved	03/31/2026 9:40 AM
Natasha Lopez Perez	Approved	03/31/2026 9:55 AM
Toni Brady	Approved	04/01/2026 10:18 AM

STAFF REPORT

HEARINGS: Planning & Zoning Commission: March 9, 2026
Planning & Zoning Commission: April 13, 2026

APPLICANT: Yarelis Gonzalez

FILE NUMBER: SE-26-03

PURPOSE: Special Exception Use Permit for the Parking of one (1) additional Commercial Vehicle

GENERAL LOCATION: East side of Old Crystal River Road, approximately 1,950 feet North of Lake Lindsey Road

PARCEL KEY NUMBER: 333721

APPLICANT'S REQUEST:

The petitioner is requesting a Special Exception Use Permit to allow the parking of one (1) additional commercial vehicle on the parcel. The petitioner currently has one commercial vehicle, a tractor-trailer. Approval of the Special Exception would allow her to park an additional commercial vehicle, a dump truck, on the parcel, with the intent of enabling her husband to work locally rather than over-the-road.

The subject site consists of a 5.1-acre AG (Agricultural)-zoned parcel. County Land Development Regulations (LDRs) allow the parking of one commercial vehicle on an AG-zoned parcel when the vehicle is operated by the legal residents of the property; however, a Special Exception Use Permit is required for any additional commercial vehicle.

SITE CHARACTERISTICS:

Site Size 5.1 Acres

Surrounding Zoning; Land Uses

North:	AG; Single Family
South:	AG; Single Family
East:	AG; Single Family
West:	AG; Single Family

Current Zoning: AG/(Agricultural)

Future Land Use Map Designation: Rural

UTILITIES REVIEW:
Hernando County Utilities Department (HCUD) does not currently supply water or wastewater service to this parcel. Water and wastewater service are not available to this parcel. HCUD has no objection to allowing a second semi-truck on the parcel.

ENGINEERING REVIEW:
The subject site is located on the East side of Old Crystal River Road, approximately 1,950 feet North of Lake Lindsey Road. The County Engineer has reviewed the petitioner's request and has advised that this segment of Old Crystal River Road, north of Lake Lindsey Road, is not owned or maintained by Hernando County.

LAND USE REVIEW:

Minimum Building Setbacks:

- Front: 75'
- Side: 35'
- Rear: 50'

One (1) commercial vehicle, operated by the legal resident(s) of the parcel, is allowed to be parked on an agriculturally zoned parcel, provided the property is a minimum of 2½ acres in size. A Special Exception Use Permit may be applied for pursuant to Appendix A, Article V, Section 8 for the additional parking of commercial vehicles and/or equipment.

Comments: This section is not intended to limit the parking of commercial vehicles and/or equipment in the AG district when the vehicles are associated with a permitted AG use on the property.

If approved, any commercial vehicle and/or equipment must meet the building setbacks of the AG(Agricultural) zoning district.

A Special Exception Use Permit is an additional use which may be granted by the Planning and Zoning Commission (P&Z) in accordance with the Land Development Regulations (LDRs). As part of the review, the P&Z must determine that the tract of land is suitable for the type of special exception use proposed by virtue of its location, shape, topography, and nature of surrounding development. The P&Z has the ability to assign reasonable conditions to the approval.

The Special Exception Use Permit is a land use determination only. All applicable development rules would have to be met if the permit is approved. Furthermore, Special Exception Use Permits shall be in compliance with the minimum Special Exception Use General Standards, Appendix A, Article V, Section 8(B) of the Hernando County Code.

COMPREHENSIVE PLAN REVIEW:

The subject property is located within the Rural land use classification on the adopted Future Land Use Map. The area is characterized by rural residential uses.

Objective 1.04C: The Rural Category allows agriculture, agricultural commercial, agri-industrial, recreation, agritourism and residential land uses of a rural character. Certain neighborhood commercial uses may be

allowed subject to locational criteria and performance standards. Residential density is 0.1 dwelling units per gross acre (1 unit per ten gross acres) except where otherwise indicated by the strategies listed herein and incorporated into the land development regulations.

Comments: The addition of 1 (one) vehicle would not negatively impact the rural nature of this parcel.

FINDINGS OF FACT:
The request for a Special Exception Use Permit for the Parking of one (1) additional Commercial Vehicle is appropriate based on the following conclusions:

1. The proposed use is compatible with the surrounding area, is not adverse to the public interest, and is consistent with the County's adopted Comprehensive Plan with appropriate performance conditions.

NOTICE OF APPLICANT RESPONSIBILITY:

The special exception process is a land use determination and does not constitute a permit for either construction on, or use of, the property, or a Certificate of Concurrency. Prior to use of, or construction on, the property, the petitioner must receive approval from the appropriate County department(s) for the proposed use.

The granting of this land use determination does not protect the owner from civil liability for recorded deed restrictions which may exceed any county land use ordinances. Homeowner associations or architectural review committees require submission of plans for review and approval. The applicant for this land use request should contact the local association or the Public Records for all restrictions applicable to this property.

STAFF RECOMMENDATIONS:

It is recommended that the Planning and Zoning Commission approve the petitioner's request for a Special Exception Use Permit for the Parking of (1) one additional Commercial Vehicle with the following performance conditions:

1. The petitioner must obtain all permits from Hernando County and other applicable agencies and meet all applicable land development regulations, for either construction or use of the property, and complete all applicable development review processes.

2. The subject site shall be limited to the parking of (1) one additional commercial vehicle.

3. Any future expansion or changes related to the uses shall require an amendment to the Special Exception Use Permit.

PLANNING AND ZONING COMMISSION RECOMMENDATION:

On March 9, 2026, the Planning and Zoning Commission voted 5-0 to postpone the petitioner's request for a Special Exception Use Permit for the Parking of (1) one additional Commercial Vehicle to a date uncertain.

HERNANDO COUNTY CONDITIONAL USE PERMIT *OR* SPECIAL EXCEPTION USE PERMIT PETITION

File No. SE-26-03 Official Date Stamp:

RECEIVED

MAR 11 2026

Hernando County Development Services
Zoning Division

Application request *(check one)*:

☐ **Conditional Use Permit**

☐ **Special Exception Use Permit**

PRINT OR TYPE ALL INFORMATION

Date: _____

APPLICANT NAME: Yarelis Gonzalez

Address: 14444 Old Crystal River Road

City: Brooksville State: FL Zip: 34601

Phone: 352-293-9733 Email: heidy.evora@gmail.com

Property owner's name: *(if not the applicant)* _____

REPRESENTATIVE/CONTACT NAME: _____

Company Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Email: _____

HOME OWNERS ASSOCIATION: ☐ Yes ☒ No *(if applicable provide name)* _____

Contact Name: _____

Address: _____ City: _____ State: _____ Zip: _____

PROPERTY INFORMATION:

1. PARCEL(S) **KEY** NUMBER(S): 333721
2. SECTION 26, TOWNSHIP 21, RANGE 19
3. Current zoning classification: AG
4. Desired use: Special Exception to add a second Commercial Vehicle.
5. Size of area covered by application: 5.1
6. Highway and street boundaries: Old Crystal River Road and Nevitt Hill Rd
7. Has a public hearing been held on this property within the past twelve months? ☐ Yes ☒ No
8. Will expert witness(es) be utilized during the public hearings? ☐ Yes ☒ No (If yes, identify on an attached list.)
9. Will additional time be required during the public hearing(s) and how much? ☐ Yes ☒ No (Time needed: _____)

PROPERTY OWNER AFFIDIVAT

I, Yarelis Gonzalez, have thoroughly examined the instructions for filing this application and state and affirm that all information submitted within this petition are true and correct to the best of my knowledge and belief and are a matter of public record, and that (**check one**):

☐ I am the owner of the property and am making this application **OR**

☒ I am the owner of the property and am authorizing *(applicant)*: Yarelis Gonzalez and *(representative, if applicable)*: Heidy Evora to submit an application for the described property.

* _____
Signature of Property Owner

STATE OF FLORIDA
COUNTY OF HERNANDO

The foregoing instrument was acknowledged before me by means of ☒ physical presence or ☐ online notarization, this 11th day of March, 20 26, by Yarelis Gonzalez + Heidy Evora who is ☐ personally known to me or ☑ produced FL DL as identification.

Hope Figueroa
Signature of Notary Public

HOPE FIGUEROA
Notary Public - State of Florida
Commission # HH 725733
My Comm. Expires Sep 29, 2029
Bonded through National Notary Assn.

Notary Seal/Stamp

Effective Date: 05/15/20 Last Revision: 05/15/20

A# SE-26-03

03/11/2026

Yo Yarelis Gonzales dueña de 14444 old crystal River Rd, sBrooksville, FL autorizo a mi hija Heidy Evora que sea quien hable y me represente con respecto a este permiso y todo lo que tenga que ver con mi propiedad

Muchas Gracias

Y Rgms

I Yanelis Gonzalez owner of 14444 Old Chrystal River RD, Brooksville FL. Authorize my daughter Heidy Evora to be who speaks and represents me in respect to this permit and everything pertaining with my property. Thank you so much.

State of Florida
County of Hernando
The foregoing instrument was acknowledged before me this 11th, March 2026
by Hope Figueroa
Your Name Here, Notary Public
My Commission Expires Sep 29th, 2029

Hope Figueroa

HOPE FIGUEROA
Notary Public - State of Florida
Commission # HH 725733
My Comm. Expires Sep 29, 2029
Bonded through National Notary Assn.

To Whom It May Concern,

I'm writing to kindly ask for your consideration and approval of a permit to keep a second truck on my property located at **14444 Old Crystal River Road, Brooksville, Fl, 34601.**

My husband and I live on **five acres**, which gives us plenty of space to safely park our vehicles without disturbing anyone. We own a **semi-truck**, which is our main source of income and is on the road most of the time, and a **dump truck** that is currently being repaired so that we can eventually put it to work **so my husband can begin working locally**. As we get older, it's important for us to have him home more often and not spend so much time away on the road.

We've done our best to park both trucks responsibly and away from neighbors, yet we've continued to receive complaints -mostly from our back neighbors. Meanwhile, there is **continuous construction at the end of our road, with semi-trucks going in and out every day**, yet no complaints seem to be made about that. Ironically, **the same neighbors who complain own trucks with trailers that carry heavy construction equipment and use the access road through our property since they own a construction business registered in their address at early hours and really late hours of the night**, and we have never minded or filed a complaint about it because we understand that everyone has a right to make an honest living.

Despite their repeated calls to **code enforcement**, the health department, the police, etc. sometimes over the smallest things like how we ruined the pasture on our land because we own a four wheeler, lights in our property or even over normal day-to-day activities,we have **never been cited for any violation**. We have **complied fully with every notice and request** we've received, including this current request to apply for a permit. We now understand that we moved into a property that is surrounded by family and friends and that they are tight-knit group but that should now allow the constant harassment calling code enforcement on us. This permit is the only thing they have hanging over our heads and it's really keeping us from on our toes because we obviously do not want a citation or any violation on our record

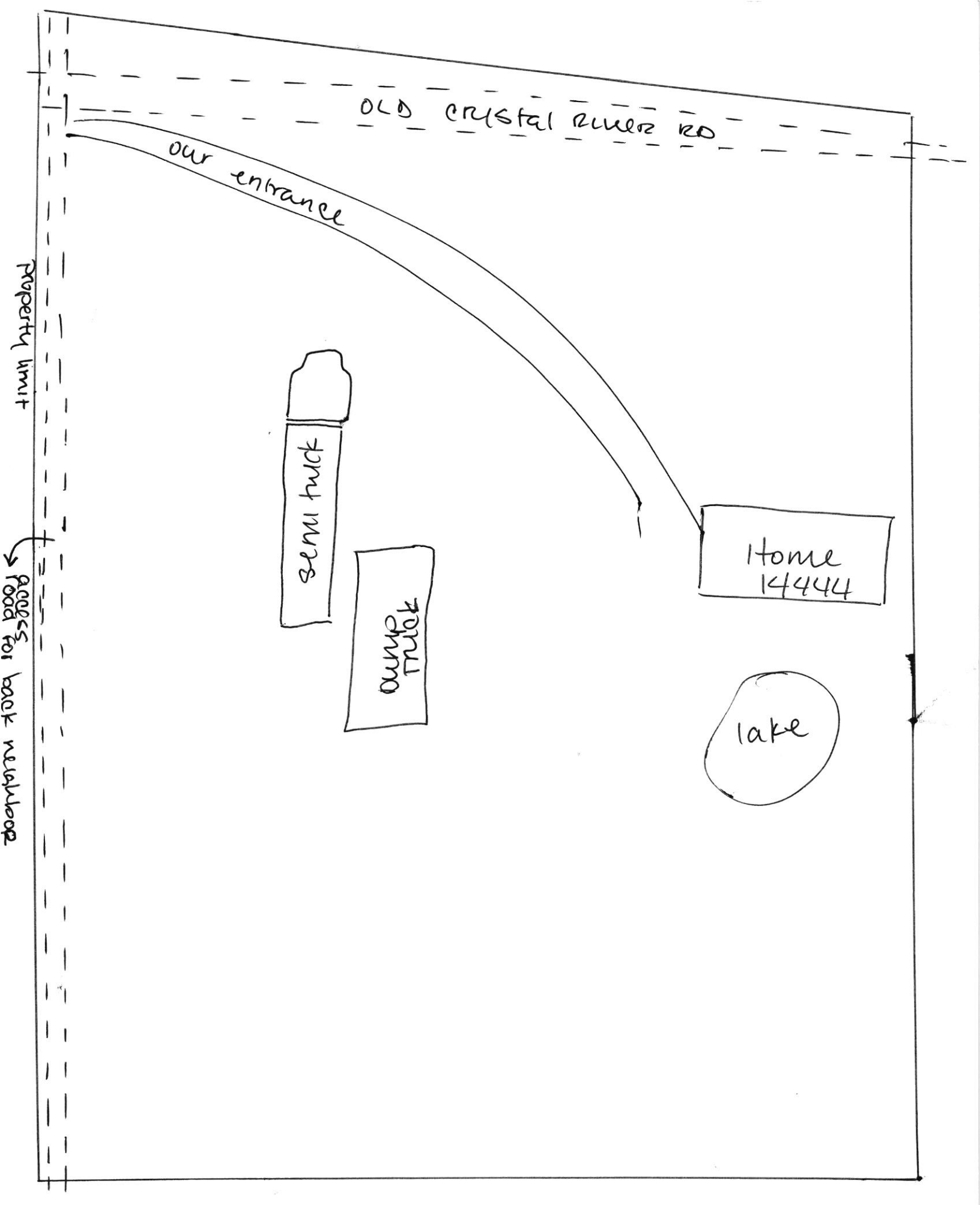
We truly just want to live peacefully, follow the rules, and continue earning an honest living. However, the frequent code enforcement visits, photos, and complaints have made our home life stressful and emotionally draining.

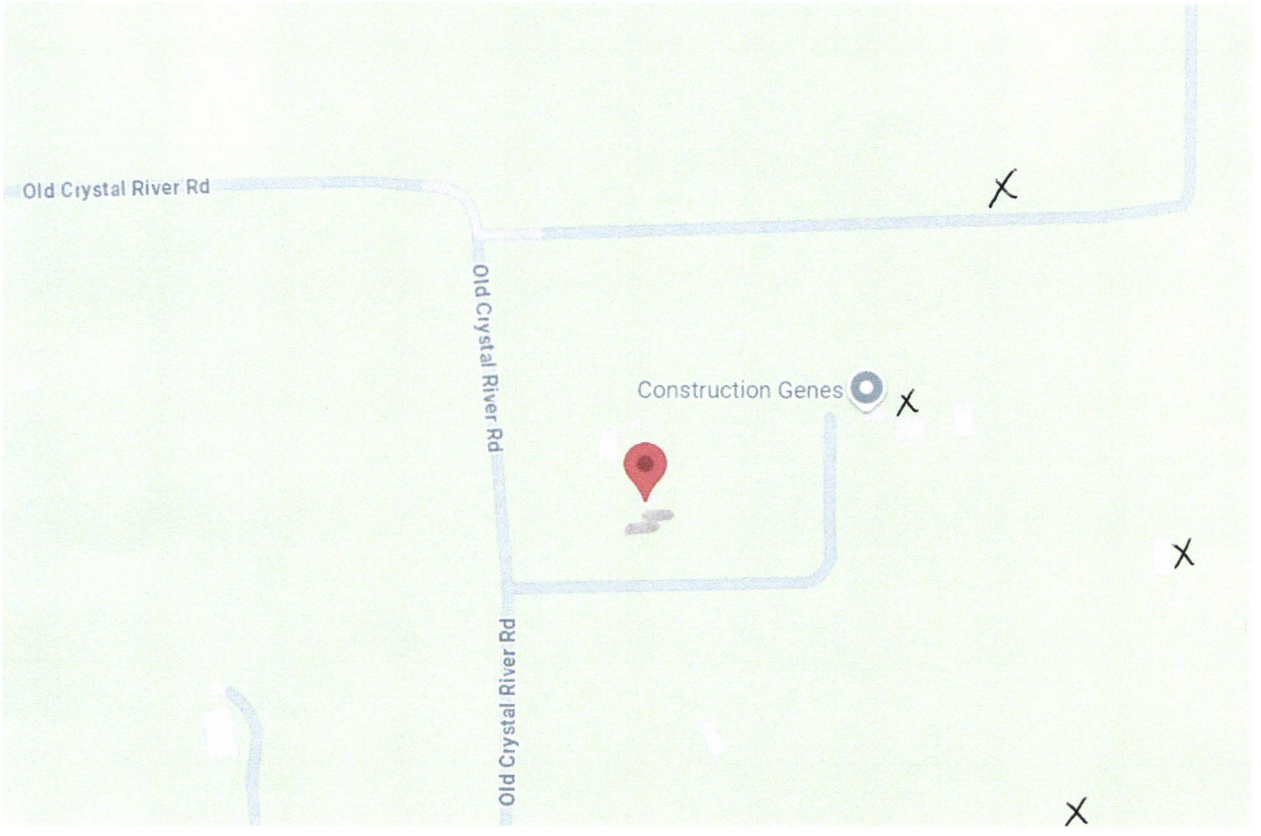
We respectfully ask that the county please grant this permit so that we can put this issue to rest, remain in full compliance, and continue living and working responsibly on our property.

Thank you sincerely for your time, patience, and understanding.

With appreciation,
Yarelis Gonzalez
352-293-9733

11/07/25


OLD CRYSTAL RIVER RD
our entrance
Property limit
access road for back neighbor
semi truck
pump truck
Home
14444
lake



I have attached photos to show how far we are from the rest of the properties.

(Family/Friends) neighbors who X complaine

semi truck + am truc

SE2603 Aerial Map

2/17/2026, 3:29:06 PM

Parcels

Parcels (Labels)

Parcel Dimensions

Parcel Lines (Easement Historic)

Easement

Historic

Streets

World Imagery

Low Resolution 15m Imagery

High Resolution 60cm Imagery

High Resolution 30cm Imagery

Citations

60cm Resolution Metadata

1:3,166

0 0.02 0.04 0.09 mi

0 0.04 0.07 0.15 km

State of Florida, Vantor

Hernando County Central GIS

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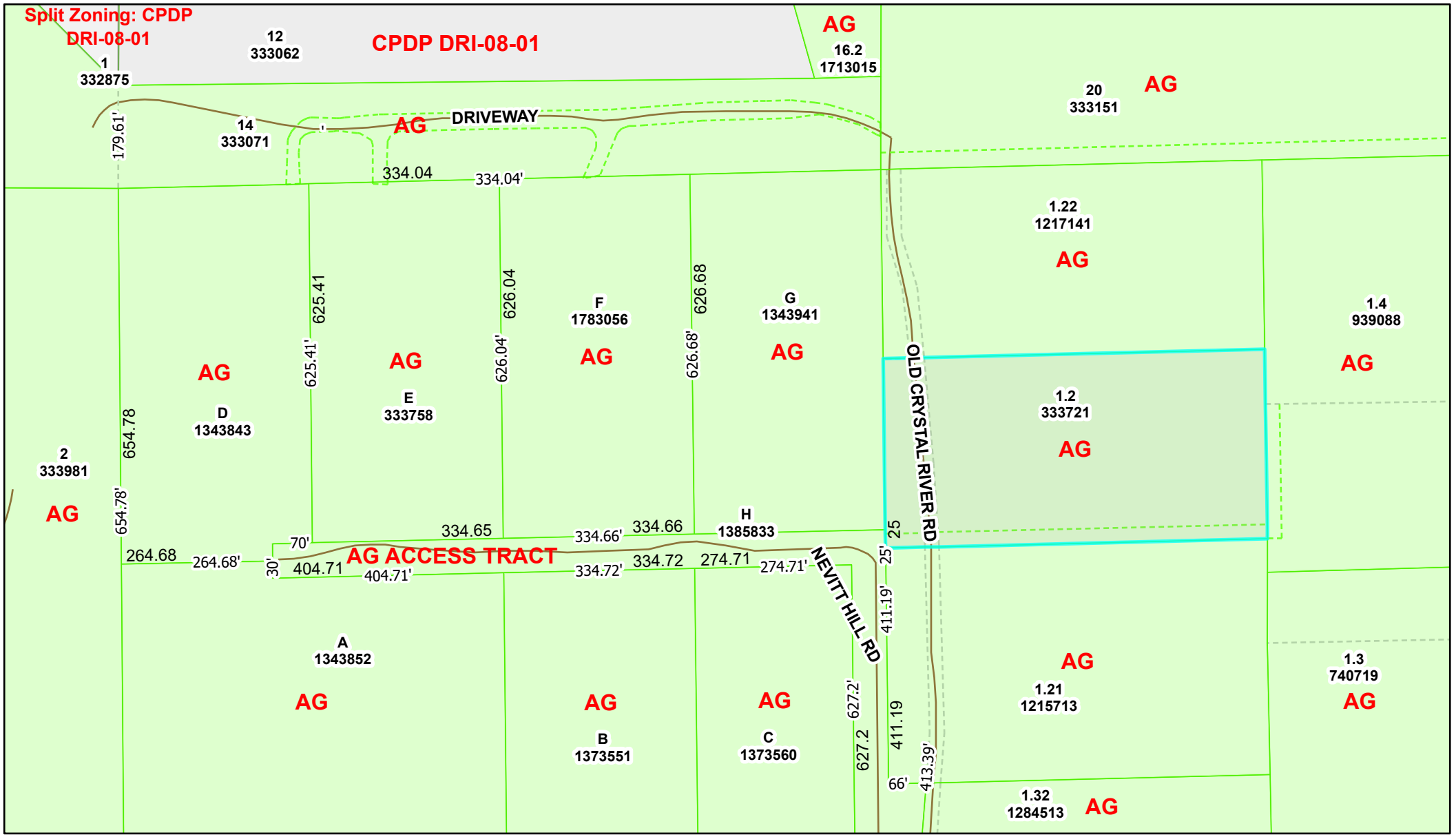
SE2603 Zoning Map



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Split Zoning

Planned Development

Zoning (Hernando Builders)

Agricultural

Planned Development

Parcels

Parcels (Labels)

Parcel Dimensions

Parcel Lines (Easement Historic)

Easement

Historic

Streets

1:3,166

0 0.02 0.04 0.09 mi

0 0.04 0.07 0.15 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Hernando County Central GIS

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TITLE
Master Plan Revision Petition Submitted by Wal-Mart Stores East, L.P. (H2609)

BRIEF OVERVIEW
Request:
Master Plan Revision on parcel zoned PDP(GHC)/Planned Development Project(General Highway Commercial) with C-2 Uses to include Fuel Station

General Location:
West wide of Commercial Way, approximately 240' south of Osowaw Blvd

Parcel Key Number:
1384932

Summary of Applicant's Request:
The petitioner is requesting a Master Plan revision to add C-2 uses for a fuel station on the subject parcel. The proposed development involves converting a portion of the existing retail parking lot into a full-service fuel station with a 1,618-square-foot convenience store and a fuel canopy featuring 6 pumps and 12 fueling positions.

STRATEGIC PLAN INITIATIVES
N/A

FINANCIAL IMPACT
A matter of policy. There is no financial impact.

LEGAL NOTE
The Planning and Zoning Commission has jurisdiction to make a recommendation on the subject application. The Applicable Criteria for Planned Development Projects are contained in Appendix A (Zoning Code), Article VIII. The Planned Development Project master plan must be consistent with the Comprehensive Plan. The Applicable Criteria for Commercial Districts (C-2) are contained in Appendix A (Zoning Code), Article IV, Section 3, which authorizes convenience good stores and gasoline service stations with a limit of 12 vehicle fueling stations.

RECOMMENDATION
It is recommended that the Planning and Zoning Commission recommend the Board of County Commissioners adopt a resolution approving the petitioner's request for a Master Plan revision on parcel zoned PDP(GC)/ Planned Development Project (General Highway Commercial) with C-2 Uses to include Fuel Station with performance conditions.

REVIEW PROCESS

Michelle Miller	Approved	04/03/2026 10:55 AM
Victoria Via	Approved	04/03/2026 2:38 PM
Natasha Lopez Perez	Approved	04/07/2026 1:17 PM
Toni Brady	Approved	04/07/2026 1:32 PM
Natasha Lopez Perez	Approved	04/08/2026 2:59 PM

STAFF REPORT

HEARINGS:	Planning & Zoning Commission:	April 13, 2026
	Board of County Commissioners:	June 2, 2026
APPLICANT:	CPH Consulting on behalf of Walmart Stores East LP	
FILE NUMBER:	H-26-09	
REQUEST:	Master Plan Revision on parcel zoned PDP(GHC)/ Planned Development Project(General Highway Commercial to Include C2 Uses for Fuel Station	
GENERAL LOCATION:	West wide of Commercial Way, approximately 240' south of Osowaw Blvd	
PARCEL KEY NUMBER(S):	1384932	

APPLICANT'S REQUEST

The petitioner is requesting a Master Plan revision to add C-2 uses for a fuel station on the subject parcel. The proposed development involves converting a portion of the existing retail parking lot into a full-service fuel station with a 1,618-square-foot convenience store and a fuel canopy featuring 6 pumps and 12 fueling positions.

The project does not change the current land use designation, as the parcel is zoned PDP(GHC)/Planned Development Project (General Highway Commercial) with C-2 uses, which allows fuel stations and convenience retail by right. The fueling facility will occupy approximately 1.36 acres of the existing commercial site.

The petitioner proposes to convert the existing overflow parking area into the fuel station and convenience store site. While some parking spaces will be removed, the overall parking supply within the parent shopping center will continue to meet or exceed the minimum required ratio.

The Requested deviations include:

- Buffer Commercial Way 5' (deviation from 20')

SITE CHARACTERISTICS

Site Size	1.36 Acres	
Surrounding Zoning; Land Uses	North:	PDP(GHC)/ Commercial
	South:	PDP(GHC)/ Commercial
	East:	East ROW &PDP(GHC): Commercial way/ Commercial
	West:	PDP(GHC) Commercial Existing Wal-mart

Current Zoning: PDP(GHC)

Future Land Use Map Designation: Commercial

ENVIRONMENTAL REVIEW

The petitioner shall comply with all applicable Florida Fish and Wildlife Commission and Southwest Florida Water Management District requirements.

UTILITIES REVIEW

Hernando County Utilities Department (HCUD) does supply water and wastewater service to portions of this parcel. HCUD has no objections to the master plan revision to allow a fueling facility on 1.36 acres of the existing commercial site, subject to a utility capacity analysis and connection to the central water & wastewater system at time of site development.

Comments: The petitioner shall provide a utility capacity analysis and demonstrate connection to the central water and wastewater system at the time of site development.

ENGINEERING REVIEW

The subject site is located on West wide of Commercial Way, approximately 240' south of Osowaw Blvd. The Hernando County Engineer has reviewed the petitioner's request and provided the following comments:

- A Traffic Access Analysis is required.
- Any improvements identified by the Traffic Access Analysis, which may include Turn Lanes, will be the responsibility of the developer to install.
- The Driveways, Parking Spaces and Layout will be required to meet County Standards.
- Fueling trucks are prohibited from utilizing the frontage road for fuel delivery.
- FDOT/Florida Department of Transportation Access Management and possibly Drainage permits required.

LAND USE REVIEW

The petitioner is requesting a Master Plan revision on parcel zoned PDP(GC)/Planned Development Project (General Highway Commercial) to Include C2 Uses for Fuel Station.

Setbacks:

- Commercial Way: 125'
- West: 35'
- North: 20'
- South: 20'

Buffers:

The petitioner has proposed the following perimeter buffers for the subject site:

- Front (Commercial Way): 5' Landscape Buffer
- Sides: 5' Vegetative Buffer
- Rear (Arizona St): 5' Vegetative Buffer

Comments: Buffers along Commercial Way, staff recommends maintaining consistency with the surrounding area. The existing natural 20' buffer shall be preserved and enhanced to achieve 80% opacity.

In accordance with Chapter 10 Article II Section 10-21:
The landscape buffer shall be planted with a staggered row of native shade trees and/or long-leaf pine trees, three (3) inch minimum caliper Florida Grade Number 1 or better, with maximum spacing of thirty (30) feet on center. Special care shall be taken to avoid monocultural plantings. The buffer shall also include ten (10) native shrubs for each required tree at a minimum planting height of eighteen (18) inches. The shrubs may be planted in groupings or in a serpentine pattern between trees. Grasses and/or other groundcover shall be required to complete the buffer.

Primary facade: For parcels of one-half-acre or larger except large retail projects, building perimeter landscaping on the primary facade side shall be planted adjacent to, or between the building and the drive aisle or parking area and shall include shrubs and ground cover. The minimum landscaped area shall be determined by the following formula: Five (5) feet times the length of each primary facade times fifty (50) percent. The area of building perimeter landscaping can be used to meet the requirement for overall landscaping for the parcel. Landscaping shall use native and drought tolerant materials.

In accordance with Chapter 10 Article II Section 10-26 Vegetative Buffer requirement.

(b) A vegetative buffer is an area of land containing any combination of preserved natural vegetation or installed greenery. It may include berms, fences, or walls. Turf grass is acceptable as a "vegetative ground cover", but not as a "vegetative buffer". If a fence or wall is used, it shall be visually dominated by greenery and attain fifty (50) percent opacity/coverage within twelve (12) months of planting.

(d) A vegetative buffer is required in the following locations:

(1) *Along street right-of-way/pavements:*

a. A vegetative buffer at least five (5) feet in width shall abut the street right-of-way/pavements for at least half of the street right-of-way frontage. If only installed planting areas are used, the vegetative buffer shall include a hedge of shrubs with a minimum height of eighteen (18) inches at time of planting. Shrubs shall be appropriately spaced according to growth needed of the species for the hedge to attain eighty (80) percent opacity within twelve (12) months of planting.

Lighting:

County Land Development Regulations (LDRs) require lighting that enhances the visual impact of the project on the community and to specifically address lighting intensity levels and glare accordingly. Commercial buildings and projects shall be designed to provide safe, convenient and efficient lighting for pedestrians and vehicles.

Comments: If approved, the petitioner should be required to provide full cutoff fixtures and retain all light on-site and prevent any light spillage onto neighboring properties.

Parking:

In accordance with the Hernando County Land Development Regulations, Retail uses are required to provide parking at a rate of 4 spaces per 1000 square feet. And 1 space per Point of Sale.

COMPREHENSIVE PLAN REVIEW

The subject site is located within the Commercial Land use designation on the County's adopted Comprehensive Plan.

Strategy 1.04A(6): The Commercial Category provides for commercial uses including products and services along major corridors and at roadway intersections to serve residents and visitors on both a localized and regionalized basis. The Commercial Category recognizes existing commercial use corridors along U.S. Highway 19 and State Route 50 and existing and planned commercial nodes at intersections of arterial and/or collector roads. The Commercial Category includes small unmapped existing commercial properties. The Commercial Category also recognizes the ability to designate infill parcels for commercial use lying in proximity to and between, but not necessarily contiguous to, other existing commercially designated properties. Publicly owned lands along the commercial use corridors that are made available for surplus may be considered to have a Commercial designation, if the agency proceeds through the Comprehensive Plan Amendment process to amend the future land use map, in accordance with Section 163.3184, F.S.

Objective 1.04G: The Commercial Category allows primarily retail, office, and commercial service uses with an overall average gross floor area ratio of 0.35 but also includes limited industrial, recreational, and institutional uses. Residential and mixed uses may be allowed subject to locational criteria and performance standards.

Strategy 1.04G(1): Commercial development as envisioned on the Future Land Use Map is intended primarily for locations at major intersections and along major corridors where service to local and regional markets are enhanced by transportation patterns. New commercial zoning is directed to these mapped areas. Commercial areas that are not mapped but are allowed under this Future Land Use Category include neighborhood commercial and specialty commercial uses as described in this Plan, commercial approved as part of mixed-use developments, commercial designated by planned development districts, the infill development of existing commercial areas, commercial areas extending from designated commercial nodes, and pre-existing commercially developed and designated areas. Frontage roads and cross-access between commercial uses is required where needed in accordance with the provisions of this Plan and adopted land development regulations.

Comments: The request is consistent with the Comprehensive Plan, compatible with surrounding uses, and provides adequate residential protection for existing surrounding residential developments.

FINDINGS OF FACT

A Master Plan revision on parcel zoned PDP(GC)/ Planned Development Project (General Highway Commercial to Include C2 Uses for Fuel Station is appropriate due to the following findings of fact:

1. The request is consistent with the Comprehensive Plan Strategies for the location of commercial development and the surrounding commercial uses.

NOTICE OF APPLICANT RESPONSIBILITY

The rezoning process is a land use determination and does not constitute a permit for either construction on, or use of, the property, or a Certificate of Concurrency. Prior to use of, or construction on, the property, the petitioner must receive approval from the appropriate County department(s) for the proposed use.

The granting of this land use determination does not protect the owner from civil liability for recorded deed restrictions which may exceed any county land use ordinances. Homeowner associations or architectural review committees require submission of plans for review and approval. The applicant for this land use request should contact the local association or the Public Records for all restrictions applicable to this property.

STAFF RECOMMENDATION

It is recommended that the Planning and Zoning Commission recommend the Board of County Commissioners adopt a resolution approving the petitioner's request for a Master Plan revision on parcel zoned PDP(GC)/ Planned Development Project (General Commercial to Include C2 Uses for Fuel Station with the following performance conditions:

1. The petitioner must obtain all permits from Hernando County and other applicable agencies and meet all applicable land development regulations, for either construction or use of the property, and complete all applicable development review processes.

2. The petitioner shall be required to comply with all applicable Southwest Florida Water Management District, Florida Fish and Wildlife Conservation Commission, and Florida Department of Environmental Protection permitting requirements.

3. The petitioner must meet the minimum requirements of Florida Friendly Landscaping™ publications and the Florida Yards and Neighborhoods Program for design techniques, principles, materials, and plantings for required landscaping.

4. The petitioner shall provide a utility capacity analysis and connection to the utility system(s), as required by ordinance, at time of site development.

5. A Traffic Access Analysis is required. Any improvements identified by the Traffic Access Analysis will be the responsibility of the developer to install.

6. The driveways, parking spaces, and overall site layout shall be required to meet all applicable County standards, as outlined in the facility design guidelines.

7. Fuel delivery trucks are prohibited from utilizing the frontage road for fuel deliveries. All fuel deliveries shall occur from an approved access point and internal circulation system.

8. The petitioner shall coordinate with the Florida Department of Transportation (FDOT) for Access Management approval and obtain any required drainage permits prior to site development.

9. <u>Building Setbacks:</u>
   - Front (Commercial Way): 125'
   - Sides: 20'
   - Rear: 35'

10. Minimum Buffers:
    - Front (Commercial Way): 20' Natural Undisturbed Vegetative Buffer
    - Side (North): 5' Natural Vegetative Buffer
    - Side (South): 5' Natural Vegetative Buffer
    - Rear (Frontage): 5' Natural Vegetative Buffer

11. The petitioner shall establish and maintain the natural vegetive buffer in accordance with Chapter 10, Article II, Sections 10-21 and 10-26 of the Hernando County Land Development Regulations.

12. No signage shall be located within the vegetative buffer in accordance with Chapter 10, Article II of the Hernando County Land Development Regulations.

13. The petitioner shall be required to provide full cutoff fixtures and retain all light on-site and prevent any light spillage onto neighboring properties.

14. In accordance with the Hernando County Land Development Regulations, Retail uses are required to provide parking at a rate of 4 spaces per 1000 Square feet. The applicant will be required to demonstrate compliance with all applicable parking requirements at the time of site plan review for the proposed commercial development.

15. The petitioner shall provide a Master Plan in compliance with all the performance conditions within 30 calendar days of receipt of Board of County Commissioners action from Development Services Staff. Failure to submit the revised plan will result in no further development permits being issued.

LL

HERNANDO COUNTY ZONING AMENDMENT PETITION

File No. _____ Official Date Stamp:

Application to Change a Zoning Classification

Application request *(check one)*:
Rezoning ☐ Standard ☐ PDP
Master Plan ☐ New ■ Revised
PSFOD ☐ Communication Tower ☐ Other
PRINT OR TYPE ALL INFORMATION

Date: December 3, 2025

APPLICANT NAME: Walmart Stores East, LP
Address: 2608 SE J Street
City: Bentonville State: AR Zip: 72716
Phone: 479-721-4527 Email: frank.rojas@walmart.com
Property owner's name: *(if not the applicant)* _____

REPRESENTATIVE/CONTACT NAME: Ross Lemoine
Company Name: CPH Consulting, LLC
Address: 5601 Mariner Street, Suite 105
City: Tampa State: FL Zip: 33609
Phone: 813-288-0233 Email: ross.lemoine@cphcorp.com

HOME OWNERS ASSOCIATION: ☐ Yes ■ No *(if applicable provide name)* _____
Contact Name: _____
Address: _____ City: _____ State: _____ Zip: _____

PROPERTY INFORMATION:

1. PARCEL(S) **KEY** NUMBER(S): 01384932
2. SECTION 29, TOWNSHIP 23, RANGE 17
3. Current zoning classification: PDP/GC
4. Desired zoning classification: PDP/GC with C-2 Uses to allow fuel station
5. Size of area covered by application: 24.4
6. Highway and street boundaries: Commercial Way/Osowaw Blvd.
7. Has a public hearing been held on this property within the past twelve months? ☐ Yes ■ No
8. Will expert witness(es) be utilized during the public hearings? ☐ Yes ■ No (If yes, identify on an attached list.)
9. Will additional time be required during the public hearing(s) and how much? ☐ Yes ■ No (Time needed: none)

PROPERTY OWNER AFFIDIVAT

I, Frank Rojas, have thoroughly examined the instructions for filing this application and state and affirm that all information submitted within this petition are true and correct to the best of my knowledge and belief and are a matter of public record, and that **(check one)**:

■ I am the owner of the property and am making this application **OR**

☒ I am the owner of the property and am authorizing *(applicant)*: Walmart Stores East, LP
and *(representative, if applicable)*: CPH Consulting, LLC
to submit an application for the described property.

_____
Signature of Property Owner

STATE OF ~~FLORIDA~~ Arkansas
COUNTY OF ~~HERNANDO~~ Benton

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 8th day of April, 20 26, by Frank Rojas who is ☑ personally known to me or ☐ produced ——— as identification.

Hallie Bussman
Signature of Notary Public

HALLIE BUSSMAN
Notary Public-Arkansas
Benton County
My Commission Expires 12-15-2027
Commission # 12702900

Notary Seal/Stamp

Effective Date: 05/15/20 Last Revision: 05/15/20

HERNANDO COUNTY ZONING AMENDMENT PETITION

File No. H-26-09 Official Date Stamp:

RECEIVED
DEC 05 2025
HERNANDO COUNTY ZONING

Application to Change a Zoning Classification

Application request *(check one)*:
Rezoning ☑ Standard ☐ PDP
Master Plan ☐ New ■ Revised
PSFOD ☐ Communication Tower ☐ Other
PRINT OR TYPE ALL INFORMATION

Date: December 3, 2025

APPLICANT NAME: Walmart Stores East, LP

Address: 2608 SE J Street
City: Bentonville State: AR Zip: 72716
Phone: 479-721-4527 Email: frank.rojas@walmart.com
Property owner's name: *(if not the applicant)*

REPRESENTATIVE/CONTACT NAME: Ross Lemoine

Company Name: CPH Consulting, LLC
Address: 5601 Mariner Street, Suite 105
City: Tampa State: FL Zip: 33609
Phone: 813-288-0233 Email: ross.lemoine@cphcorp.com

HOME OWNERS ASSOCIATION: ☐ Yes ■ No *(if applicable provide name)*

Contact Name:
Address: City: State: Zip:

PROPERTY INFORMATION:

1. PARCEL(S) KEY NUMBER(S): 01384932
2. SECTION 29, TOWNSHIP 23, RANGE 17
3. Current zoning classification:
4. Desired zoning classification: Commercial
5. Size of area covered by application: 24.4
6. Highway and street boundaries:
7. Has a public hearing been held on this property within the past twelve months? ☐ Yes ■ No
8. Will expert witness(es) be utilized during the public hearings? ☐ Yes ■ No (If yes, identify on an attached list.)
9. Will additional time be required during the public hearing(s) and how much? ☐ Yes ■ No (Time needed: none)

PROPERTY OWNER AFFIDIVAT

I, Frank Rojas, have thoroughly examined the instructions for filing this application and state and affirm that all information submitted within this petition are true and correct to the best of my knowledge and belief and are a matter of public record, and that **(check one)**:

■ I am the owner of the property and am making this application **OR**

☐ I am the owner of the property and am authorizing *(applicant)*:
and *(representative, if applicable)*:
to submit an application for the described property.

Signature of Property Owner

STATE OF ~~FLORIDA~~ Arkansas
COUNTY OF ~~HERNANDO~~ Benton

The foregoing instrument was acknowledged before me by means of ☒ physical presence or ☐ online notarization, this 3rd day of December, 20 25, by Frank Rojas who is ☒ personally known to me or ☐ produced Personally Known as identification.

Signature of Notary Public

NICK BUTLER
NOTARY PUBLIC
BENTON COUNTY, ARKANSAS
COMM. EXP. 12/31/33
COMMISSION NO. 12725715

Notary Seal/Stamp

Effective Date: 05/15/20 Last Revision: 05/15/20

5601 Mariner Street
Suite 105
Tampa, FL 33609
Phone: 813.288.0233
Fax: 813.288.0433

Project Description Letter

Proposed Walmart Fuel Station

1485 Commercial Way, Spring Hill, FL 34606

Proposal:

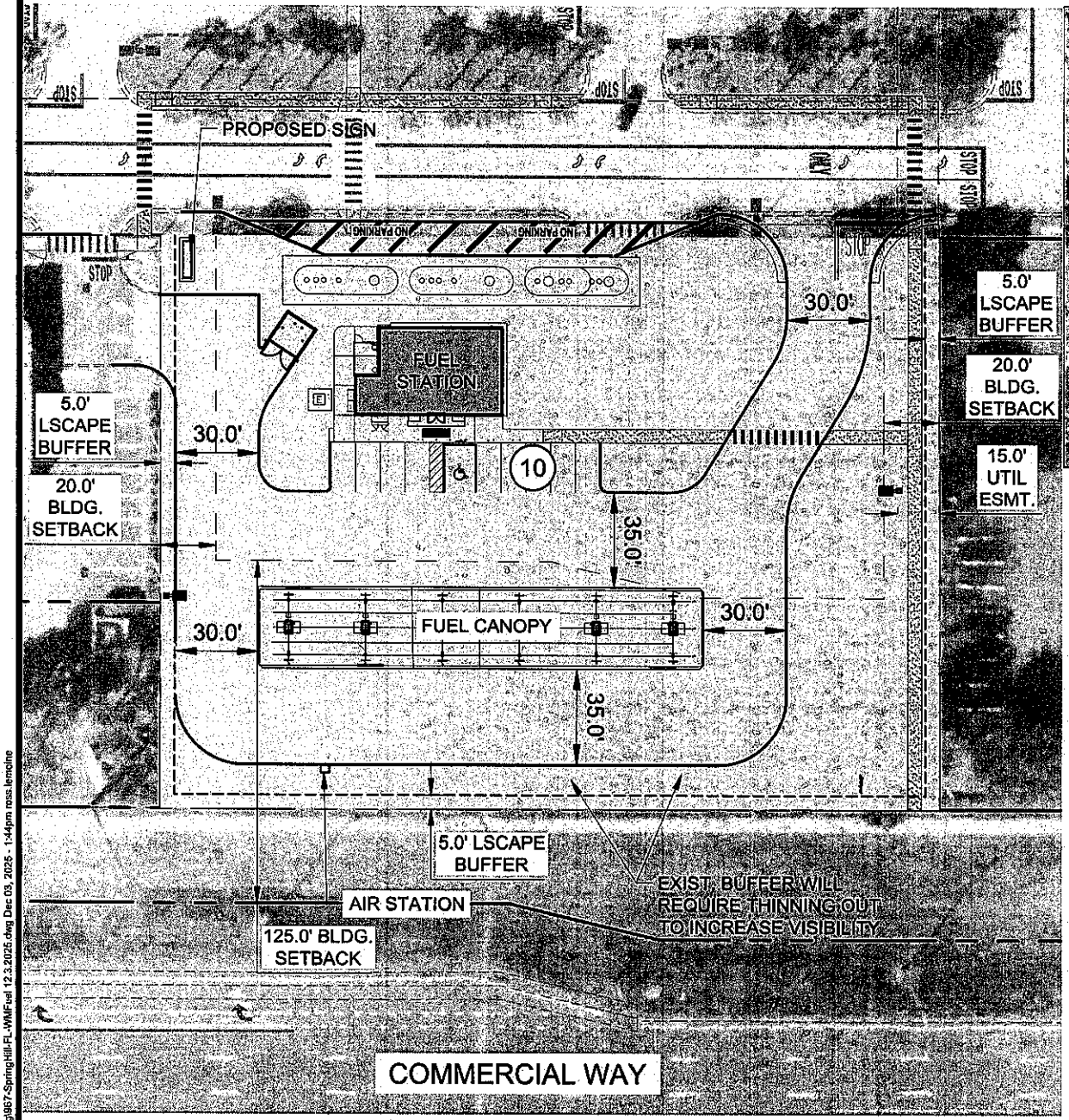
The proposed development involves converting a portion of the existing retail parking lot into a full-service fuel station and convenience store. The project does not alter the current land use designation, as the parcel is zoned PDP(GC) with C-2 uses, which allows fuel stations and convenience retail by right. The fueling facility will occupy approximately 1.36 acres of the existing commercial site. No residential uses are proposed; therefore, no residential density calculations are required. The development includes a 1,618-square-foot convenience store building with a height of 18 feet, along with an overhead fuel canopy with a maximum height of 17 feet, 8 inches. While the project will result in a reduction of parking spaces, the overall parking counts within the parent shopping center continue to meet or exceed the required minimum ratio. No deviations from the Land Development Regulations are requested. Planning review is sought solely to incorporate the fuel station installation into the previously approved master plan development.

Site Characteristics:

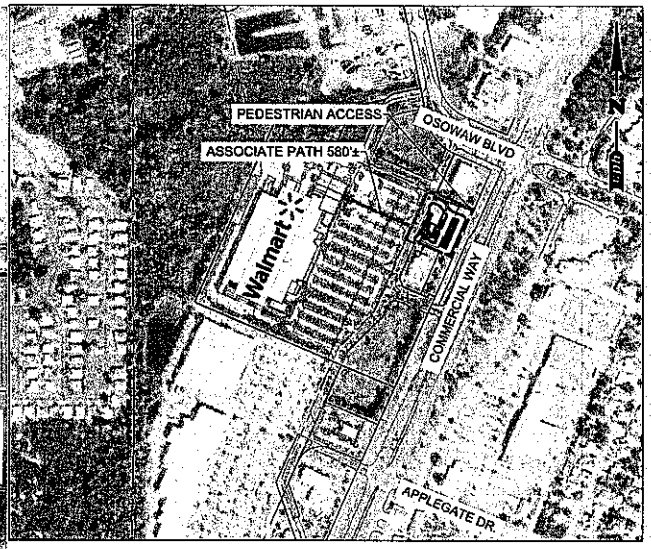
The parent commercial site encompasses approximately 30.14 acres and is currently developed and operated as a retail shopping center with associated parking and internal access drives. The proposed fuel station will occupy a 1.36-acre portion of the existing paved parking area. Existing on-site activities consist primarily of commercial operations, customer parking, and vehicular circulation associated with the active retail uses. No additional uses beyond those identified are present on the site.

Environmental Considerations

The subject property is located within FEMA Flood Zone X, per FEMA FIRM Panel No. 12053C0284E, and is therefore considered to be an area of minimal flood risk. Existing and proposed stormwater drainage will be managed through surface runoff to inlet structures, which will then be conveyed via the existing underground pipe network to the on-site detention ponds. The current site consists predominantly of paved parking areas with intermittent landscaped parking islands, as well as an overgrown treeline along the Commercial Way frontage. There are no water features, wetlands, protected habitats, or other environmentally sensitive natural features present on-site, and therefore no anticipated environmental impacts associated with the proposed development. A Phase I Environmental Site Assessment has been prepared for the project and is included as part of the application submittal.



FUEL STATION
SCALE 1'=60'



OVERALL SITE
SCALE 1'=1000'

BUILDING , CANOPY & TANKS
1,618 SQFT BUILDING - 6 PUMPS INLINE
(3) 20,000 GALLON TANKS
NO WETLANDS, FLOODZONE X
BUILDING HEIGHT = 18'-0"
CANOPY HEIGHT = 17'-8"

N

10 0 10 20
Graphic Scale in Feet

SITE ANALYSIS TABLE

FUEL STATION: 1485 COMMERCIAL WAY, SPRING HILL, FL		
CURRENT ZONE:		PDP
EXISTING WALAMRT PARCEL AREA:		30.14 AC
EXISTING WALAMRT STORE AREA:		217,584 SF
	PARKING COUNT	PARKING RATIO
EXISTING PARKING W/O PICKUP	943 SPACES	4.33 / 1000 SF
EXISTING PARKING W/ PICKUP	961 SPACES	4.42 / 1000 SF
PROPOSED PARKING W/O PICKUP	857 SPACES	3.94 / 1000 SF
PROPOSED PARKING W/ PICKUP	886 SPACES	4.07 / 1000 SF
AGENCY REQ. PARKING	871 SPACES	4.00 / 1000 SF
WALMART REQ. PARKING	871 SPACES	4.00 / 1000 SF
FUEL STATION STORE AREA		1,618 SF
EXISTING WALMART FUEL PARCEL AREA		NA
PROPOSED WALMART FUEL PARCEL AREA		1.36+/- AC
	PARKING COUNT	PARKING RATIO
PROPOSED PARKING	10 SPACES	6.8 / 1000 SF
CITY REQ. PARKING	7 SPACES	4.0 / 1000 SF
WALMART REQ. PARKING	5 SPACES	1 / 375 SF
	BUILDING SETBACK	LANDSCAPE BUFFER
FRONT	125'	5'
REAR	35'	5'
SIDE	20'	5'
SIDE	20'	5'

REVISIONS

cph
500 WEST FULTON STREET
SANFORD, FL 32771
PH: 407.322.6441
www.cphcorp.com

STORE #967
WAL-MART STORES, INC.
1485 COMMERCIAL WAY
SPRING HILL, FLORIDA 34606

Walmart

DATE:
09/08/25
Conceptual PLAN

80

J:\25001\92\CIVIL\DWG\Concepts\Rezoning\967-SpringHill-FL-WMFuel 12.3.2025.dwg Dec 03, 2025 - 1:44pm mss.lemoine

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CERTIFICATE OF ASSISTANT SECRETARY

The undersigned, Amber Graham, an Assistant Secretary of Wal-Mart Real Estate Business Trust; Walmart Fulfillment Services, LLC; Sam's Real Estate Business Trust; Walmart Inc.; Wal-Mart Stores Arkansas, LLC; Wal-Mart Stores Texas, LLC; Wal-Mart Stores East, LP.; Wal-Mart Louisiana, LLC; WSE Management, LLC; Sam's East, Inc.; Sam's West, Inc.; and Wal-Mart Puerto Rico, Inc. (hereinafter collectively referred to as the "Company"), hereby certifies that she has been elected, qualified, and is acting in such capacity and that she is familiar with the facts certified herein and is duly authorized to certify the same, and thus, she hereby certifies the following:

1. **Hunter Hart** currently serves as **Senior Vice President** for the Company. Hunter Hart is authorized to execute documents on behalf of the Company and to delegate the ability to execute documents on behalf of the Company. He has delegated such ability to those positions shown on the attached Exhibit A.

2. **Avie Sassan** currently serves as **Vice President** for the Company. She is authorized to execute documents on behalf of the Company and delegate the signing of documents on behalf of the Company. She has delegated such ability to those positions shown on the attached Exhibit B.

3. **Daniel Cardoso, Levi Jones, Clay Thomas, Casey Fairchild, Livie Vanzandt-Jobe, Frank Rojas, Machelle Terrill, Nick Butler and Coby Stauffer** currently serve in the position of **Senior Project Manager** for the Company and are each authorized to execute documents on behalf of the Company as shown on Exhibit B.

In witness thereof, I have executed this document as of: October 31, 2023 | 08:52 CDT.

Amber Graham

Amber Graham
Assistant Secretary

DocuSign Envelope ID: E9ADFCF2-6F68-448D-9E09-AF4CF034AFA2

Exhibit A

DocuSign Envelope ID: D05CFCD6-EFBB-4C52-8838-32207BAF0C2C

Delegation of Signature Authority

I, Hunter Hart, Senior Vice President of Wal-Mart Real Estate Business Trust; Wal-Mart TRS, LLC; Wal-Mart Realty Company; Wal-Mart Property Co.; Walmart Fulfillment Services, LLC; Sam's Real Estate Business Trust; Sam's TRS, LLC; Sam's Property Co.; Benchmark Realty Advisors, Inc.; Benchmark Resources, Inc.; North Arkansas Wholesale Co., Inc.; Sam's PW, Inc.; Walmart Inc.; Wal-Mart Stores Arkansas, LLC; Wal-Mart Stores Texas, LLC; Wal-Mart Stores East, LP.; Wal-Mart Louisiana, LLC; WSE Management, LLC; Wal-Mart Stores East, LLC; Sam's East, Inc.; Sam's West, Inc.; Wal-Mart.com USA, LLC; Red Kingfisher, LLC; and Wal-Mart Puerto Rico, Inc. (hereinafter collectively referred to as "the Company", hereby delegate to each:

Vice President

that reports to me the authority to sign documents and to delegate the signing of documents on behalf of the Company to their respective teams, down to manager level, in compliance with Walmart U.S. Governance and Operating Standards and all other applicable governance. Delegations executed by the above positions prior to the date of this Delegation of Signature Authority are ratified and approved.

Additionally, the authority to sign financial guarantees on behalf of the Company is hereby delegated to those positions above and such positions may further delegate this authority.

All acts and transactions of individuals in the positions above which were taken or made in good faith and prior to the formal delegation of authority to such position that are consistent with this delegation are hereby ratified and approved.

This Delegation of Signature Authority shall supersede and revoke any signature authority previously granted in the Delegation of Signature Authority from me to the Realty Organization dated September 19, 2023. This Delegation of Signature Authority shall expire the earlier of (i) two (2) years after the date signed, as shown below; or (ii) ten (10) days after I move to a new role or leave the Company.

DocuSigned by:
Hunter Hart
8D12D3DD5001429

Hunter Hart
Senior Vice President, Realty

Date signed: October 30, 2023 | 14:04 CDT

DocuSign Envelope ID: E9ADFCF2-6F68-448D-9E09-AF4CF034AFA2

Exhibit B

DocuSign Envelope ID: 43606BA2-93A6-4B9A-804C-92A5F036CFA6

Delegation of Signature Authority

I, Avie Sassan, Vice President of Walmart Inc.; Wal-Mart Real Estate Business Trust; Wal-Mart TRS, LLC; Wal-Mart Realty Company; Wal-Mart Property Co.; Walmart Fulfillment Services, LLC ; Wal-Mart Stores Arkansas, LLC; Wal-Mart Stores Texas, LLC; Wal-Mart Stores East, LP.; Wal-Mart Louisiana, LLC; WSE Management, LLC; Wal-Mart.com USA, LLC; Sam's Real Estate Business Trust; Sam's TRS, LLC; Sam's East, Inc.; Sam's West, Inc.; Sam's Property Co.; Sam's PW, Inc.; Wal-Mart Stores East, LLC; Red Kingfisher, LLC; and Wal-Mart Puerto Rico, Inc. (hereinafter collectively referred to as "the Company", hereby delegate to:

I. Senior Director, Project Planning, Management, and Architecture

the authority to execute, implement, maintain, amend or renew the following documents, in connection with the design and construction of projects, including but not limited to: Master Service Agreements and Master Professional Service Agreements, including but not limited to Civil Engineering and Architectural Agreements, that have not been altered from the standard form agreement; provided however, if the D&B is less than an 8 or the estimated percentage of business exceeds 50%, then I must approve the agreement; easements; deeds; municipal maintenance agreements, municipal improvement/development agreements, plans and any permit applications or other documents required by various jurisdictions, as long as such contracts are for amounts $2 million or less. Additionally, this position can sign anything the positions listed below can sign.

II. Director, Project Management and Planning
Director, Mechanical Engineering
Director of Architecture

the authority to execute, implement, maintain, amend or renew the following documents, in connection with the design and construction of projects, including but not limited to civil engineering agreements; architectural agreements; easements; deeds; municipal maintenance agreements, municipal improvement/development agreements, plats and any permit applications or other document required by various jurisdictions, as long as such contracts are for amounts $750,000.00 or less.
Also, these positions have the authority to execute, implement, maintain, amend or renew the following:

1. Incentive /Rebate Agreements with Utilities in Concert with the Energy Team.
2. Non-binding 'Partnership' agreements with association/organizations, DOE and/or affiliated National Labs for R&D work such as MOUs, etc.
3. Non-disclosure agreements for tech/product development as it relates to building mechanical systems.
4. Design Initiative (DI) Agreements
5. Special project-based proposals for site improvements in the area of mechanical and electrical systems.

III. Director, Project Management and Planning

the authority to sign standard (using approved contract templates) construction contracts on behalf of the Company as long as such contracts are for an amount of $750,000.00 or less.

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IV. Senior Project Manager

the authority to execute, implement, maintain, amend or renew the following documents, in connection with the design and construction of projects; any affidavits; permits; applications or other similar documents as required by various jurisdictions on behalf of the Company, in their respective capacity for the Company.

All signing authority contained herein must be done in compliance with Walmart U.S. Governance and Operating Standards. All acts and transactions of individuals in the positions above which were taken or made in good faith and prior to the formal delegation of authority to such position that are consistent with this delegation are hereby ratified and approved.

This Delegation of Signature Authority shall supersede and revoke any signature authority previously granted in the Delegation of Signature Authority from Hunter Hart to RE Acceleration & Operations dated September 19, 2023. This Delegation of Signature Authority shall expire the earlier of (i) two (2) years after the date signed, as shown below; or (ii) ten (10) days after I move to a new role or leave the Company.

DocuSigned by:
Avie Sassan
94ED606C25CD43F

Avie Sassan
Vice President

Date signed: October 30, 2023 | 13:24 CDT

PHASE I ENVIRONMENTAL SITE ASSESSMENT

Privileged & Confidential Attorney/Client Work Product
Draft for Review

Walmart #967-1011 Fuel Addition
1485 Commercial Way
Spring Hill Hernando County, Florida
1.45 +/- Acres Within Parcel ID R29 223 17 2608 0000 0020
UES Project No. 0795.2500051
UES Report No. TBD

Report Issuance Date: April 24, 2025
Report Viability Date: October 11, 2025

Prepared for:

CPH, LLC
500 West Fulton Street
Sanford, Florida 32771
ATTN: Alan Carpenter, P.E.
&
Walmart Inc.

Prepared by:

UES Professional Solutions, LLC
9802 Palm River Road
Tampa, Florida 33619
(813) 740-8506
www.TeamUES.com

UES™

Grounded in Excellence

ENVIRONMENTAL PROFESSIONAL CERTIFICATION

Phase I Environmental Site Assessment
Walmart #967-1011 Fuel Addition
1485 Commercial Way
Spring Hill, Hernando County, Florida
1.45 +/- Acres Within Parcel ID # R29 223 17 2608 0000 0020
UES Project No. 0795.2500051 | UES Report No. TBD
Report Issuance Date: April 24, 2025

This Phase I Environmental Site Assessment (ESA) was conducted in accordance with the guidelines of the ASTM E1527-21 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, and therefore, the federal Environmental Protection Agency's All Appropriate Inquiry Rule. The accuracy, correctness and completeness of the Phase I ESA are provided with the knowledge of ASTM E1527-21. In addition, the accuracy, correctness, and completeness of this Phase I ESA are provided with knowledge of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as set forth in 42 United States Code Section 9601 et seq., as amended. Qualifications of the personnel participating in this assessment are provided in **Appendix D**.

Declaration of Environmental Professional and Signature

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all-appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Prepared by:

Zane Pierson, P.G.
Senior Project Manager
zpierson@teamues.com

Reviewed by:

Kurt Hardy, P.E.
Environmental Division Manager
khardy@teamues.com

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Table of Critical Dates

Phase I ESA Component	Date
Report Issuance Date	April 24, 2025
Earliest Date of Interviews with Owners, Operators, and Occupants identified in Section 10 of ASTM 1527-21	April 23, 2025
Date of Search for Recorded Environmental Liens	April 15, 2025
Date of Site Reconnaissance of the Subject Property and Adjoining Properties	Thursday, April 17, 2025
Earliest Date of Interviews, Lien Search, Records Review, and Inspections	April 14, 2025
Report Viability Date	October 11, 2025

UES was retained to conduct a Phase I Environmental Site Assessment (ESA) of the approximately 1.45-acre portion of the Walmart superstore property addressed at 1485 Commercial Way in Spring Hill, Hernando County, Florida (hereafter referred to as the "subject property").

This Phase I ESA was conducted in accordance with (1) the United States Environmental Protection Agency (USEPA) Standards and Practices for All Appropriate Inquiries {(AAI), 40 CFR Part 312} and (2) guidelines established by the ASTM International in the *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process / Designation E 1527-21* (ASTM International Practice E1527-21).

Other than as expressly stated in Section 1.4 herein, this report has been prepared in full compliance with Walmart's Environmental Due Diligence Policy, revised September 1, 2023, and the ASTM E1527-21 Standard Practice for Environmental Site Assessments.

The Phase I ESA for the above-referenced property represents the product of UES's professional expertise and judgment in the environmental consulting industry. This report is certified to, can be relied upon by, and has been prepared for the exclusive use of the following entities: CPH, LLC; Miller Canfield Paddock and Stone, PLC (as Outside Environmental Counsel); Walmart, Inc., a Delaware Corporation; Walmart Fulfillment Services, LLC., a Delaware limited liability company; Walmart Stores East, LP, a Delaware limited partnership; Walmart Louisiana, LLC., a Delaware limited liability company; Walmart Stores Texas, LLC., a Texas limited liability company; and Walmart Real Estate Business Trust, a Delaware statutory trust and their respective successors, assigns, affiliates, and subsidiaries.

ITEM	COMMENTS
Number of Parcels and Acreage	1.45 +/- Acres within Parent Parcel ID R29 223 17 2608 0000 0020
Number of Building(s) and Square Footage	No Buildings
Current Property Use	Parking Lot

The subject property consisted of undeveloped land from as early as 1941 to the late 1990s. The current parking lot on the property, associated with the west adjoining Walmart Superstore, was constructed in 2003. The subject property has not changed significantly from 2003 to the present.

UES has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-21 of the above-referenced 1.45 +/- acres – paved parking area within Walmart Supercenter Store #967-1011 located at 1485 Commercial Way in Spring Hill, Hernando County, Florida. Any exceptions to, or deletions from, this practice are described in Section 1.4 of this report. This assessment has revealed no evidence of recognized environmental conditions (RECS) connected with the subject property.

Historical Recognized Environmental Conditions

A historical REC, as defined in the ASTM Standard, is an environmental condition that in the past would have been identified as a REC, but has been adequately addressed and therefore no longer represents a REC. UES has not identified any historical RECs in association with the subject property.

Controlled Recognized Environmental Conditions

A controlled recognized environmental condition (CREC) as defined in the ASTM Standard is a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with *hazardous substances* or *petroleum products* allowed to remain in place subject to the implementation of required controls (for example, *property* use restrictions, *activity and use limitations*, *institutional controls*, or *engineering controls*). UES has not identified any CRECs in association with the subject property.

Business Environmental Risk Considerations

UES did not identify areas of potential concern associated with business environmental risk (BER) considerations in connection with the subject property during the course of this Phase I ESA.

Vapor Encroachment Condition

UES did not identify vapor encroachment conditions in connection with the subject property during the course of this Phase I ESA.

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Regulatory Database and File Review Correspondence C

APPENDIX D

Professional Resumes ..... D

1.0 INTRODUCTION

This Phase I ESA was conducted in accordance with (1) the United States Environmental Protection Agency (USEPA) Standards and Practices for All Appropriate Inquiries {(AAI), 40 CFR Part 312} and (2) guidelines established by the American Society for Testing and Materials (ASTM) in the *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process / Designation E1527-21* (ASTM Standard Practice E1527-21). Other than expressly stated in Section 1.4 herein, this report has been prepared in full compliance with "Wal-Mart's Environmental Due Diligence Policy," revised September 1, 2023.

Other than as expressly stated in Section 1.4 herein, this report has been prepared in full compliance with Walmart's Environmental Due Diligence Policy, revised September 1, 2023, and the ASTM E1527-21 Standard Practice for Environmental Site Assessments.

The Phase I ESA for the above referenced property represents the product of UES's professional expertise and judgment in the environmental consulting industry. This report is certified to, can be relied upon by, and has been prepared for the exclusive use of the following entities: CPH, LLC; Miller Canfield Paddock and Stone, PLC (as Outside Environmental Counsel); Walmart Inc., a Delaware corporation; Walmart Fulfillment Services, LLC, a Delaware limited liability company; Wal-Mart East, LP, a Delaware limited partnership; Wal-Mart Louisiana, LLC, a Delaware limited liability company; Wal-Mart Texas, LLC, a Texas limited liability company; and Wal-Mart Real Estate Business Trust, a Delaware statutory trust and their respective successors, assigns, affiliates, and subsidiaries.

1.1 Property Overview

ITEM	COMMENTS
Subject Property Location/Address	1485 Commercial Way, Spring Hill, FL
Number of Parcels and Acreage	1.45 +/- Acres within Parent Parcel ID R29 223 17 2608 0000 0020
Number of Building(s) and Square Footage	No Buildings/Structures
Current Property Use	Parking Lot
Current Zoning	13 Department Store

The subject property is located within Section 29, Township 23 North, and Range 17 East, as referenced in the USGS topographic quadrangle maps titled "Aripeka, Florida" provided as **Figure 1** (Site Location Map). Please refer to the Site Plan/2025 Aerial Photograph, **Figure 2**, for additional details pertaining to the subject and surrounding properties. Photographs taken during the site reconnaissance are included in **Appendix A**.

1.2 Purpose and Scope of Service

The primary purpose of this assessment was to conduct an evaluation of the subject property and surrounding properties to identify recognized environmental conditions associated with the past or present uses of the subject property and neighboring properties in an effort to identify *recognized environmental conditions* (RECs), controlled recognized environmental conditions (CRECs), and *historical recognized environmental conditions* (HRECs) in connection with the subject property. This Phase I ESA is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs, CRECs, and HRECs in connection with the subject property.

1.3 Significant Assumptions

Pursuant to ASTM Standard Practice E 1527-21, UES assumes that the information provided by all sources and parties, including the User, is accurate and complete, except where obvious inconsistencies or inaccuracies were identified.

1.4 Limitations, Deviations, and Special Terms and Conditions

There are no deviations from the ASTM Standard. Non-ASTM Scope considerations are included in Section 10.0. Any physical limitations identified during the completion of this report are referenced in Section 7.0.

Due to changing environmental regulatory conditions and potential on-site or adjacent activities occurring after this assessment, the client may not presume the continuing applicability to the subject property of the conclusions in this assessment for more than the report's viability date, per ASTM Standard Practice E 1527-21.

2.0 USER PROVIDED INFORMATION

The ASTM Standard defines a User as "the party seeking to use Practice E1527-21 to complete an environmental site assessment. A User may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, or a property manager." The User has specific obligations for completing a successful application of this practice as outlined in Section 6 of the ASTM Standard Practice E 1527-21.

In order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfield's Revitalization Act of 2001 (the "Brownfield's Amendments") (if desired), the User must provide certain information (if available) identified in the User Questionnaire to the environmental professional. Failure to provide this information could result in a determination that "all appropriate inquiry" is not complete.

The following responses were provided by the User, CPH, LLC, on behalf of Walmart. A copy of the completed User Questionnaire is included in **Appendix B**.

Question	Response
Name of Preparer and User Entity	Matt D'Angelo, Project Manager
Did a search of recorded land title records (or judicial records where appropriate) identify environmental liens (ELs) filed or recorded against the property under federal, tribal, state, or local law (40 CFR 312.26)?	No.
Did a search of recorded land title records (or judicial records where appropriate) identify any activity and use limitations (AULs), such as and/or have been filed or recorded against the property under federal, tribal, state, or local law (40 CFR 312.26)?	No.
Do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business (40 CFR 312.28)?	No.
Does the purchase price being paid for this property reasonably reflect the fair market value of the property?	Unknown
If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?	N/A
As the User of this ESA are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user:	No.
Do you know the past uses of the property?	No.
Do you know of specific chemicals that are present or once were present at the property?	No.
Do you know of spills or other chemical releases that have taken place at the property?	No.
Do you know of any environmental cleanups that have taken place at the property?	No.
As the user of this ESA, based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination at the property?	No.

2.1 Recorded Land Title Records

A chain of title was not conducted for the subject property by UES. The User did not provide UES with chain of title documents for the subject property.

2.2 Reasons for Performing this Phase I ESA

According to the User, this Phase I ESA was conducted as part of environmental due diligence prior to construction activities for a proposed fuel addition to the store on the subject property.

3.0 PHYSICAL SETTING

PHYSICAL SETTING INFORMATION FOR THE SUBJECT PROPERTY & SURROUNDING AREA	
1 Topography: Refer to Figure 1 for an excerpt of the Topographic Map	
Site Elevation	20 feet above sea level
Topographic Gradient	Relatively flat
Closest Surface Water	Retention ponds less than 0.10 mile to the southwest and northwest
2 General Soil Characteristics:	
Soil Type	Candler Fine Sand
Description	Candler Fine Sand consists of excessively-drained sandy and/or eolian marine deposits. These soils are on knolls and ridges on marine terraces. The depth to water is more than 80 inches below land surface (in bls). A typical profile contains fine sand from 0 to 80 in bls. Slopes range from 0 to 5 percent.
Soil Type	Anclote Fine Sand
Description	Anclote Fine Sand consists of very poorly-drained sandy marine deposits. These soils are on depressions on marine terraces. The depth to water is about 0 in bls. A typical profile contains fine sand from 0 to 80 in bls. Slopes range from 0 to 2 percent.
3 Area Specific Geology/Hydrogeology Characteristics:	
Geology	According to the Geologic Map of the State of Florida, 2001, the surficial deposits underlying the site and the general vicinity are classified as Quaternary beach ridge and dunes (Qbd) of Pleistocene and Holocene geologic age. In general these siliciclastics are light gray, tan, brown to black, unconsolidated to poorly consolidated, clean to clayey, silty, unfossiliferous, variably organic-bearing sands to blue green to olive green, poorly to moderately consolidated, sandy, silty clays. These surficial deposits vary in depth but generally extend to depths of approximately 50 to 100 feet below the surface. The surficial siliciclastic deposits are sometimes underlain by the Miocene Undifferentiated Hawthorn Group deposits (Th) in the area. The Hawthorn Group sediments are light olive gray and blue gray, poorly to moderately consolidated, clayey sands to silty clays. The occurrence and thickness of the Hawthorn Group sediments is highly variable due to erosional unconformities and karst features in the underlying limestone lithologies. The Oligocene Suwannee Limestone (Ts) generally lies below the Hawthorn Group sediments in the region. The Suwannee Limestone generally consists of a white to cream, poorly to well indurated, fossiliferous limestone. The upper portion of the limestone is highly variable due to palio-weathering it is not uncommon for limestone to be found at relatively shallow depths (< 50 feet) or at depths greater than 100 feet below the land surface.
Hydrogeology	The Floridan aquifer is semi-confined in this area of Hernando County. The Floridan aquifer system consists of the Upper and Lower Floridan aquifers separated by the middle confining unit. The middle confining unit and the Lower Floridan aquifer in west-central Florida generally contain highly mineralized water. The water-bearing units containing fresh water are herein referred to as the Upper Floridan aquifer. The Upper Floridan aquifer is the principal source of water in the Southwest Florida Water Management District (SWFWMD) and is used for major public supply, domestic use, irrigation, and brackish water desalination in coastal communities (SWFWMD, 2000). According to the Potentiometric Surface of the Upper Floridan Aquifer within the Southwest Florida Management District – May 2017, groundwater flow is generally towards the west and depth to water is less than 10 feet NGVD 1929.
4 Oil and Gas Wells:	
Current Oil and Gas Wells on Subject Property	None
Historical Oil and Gas Wells on Subject Property	None
Sources	

PHYSICAL SETTING INFORMATION FOR THE SUBJECT PROPERTY & SURROUNDING AREA	
1	USGS 7.5-Minute Topographic Maps of "Aripeka, Florida" Quadrangle, Dated 2024. Refer to **Figure 1** for an excerpt of the USGS Topographic Map
2	United States Department of Agriculture, Natural Resource Conservation Service (NRCS), Web Soil Survey (WSS)
3	Available from reasonably ascertainable resources reviewed as part of this Phase I ESA
4	American Geosciences Institute. Interactive Map of Permitted Oil and Gas Wells Florida Geological Survey; Exploration for Oil and Gas in Florida, January 1, 1948

4.0 RECORDS REVIEW

UES reviewed reasonably ascertainable records to identify obvious uses of the subject property from the present, back to the property's obvious first developed use, or back to 1940, whichever is earlier. Reasonably ascertainable records reviewed as part of this Phase I ESA documented the use of the property back to 1941.

4.1 Aerial Photographs and Sanborn Maps

UES reviewed reasonably ascertainable aerial photographs for the subject property area from the EDR Aerial Photograph Decade Package and Google Earth. The following table summarizes the sources reviewed and the information obtained about the subject property from these sources. Aerial photographs are provided in **Appendix B**.

Historical Aerial Photograph Summary

YEAR	SUBJECT PROPERTY	VICINITY
1941	The subject property is undeveloped land (apparent marsh).	The vicinity of the subject property consists of vacant wooded land, marsh, and roads. A road (Commercial Way) borders the east side of the subject property.
1944	The subject property has not changed significantly since the previous aerial photograph.	The vicinity of the subject property has not changed significantly since the previous aerial photograph.
1951	The subject property has not changed significantly since the previous aerial photograph.	The vicinity of the subject property has not changed significantly since the previous aerial photograph.
1958	The subject property has not changed significantly since the previous aerial photograph.	The vicinity of the subject property has not changed significantly since the previous aerial photograph.
1968	The subject property has not changed significantly since the previous aerial photograph.	Commercial structures and roads have been constructed in the vicinity. A wastewater treatment facility is present to the northwest.
1973	The subject property has not changed significantly since the previous aerial photograph.	Homes, commercial developments, retention ponds, and roads have been constructed to the east. A lane has been added to Commercial Way along the east side of the subject property.

Historical Aerial Photograph Summary

YEAR	SUBJECT PROPERTY	VICINITY
1977	The subject property has not changed significantly since the previous aerial photograph.	Homes, commercial developments, retention ponds, and roads have been constructed in the vicinity.
1984	The subject property has not changed significantly since the previous aerial photograph.	Lanes have been cleared through the wooded area on the west adjoining property; this is a spray field associated with the wastewater treatment facility. Homes, commercial developments, and retention ponds have been constructed in the vicinity. A shopping center and elementary school have been developed to the southeast.
1988	The subject property has not changed significantly since the previous aerial photograph.	Homes, commercial developments, and roads have been constructed in the vicinity.
1991	The subject property has not changed significantly since the previous aerial photograph.	Homes have been built in the vicinity.
1995	The subject property has not changed significantly since the previous aerial photograph.	Homes have been built in the vicinity. A road has been constructed to the north of the subject property.
1998	The subject property has not changed significantly since the previous aerial photograph.	Homes, commercial developments, and roads have been constructed in the vicinity.
2007	The subject property is developed with a parking lot associated with the west adjoining Walmart Superstore.	Homes, commercial developments, and roads have been constructed in the vicinity. The current Walmart Superstore is present on west adjoining land and has replaced the former spray field. A strip center has been built on south adjoining land, and a retail store is under construction to the southwest.
2010	The subject property has not changed significantly since the previous aerial photograph.	Commercial developments have been built in the vicinity. A strip center has been built on north-adjoining land and a shopping center has been developed to the southwest.
2015	The subject property has not changed significantly since the previous aerial photograph.	The vicinity of the subject property has not changed significantly since the previous aerial photograph.
2019	The subject property has not changed significantly since the previous aerial photograph.	The vicinity of the subject property has not changed significantly since the previous aerial photograph.
2025	The subject property has not changed significantly since the previous aerial photograph.	The vicinity of the subject property has not changed significantly since the previous aerial photograph.

UES attempted to review reasonably ascertainable Sanborn Fire Insurance Maps for the subject property. EDR conducted a review of Sanborn fire insurance maps based on information pertaining to the subject property location provided by UES. According to EDR, no coverage of the subject property was available.

4.2 Local Street Directories

Historical street directories which list the former businesses and residences at the street addresses of the subject property and the adjoining properties were provided by EDR. Descriptions of UES observations are outlined in the table below. A copy of the EDR City Directory Report is presented in **Appendix B**.

Summary of City Directory Observations

Date	Subject Property (1485 Commercial Way)	Nearby Properties of Concern
2020	Blue Rhino ; Coinstar ; Eco ATM ; Jackson Hewitt Tax Service ; Manvi Kundu ; McDonald's ; Minute Key ; Anthony Pappas OD ; Redbox ; Regal Nails Salon & Spa ; Smartstyle ; Walmart Auto Care Center ; Walmart Bakery ; Walmart Garden Center ; Walmart Grocery Pickup ; Walmart Pharmacy ; Walmart Photo Center ; Walmart Supercenter ; Walmart Vision & Glasses	No listings of concern
2017	Anthony Pappas OD ; Brad Cook OD ; McDonald's ; Redbox ; Regal Nails ; Target ; Verizon Wireless ; Walmart Supercenter	No listings of concern
2014	McDonald's ; Anthony Pappas OD ; Regal Nails	No listings of concern
2010	Diebold Inc. ; McDonald's ; Picture Me Portrait Studios ; Regal Nails ; Vision Center at Walmart ; Walmart Supercenter	No listings of concern
2005	Jackson Hewitt Tax Service ; McDonald's ; Walmart Supercenter	No listings of concern

4.3 Assessing Department

Reasonably ascertainable assessment information provided by the Hernando County Property Appraiser office was obtained and reviewed. Assessing records document that the subject property consists of 1.45 +/- acres of land within the parcel addressed at 1485 Commercial Way in Spring Hill, Hernando County, Florida (HCPA ID R29 223 17 2608 0000 0020). Copies of available assessment records for the subject property and the current legal description are included in **Appendix B**.

4.4 Building Department

The subject property consists of a portion of a parking lot with no buildings or structures. As a result, UES did not contact the building department.

4.5 Fire Department

UES submitted a FOIA request to the Hernando County Fire Department to review Fire Department records for the subject property. UES did not receive a response within the time constraints of this report.

If information is received in the future that would change the conclusions of the report, a supplement will be issued.

4.6 Health Department

UES submitted a FOIA request to the Florida Department of Health to review records for the subject property. UES did not receive a response within the time constraints of this report. If information is received in the future that would change the conclusions of the report, a supplement will be issued.

4.7 Utilities

4.7.1 Municipal Water/Water Wells

Wells were not observed on the subject property.

4.7.2 Sanitary Sewer/Septic System

Septic systems were not observed on the subject property.

4.7.3 Heat Source

Heating sources were not observed on the subject property.

4.8 Underground Storage Tank (UST) Systems

Review of reasonably ascertainable standard and other historical sources, and site observations, have not identified the current and historical presence of USTs on the subject property. Specifically, no records of USTs were identified though review of reasonably ascertainable records and UES did not observe any evidence of USTs (i.e., fill ports, vent pipes, etc.) during the site reconnaissance.

4.9 Previous Environmental Records

UES was not provided with any previous environmental records for the subject property. UES did not find any environmental due diligence assessments during the regulatory records review for the subject property.

4.10 Environmental Liens, Activity and Land Use Limitations, and Government Institutional and Engineering Controls

UES obtained an Environmental Lien Search (ELS) Report for the tax parcel comprising the subject property from Security First Title Resource (SFTR). Environmental liens or other activity and use limitations were not found for the subject property that are filed or recorded under federal, tribal, state, or local laws. A copy of the report is provided in **Appendix B**.

5.0 INTERVIEWS

As part of this Phase I Environmental Site Assessment, interviews were conducted to obtain information regarding the uses and physical characteristics of the subject property. The following persons or agencies were contacted for interviews in an effort to obtain information regarding the subject property.

Interview Summary

Represents	Interviewed Yes	Interviewed No	Name & Title	Time Assoc. with Property	Comments
Current Property Owner	☒	☐	Wal-Mart Stores East LP	Since grand opening on 9/16/1986 (39 years)	The property owner was not aware of any environmental concerns for the subject property. A copy of the completed Owner Questionnaire is provided in **Appendix B**.
Past Property Owner(s)	☐	☒	N/A	N/A	Contact information for past owners of the subject property were not supplied to nor found by UES.
Key Site Manager	☐	☒	Kim Conovey	Unknown	Key site manager contact information was not provided.
Current Occupant(s)	☐	☒	N/A	N/A	The subject property consists of an asphalt parking area, a parking canopy, and landscaped areas and is not occupied.
Former Occupant(s)	☐	☒	N/A	N/A	Prior to development as an asphalt parking area, the subject property was not occupied.
User	☒	☐	CPH, Inc. – Wal-Mart (Big Box)	Unknown	Refer to Section 2.0 for User Questionnaire responses. A copy of the completed User Questionnaire is presented in **Appendix B**.

6.0 SUMMARY OF HISTORICAL USE

The subject property consisted of undeveloped land from as early as 1941 to the late 1990s. The current parking lot, associated with the west adjoining Walmart Superstore, was constructed in 2003. The subject property has not changed significantly from 2003 to the present.

The vicinity of the subject property was undeveloped land from as early as 1941 to the late 1950s. Commercial and residential development began in the 1960s. A wastewater treatment facility was built to the northeast in the 1960s and an adjacent spray field existed from the 1980s to the early 2000s when the spray field was replaced with the current Walmart superstore. The current shopping center was built on the south adjoining property in 2003 and the current shopping center was built on the north adjoining property in 2008. The east adjoining property across Commercial Way has remained undeveloped land.

7.0 SUMMARY OF SITE RECONNAISSANCE

Site Reconnaissance Information	
PM Field Personnel:	Jacob Chatwood
Site Reconnaissance Date:	Thursday, April 17, 2025
Weather Conditions:	78° and Mostly Sunny
Escort:	No escort
Limitations:	No significant limitations encountered

7.1 Subject Property Observations

At the time of UES' assessment, the subject property consisted of a paved parking lot associated with the adjoining Walmart superstore. The subject property's vicinity consists of a Walmart superstore, a parking lot, strip malls, shopping centers, a bank, restaurants, and residential houses.

Review of reasonably ascertainable standard and other historical sources, and site observations, have not identified the potential presence of hazardous substances or petroleum that could result in air quality issues in the future construction.

The following table summarizes the site observations. Affirmative responses are discussed in more detail following the table.

Category	Feature	Observed
Interior Equipment	Elevators	☐ Yes ☒ No
	Air Compressors	☐ Yes ☒ No
	Incinerators	☐ Yes ☒ No
	Waste Treatment Systems	☐ Yes ☒ No
	Presses/Stamping Equipment	☐ Yes ☒ No
	Press Pit	☐ Yes ☒ No
	Hydraulic Lifts or In-ground Hoists	☐ Yes ☒ No
	Paint Booth	☐ Yes ☒ No
	Plating Tanks	☐ Yes ☒ No
	Lathes, Screw Machines, etc.	☐ Yes ☒ No
Aboveground Chemical or Other Waste Storage, Drainage, or Collection Systems	Aboveground Storage Tanks (ASTs)	☐ Yes ☒ No
	Drums, Barrels, and/or Containers >5 gallons	☐ Yes ☒ No
	Chip Hoppers	☐ Yes ☒ No
	Hazardous or Petroleum Waste Streams	☐ Yes ☒ No
	Underground Storage Tanks	☐ Yes ☒ No
	Fuel Dispensers	☐ Yes ☒ No
	Sumps or Cisterns	☐ Yes ☒ No
	Dry Wells	☐ Yes ☒ No
	Oil/Water Separators	☐ Yes ☒ No
	Floor Drains, Trench Drains, etc. – A stormwater drain was observed in a central location on the subject property. No water was observed in the catchment area underneath the drain.	☒ Yes ☐ No
	Pipeline Markers	☐ Yes ☒ No
Exterior Observations	Stressed Vegetation	☐ Yes ☒ No
	Stained Soil or Pavement	☐ Yes ☒ No
	Pad or Pole Mounted Transformers and/or Capacitors	☐ Yes ☒ No
	Soil Piles or Unknown Origin	☐ Yes ☒ No

Category	Feature	Observed
	Exterior Dumpsters with Staining	☐ Yes ☒ No
	Leachate or Other Waste Seeps	☐ Yes ☒ No
	Trash, Debris, and/or Other Waste Materials – trash was observed along the eastern edge of the subject property that primarily consisted of paper goods and beverage containers. This solid waste is not considered a REC for the subject property.	☒ Yes ☐ No
	Uncontrolled Dumping or Disposal Areas	☐ Yes ☒ No
	Surface Water Discoloration, Sheen or Free Product	☐ Yes ☒ No
	Strong, Pungent or Noxious Odors	☐ Yes ☒ No
	Storm water retention or detention ponds	☐ Yes ☒ No
	Pits, ponds, lagoons	☐ Yes ☒ No

7.1.1 Current Operations

At the time of our site reconnaissance, the subject property consisted of a portion of a paved parking lot associated with an adjoining Walmart superstore.

8.0 ADJOINING PROPERTIES

During site reconnaissance, properties adjoining the subject property were observed from the subject property boundaries or from curbside for possible sources of impacts or environmental impairment which could potentially migrate to the subject property via surface water runoff, groundwater transport, or other pathways. The subject property is bordered by the following:

Current Use of Adjoining Land

DIRECTION	ADDRESS	DESCRIPTION
North	1859 Commercial Way	Strip Center
East	Commercial Way	Vacant Land
West	1485 Commercial Way	Walmart Superstore & Parking Lot
South	1525 Commercial Way	Strip Center

Reconnaissance of the publicly accessible portions of the properties located immediately adjoining to the subject property did not reveal visible evidence of environmental concerns which could potentially impact the subject property.

9.0 REGULATORY RECORDS REVIEW

UES retained EDR to provide current regulatory database information compiled by a variety of federal and state regulatory agencies. A copy of the complete database is included in **Appendix C**. The following information was obtained.

Type	Regulatory Agency Database	Approximate Minimum Search Distance (AMSD)	Number of Sites within AMSD
Federal	National Priority List (NPL) Sites	1 mile	0
Federal	Delisted National Priority List (DNPL) Sites	½ mile	0
Federal	Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Sites/ Superfund Enterprise Management System (SEMS)	½ mile	0
Federal	CERCLIS No Further Remediation Action Planned (NFRAP) Sites/ SEMS Archive List	subject property and adjoining properties	0
Federal	Resource Conservation and Recovery Act (RCRA) Corrective Action Report (CORRACTS) Sites	1 mile	0
Federal	RCRA non-CORRACTS Treatment, Storage or Disposal (TSD) Sites	½ mile	0
Federal	RCRA Large Quantity Generators (LQG) Sites	subject property and adjoining properties	0
Federal	RCRA Small Quantity Generators (SQG) Sites	subject property and adjoining properties	0
Federal	RCRA Conditionally Exempt Small Quantity Generators (CESQG) Sites	subject property and adjoining properties	5
Federal	RCRA Non-Generators (NON-GEN) Sites	subject property and adjoining properties	0
Federal	US Brownfield Sites	½ mile	0
Federal	Institutional Control / Engineering Control Registries	subject property	0
Federal	Environmental Response and Notification System (ERNS)	subject property	0
State & Tribal	Hazardous Waste Sites (HWS) (equivalents to NPL and SEMS)	1 mile	0
State & Tribal	Delisted Hazardous Waste Sites (HWS)	1 mile	0
State & Tribal	Solid Waste Facilities/Landfill Sites (SWLF)	½ mile	2
State & Tribal	Historical Landfill Sites (HIST LF)	½ mile	0
State & Tribal	Leaking Underground Storage Tank (LUST) Sites	½ mile	5
State & Tribal	Registered Underground Storage Tank (UST) Sites	subject property and adjoining properties	0
State & Tribal	Institutional Control / Engineering Control Registries	subject property	0
State & Tribal	Brownfield Sites	½ mile	0
State	Baseline Environmental Assessment (BEA) Sites	½ mile	0
Either	Unmappable Database Listings (a.k.a. Orphan Sites)	database-dependent	0

9.1 Subject Property and Occupant Listings

Wal-Mart Supercenter #967, 1485 Commercial Way, Facility ID No. 9805777, was identified as an Aboveground Storage Tank (AST) facility on the subject property's parent parcel. One 800-gallon waste oil

AST was installed in 2003 and removed in 2017 and one 700-gallon waste oil AST was installed in 2017 and is currently in service. No releases were reported.

Walmart Supercenter #967, 1485 Commercial Way, EPA ID: FLR000096826, was identified as a hazardous waste very small quantity generator on the subject property's parent parcel. According to the most recent Hazardous Waste Inspection Report dated October 28, 2010, this facility received two violations for improperly labeled used oil filter and used oil containers that were corrected on-site and no enforcement action was taken.

9.2 Adjoining and Nearby Sites

UES' review of the referenced databases also considered the potential or likelihood of contamination from adjoining and nearby sites. To evaluate which of the adjoining and nearby sites identified in the regulatory database report present an environmental risk to the subject property, UES considered the following criteria:

- The type of database on which the site is identified.
- The topographic position of the identified site relative to the subject property.
- The direction and distance of the identified site from the subject property.
- Local soil conditions in the subject property area.
- The known or inferred groundwater flow direction in the subject property area.
- The status of the respective regulatory agency-required investigation(s) of the identified site, if any.
- Surface and subsurface obstructions and diversions (e.g., buildings, roads, sewer systems, utility service lines, rivers, lakes, and ditches) located between the identified site and the subject property.

Only those sites that are judged to present a potential environmental risk to the subject property and/or warrant additional clarification are further evaluated. Using the referenced criteria, and based upon a review of readily available information contained within the regulatory database report, UES did not identify adjoining (i.e., bordering) or nearby sites (e.g., properties within a ¼ or ½ mile radius) listed in the regulatory database report that were judged to present a potential environmental risk to the subject property with the exception of the following facilities discussed in the table below:

Facilities Identified Within the Minimum Search Distance

NAME/FACILITY ID	Motiva Enterprises (Former 1 #24-204-1329) / 8520227
ADDRESS	5288 Spring Hill Dr
DISTANCE/DIRECTION	0.11 mi NE
HYDROLOGIC POSITION	Up-gradient
DATABASES LISTED	LUST, UST
DISCUSSION	This closed retail gas station reported petroleum releases on 12/30/1987 and 12/20/2004. Cleanup is complete for both releases.

NAME/FACILITY ID	The Washing Well / SQG_34279
ADDRESS	1498 Pinehurst Dr
DISTANCE/DIRECTION	0.17 mi E
HYDROLOGIC POSITION	Up-gradient
DATABASES LISTED	Drycleaners
DISCUSSION	No information was available on OCULUS database. No releases have been reported.

In addition to reviewing the EDR report, UES performed reconnaissance of the property vicinity to identify any sites not mapped by EDR due to inadequate or inaccurate address information (orphan sites) and to look for unregistered facilities. No additional petroleum facilities or potential hazardous material facilities were observed within a half mile of the subject property during the field reconnaissance performed by UES.

9.3 Vapor Encroachment/Intrusion Assessment

The purpose of a Vapor Encroachment Screening (VES) is to identify to the extent feasible pursuant to the procedures presented in the Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transaction (ASTM E2600-22). The VES is intended to be used independently or in conjunction with, but not as a replacement of, existing Practice E1527-21 Phase I ESA.

Vapor migration refers to the movement of *hazardous substances* or *petroleum products* vapor in the subsurface. A vapor encroachment condition (VEC) is defined as the presence of likely presence of chemicals of concern (COC) vapors in the subsurface of the subject property caused by the release of vapors from contaminated soil and/or groundwater either on or near the subject property.

UES conducted a Tier 1 Vapor Encroachment Screening (VES) for the subject property in accordance with ASTM E 2600-22. The Tier 1 screening process utilizes the information collected as part of this Phase I ESA. The Area of Concern (AOC) for the purpose of this VES is 1/3 mile (1,760 feet) for COC and 1/10 mile (528 feet) for petroleum hydrocarbon COC. The approximate minimum search distances for Federal, Tribal and State-listed facilities surrounding the subject property are presented in the table below.

Approximate Minimum Search Distance Surrounding the Subject Property (ASTM E2600-22)

Source	COC	Petroleum Hydrocarbon COC
Federal NPL Site List	1/3 mile	1/10 mile
Federal SEMS List	1/3 mile	1/10 mile
Federal RCRA CORRACTS Facilities List	1/3 mile	1/10 mile
Federal RCRA Non-CORRACTS TSD Facilities List	1/3 mile	1/10 mile
Federal RCRA Generators List	Subject property only	Subject property only
Federal Institutional Control/Engineering Control Registries	Subject property only	Subject property only
Federal ERNS List	Subject property only	Subject property only
State and Tribal Equivalent NPL	1/3 mile	1/10 mile
State and Tribal Equivalent SEMS	1/3 mile	1/10 mile
State and Tribal Landfill and/or Solid Waste Disposal Site Lists	1/3 mile	1/10 mile

Approximate Minimum Search Distance Surrounding the Subject Property (ASTM E2600-22)

Source	COC	Petroleum Hydrocarbon COC
State and Tribal Leaking UST/AST Lists	1/3 mile	1/10 mile
State and Tribal UST/AST Lists	Subject property only	Subject property only
State and Tribal Institutional Control/Engineering Control Registries	Subject property only	Subject property only
State and Tribal Voluntary Cleanup Sites	1/3 mile	1/10 mile
State and Tribal Brownfield Sites	1/3 mile	1/10 mile

No sites with current or suspected contamination were identified by EDR within the MSD surrounding the subject property.

Based on our regulatory records review detailed in Sections 9.1 and 9.2, and the EDR Vapor Encroachment Screen, facilities with known or suspected contamination that would be considered a concern to the subject property were not identified; therefore, no vapor encroachment conditions were identified in connection with the subject property.

10.0 BUSINESS RISK CONSIDERATIONS

Although not required by the ASTM 1527-21 standard, based on Wal-Mart's Phase I ESA Requirements, UES has evaluated the following business environmental risk considerations for the subject property.

10.1 Asbestos-Containing Building Materials

UES was not contracted to perform an asbestos-containing building material (ACBM) survey as part of this assessment. Universal conducted a limited visual survey of the subject property building as part of this Phase I ESA site visit. Bulk sampling and analysis were not part of the scope of work for this project. Federal regulations banned the use of friable (material that can be crumbled by hand pressure when dry) ACM in the early 1980's. However, Category I non friable ACM (including but not limited to resilient floor covering, mastics, gaskets and asphalt roofing products) and Category II non-friable ACM (including but not limited to cement board, drywall and joint compounds) were not banned and are still used.

Prior to demolition or renovation activities, a more in-depth evaluation should be conducted. This would typically include a comprehensive asbestos survey with bulk sampling and laboratory analyses, a review of building construction documents and information available from manufacturers of the various materials, or a combination of these. If asbestos is detected (greater than one percent), interpretation of applicable local, state and federal regulations, pursuant to demolition/renovation, is warranted.

The subject property is a paved parking lot constructed in 2003. Based on the age of the pavement, there is a low potential that asbestos-containing materials would have been used.

10.2 Lead-Based Paint

UES was not contracted to perform a lead-based paint survey as part of this assessment.

Lead Based Paint (LBP) activities are governed by various regulations and guidelines. The regulations and guidelines are focused on the protection of building occupants, protection of the environment, disposal procedures, and worker protection. Components that appear painted, glazed, shellacked, varnished, and/or stained are potential indicators of the possible presence of LBP. In 1978, federal regulations banned the residential and commercial use of lead-based paints. However, the industrial use of LBP was allowed to continue.

The subject property is a paved parking lot constructed in 2003. Based on the age of the pavement, there is a low potential that lead-based paint would have been used.

10.3 Indoor Air Quality

Review of reasonably ascertainable standard, government record, and other historical sources, and site observations, have not identified the presence of hazardous substances or petroleum that could result in air quality issues in the area of the concrete paved area.

10.4 Lead in Drinking Water

UES reviewed the 2023 Annual Quality Water Report provided by the City of Spring Hill. According to the report, no maximum contaminant level (MCL) violations were found.

The subject property is a paved parking lot with no potable water access. Based on this, UES has not identified a risk of exposure related to the on-site plumbing in the vicinity of the asphalt paved parking area.

10.5 Environmental Regulatory Compliance

UES did not identify any documentation or make any observations related to violations of environmental regulations at the subject property and UES does not have reason to believe that the subject property is out of compliance with any environmental regulations.

10.6 Cultural, Historical, and Archeological Resources

Review of reasonably ascertainable standard and other historical sources, and site observations, have not identified the presence of cultural, historic, or archeological resources on or near the subject property. UES reviewed data received from the Florida Master Site File – Division of Historical Resources. The Florida Master Site File is a paper file archive and computer database of all known historical structures and archaeological sites in Florida. No previously recorded archaeological sites are listed on the subject property.

UES also reviewed the Florida State Register of Historic Sites and the National Register of Historic Places Information System. No sites of historical significance were identified on the subject property or any of the adjoining properties.

10.7 Wetlands and Surface Waters

UES reviewed the U.S. Fish and Wildlife Service National Wetland Inventory (NWI) Map, which documented no regulated wetlands on the subject property. Emergent wetlands were identified 350 feet south of the subject property. The nearest surface water body is a freshwater pond on the northwest adjoining property (approximately 150 feet northwest).

10.8 Threatened, Endangered, and Other Protected Species

The subject property is developed with the current paved parking lot. Site observations did not identify the obvious presence of threatened, endangered or protected species. UES' evaluation of threatened and endangered species was limited and should not preclude a properly executed site-specific threatened and endangered species survey.

10.9 Wildlife Sanctuaries and Other Resource Preserves

Review of reasonably ascertainable standard and other historical sources, and site observations, have not identified the presence of wildlife sanctuaries or other natural resource preserves on or near the subject property.

10.10 Radiological or Biological Agents

Review of reasonably ascertainable standard and other historical sources, and site observations, have not identified the potential presence of radiological or biological agents on or near the subject property.

10.11 Mold

UES did not observe evidence of mold at the subject property.

10.12 Potential PCB and Mercury Containing Equipment

Older transformers and other electrical equipment could contain PCBs at a level that subjects them to regulation by the United States Environmental Protection Agency (U.S. EPA). PCBs in electrical equipment are controlled by U.S. EPA regulations 40 CFR, Part 761. The ASTM Standard requires identification of electrical or hydraulic equipment, not including light ballasts, that are known to contain PCBs or likely to contain PCBs. UES did not observe potential PCB or mercury containing equipment on the subject property.

10.13 Potential CFC-Containing Equipment

Chlorofluorocarbons (CFC) have been widely used as refrigerants, propellants (in aerosol applications), and solvents. During the site reconnaissance, UES did not observe any potential CFC-containing equipment on the subject property.

10.14 Tritium Exit Signage

Tritium is a naturally occurring radioactive isotope of hydrogen that is often used to light up a sign without batteries or electricity. Tritium exit signs will glow without batteries or electricity for more than ten years. No radiation is emitted from a working, unbroken, tritium exit sign. Damage to tritium exit signs is most

likely to occur when a sign is dropped during installation or broken in the demolition of a building. During the site reconnaissance, the subject property consisted of a paved parking lot. Therefore, UES did not observe any tritium exit signs at the subject property.

10.15 Potential Impacts/Implications of Environmental Issues for Site Development and Construction

UES is unaware of any environmental issues that could impact or have implications related to the proposed expansion activities at the subject property.

11.0 FINDINGS, OPINIONS AND CONCLUSIONS

11.1 Significant Data Gaps

UES did not encounter any significant data gaps during the preparation of this Phase I ESA.

11.2 Recognized Environmental Conditions (RECs)

UES has performed a Phase I Environmental Site Assessment Update in conformance with the scope and limitations of ASTM Practice E 1527-21 of the approximately +/- 1.45 acre property addressed at 1485 Commercial Way in Spring Hill, Hernando County, Florida. Any exceptions to, or deletions from, this practice are described in Section 1.4 of this report. This assessment has not revealed evidence of RECs connected with the subject property.

11.2A Controlled Recognized Environmental Conditions (CRECs)

This assessment has not revealed evidence of controlled recognized environmental conditions connected with the subject property.

11.3 Historical Recognized Environmental Conditions (HRECs)

UES has not identified any historical RECs in association with the subject property.

11.4 Business Environmental Risk Considerations

UES has not identified any BERs in association with the subject property.

11.5 Statement of Compliance

We have performed a Phase I Environmental Site Assessment Update in conformance with the scope and limitations of ASTM Practice E 1527-21 of the 1.45 +/- acre property addressed at 1485 Commercial Way in Spring Hill, Hernando County, Florida. Any exceptions to, or deletions from, this practice are described in Section 1.4 of this report.

12.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONAL(S)

Please refer to the Environmental Professional Certification page for signatures of the environmental professionals who prepared and reviewed this Phase I ESA. Qualifications of personnel participating in this assessment are provided in **Appendix D**.

13.0 REFERENCES

13.1 Standards

ATSM International, Standard Practice for: Environmental Site Assessments: Phase I Environmental Site Assessment Process, Designation E1527-21, November 2021

ATSM International, Standard Practice for: Vapor Encroachment Screening on Property Involved In Real Estate Transactions, Designation E 2600-22, May 2022

13.2 Property Records

Hernando County Property Appraiser, Property Records, Legal Description, Zoning and Land Use Information. Available online at: https://hernandopa-fl.us/

13.3 Regulatory and Historical Resources

EDR; Regulatory Database Report, Historical Aerials, USGS Topographic Maps, City Directories, and Vapor Encroachment Screen, Order No. 7956720, dated April 14, 2025.

United States Environmental Protection Agency, Facility Registry System (FRS). Available online at: https://enviro.epa.gov/facts/myproperty/

OCULUS Electronic Document Management System, FDEP Regulatory Files Review for Storage Tanks, Hazardous Waste, Solid Waste and Waste Cleanup Program Areas. Available online at: https://depedms.dep.state.fl.us/Oculus/servlet/login

Florida Department of Environmental Protection, Map Direct Application (Institutional Controls Registry (ICR) Map). Available online at: https://ca.dep.state.fl.us/mapdirect/?webmap=cff8d21797184421ab4763d3e4a01e48

Florida Department of State, Florida Division of Historical Resources, Florida Master Site File

National Park Service's National Register of Historic Places

United States Fish & Wildlife Service (USFWS), Wetlands Mapper. Available online at: https://www.fws.gov/wetlands/data/Mapper.html

United States Fish and Wildlife Service IpaC. Available online at: https://ecos.fws.gov/ipac/

United States Fish and Wildlife Service – Find a Refuge Interactive Map. Available online at: https://www.fws.gov/refuges/find-a-wildlife-refuge/

Florida Natural Areas Inventory, Florida Conservation Lands
Available online at: https://www.fnai.org/webmaps/ConLandsMap/

13.4 Physical Setting Sources

United States Geological Survey, Digital US Topographic Maps, 7.5-Minute Quadrangle Map "Aripeka, Florida," dated 2024. Available online at: http://www.usgs.gov/

United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS). Available online at: http://websoilsurvey.nrcs.usda.gov/app/

USDA NRCS; Soil Survey of Hernando County, Florida

Florida Geological Survey; Interactive Map of Permitted Oil and Gas Wells in Florida. Available online at: https://fdep.maps.arcgis.com/home/webmap/viewer.html?webmap=a5d360cf9fa644148e035c3a501bdf6b

United States Geological Survey; Interactive Map of Historical Oil and Gas Wells in the United States. Available online at:
https://certmapper.cr.usgs.gov/data/energyvision/index.html?config=config_Historical.json

Florida Geological Survey; Exploration for Oil and Gas in Florida, January 1, 1948

Southwest Florida Water Management District
2379 Broad Street, Brooksville, Florida 34604-6899
(352) 796-7211 or 1-800-423-1476 (FL only)
SUNCOM 628-4150 TDD only 1-800-231-6103 (FL only)
On the Internet at: WaterMatters.org

An Equal Opportunity Employer

Bartow Service Office
170 Century Boulevard
Bartow, Florida 33830-7700
(863) 534-1448 or
1-800-492-7862 (FL only)

Sarasota Service Office
78 Sarasota Center Boulevard
Sarasota, Florida 34240-9770
(941) 377-3722 or
1-800-320-3503 (FL only)

Tampa Service Office
7601 Highway 301 North
Tampa, Florida 33637-6759
(813) 985-7481 or
1-800-836-0797 (FL only)

November 19, 2025

Wal-Mart Stores East, LP
Attn: Frank Rojas
2608 SE J. Street
Bentonville, AR 72716

Subject: **Notice of Intended Agency Action - Approval**
ERP Minor Modification

Project Name:	Walmart Fuel - Spring Hill
App ID/Permit No:	926630 / 43017754.013
County:	Hernando
Letter Received:	September 25, 2025
Expiration Date:	November 19, 2030
Sec/Twp/Rge:	S29/T23S/R17E

Dear Permittee(s):

The Southwest Florida Water Management District (District) has completed its review of the application for Environmental Resource Permit modification. Based upon a review of the information you have submitted, the District hereby gives notice of its intended approval of the application.

The File of Record associated with this application can be viewed at http://www18.swfwmd.state.fl.us/erp/erp/search/ERPSearch.aspx and is also available for inspection Monday through Friday, except for District holidays, from 8:00 a.m. through 5:00 p.m. at the District's Tampa Service Office, 7601 U.S. Highway 301 North, Tampa, Florida 33637.

If you have any questions or concerns regarding the application or any other information, please contact the Environmental Resource Permit Bureau in the Tampa Service Office.

Sincerely,

David Kramer, P.E.
Bureau Chief
Environmental Resource Permit Bureau
Regulation Division

cc: Matthew D'Angelo, P.E., CPH, LLC

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7601 Highway 301 North
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(813) 985-7481 or
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November 19, 2025

Wal-Mart Stores East, LP
Attn: Frank Rojas
2608 SE J. Street
Bentonville, AR 72716

Subject: **Notice of Agency Action - Approval**
ERP Minor Modification

Project Name:	Walmart Fuel - Spring Hill
App ID/Permit No:	926630 / 43017754.013
County:	Hernando
Letter Received:	September 25, 2025
Expiration Date:	November 19, 2030
Sec/Twp/Rge:	S29/T23S/R17E

Dear Permittee(s):

The Southwest Florida Water Management District (District) is in receipt of your application for the Environmental Resource Permit modification. Based upon a review of the information you submitted, the application is approved.

This modification to Environmental Resource Permit (ERP) No. 44017754.006 authorizes the following:

1. The construction of a convenience store, fueling station with canopy and associated site improvements. The project will occur within a parking area constructed under ERP No. 44017754.006. The proposed building and parking area will not result in an increase in impervious area, therefore no modifications to the master stormwater management system are required.

2. All other terms and conditions of Permit No. 44017754.006, dated April 1, 2002 and entitled Wal-Mart #967-01 U.S. 19 & Spring Hill Drive, apply.

Please refer to the attached Notice of Rights to determine any legal rights you may have concerning the District's agency action on the permit application described in this letter.

If approved construction plans are part of the permit, construction must be in accordance with these plans. These drawings are available for viewing or downloading through the District's Application and Permit Search Tools located at www.WaterMatters.org/permits.

The District's action in this matter only becomes closed to future legal challenges from members of the public if such persons have been properly notified of the District's action and no person objects to the District's action within the prescribed period of time following the notification. The District does not publish notices of agency action. If you wish to limit the time within which a person who does not receive actual written notice from the District may request an administrative hearing regarding this action, you are strongly encouraged to publish, at your own expense, a notice of agency action in the legal advertisement section of a newspaper of general circulation in the county or counties where the activity will occur. Publishing notice of agency action will close the window for filing a petition for hearing. Legal requirements and instructions for publishing notices of agency action, as well as a noticing form that can be used, are available from the District's website at www.WaterMatters.org/permits/noticing. If you publish notice of agency action, a copy of the affidavit of publication provided by the newspaper should be sent to the District's Tampa Service Office for retention in this permit's File of Record.

If you have any questions or concerns regarding your permit or any other information, please contact the Environmental Resource Permit Bureau in the Tampa Service Office.

Sincerely,

David Kramer, P.E.
Bureau Chief
Environmental Resource Permit Bureau
Regulation Division

Enclosures: Notice of Rights
cc: Matthew D'Angelo, P.E., CPH, LLC

Notice of Rights

ADMINISTRATIVE HEARING

1. You or any person whose substantial interests are or may be affected by the District's intended or proposed action may request an administrative hearing on that action by filing a written petition in accordance with Sections 120.569 and 120.57, Florida Statutes (F.S.), Uniform Rules of Procedure Chapter 28-106, Florida Administrative Code (F.A.C.) and District Rule 40D-1.1010, F.A.C. Unless otherwise provided by law, a petition for administrative hearing must be filed with (received by) the District within 21 days of receipt of written notice of agency action. "Written notice" means either actual written notice, or newspaper publication of notice, that the District has taken or intends to take agency action. "Receipt of written notice" is deemed to be the fifth day after the date on which actual notice is deposited in the United States mail, if notice is mailed to you, or the date that actual notice is issued, if sent to you by electronic mail or delivered to you, or the date that notice is published in a newspaper, for those persons to whom the District does not provide actual notice.

2. Pursuant to Subsection 373.427(2)(c), F.S., for notices of intended or proposed agency action on a consolidated application for an environmental resource permit and use of state-owned submerged lands concurrently reviewed by the District, a petition for administrative hearing must be filed with (received by) the District within 14 days of receipt of written notice.

3. Pursuant to Rule 62-532.430, F.A.C., for notices of intent to deny a well construction permit, a petition for administrative hearing must be filed with (received by) the District within 30 days of receipt of written notice of intent to deny.

4. Any person who receives written notice of an agency decision and who fails to file a written request for a hearing within 21 days of receipt or other period as required by law waives the right to request a hearing on such matters.

5. Mediation pursuant to Section 120.573, F.S., to settle an administrative dispute regarding District intended or proposed action is not available prior to the filing of a petition for hearing.

6. A request or petition for administrative hearing must comply with the requirements set forth in Chapter 28-106, F.A.C. A request or petition for a hearing must: (1) explain how the substantial interests of each person requesting the hearing will be affected by the District's intended action or proposed action, (2) state all material facts disputed by the person requesting the hearing or state that there are no material facts in dispute, and (3) otherwise comply with Rules 28-106.201 and 28-106.301, F.A.C. Chapter 28-106, F.A.C. can be viewed at www.flrules.org or at the District's website at www.WaterMatters.org/permits/rules.

7. A petition for administrative hearing is deemed filed upon receipt of the complete petition by the District Agency Clerk at the District's Tampa Service Office during normal business hours, which are 8:00 a.m. to 5:00 p.m., Monday through Friday, excluding District holidays. Filings with the District Agency Clerk may be made by mail, hand-delivery or facsimile transfer (fax). The District does not accept petitions for administrative hearing by electronic mail. Mailed filings must be addressed to, and hand-delivered filings must be delivered to, the Agency Clerk, Southwest Florida Water Management District, 7601 Highway 301 North,Tampa,FL 33637-6759. Faxed filings must be transmitted to the District Agency Clerk at (813) 367-9788. Any petition not received during normal business hours shall be filed as of 8:00 a.m. on the next business day. The District's acceptance of faxed petitions for filing is subject to certain conditions set forth in the District's Statement of Agency Organization and Operation, available for viewing at www.WaterMatters.org/about.

JUDICIAL REVIEW

1. Pursuant to Sections 120.60(3) and 120.68, F.S., a party who is adversely affected by District action may seek judicial review of the District's action. Judicial review shall be sought in the Fifth District Court of Appeal or in the appellate district where a party resides or as otherwise provided by law.

2. All proceedings shall be instituted by filing an original notice of appeal with the District Agency Clerk within 30 days after the rendition of the order being appealed, and a copy of the notice of appeal, accompanied by any filing fees prescribed by law, with the clerk of the court, in accordance with Rules 9. 110 and 9.190 of the Florida Rules of Appellate Procedure (Fla. R. App. P.). Pursuant to Fla. R. App. P. 9.020(h), an order is rendered when a signed written order is filed with the clerk of the lower tribunal.

DRAINAGE CONNECTION PERMIT

To be completed by DOT

Drainage Connection Permit No. 2025-D-798-00085 Date 9/25/2025

Received By One-Stop Permitting System Maintenance Unit 798

State Road No. 55 Work Program Project No. N/A

Section No. 020 Construction Project No. N/A

Milepost 1.765 - 1.932 LT Station N/A

Instructions for Drainage Connection Permit

Pursuant to 14-86.004(5), F.A.C. Once approved by the Department, the drainage connection application and supporting documents become the Drainage Connection Permit."

Each completed Drainage Connection Permit package shall include the following items. If an item does not apply to your project, indicate "Not Applicable" or "N/A."

Included	Part	Title	Completed by:	Special Instructions
✓	1	Permit Information Sheet	Applicant	
✓	2	Certification by a Licensed Professional	Licensed Professional	Signed and Sealed
✓	3	Certification	Applicant	Signature
✓	4	Owner's Authorization of a Representative	Owner	Signature
✓	5	Affidavit of Ownership or Control and Statement of Contiguous Interest	Owner	Signature
✓	6	Permit General Conditions	FDOT	
✓	7	Permit Special Conditions	FDOT	
	8	As-Built Certification	Licensed Professional	Signed and Sealed – Submit within 15 working days of completion of construction
✓	Attachment	Legal Description		
✓	Attachment	Photographs of Existing Conditions		
✓	Attachment	Location Map		
✓	Attachment	Grading Plan	Licensed Professional	Signed and Sealed
✓	Attachment	Soil Borings		
✓	Attachment	Water Table / Percolation		
✓	Attachment	Calculations		
	Attachment	CD with Electronic Files of all Submittal Items		Scanned Images in pdf format

Note: Different Licensed Professionals may complete parts of the permit package. For example, the Licensed Professional signing and sealing the as-built certification may be different from the Licensed Professional who signed and sealed the calculations for the permit package.

EXCEPTIONS: Activities that qualify for an Exception are listed in Rule 14-86, F.A.C. A permit application to the Department is NOT required. However, if you desire verification whether the work qualifies for an exception, send a completed copy of this permit package with its requested information to the applicable FDOT District Office.

Approved
2025-D-798-00085
James A. Meyer
1/15/2026

PART 1 – Permit Information Sheet

Select one: ☑ **Permit** ☐ **Exception**

Pursuant to 14-86.002(2), F.A.C. "Applicant means the owner of the adjacent property or the owner's authorized representative."

Applicant

Select one: ☐ Property Owner ☑ Owner's Representative (Complete Part 4)

Name: Matthew D`Angelo

Title and Company: Permitting Coordinator, CPH, INC.

Address: 5601 Mariner Street Suite 105

City: Tampa State: Florida Zip: 33609

Telephone: (813) 288-0233 ext. _____ FAX: _____ Email: cphwcpermits@cphcorp.com

Property Owner (If not applicant)

Name: Frank Rojas

Title and Company: Sr. Design Manager, Wal-Mart Stores East LP

Address: PO Box 8050 MS 0555

City: BentonVille State: Arkansas Zip: 72712

Telephone: (479) 970-6184 ext. _____ FAX: _____ Email: frank.rojas@walmart.com

Applicant's Licensed Professional

Name: Matthew D'angelo Florida License Number: 91885

Title and Company: Project Manager, CPH, LLC

Address: 5601 W Mariner St

City: Tampa State: Florida Zip: 33609

Telephone: (813) 288-0233 ext. _____ FAX: _____ Email: mdangelo@cphcorp.com

Project Information:

Project Name: Walmart Fuel Station @ 1485 Commercial Way [Permit] (28.458764, -82.628392)

Location: SR 55
STREET SR. NO. US HWY NO. CITY

Hernando 020
COUNTY SECTION(S) TOWNSHIP(S) RANGE(S)

*Geographic Coordinates: Latitude (DMS.SSS): 28.4578246874517 Longitude (DMS.SSS): -82.6280933111171

Benchmark Horizontal Datum: (/ _____.)

* State Plane Coordinates: Northing 0 Easting: 0

Projection Zone: ☐ Florida North ☐ Florida East ☐ Florida West

Coordinate shall be the center of the driveway intersection with FDOT R/W, or, if there is no driveway connection, near the center of the property line nearest the state highway.

**Check with the FDOT Office for requirement.*

Approved
2025-D-798-00085
James A. Meyer
1/15/2026

Brief description of facility and proposed connection:
The proposed facility is a Walmart Fuel Station located within the Walmart Supercenter parcel at 1485 Commercial Way, Spring Hill, FL. The project includes a ±1,618 SF convenience store, fuel canopy, underground storage tanks, and paved circulation areas. Stormwater runoff from the new impervious surfaces will connect to the existing Walmart site's permitted stormwater management system, ensuring proper conveyance, treatment, and discharge without adverse impacts to surrounding properties or drainage facilities.

Briefly describe why this activity requires a Drainage Connection Permit (Include where the stormwater will discharge to FDOT right of way):
This activity requires a Drainage Connection Permit because the proposed Walmart Fuel Station will generate stormwater runoff from new impervious surfaces, including the convenience store, fueling canopy, and paved circulation areas. The project will connect to and utilize the existing Walmart site's approved stormwater management system, which ensures proper conveyance, treatment, and discharge of runoff.A permit is required to authorize this new connection and to confirm that post-development drainage will not adversely impact the surrounding properties, roadways, or public drainage facility

Approved
2025-D-798-00085
James A. Meyer
1/15/2026

PART 2 – Certification by a Licensed Professional

In accordance with Rule 14-86, Florida Administrative Code (F.A.C.), I hereby certify that the following requirements are and/or will be met.

This project has been designed in compliance with all applicable water quality design standards as required by state or federal governmental entity(ies).

14-86.004(3)(f) (F.A.C.): Certification by a Licensed Professional that the complete set of plans and computations complies with one of the following Rules Sections:

☒ 14-86.003(2)(a) (F.A.C.), or ☐ 14-86.003(2)(b) (F.A.C). (check one)

I further certify that a National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharges associated with industrial activity from construction sites

☒ is required ☐ is not required. (check one)

I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

This certification shall remain valid for any subsequent revision or submittal of plans, computation or other project documents by me.

Name of Licensed Professional: Matthew D'angelo

Florida License Number: 91885

Company Name (if applicable): CPH, LLC

Certificate of Authorization Number (if applicable): _____

Address: 5601 W Mariner St suite 105

City: Tampa State: Florida Zip: 33609

Telephone: 813-288-0233 Fax: _____ Email: mdangelo@cphcorp.com

MATTHEW S. D'ANGELO
LICENSE
No. 91885
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by matthew d'angelo, pe on the date adjacent to the seal.

Matthew S D'Angelo

Digitally signed by Matthew S D'Angelo
DN: C=US, O=Unaffiliated, dnQualifier=A01410C000001979EDF19720015A747, CN=Matthew S D'Angelo
Reason: I am the author of this document
Location:
Date: 2025.09.22 11:41:59 -04'00'
Foxit PDF Editor Version: 13.0.1

Approved
2025-D-798-00085
James A. Meyer
1/15/2026

PART 3 – Certification by Applicant

I hereby certify that the information in this submittal is complete and accurate to the best of my knowledge.

Applicant's Signature: M. D'Angelo Date: 9/22/2025

Name (Printed): Matthew D`Angelo

Title and Company: Project Manager, CPH, LLC.

Address: 5601 Mariner Street, Suite 105 Tampa, Florida 33609

Phone Number: (813) 288-0233 ext. _____ E-mail address: cphwcpermits@cphcorp.com

PART 4 – Owner's Authorization of a Representative

I (we), the owner, WAL-MART STORES EAST LP, do hereby authorize the following person, or entity, as my representative:

Name (Printed): Matthew D`Angelo

Title and Company: Project Manager, CPH, LLC.

Address: 5601 Mariner Street, Suite 105 Tampa, Florida 33609

Phone Number: (813) 288-0233 ext. _____ E-mail address: cphwcpermits@cphcorp.com

Part 5 – Affidavit of Property Ownership or Control and Statement of Contiguous Interest

I, WAL-MART STORES EAST LP, certify that I own or lawfully control the following described property:

Does the property owner own or have any interests in any adjacent property?

☐ No ☑ Yes If yes, please describe.

Wal-mart Supermarket located on the same property

Owner's Signature required for Parts 4 and/or 5

We will not begin on the drainage connection until I receive the Permit and I understand all the conditions of the Permit. When work begins on the connection, I am accepting all conditions listed in the Permit.

Name (Printed): WAL-MART STORES EAST LP

Address: PO Box 8050 MS 0555, BentonVille, Arkansas 72712

Phone Number: 479.721.4527

Signature: _____ Date: 9/22/2025

Approv
2025-D-798
James A. Meyer
1/15/2026

PART 6 – Permit General Conditions

1. This permit is a license for permissive use only and does not convey any property rights either in real estate or material, or any exclusive privilege and it does not authorize any injury to private property or invasion of private rights, or any infringement of Federal, State or local laws, rules or regulations; nor does it obviate the necessity of obtaining any required state or local approvals.

2. The drainage connection as authorized herein shall be constructed and thereafter maintained in accordance with the documents attached hereto and incorporated by reference herein. All work performed in the Department's right of way shall be done in accordance with the most current Department standards, specifications and the permit provisions. Such construction shall be subject to the inspection and approval of the Department, and the Department may at any time make such inspections as it deems necessary to assure that the drainage connection is in compliance with this permit.

3. The entire expense of construction within the Department right of way, including replacement of existing pavement or other existing features, shall be borne by the permittee.

4. The permittee shall maintain that portion of the drainage connection authorized herein located on permittee's property in good condition. The Department shall maintain that portion of the drainage connection authorized herein located within its right of way.

5. If the drainage connection is not constructed, operated or maintained in accordance with this permit, the permit may be suspended or revoked. In this event modification or removal of any portion of the drainage connection from the Department's right of way shall be at the permittee's expense.

6. The Department reserves the right to modify or remove the drainage connection to prevent damage or in conjunction with road improvements.

7. It is understood and agreed that the rights and privileges herein set out are granted only to the extent of the Department's right, title, and interest in the land to be entered upon and used by the permittee, and the permittee will, at all times, assume all risk of and indemnify, defend and save harmless the Department from and against any and all loss, damage, cost or expense arising in any manner on account of the exercise or attempted exercises by said permittee of these rights and privileges, regardless of the respective degrees of fault of the parties.

8. Utilities, including gas lines, may exist within the right of way. Prior to beginning work the permittee shall contact Sunshine State One Call of Florida, Inc at 811 or 800-432-4770, who will notify all utility owners near the scheduled project. The utility owners have two (2) full business days to provide locations of their respective facilities. The permittee shall be solely responsible for any damage to or conflicts with gas lines, utilities and/or third persons.

9. The permittee shall notify the Department of Transportation Maintenance Office located at Brooksville Operations Phone (352) 848-2600 ext. _____ 48 hours in advance of starting any work on the drainage connection authorized by this permit and also 24 hours prior to any work within the Department's right of way. Construction of any work on the right of way shall be completed within 90 days after such notification. If such construction is not completed within 90 days after such notification, the permittee shall notify the Department of the anticipated completion date.

10. This permit shall expire if construction on the drainage connection is not begun within one year from the date of approval and if construction on the drainage connection is not completed by (Date) 1/15/2027.

11. A permittee may request an extension of the Drainage Connection Permit expiration date by filing a written request for a permit time extension. All requests for time extensions must be received by the Department 15 working days prior to the expiration date.

12. All the provisions of this permit shall be binding on any assignee or successor in interest of the permittee.

Approved
2025-D-798-00085
James A. Meyer
1/15/2026

PART 7 – Permit Special Conditions – To be completed by FDOT

The above request has been reviewed and has been found to meet the regulations as prescribed in Rule 14-86, F.A.C., and is hereby approved, subject to the following special conditions:

Contact FDOT James Meyer 48 hours before working in FDOT R/W 352-848-2610, to activate permit and schedule Pre-Construction Meeting.

Department of Transportation:

Signature James A. Meyer

Title MAINTENANCE MANAGER/PERMITS Date 1/15/2026

Approved
2025-D-798-00085
James A. Meyer
1/15/2026

PART 8 – As-Built Certification

Within 15 working days of completion of construction, you must send this certification to the Department office in which you filed your DOT Drainage Permit.

1. STORMWATER FACILITY INFORMATION

Permit No.: _____

Source (Project) Name: _____

Source Location: Street _____

City: _____ County: _____

Source Owner: _____

Owner Address: _____

2. AS-BUILT CERTIFICATION

I hereby certify that this stormwater facility has been built substantially in accordance with the certified design plans, and that any substantial deviations (noted below) will not prevent the facility from functioning in compliance with the requirements of Chapter 14-86 F.A.C. when properly maintained and operated. These determinations have been based upon on-site observation of construction, scheduled and conducted by me or by a project representative under my direct supervision.

Name of Licensed Professional: _____

Florida License Number: _____

Company Name (if applicable): _____

Certificate of Authorization Number (if applicable): _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone: _____ Fax: _____ Email: _____

_____
Signature of Licensed Professional

_____
Date

(Affix Seal)

Substantial deviations from the approved plans and specifications (attach additional sheets if required).

_____

2023-D-130-00085
James A. Meyer
1/15/2026

ADDITIONAL WORK LOCATIONS:

Street / State Road ID / US Hwy Number: SR 55
City:
County: Hernando
Sections: 020
Township(s):
Range(s):
Latitude: 28.4592492675756 Longitude: -82.6273998917722
Horizontal Datum:
State Plane Coordinate: Northing: 0
State Plane Coordinate: Easting: 0
Projection Zone:
Is on Turnpike: No

Street / State Road ID / US Hwy Number: SR 55
City:
County: Hernando
Sections: 020
Township(s):
Range(s):
Latitude: 28.4572111472065 Longitude: -82.6283919539718
Horizontal Datum:
State Plane Coordinate: Northing: 0
State Plane Coordinate: Easting: 0
Projection Zone:
Is on Turnpike: No

Approved
2025-D-798-00085
James A. Meyer
1/15/2026

Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JARED W. PERDUE, P.E.
SECRETARY

1/14/26

Matthew D'angelo, PE
CPH, LLC
5601 W Mariner St Suite 105
Tampa, FL 33609

Project Name: Walmart Fuel Station
Permit Number: 25-D-798-00085
County: Hernando
SR: 55
Roadway Section Number: 020 000
MP: 19.514-19.569
Submittal Date: 11/3/25
Resubmittal Date: 1/8/26
Turn lane within FDOT right-of-way proposed: No
Right-of-way donation requested: No

Dear Mr. D'angelo:

We have received your submittal for a Drainage Connection Permit (DCP). The status of your drainage permit request is:

☒ DCP is in compliance with 14-86.003(1) and is recommended for approval

☐ Additional information is required for DCP approval (see attached)

FDOT will not accept partial submittals; all submittals must be complete and signed and sealed. Please respond to the attached comments or stipulations in writing to the maintenance office specified below.

☒ Access Management
Attn: Donald Marco, P.E.
11201 N. McKinley Road, MS 7-1300
Tampa, FL 33612

☐ Pinellas Operations
Attn: Chris Gregory, CPM
5211 Ulmerton Road, MS 7-1210
Clearwater, FL 33760

☒ Brooksville Operations
Attn: James Meyer
16411 Springhill Drive, MS 7-1260
Brooksville, FL 34604

☐ Tampa Operations
Attn: Todd Croft
2820 Leslie Road, MS 7-1250
Tampa, Florida 33619

If you have any questions, please contact Justin An at (813) 975-6599.

Sincerely,
Justin An
Justin An
District Seven Drainage Designer III
cc: Abdul Waris, P.E., District Drainage Engineer

Approved
2025-D-798-00085
James A. Meyer
1/15/2026

FDOT DISTRICT 7 – F.A.C. 14-86
DRAINAGE CONNECTION PERMITS
Project-Specific Approval Stipulations

General:

1. Provide the Drainage Department with as-builts drawings for all onsite and offsite improvements associated with the project prior to project closeout.

2. The submitted drainage documentation and construction plans have been reviewed and determined to be in compliance with Rule Chapter 14-86. All previous review comments have been addressed with respect to drainage review. We have no further comments and recommend approval of their Drainage Connection Permit.

3. It should not be assumed that the drainage review is intended to be all inclusive of errors and omissions. The consultant is solely responsible for technical accuracy, engineering judgment and quality of their work.

Approved
2025-D-798-00085
James A. Meyer
1/15/2026

SEE THE PERMIT - PART 2: Engineer responsible for inspection, PART 3: Completion date, PART 4: General Provisions, PART 5: Special Provisions.

SPECIAL PROVISIONS

This Permit subject to the following provisions, conditions and stipulations: This Permit issuances DOES NOT in any way approve the applicant's plan.

1. **Notification:** Contact the Florida Department of Transportation (FDOT) 48 hours before starting construction. (A pre-construction meeting and **liability insurance is required for all permits –see Permit Category, Permit page 1, part 1 Permit Information).**

   Contact: James Meyer, Permits Manager OR David Skrelunas Brooksville Operations Program Engineer
   16411 Spring Hill Dr. Brooksville, FL.34604 * 352- 848-2600 Monday -Thursday 7:00 A.M. to 5:30 P.M.
2. **Work and Material Standards -Specifications:** ***The FDOT standards, specifications and Permit take priority over the permittee's plans.*** All construction work and materials must (mandatory) be FDOT certified and in conformance with the latest edition of the FDOT *Standard Plans for Road and Bridge Construction (Standard Plans), Utility Accommodation Manual, Standard Specifications (Spec.s), Florida Design Manual* and *Flexible Pavement Design Manual for New Construction and Pavement Rehabilitation.*
3. **Maintenance of Traffic:** All Maintenance of Traffic (TTC) signs and markings (including for bicycles, sidewalks and pedestrians), for lane/road closures, detours and right of way work for construction and/or maintenance must be in conformance with the *Standard Plans 102 - 600 series (use appropriate SP for the work type - multi or two lanes, urban or rural roadways).* All work only during daytime unless otherwise approved, and off-peak work hours may be required. All night work or overnight MOT must be approved by the FDOT. Submit lane closure calculations as required. All MOT must be set up and maintained by a certified MOT work site safety supervisor.
4. **Driveway/Connection Design:** The driveway must be in conformance with the *Standard Plans 000-515* (Rural or Urban) including the radius, slopes and remove/replace the paved shoulder in front of the driveway (see Pavement Structure) to a matching roadway structural section. The driveway profile grade maximum is 10% for commercial and 28% for residential. Urban flared driveway with sidewalk must have the correct walkaround, flares, slopes, ramps and detectable warnings. See *Standard Plans 522-001, 522-002 and 000-515 sheets 2,3,4 of 7.*
5. **Roadway Widening Design:** All rural or urban roadway widening for more lanes in conjunction with a driveway must match existing roadway and slope (usually 2-3%) with a 11 feet wide outside paved shoulder (usually 5 feet wide with 6% slope paved and 6 feet wide 6% slope unpaved shoulder, left turn lane shoulders match existing median shoulders). The shoulder front ditch slope is usually 1 (rise) to 6 (run). Maintain clear recovery zone distances and if required use guardrails and handrails for excessive slopes and obstructions. The widening approach solid/skip striping pattern must be in conformance with *Standard Plan 711-001, sheet 5-14*.
6. **Drainage - Mitered End Sections:** All project drainage should be away from the FDOT roadway and right-of-way. The connection must drain away from the roadway for at least 5 feet. A Drainage Permit or exemption is required for any drainage work within or discharge to the FDOT right of way. The driveway and mitered end section *(Standard Plan 430-022)* including (correctly sized with beveled/radii corners and splash pads), pipe size and type, shoulder width and 1v:4h side slopes must be in conformance with *Standard Plan 430-022, 430-001 and 000-515.* All other drainage work and materials must be in conformance with F.D.M. and *Standard Plan 425-001 to 524-001*.
7. **Construction Stages –Time Period:** The permittee's engineer is responsible for inspection. All construction must be done in stages with each stage (for example) subgrade, base, etc. inspected and approved by the FDOT (or the inspection must be waived by the FDOT) before starting the next stage. Complete the construction in a timely manner and within one year of issuance as noted on the permit.
8. **Turn Lanes - Sight Distance:** The median opening and spacing, left turn lane transitions, queues and lengths must be in conformance with FDM. The sight distance and length must be in conformance with FDM.
9. **Signs and Striping:** All traffic signs, striping, raised pavement markers and pavement markings must be in conformance with FDOT Standard *Plan 11000 and 17000 series*. See *Standard Plan* for pavement markings, thermoplastic and traffic signs. Apply thermoplastic 14 days (no wait for concrete) after paving and apply interim striping until thermoplastic is applied. Remove existing striping by mill and resurface with matching asphalt (water blasting and grinding are not allowed). A rural commercial driveway must have at a minimum a high intensity reflective 36" R1-1 STOP sign with a 24" wide stop bar located between 12-25 feet away from the roadway.
10. **Sod and Erosion Control**: All areas in the right of way disturbed during construction must be restored, compacted, sodded and watered in conformance with the *Standard Specifications, Section 104* and *Standard Plan 570-001, 570-010.* Excess shoulder lime rock must be removed or mixed with a sufficient amount of soil and fertilizer to ensure growth. During construction install erosion control, silt fences, turbidity barriers etc. in conformance with *Standard Specifications, Section 104*, NPDES/DEP and SWPPP (Stormwater permit/plan) requirements.
11. **Pavement:** The mainline widening etc. (and the mainline shoulder in front of the connection must be removed and replaced), MUST match the mainline thickness, type of stabilization, base and structural course, friction course (FC), and aggregates etc. (course or fine graded), unless otherwise directed by the FDOT/engineer. Submit approved testing laboratory certification for the design mix and density test results. The density tests must be a minimum of 3 per section of widening for each lift, unless otherwise directed by the FDOT/engineer. The paving seam lines must align with striping, and if needed use compatible mill and overlay, resurface, leveling etc., over entire existing roadway to reduce old/new pavement joints. **Driveway Pavement:** The minimum driveway pavement section: (this driveway pavement is not for the mainline and does not replace a better or match existing pavement or as specified by the FDOT/engineer. For roadway widening see Pavement Design Manual design criteria; traffic volumes, rural/urban, multi/single lanes, loads, soil, speed etc.):

    A. Sub-base: Stabilized 12 inch below the base* or ***Skip to Option A-1***
    Base: 8-inch-thick primed lime rock (double course – 4-inch lifts) or B-12.5 (Superpave asphalt base) if required
    Surface: 1.5-inch-thick asphalt type SP or type S (and **FC shoulder as needed) (and/or match existing structural & FC)

    A-1. Sub-base: No sub grade is required
    Base: 12-inch-thick primed lime rock (6-inch lifts) * or B-12.5 (Superpave asphalt) if required (1.5 x 8" = 12" base)
    Surface: 1.5-inch-thick asphalt surface type SP or type S and **FC as needed (and/or match existing structural & FC)

    or B. Sub-base: No compaction specified*
    Base: 8-inch-thick Sand Asphalt Hot Mix (triple course – 3 lifts) 800 lb. stability
    Surface: 1.5-inch-thick asphalt type SP or type S and **FC as needed

    or C. 6-inch-thick of FDOT approved Class I 3000 psi concrete (6" for traffic bearing & 4" for sidewalk) on suitable soil with expansion joints as required. See *Standard Specifications 346 and 350*

    * The sub-base (stabilization) must extend 4 inches beyond the base above and/or the base must extend 4 inches beyond the pavement section above (or 4 inches beyond back of curb)
    **The FC may not be required on low volume/speed driveways beyond the mainline shoulder, providing the mainline and driveway surface difference ("lip") does not exceed the limit.
12. **Lime rock Base:** The lime rock base material must be from a FDOT approved source. At no time must a lift course thickness exceed 6 inches. The lime rock base must be in conformance with FDOT *Design Standards 514* and *Standard Specifications, Section 200.* The Type B-12.5 asphalt black base may be required by the FDOT to expedite work or for wet conditions etc.
13. **Site/Other Approvals/Permits**: The permittee must comply with all federal, state, county and local ordinances with proof of local site plan approval, Southwest Florida Water Management District and Turnpike District permits/approval, utility company notifications/locates and coordination with other FDOT projects etc. This connection must not be of any cost to the FDOT or interfere with other or FDOT projects.
14. **Quality Control and Acceptance:** The permittee and/or permittee's engineer is/are responsible for inspecting the work and materials and meet all FDOT indices, standards, specifications, conditions, qualified/approved/certified products and provisions of the permit. Submit a *Record Drawings Report by Permittee's Professional Engineer* (FDOT form 850-040-19) and AS BUILTS (if needed). The permit issuance

Approved
2025-D-798-000085
1/15/2026

does not relieve the permittee, contractor and engineer from complying with FDOT requirements. The FDOT must accept the driveway BEFORE the driveway may be used. G:\PermitACCESS\Brooksville Forms\Permit Attachments - FDOT Attach this for permit issueance\PERMIT ATTACHMENT Special Provisions.doc

Approved
2025-D-798-00085
James A. Meyer
1/15/2026

Florida Department of Transportation

Stormwater Pollution Prevention

Background

The National Pollutant Discharge Elimination System (NPDES) is a stormwater permitting program managed by the Florida Department of Environmental Protection (FDEP) which regulates construction activities that disturb one or more acres of land. Projects less than one acre may be regulated if the activity is part of a larger common plan of development or sale that will exceed the one-acre threshold. Disturbance includes clearing, grading, and excavating. The NPDES program also regulates municipal storm sewer systems that serve highways, area roads, and streets in your neighborhood.

Requirements for Regulated Activities

- Obtain and abide by Department of Environmental Protection (DEP) Generic Permit for Construction Activities.
  https://floridadep.gov/water/stormwater/content/guidance-and-web-links
- Obtain and abide by Water Management District permits, as applicable.
  https://www.swfwmd.state.fl.us/business/epermitting/environmental-resource-permit
- Obtain and abide by appropriate local permitting requirements.

For more information regarding NPDES Generic Permits for Construction Activities, please visit:
https://floridadep.gov/water/stormwater/content/construction-activity
To apply using the online FDEP Business Portal, please visit:
https://www.fldepportal.com/DepPortal/go/home

Preventing Illicit Discharges & Water Pollution

Illicit Discharges are point sources of discharge which negatively impact stormwater, which eventually drains into local natural water systems. The most effective way to eliminate these discharges is to dispose of pollutants correctly.

Below are common examples:

- Yard clippings and leaves
- Fertilizers and herbicides
- Pet waste
- Trash
- Used motor oil and filters
- Antifreeze and transmission fluid
- Paint
- Solvent and degreaser
- Cooking grease

For more information on the proper disposal of wastes contact FDEP at: (813)-470-5700

Contacts:

To report *illicit discharges,* please contact the appropriate representative listed below:

Citrus County	Citrus County BOCC – Engineering	Primary:(352)-527-5446
Hernando County	Hernando County Stormwater	Primary:(352)-754-4062
Hillsborough County	Hillsborough County Environmental Protection Commission	Primary:(813)-627-2600 Alternate:(813)-744-5671
Pasco County	Pasco County Stormwater	Primary:(727)-834-3611
Pinellas County	Pinellas County Environmental Management	Primary:(727)-464-4187 Alternate:(727)-464-4703
FDOT Right-of-Way	District Maintenance	Primary:(813)-975-6639

Environmental Protection Agency (EPA) Spill Response Hotline: 1-800-424-8802
For EPA spill and environmental violation information, please visit: https://www.epa.gov/pesticide-incidents/how-report-spills-and-environmental-violations

Approved
2025-D-798-00085
James A. Meyer
1/15/2026

CONSTRUCTION PLANS FOR

Walmart

STORE NO. 967-1011

FUEL STATION

HERNANDO COUNTY / FLORIDA 34606

SECTION 29 - TOWNSHIP 23 SOUTH - RANGE 17 EAST

LEGAL DESCRIPTION:

(PER TITLE COMMITMENT FILE NUMBER 33684)

LOT 2 OF HUNTLEY SUBDIVISION, ACCORDING TO THE MAP OR PLAT THEREOF AS RECORDED IN PLAT BOOK 33, PAGE 5, OF THE PUBLIC RECORDS OF HERNANDO COUNTY, FLORIDA.

CONTAINING 1,057,446 SQUARE FEET OR 24.28 ACRES MORE OR LESS.

PERMIT NO:

SWFWMD: 926830

FDOT DRAINAGE : 2025-D-798-00085

VICINITY MAP
SCALE: 1" = 3,000'

OWNER/DEVELOPER

WAL-MART STORES EAST, LP
2608 SE J. STREET
BENTONVILLE, AR 72716
PHONE: (479) 273 - 4000
ATTN.: MARK ASPLUND

ENGINEER

CPH, LLC
5601 MARINER ST STE 105
TAMPA, FLORIDA 33609
PHONE: (813) 288-0233
ATTN.: MATTHEW D'ANGELO, P.E.

LANDSCAPE ARCHITECT

CPH, LLC
500 W. FULTON STREET
SANFORD, FLORIDA 32771
PHONE: (407) 322-6841
ATTN.: GALEN J. PUGH, RLA

BUILDING ARCHITECT

WD PARTNERS
7007 DISCOVERY BLVD.
DUBLIN, OHIO 43017
PHONE: (614) 634-7114
ATTN.: LOREN McALLISTER

APPROVAL AGENCIES

HERNANDO COUNTY
PLANNING AND GROWTH MANAGEMENT
MIKE WILLIAMS
601 E. KENNEDY BLVD, 16TH FLOOR
TAMPA, FL. 33602
(813) 272-5600

STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION
FDEP - SOUTHWEST DISTRICT
113051 TELECOM PKWY. N
TEMPLE TERRACE, FL. 33637
(813) 470-5700

WATER MANAGEMENT DISTRICT
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD ST.
BROOKSVILLE, FL. 34604
(352) 796-7211

PARCEL ID: R29 223 17 2608 0000 0020

UTILITY RESPONSIBILITY MATRIX FOR THIS PROJECT

	UTILITY/ GOVERNING AGENCIES CONTACTS	* CONTRACTOR RESPONSIBILITY–	* OTHERS RESPONSIBILITY–
TELEPHONE	CENTURY LINK CENTULINK INTERNET 3639 E. ADAMS ST. HERNANDO, FLORIDA 34442 (352) 224–9118	–COORDINATE CONSTRUCTION ACTIVITIES WITH TELEPHONE COMPANY TO ENSURE INSTALLATION OF UNDERGROUND LINES ARE COMPLETED PRIOR TO ASPHALT OR CURB PLACEMENT –PROVIDE AND INSTALL 2"-4" SCHEDULE 40 PVC CONDUITS WITH PULL ROPES, INCLUDING ALL TRENCHING AND BACKFILLING, FROM THE RISER POLE UP TO THE BUILDING –PROVIDE AND INSTALL PULL BOXES AS PER TELEPHONE COMPANY REQUIREMENTS	–TELEPHONE COMPANY WILL PROVIDE AND INSTALL ALL TELEPHONE CABLES FROM THE POINT OF CONNECTION UP TO THE BUILDING – CENTURY LINK –ANY RELOCATION OF EXISTING WILL BE DONE BY CENTURY LINK
ELECTRIC	WITHLACOOCHIE RIVER ELECTRIC COOPERATIVE 10005 CORTEZ BLVD. SPRING HILL, FLORIDA 34613 (352) 596–4000	–COORDINATE CONSTRUCTION ACTIVITIES WITH ELECTRIC COMPANY AT LEAST 6 WEEKS PRIOR TO PAVING AND CURB INSTALLATION TO ENSURE INSTALLATION OF UNDERGROUND LINES ARE COMPLETED PRIOR TO ASPHALT OR CURB PLACEMENT –COORDINATE PICK–UP OF CONDUIT AND SPLICE BOXES WITH LEE COUNTY ELECTRIC COOPERATIVE –INSTALL 3"–2" SCHEDULE 40 PVC CONDUITS WITH PULL ROPES, INCLUDING TRENCHING AND BACKFILLING, FOR THE UNDERGROUND PORTIONS OF THE PRIMARY FROM THE RISER POLE UP TO THE TRANSFORMER. SCHEDULE 80 PVC CONDUITS SHALL BE USED ON THE RISER POLE AND RIGID METAL, LONG RADIUS, ELBOWS SHALL BE USED WHERE THE UNDERGROUND PORTION MEETS THE RISER POLE AND TRANSFORMER –CONSTRUCT TRANSFORMER AND JUNCTION BOX PAD AS PER THE ELECTRIC COMPANY'S SPECIFICATIONS –PROVIDE AND INSTALL ALL SECONDARY SERVICE AND MATERIALS	–ELECTRIC COMPANY WILL PROVIDE AND INSTALL ALL MATERIALS NEEDED TO ESTABLISH PRIMARY OVERHEAD SERVICE FROM POINT OF CONNECTION AT THE EXISTING LINE UP TO THE TRANSFORMER – LEE COUNTY ELECTRIC COOPERATIVE –ELECTRIC COMPANY WILL PROVIDE AND INSTALL PRIMARY CABLE FOR ALL UNDERGROUND LINES UP TO THE TRANSFORMER – LEE COUNTY ELECTRIC COOPERATIVE –ANY RELOCATION OF EXISTING LINES, CONVERTERS OR POLES WILL BE DONE BY FLORIDA POWER AND LIGHT
WATER & SEWER	HERNANDO COUNTY UTILITY DEPARTMENT 15365 CORTEZ BLVD. BROOKVILLE, FLORIDA 34613 (352) 754–4037	–PROVIDE AND INSTALL ALL WATER MAINS AND ASSOCIATED APPURTENANCES PER THE PLANS AND SPECIFICATION –ALL PUBLIC AND PRIVATE WATER MAINS SHALL BE DUCTILE IRON PIPE –ALL PORTIONS OF THE FIRE PROTECTION WATER SYSTEM SHALL BE INSTALLED BY A LICENSED FIRE SPRINKLER CONTRACTOR –ALL PORTIONS OF OTHER NON FIRE PROTECTION RELATED LINES MAY BE INSTALLED BY THE PLUMBING CONTRACTOR –COORDINATE REQUIRED INSPECTION SERVICES WITH ENGINEER OF RECORD AND LEE COUNTY UTILITIES. SEE UTILITY PLAN FOR REQUIREMENTS –CONTRACTOR SHALL CONSTRUCT WATER SERVICE TO THE CORPORATION STOP. –DOMESTIC TAP FROM THE POINT OF CONNECTION AT THE EXISTING LINE UP TO AND INCLUDING SETTING OF METER AT THE PROPERTY LINE WILL BE BY THE LEE COUNTY UTILITIES –ANY RELOCATION OF EXISTING WILL BE DONE BY LEE COUNTY UTILITIES –PROVIDE AND INSTALL SANITARY SEWER LINES AND ASSOCIATED APPURTENANCES PER THE PLANS AND SPECIFICATION –ALL PUBLIC AND PRIVATE SANITARY SEWER LINES SHALL BE PVC AND RATED SDR 35 –COORDINATE REQUIRED INSPECTION SERVICES WITH ENGINEER OF RECORD AND LEE COUNTY PUBLIC WORKS. SEE UTILITY PLAN FOR REQUIREMENTS	–THE UTILITY COMPANY SHALL PROVIDE AND INSTALL WATER METERS NOTE: CONTRACTOR TO ADHERE TO THE MORE STRINGENT REQUIREMENTS EITHER SET FORTH HERE OR WITHIN CITY OF CAPE CORAL ENGINEERING DESIGN STANDARDS
THIS MATRIX HAS BEEN PROVIDED FOR INFORMATIONAL PURPOSES. THE CONTRACTOR SHALL PROVIDE ANY AND ALL APPURTENANCES, TRENCHING AND BACKFILL, AND OTHER INCIDENTALS TO MEET OR EXCEED THE SPECIFICATIONS OF THE ITEMS LISTED.			

* RESPONSIBILITIES TO BE DETERMINED UPON COORDINATION WITH THE APPROPRIATE ENTITIES

Digitally signed by Matthew S D'Angelo
DN: CN=Matthew S D'Angelo, dnQualifier=A01410C000001979EDF19720015A747, C=Unaffiliated, C=US
Date: 2025.12.05 14:47:28-05'00'

Matthew S D'Angelo

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C0.1	COVER SHEET
C0.2	GENERAL NOTES
C0.3	GENERAL SITE NOTES
C1.1	DEMOLITION PLAN
C1.2	SITE DIMENSION PLAN
C1.2A	TRUCK TURNING EXHIBIT
C1.3	SITE GRADING PLAN
C1.4	COMPOSITE UTILITY PLAN
C1.4A	FIRE TRUCK TURNING PLAN
C1.5	SECTIONS SHEET
C1.6	GROUT INJECTION PLAN
C4.1	SWPPP NOTES
C4.2	SWPPP IMPLEMENTATIONS SEQUENCE AND LIMITS OF WORK
C4.3	PHASE 1 EROSIONS AND SEDIMENTATION CONTROL PLAN
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C4.5	SWPPP DETAILS
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IR5.2	IRRIGATION DETAILS

NOTES:

1. **THE SITEWORK FOR THIS PROJECT SHALL MEET OR EXCEED THE "WAL-MART STANDARD SITEWORK SPECIFICATIONS."**
2. **ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICES.**
3. **ENGINEER SEAL DOES NOT COVER SURVEY SHEETS V0.1 THROUGH V1.5, LANDSCAPE PLANS, TREE RETENTION PLANS, PHOTOMETRIC PLANS AND DETAILS, AND REGIONAL UTILITIES DETAIL SHEETS.**

THE SIZE OF THESE PLANS MAY HAVE BEEN SLIGHTLY ALTERED BY REPRODUCTION PROCESSES. THIS MUST BE CONSIDERED WHEN SCALING ANY REPRODUCED PLANS FOR THE PURPOSE OF COLLECTING DATA.

VERTICAL DATUM: NAVD 83

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Plans Prepared By:
CPH, LLC
A Full Service A & E Firm

MATTHEW S. D'ANGELO LICENSE No. 91885 STATE OF FLORIDA PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by Matthew D'Angelo. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies

CELEBRATING 40 YEARS

No.	Date	Revision

Designed: XX
Drawn: XX
Checked: XX
Job No.: UT-XXXX-XX
Date: 12/05/2025 © 2025

COVER SHEET

Walmart

STORE NO. 967-1011 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS

Sheet No.
C0.1

Approved
D-798-00085
Matthew A. Meyer
12/5/2025

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GENERAL PROVISIONS

1. THE CONTRACTOR SHALL OBTAIN FROM THE OWNER COPIES OF ALL AVAILABLE REGULATORY AGENCY PERMITS AND LOCAL AGENCY PERMITS.
2. CONTRACTOR, AS PART OF THE BASE BID, SHALL FIELD LOCATE ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA WITHIN THE 30 DAYS OF PROJECT AWARD. CONTRACTOR SHALL REVIEW THE PLANS AND SHALL NOTE ANY DISCREPENCIES TO THE ENGINEER IMMEDIATELY.
3. CONTRACTORS, AS PART OF THE BASE BID, SHALL PROVIDE ALL COORDINATION WITH UTILITY PROVIDERS TO PROVIDE FOR THE MATERIALS AND WORK NEEDED TO PROVIDE SERVICES TO THE PROJECT.
4. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE FOR ALL DEMOLITION OF ABOVE GROUND AND UNDERGROUND IMPROVEMENTS IN ORDER TO CONSTRUCT THE PROPOSED IMPROVEMENTS NOTED ON THE PLANS. UNLESS APPROVED IN WRITING FROM THE OWNER, ALL MATERIALS SHALL BE REMOVED FROM THE SITE AS PART OF THE BASE BID.
5. ALL DETAILS AND REFERENCES TO FDOT REFER TO THE LATEST EDITION OF THE FDOT DESIGN STANDARDS.
6. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATION OF ALL UTILITY ENTRANCES TO INCLUDE SANITARY SEWER LATERALS, DOMESTIC AND FIRE PROTECTION WATER SERVICE, ELECTRICAL, TELEPHONE AND GAS SERVICE. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES, IN SUCH A MANNER AS TO AVOID CONFLICT AND ASSURE PROPER DEPTHS ARE ACHIEVED AS WELL AS COORDINATING WITH UTILITY REQUIREMENTS AS TO LOCATION AND SCHEDULING FOR TIE-INS/ CONNECTIONS PRIOR TO CONNECTING TO EXISTING UTILITIES.
7. CONTRACTOR AND HIS SURVEYOR SHALL NOTE THE PROJECT BENCHMARK INFORMATION PROVIDED IN THE PLANS AND VERIFY PRIOR TO CONSTRUCTION.
8. ALL CONSTRUCTION PROJECTS 1 OR MORE ACRES IN SIZE THAT DISCHARGE TO OFFSITE AREAS ARE REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORMWATER DISCHARGE FROM SMALL AND LARGE CONSTRUCTION ACTIVITIES. IN ORDER TO MEET NPDES REQUIREMENTS, THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING, INSPECTING, MAINTAINING, AND REPORTING ON ALL ELEMENTS OF THE SWPPP, COMPLETING AND SUBMITTING THE REQUIRED NOTICE OF INTENT (NOI) AND NOTICE OF TERMINATION (NOT) FORMS AS THE OPERATOR, AND PAYING ALL ASSOCIATED FEES. FOR PROJECTS LESS THAN 1 ACRE IN SIZE THAT ARE NOT REQUIRED TO COMPLY WITH THE NPDES GENERAL PERMIT, THE CONTRACTOR IS STILL RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO AND DURING CONSTRUCTION IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.
9. UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR SHALL USE THE GEOMETRY PROVIDED ON THE CONSTRUCTION PLANS. BENCHMARK INFORMATION SHALL BE PROVIDED TO THE CONTRACTOR BY THE OWNER OR OWNER'S SURVEYOR. ANY DISCREPANCIES BETWEEN FIELD MEASUREMENTS AND CONSTRUCTION PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
10. BASE SURVEY INFORMATION INCLUDING BUT NOT LIMITED TO ELEVATIONS, EASEMENTS, RIGHTS OF WAY, AND OTHER TOPOGRAPHIC INFORMATION HAS BEEN PREPARED BY OTHER PROFESSIONALS. CPH, INC. ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.
11. THIS SET OF PLANS MAY CONTAIN DRAWINGS PREPARED BY OTHER PROFESSIONALS, WHICH CONTAIN THE NAME, ADDRESS, AND LOGO OF THE PROFESSIONAL. CPH, INC. IS NOT RESPONSIBLE FOR DRAWINGS PREPARED BY OTHER PROFESSIONALS.
12. THE CONTRACTOR SHALL SUBMIT ONE ELECTRONIC COPY OF SHOP DRAWINGS TO THE ENGINEER TO KEEP FOR HIS RECORDS. THE ENGINEER WILL NOT PROVIDE FOR APPROVAL OF SHOP DRAWINGS, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL MATERIALS FOR ACCURACY PRIOR TO ORDERING THE MATERIALS. ANY DESCREPENCIES IDENTFIED BY THE CONTRACTOR SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
13. PROTECT BENCHMARKS, PROPERTY CORNERS, AND OTHER SURVEY MONUMENTS FROM DAMAGE OR DISPLACEMENT. IF MARKER NEEDS TO BE REMOVED IT SHALL BE REFERENCED BY LICENSED LAND SURVEYOR AND REPLACED, AS NECESSARY, BY SAME.
14. THE CONTRACTOR IS RESPONSIBLE FOR ALL QUALITY CONTROL TESTING. AS A MINIMUM, TESTING SHALL INCLUDE A) PIPING AND STRUCTURAL EXCAVATION, BEDDING AND BACKFILL MATERIALS AND DENSITY TESTS; B) DETERMINATION OF COMPACTIVE EFFORT NEEDED FOR COMPLIANCE WITH THE DENSITY REQUIREMENTS; C) PORTLAND CEMENT CONCRETE AND ASPHALT PAVING QUALITY CONTROL TESTING INCLUDING DESIGN MIX REVIEW, MATERIALS, FIELD SLUMP AND AIR CONTENT, AND FIELD AND LAB CURED STRENGTH SAMPLES AND TESTING.
15. IN ADDITION TO QUALITY CONTROL TESTING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRED TESTING OR APPROVALS FOR ANY WORK (OR ANY PART THEREOF) IF LAWS OR REGULATIONS OF ANY PUBLIC BODY HAVING JURISDICTION SPECIFICALLY REQUIRE TESTING, INSPECTIONS OR APPROVAL. THE CONTRACTOR SHALL PAY ALL COSTS IN CONNECTION THEREWITH AND SHALL FURNISH THE OWNER AND ENGINEER THE REQUIRED CERTIFICATES OF INSPECTION, TESTING OR APPROVAL.
16. ANY DESIGN OR TESTING LABORATORY UTILIZED BY THE CONTRACTOR SHALL BE AN INDEPENDENT LABORATORY ACCEPTABLE TO THE OWNER AND THE ENGINEER, APPROVED IN WRITING, AND COMPLYING WITH THE LATEST EDITION OF THE "RECOMMENDED REQUIREMENTS FOR INDEPENDENT LABORATORY QUALIFICATION", PUBLISHED BY THE AMERICAN COUNCIL OF INDEPENDENT LABORATORIES.
17. TESTING RESULTS SHALL BE PROVIDED TO THE OWNER/OPERATOR AND THE ENGINEER. ALL TEST RESULTS SHALL BE PROVIDED (PASSING AND FAILING) ON A REGULAR AND IMMEDIATE BASIS.
18. THE ENTIRE PROJECT SITE SHALL BE THOROUGHLY CLEANED AT THE COMPLETION OF THE WORK. CLEAN ALL INSTALLED PIPELINES, STRUCTURES, SIDEWALKS, PAVED AREAS, ACCUMULATED SILT IN PONDS, PLUS ALL ADJACENT AREAS AFFECTED BY CONSTRUCTION, AS DIRECTED BY THE OWNER OR JURISDICTIONAL AGENCY. EQUIPMENT TO CLEAN THESE SURFACES SHALL BE SUBJECT TO APPROVAL BY THE OWNER.
19. ALL DISTRUBED AREAS WITHIN RIGHT OF WAYS SHALL BE SODDED.
20. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING AND OTHER MEANS OF PROTECTION. THIS TO INCLUDE BUT NOT BE LIMITED, FOR ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE TO COMPLY WITH PERFORMANCE CRITERIA FOR OSHA.
21. THE CONTRACTOR SHALL RECOGNIZE AND ABIDE BY ALL OSHA EXCAVATION SAFETY STANDARDS, INCLUDING THE FLORIDA TRENCH SAFETY ACT (90-96, LAWS OF FLORIDA). ANY MATERIAL, CONSTRUCTION METHODS, OR MATERIAL COST TO COMPLY WITH THESE LAWS SHALL BE INCIDENTAL TO THE CONTRACT.
22. CONTRACTOR MUST STOP OPERATION AND NOTIFY THE OWNER FOR PROPER DIRECTION IF ANY ENVIRONMENTAL OR HEALTH RELATED CONTAMINATE IS ENCOUNTERED DURING EXCAVATION.

UTILITY GENERAL NOTES

1. THE UTILITY DATA SHOWN ON THESE PLANS WAS LOCATED BY THE RESPECTIVE UTILITY, OR IS BASED ON UTILITY DRAWINGS, MAPS, OR FIELD RECONNAISSANCE.
2. THE LOCATION, MATERIAL TYPE, AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE VARIOUS UTILITIES AND TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATIONS OF THESE UTILITIES WITH THE OWNER OF THE UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THE PLANS OR LOCATED BY THE UTILITY COMPANY. ANY UTILITIES, WHETHER SHOWN ON THESE PLANS OR NOT, THAT INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE ENGINEER AND THE RESPECTIVE UTILITY COMPANY FOR RELOCATION OR PROPER INSTRUCTION.
3. A SINGLE POINT UTILITY IDENTIFICATION SERVICE HAS BEEN SET UP FOR EXISTING UTILITIES. THE CONTRACTOR IS TO CONTACT THE SUNSHINE STATE ONE CALL CENTER BY DIALING "811" AT LEAST TWO (2) AND NO MORE THAN FIVE (5) WORKING DAYS PRIOR TO THE SPECIFIC CONSTRUCTION ACTIVITY FOR FIELD LOCATION. NOTE THAT NOT ALL UTILITIES PARTICIPATE IN THIS PROGRAM. THE CONTRACTOR SHOULD CONTACT ALL NON-PARTICIPATING UTILITIES SEPARATELY FOR FIELD LOCATION OF THEIR FACILITIES AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.
4. THE UTILITY PROVIDERS NOTED ON THE COVER SHEET HAVE PREVIOUSLY INDICATED THAT THEY MAY HAVE FACILITIES IN THE VICINITY OF THE CONSTRUCTION AREA.
5. THE CONTRACTOR SHALL KEEP LOCATE TICKETS UP TO DATE AT ALL TIMES.
6. THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH EACH UTILITY AND ALL COSTS ASSOCIATED WITH THE PROTECTION OF EXISTING FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL ALSO COORDINATE NECESSARY RELOCATIONS OR OTHER CONSTRUCTION RELATED MATTERS WITH EACH UTILITY.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN IN SERVICE ALL EXISTING PIPING ENCOUNTERED DURING CONSTRUCTION UNLESS OTHERWISE INDICATED IN THE DRAWINGS. ANY PIPING WHICH CAN BE REMOVED DURING CONSTRUCTION WITHOUT UNDUE INTERRUPTION OF SERVICE MAY BE REMOVED AND REPLACED BY THE CONTRACTOR WITH THE PERMISSION OF THE OWNER AND THE ENGINEER.
8. TYPICAL DETAILS AND PROPOSED CONSTRUCTION AS SHOWN ILLUSTRATE THE ENGINEER'S INTENT AND ARE NOT PRESENTED AS A SOLUTION TO ALL CONSTRUCTION PROBLEMS ENCOUNTERED IN THE FIELD. THE CONTRACTOR MAY ALTER THE PROPOSED CONSTRUCTION TO SUIT FIELD CONDITIONS, PROVIDED IT COMPLIES WITH THE PROJECT SPECIFICATIONS AND APPROVAL IS RECEIVED FROM THE ENGINEER. WHERE SUCH PROPOSED REVISIONS DEVIATE FROM THE FDEP CONSTRUCTION PERMIT, THEN SUCH REVISIONS WILL ALSO REQUIRE APPROVAL FROM FDEP.
9. FOR EACH RESPECTIVE PIPELINE CONSTRUCTION REQUIRED, THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION, DEPTH, SIZE, MATERIAL TYPE, AND ALIGNMENT OF ALL EXISTING PIPES, CABLES, ETC. TO BE CROSSED OR CONNECTED TO. IF THE CONTRACTOR DEEMS NECESSARY (A) A CHANGE IN ALIGNMENT OR DEPTH, OR THE NEED FOR ADDITIONAL FITTINGS, BENDS, OR COUPLINGS, WHICH REPRESENT A DEPARTURE FROM THE CONTRACT DRAWING, OR (B) A NEED FOR RELOCATION OF EXISTING UTILITIES, THEN DETAILS OF SUCH DEPARTURES, RELOCATIONS, OR ADDITIONAL FITTINGS, INCLUDING CHANGES IN RELATED PORTIONS OF THE PROJECT AND THE REASONS THEREFORE, SHALL BE SUBMITTED WITH SHOP DRAWINGS. APPROVED DEPARTURES FOR THE CONTRACTOR'S CONVENIENCE SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
10. THE CONTRACTOR SHALL PROVIDE AT HIS OWN EXPENSE ALL NECESSARY TEST PUMPING EQUIPMENT, WATER, WATER METERS, PRESSURE GAUGES, AND OTHER EQUIPMENT, MATERIAL AND FACILITIES REQUIRED FOR ALL HYDROSTATIC, LEAKAGE, AND PRESSURE TESTING. THE CONTRACTOR SHALL CONTACT THE ENGINEER AND THE OWNER IN WRITTEN FORM, FORTY-EIGHT (48) HOURS IN ADVANCE OF PROPOSED TESTING. THE CONTRACTOR SHALL PERFORM SATISFACTORY PRETESTING PRIOR TO NOTIFICATION.

SITE PREPARATION

1. UNLESS OTHERWISE DIRECTED BY THE OWNER OR ENGINEER, THE CONTRACTOR IS EXPECTED TO CONTAIN ALL CONSTRUCTION ACTIVITIES WITHIN THE PROPERTY, RIGHT-OF-WAY, AND EASEMENTS AS INDICATED ON THE DRAWINGS. AT NO TIME SHALL THE CONTRACTOR DISTURB SURROUNDING PROPERTIES OR TRAVEL ON SURROUNDING PROPERTIES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. ANY REPAIR OR RECONSTRUCTION OF DAMAGED AREAS IN SURROUNDING PROPERTIES SHALL BE REPAIRED BY THE CONTRACTOR ON AN IMMEDIATE BASIS. ALL COSTS FOR REPAIRS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COMPENSATION SHALL BE PROVIDED.
2. STAKE OUT THE CONSTRUCTION, ESTABLISH LINES AND LEVELS, TEMPORARY BENCH MARKS, BATTER BOARDS, CENTERLINES, BASELINES, AND REFERENCE POINTS FOR THE WORK, AND VERIFY ALL DIMENSIONS RELATING TO INTERCONNECTION WITH EXISTING FEATURES. REPORT ANY INCONSISTENCIES IN THE PROPOSED GRADES, LINES AND LEVELS, DIMENSIONS AND LOCATIONS TO THE ENGINEER BEFORE COMMENCING WORK.
3. PROTECT ALL TREES AND SHRUBS LOCATED OUTSIDE THE RIGHT-OF-WAY, EASEMENTS, AND OWNER SECURED PROPERTY, PARTICULARLY THOSE TREES AND SHRUBS LOCATED ADJACENT TO WORK AREAS.
4. WITHIN THE RIGHT-OF-WAY, EASEMENTS, AND OWNER SECURED PROPERTY, THE INTENT IS TO ALLOW TREES AND SHRUBS TO REMAIN IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: NEW ROADWAY CONSTRUCTION - TREES AND SHRUBS TO REMAIN WHERE LOCATED MORE THAN 15 FEET FROM THE BACK OF CURB, OR OUTSIDE THE LIMITS OF EXCAVATION OR FILL AREAS, WHICHEVER IS FURTHER. UTILITY PIPELINE CONSTRUCTION - TREES AND SHRUBS TO REMAIN OUTSIDE A 15 FOOT WIDE PATH, CENTERED ON THE PIPELINE.
5. TREES TO REMAIN IN THE CONSTRUCTION AREA SHALL BE BOXED, FENCED OR OTHERWISE PROTECTED IN ACCORDANCE WITH DETAILS ON THE DRAWINGS. DO NOT PERMIT HEAVY EQUIPMENT OR STOCKPILES WITHIN BRANCH SPREAD
6. AREAS TO RECEIVE CLEARING AND GRUBBING SHALL INCLUDE ALL AREAS TO BE OCCUPIED BY THE PROPOSED IMPROVEMENTS, AREAS FOR FILL AND SITE GRADING, AND BORROW SITES. REMOVE TREES OUTSIDE OF THESE AREAS ONLY AS INDICATED ON THE DRAWINGS OR AS APPROVED IN WRITING BY THE ENGINEER.
7. CLEARING SHALL CONSIST OF REMOVING TREES AND BRUSH AND DISPOSAL OF OTHER MATERIALS THAT ENCROACH UPON OR OTHERWISE OBSTRUCT THE WORK.
8. EXERCISE EXTREME CARE DURING THE CLEARING AND GRUBBING OPERATIONS. DO NOT DAMAGE EXISTING STRUCTURES, PIPES OR UTILITIES.
9. GRUBBING SHALL CONSIST OF REMOVING AND DISPOSING OF STUMPS, ROOTS LARGER THAN 2" IN DIAMETER, AND MATTED ROOTS. REMOVE TO A DEPTH OF NOT LESS THAN 18" BELOW THE ORIGINAL SURFACE LEVEL OF THE GROUND.
10. ALL COMBUSTIBLE DEBRIS AND REFUSE FROM SITE PREPARATION OPERATIONS SHALL BE REMOVED TO LEGAL OFFSITE DISPOSAL AREAS.

GRADING

1. SMOOTH TRANSITIONS SHALL BE PROVIDED BETWEEN CONTOURS OR SPOT ELEVATIONS AS SHOWN ON THE PLANS TO ACCOMPLISH THE GRADING INTENT. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER FINAL GRADING HAS BEEN COMPLETED. CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER PRIOR TO DEMOBILIZATION OF GRADING EQUIPMENT TO DETERMINE THAT THE GRADING INTENT HAS BEEN ACHIEVED.
2. ALL PROPOSED ELEVATIONS ON THE PLANS WITHIN PAVED AREAS ARE SHOWN AT PAVEMENT, UNLESS OTHERWISE NOTED.
3. ALL PAVING SURFACES IN INTERSECTIONS AND ADJACENT SECTIONS SHALL BE GRADED TO DRAIN POSITIVELY AND TO PROVIDE A SMOOTHLY TRANSITIONED DRIVING SURFACE FOR VEHICLES WITH NO SHARP BREAKS IN GRADE, AND NO UNUSUALLY STEEP OR REVERSE CROSS SLOPES. THE STANDARD CROWN MAY HAVE TO BE CHANGED IN ORDER TO DRAIN POSITIVELY IN THE AREA OF INTERSECTIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH THE ABOVE AND THE ENGINEER SHALL BE CONSULTED SO THAT HE MAY MAKE ANY AND ALL REQUIRED INTERPRETATIONS OF THE PLANS OR GIVE SUPPLEMENTARY INSTRUCTIONS TO ACCOMPLISH THE INTENT OF THE PLANS.
4. UNIFORMLY SMOOTH GRADE THE SITE. DEPRESSIONS FROM SETTLEMENT SHALL BE FILLED AND COMPACTED. TOPS OF EMBANKMENTS AND BREAKS IN GRADE SHALL BE ROUNDED. FINISHED SURFACES SHALL BE REASONABLY SMOOTH, COMPACTED, FREE FROM IRREGULAR SURFACE CHANGES AND COMPARABLE TO THE SMOOTHNESS OBTAINED BY BLADE-GRADER OPERATIONS.
5. NEWLY GRADED AREAS SHALL BE PROTECTED FROM TRAFFIC AND EROSION. ALL SETTLEMENT OR WASHING AWAY THAT MAY OCCUR FROM ANY CAUSE PRIOR TO SEEDING OR ACCEPTANCE SHALL BE REPAIRED AND GRADES RE-ESTABLISHED TO THE REQUIRED ELEVATIONS AND SLOPES AT NO ADDITIONAL COST TO THE OWNER.

UTILITY SEPARATION REQUIREMENTS

1. THE HORIZONTAL SEPARATION BETWEEN WATER MAINS AND SANITARY SEWER, STORM SEWER, WASTEWATER FORCE MAINS, STORMWATER FORCE MAINS, RECLAIMED WATER MAINS AND ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
   A. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF FIVE FEET FROM THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, VACUUM TYPE SANITARY SEWER AND RECLAIMED WATER MAIN.
   B. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF TEN FEET FROM THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN THE OUTSIDE OF WATER MAINS AND THE OUTSIDE OF GRAVITY SANITARY SEWERS CAN BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS AT LEAST EIGHTEEN INCHES ABOVE THE TOP OF THE SEWER.
   C. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF TEN FEET FROM ALL PARTS OF ANY EXISTING OR PROPOSED ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.
2. THE VERTICAL SEPARATION BETWEEN WATER MAINS AND SANITARY AND STORM SEWER, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER MAINS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
   A. WHEREVER POSSIBLE, WATER MAINS SHALL CROSS OVER EXISTING OR PROPOSED GRAVITY SANITARY SEWER, VACUUM TYPE SANITARY SEWER, AND STORM SEWER, SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES ABOVE THE OUTSIDE OF THE SEWER. WHERE IT IS NOT POSSIBLE FOR THE WATER MAIN TO CROSS OVER EXISTING OR PROPOSED GRAVITY SANITARY SEWER, VACUUM TYPE SANITARY SEWER, AND STORM SEWER, THEN THE WATER MAIN CAN CROSS UNDER THESE TYPES OF PIPELINE SYSTEMS PROVIDED THE OUTSIDE OF THE WATER MAIN IS AT LEAST 18 INCHES BELOW THE OUTSIDE OF THE PIPELINE. AT THE CROSSING, THE PROPOSED PIPE JOINTS SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST FIVE FEET FROM VACUUM TYPE SANITARY SEWER OR STORM SEWER JOINTS, AND AT LEAST TEN FEET FROM GRAVITY SANITARY SEWER JOINTS.
   B. WHEREVER POSSIBLE, WATER MAINS SHALL CROSS OVER EXISTING OR PROPOSED RECLAIMED WATER MAINS, WASTEWATER FORCE MAINS AND STORMWATER FORCE MAINS. WHETHER THE WATER MAIN CROSSES OVER OR UNDER THESE TYPES OF PIPELINE SYSTEMS, THE OUTSIDE OF THE WATER MAIN SHALL BE AT LEAST 18 INCHES FROM THE OUTSIDE OF THE EXISTING OR PROPOSED RECLAIMED WATER MAIN, WASTEWATER FORCE MAIN AND STORMWATER FORCE MAIN. AT THE CROSSING, THE PROPOSED PIPE JOINTS SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST FIVE FEET FROM RECLAIMED WATER MAIN JOINTS AND STORMWATER FORCE MAIN JOINTS, AND AT LEAST TEN FEET FROM THE JOINTS OF WASTEWATER FORCE MAINS.
3. NO WATER MAIN SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SANITARY SEWER MANHOLE.
4. NEW OR RELOCATED FIRE HYDRANTS SHALL BE LOCATED SUCH THAT THE UNDERGROUND DRAIN (WEEP HOLE) IS AT LEAST:
   A. FIVE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER MAIN, OR VACUUM TYPE SANITARY SEWER.
   B. TEN FEET FROM ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN.
   C. TEN FEET FROM ANY ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.

WATER AND RECLAIMED WATER DISTRIBUTION SYSTEMS

1. THE ENTITY THAT WILL OPERATE AND MAINTAIN THE WATER AND RECLAIMED WATER SYSTEMS SHOWN ON THESE PLANS IS THE GOVERNING AGENCY. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF THE GOVERNING AGENCY.
2. INSTALL ALL WATER AND RECLAIMED MAINS AT A MINIMUM 36 INCHES OF COVER.
3. BURIED DUCTILE IRON PIPE SHALL COMPLY WITH THE FOLLOWING PRESSURE CLASS (PC) DESIGNATIONS UNLESS OTHERWISE INDICATED ON THE DRAWINGS: A) 12" DIAMETER AND SMALLER = PC 350; B) 14" THROUGH 24" DIAMETER = PC 250; C) 30" THROUGH 64" DIAMETER = PC 200.
4. DUCTILE IRON PIPE AND FITTINGS WITHIN 10 FEET OF GAS MAINS SHALL HAVE AN 8-MIL POLYETHYLENE WRAP IN ACCORDANCE WITH ANSI/AWWA C105/A21.5.
5. PVC PIPE SHALL BE NATIONAL SANITATION FEDERATION (NSF) APPROVED. PIPE SHALL HAVE MARKINGS ON EACH SECTION SHOWING CONFORMANCE TO THE ABOVE SPECIFICATIONS. JOINTS SHALL BE RUBBER GASKETED CONFORMING TO AWWA C900 OR C905. THE BELL SHALL BE INTEGRAL WITH THE PIPE AND OF EQUAL OR GREATER PRESSURE RATING. THE BELL OF PIPE AND FITTINGS USING PUSH-ON JOINTS SHALL HAVE AN INTEGRAL GROOVE TO RETAIN THE GASKET IN PLACE.
6. ALL FITTINGS SHALL BE MANUFACTURED OF DUCTILE IRON, CONFORMING TO ANSI/AWWA C110/A21.10 OR ANSI/AWWA C153/A21.53. ALL FULL BODY (C110/A21.10) FITTINGS SHALL BE PRESSURE RATED TO 250 PSI, MINIMUM. ALL COMPACT FITTINGS (C153/A21.53) SHALL BE PRESSURE RATED TO 350 PSI, MINIMUM.
7. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE LINED AND COATED. INTERIOR LINING SHALL BE STANDARD THICKNESS CEMENT MORTAR LINING PER ANSI/AWWA C104/A21.4. EXTERIOR COATING FOR BURIED PIPE AND FITTINGS SHALL BE A PETROLEUM ASPHALTIC COATING IN ACCORDANCE WITH ANSI/AWWA C110/A21.10. EXTERIOR COATING OF EXPOSED PIPE AND FITTINGS SHALL BE FACTORY APPLIED RUST INHIBITING EPOXY PRIMER, MINIMUM 3 MILS DRY FILM THICKNESS. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH A TWO COAT SYSTEM. THE FIRST COAT (INTERMEDIATE COAT) SHALL BE 4.0-10.0 MIL DFT TNEMEC COLOR HI-BUILD EPOXOLINE II SERIES N69 OR APPROVED EQUAL, AND THE FINAL COAT SHALL BE 2.0-3.0 MIL DFT TNEMEC ENDURASHIELD SERIES 73 OR APPROVED EQUAL. THE FINAL COAT PAINT COLOR SHALL BE AS SELECTED BY THE LOCAL UTILITY.
8. MECHANICAL AND PUSH ON JOINTS FOR DUCTILE IRON PIPE AND FITTINGS SHALL BE RUBBER GASKETED, CONFORMING TO ANSI/AWWA C111/A21.11. LUBRICANTS OTHER THAN THAT FURNISHED BY THE PIPE MANUFACTURER WITH THE PIPE SHALL NOT BE USED.
9. RESTRAINED JOINTS FOR DUCTILE IRON PIPE BELL JOINTS SHALL BE AMERICAN FAST GRIP GASKET, MCWANE SURE GRIP 350 GASKET, U.S. PIPE FIELD LOK 350 GASKET, OR EBAA IRON MEGA LUG SERIES 1100HD. RESTRAINED JOINTS FOR DUCTILE IRON PIPE AND FITTING MECHANICAL JOINTS SHALL BE EBAA IRON MEGA LUG SERIES 1100, STAR GRIP SERIES 3000, OR TYLER UNION TUF-GRIP SERIES TLD. LOCKING BELL JOINT RESTRAINT SHALL BE AMERICAN FLEX RING JOINT, AMERICAN LOK-RING JOINT, OR U.S. PIPE TR-FLEX. RESTRAINED JOINTS FOR PVC PIPE MECHANICAL JOINTS SHALL BE TYLER UNION SERIES 2000 TUF GRIP TLP, JCM SUR-GRIP BELL RESTRAINER, FORD UNI-FLANGE SERIES 1500 CIRCLE LOCK, OR EBAA IRON MEGA LUG SERIES 2000PV. RESTRAINED JOINTS FOR PVC PIPE PUSH ON JOINTS SHALL BE EBAA IRON MEGA LUG SERIES 1500 OR SERIES 1600 (C900 PVC), SERIES 2800 (C905 PVC), FORD UNI-FLANGE SERIES 1390, OR SMITH-BLAIR BELL-LOK SERIES 165. PIPE JOINTS SHALL BE RESTRAINED UPSTREAM AND DOWNSTREAM OF FITTINGS IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS OR THE TABLE SHOWN IN THE DRAWINGS, WHICHEVER IS GREATER.

WATER AND RECLAIMED WATER DISTRIBUTION SYSTEMS (CONTINUED)

10. POLYETHYLENE PIPE AND TUBING SHALL BE COLOR CODED BLUE (POTABLE WATER) OR PURPLE (RECLAIMED WATER). PIPE AND FITTINGS SHALL BE NSF APPROVED FOR THE USAGE TO WHICH THEY ARE TO BE APPLIED. JOINTS IN SDR-PR PE PIPE SHALL BE BUTT HEAT FUSION OR SOCKET HEAT FUSION TYPE. FITTINGS SHALL BE MANUFACTURED OF THE SAME MATERIAL AS THE PIPE AND SHALL BE OF THE SAME SDR OR LESS. PROVIDE ADAPTERS AS REQUIRED TO JOIN PE PIPE TO PIPE, FITTINGS AND EQUIPMENT OF OTHER MATERIALS.
11. SERVICE SADDLES SHALL MEET THE REQUIREMENTS OF AWWA C800 AND SHALL CONSIST OF EPOXY COATED DUCTILE IRON BODIES IN ACCORDANCE WITH ASTM A536, WITH DOUBLE STAINLESS STEEL STRAPS, BOLTS, WASHERS AND NUTS. STAINLESS STEEL SHALL BE TYPE 304, AND NUTS ARE TO BE TEFLON COATED. THE DUCTILE IRON BODY IS TO BE FUSION BONDED NYLON COATED, MINIMUM THICKNESS 12 MILS, OUTLET OF SADDLE IS TO HAVE NPT THREADS. SERVICE SADDLES SHALL BE MANUFACTURED BY FORD, MUELLER, OR SMITH-BLAIR.
12. ALL SERVICES SHALL INCLUDE THE FOLLOWING: CURB STOPS, UNIONS AS REQUIRED, CORPORATION STOPS. CONFORMANCE WITH AWWA C800 AND C901 IS REQUIRED. THE CONTRACTOR SHALL CUT "W" IN THE TOP CURB OF EACH WATER SERVICE AND A "V" AT ALL VALVE LOCATIONS. CUT W'S AND V'S SHALL BE HIGHLIGHTED WITH BLUE PAINT.
13. UNLESS OTHERWISE NOTED IN THE PLANS, THE UTILITY COMPANY SHALL PROVIDE AND INSTALL WATER METERS AND RECLAIMED WATER METERS. CONTRACTOR SHALL CONSTRUCT WATER SERVICE AND RECLAIMED WATER SERVICE TO THE CORPORATION STOP.
14. UNLESS OTHERWISE INDICATED OR SPECIFIED, ALL VALVES TWO INCHES AND SMALLER SHALL BE ALL BRASS OR BRONZE; VALVES OVER TWO INCHES SHALL BE IRON BODY, FULLY BRONZE OR BRONZE MOUNTED.
15. VALVES 4 INCHES AND LARGER SHALL BE LINED AND COATED. BURIED AND EXPOSED VALVES SHALL BE COATED INSIDE AND OUT WITH A RUST INHIBITING EPOXY PRIMER, FOLLOWED BY AN EPOXY COATING MEETING THE REQUIREMENTS OF AWWA C550, APPLIED AT THE FACTORY. THE INTERIOR OF VALVES WITH A CAST IRON OR DUCTILE IRON BODY SHALL BE COATED WITH AN EPOXY PROTECTIVE COATING MEETING NSF INTERNATIONAL STANDARD 61 AND AWWA C550. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH A TWO COAT SYSTEM. THE FIRST COAT (INTERMEDIATE COAT) SHALL BE 4.0-10.0 MIL DFT TNEMEC COLOR HI-BUILD EPOXOLINE II SERIES N69 OR APPROVED EQUAL, AND THE FINAL COAT SHALL BE 2.0-3.0 MIL DFT TNEMEC ENDURASHIELD SERIES 73 OR APPROVED EQUAL. THE FINAL COAT PAINT COLOR SHALL BE AS SELECTED BY THE LOCAL UTILITY.
16. ALL VALVES 12" AND SMALLER SHALL BE GATE VALVES UNLESS OTHERWISE INDICATED ON THE DRAWINGS. GATE VALVES 3 INCHES TO 12 INCHES SHALL CONFORM TO AWWA C509 OR AWWA C515. THE VALVES SHALL BE IRON BODY, CAST IRON FULLY ENCAPSULATED MOLDED RUBBER WEDGE COMPLYING WITH ASTM D2000, NON-RISING STEM WITH O-RING SEALS. VALVES SHALL OPEN COUNTERCLOCKWISE.
17. TAPPING SLEEVES ARE TO BE 18-8 TYPE 304 STAINLESS STEEL AND STAINLESS STEEL OUTLET, AS MANUFACTURED BY JCM OR APPROVED EQUAL. TAPPING VALVES SHALL BE RESILIENT SEATED GATE VALVES AND SHALL CONFORM TO THE REQUIREMENTS OF AWWA C509. TAPPING VALVES SHALL BE AMERICAN FLOW CONTROL SERIES 2500, CLOW SERIES F-6100, OR MUELLER SERIES A2361.
18. VALVES 14" AND LARGER SHALL BE BUTTERFLY VALVES. BUTTERFLY VALVES SHALL MEET OR EXCEED THE DESIGN STRENGTH, TESTING AND PERFORMANCE REQUIREMENTS OF AWWA C504, CLASS 150. VALVE BODY SHALL BE MECHANICAL JOINT END TYPE VALVE CONSTRUCTED OF CAST IRON OR DUCTILE IRON. DISC SHALL BE ONE PIECE CAST DESIGN WITH NO EXTERNAL RIBS TRANSVERSE TO FLOW. DISC SHALL BE CAST IRON OR DUCTILE IRON. THE RESILIENT SEAT SHALL MATE WITH A 304 OR 316 STAINLESS STEEL SURFACE.
19. VALVE SEATS SHALL BE MECHANICALLY RETAINED, AND MAY BE INSTALLED ON EITHER THE BODY OR DISC. O-RING SEATS ON VALVE DISCS ARE UNACCEPTABLE. SEATS FOR VALVES 14" DIAMETER AND LARGER SHALL BE FULLY FIELD REPLACEABLE WITHOUT THE USE OF SPECIAL TOOLS. OPERATORS OF THE ENCLOSED TRAVELING-NUT TYPE SHALL BE PROVIDED UNLESS OTHERWISE INDICATED.
20. ALL BURIED VALVES SHALL BE PROVIDED WITH ADJUSTABLE VALVE BOXES APPROXIMATELY 5 INCHES IN DIAMETER WITH A MINIMUM THICKNESS OF 3/16 INCH CAST IRON. BOXES SHALL BE OF SUFFICIENT LENGTH TO OPERATE ALL VALVES BURIED IN THE GROUND, CONSISTING OF BASE, CENTER SECTION, AND TOP SECTION WITH COVER. VALVE BOXES LOCATED IN UNPAVED AREAS SHALL BE SLIP TYPE DESIGN TO PERMIT MOVEMENT OF THE TOP SECTION WITHOUT TRANSMITTING FORCES ONTO THE VALVE BODY. VALVE BOXES CAST INTO CONCRETE OR ASPHALT SURFACING SHALL HAVE BRASS COVERS. ALL VALVE BOX COVERS SHALL BE INTERNALLY CHAINED TO VALVE BOXES WITH AN APPROXIMATELY 18 INCH GALVANIZED CHAIN. VALVE BOX COVERS SHALL BE CAST WITH THE INSCRIPTION "WATER" OR "RECLAIMED WATER".
21. PVC PIPES SHALL BE COLOR CODED BLUE (WATER MAINS) OR PURPLE (RECLAIMED WATER MAINS) AND STENCILED (0.75-INCH LETTERING ON THE PIPE IN AT LEAST THREE AREAS PER PIPE SECTION) "POTABLE WATER MAIN" OR "RECALIMED WATER MAIN" AS APPLICABLE.
22. INSTALL IDENTIFICATION TAPE ALONG ALL DUCTILE IRON PIPE AND PVC PIPE, MINIMUM THICKNESS 4 MILS, WIDTH 6 INCHES, LETTER SIZE 1 INCH. APPLY TAPE TO SURFACE OF PIPE, CONTINUOUSLY EXTENDING FROM JOINT TO JOINT. TAPE COLOR AND LETTERING SHALL BE BLACK PRINTING ON BLUE BACKGROUND (WATER MAINS), BLACK PRINTING ON PURPLE BACKGROUND (RECLAIMED WATER MAINS). PLACE TAPE AS FOLLOWS: 2" - 8" PIPE - CENTER ALONG TOP HALF OF PIPE; 10" - 18" PIPE - PLACE ALONG BOTH SIDES OF THE TOP HALF OF PIPE; 20" PIPE AND LARGER - PLACE ON BOTH SIDES OF TOP HALF OF PIPE WITH A THIRD STRIP CENTERED ALONG TOP HALF OF PIPE.
23. INSTALL WARNING TAPE ALONG ALL PIPELINES, PLACED 2 FEET ABOVE PIPE. TAPE SHALL BE 6-INCH WIDE VINYL CONTINUOUS TAPE. TAPE SHALL BE COLORED BLUE (WATER MAINS) OR PURPLE (RECLAIMED WATER MAINS) WITH BLACK LETTERING, CODED AND WORDED "CAUTION: WATER MAIN BURIED BELOW", OR "CAUTION: RECLAIMED WATER MAIN BURIED BELOW", AS APPLICABLE.
24. INSTALL LOCATING WIRE ALONG ALL PVC PIPELINES. WIRE SHALL BE COLOR-CODED 10 GAUGE CONTINUOUS INSULATED WIRE. COLOR CODING SHALL BE SIMILAR TO WARNING TAPE COLORS. INSTALL LOCATOR WIRE ALONG ALL PRESSURIZED PIPELINES 2" AND LARGER. LOOP WIRE INTO ALL VALVE BOXES. LOOPING TO OCCUR EVERY 500 FEET MINIMUM. WHERE THERE ARE NO VALVE BOXES TO ALLOW LOOPING, PROVIDE ACCESS BOXES PER CITY REQUIREMENTS. CHECK WIRE FOR ELECTRICAL CONTINUITY.
25. ALL CHANGES IN DIRECTION SHALL BE MADE WITH FITTINGS OR APPROVED JOINT DEFLECTION. BENDING OF PIPE, EXCEPT COPPER AND POLYETHYLENE, IS PROHIBITED. JOINT DEFLECTION SHALL NOT EXCEED 75% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION.
26. TEST PROCEDURES SHALL BE APPROVED BY THE ENGINEER. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER AND UTILITY. NOTIFY THE ENGINEER AND THE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY WORK IS TO BE INSPECTED OR TESTED.
27. PROVIDE ALL EQUIPMENT FOR TESTING. INCREMENTS ON GAGES USED FOR LOW PRESSURE AIR TESTING SHALL BE OF SCALED TO THE NEAREST 0.1 PSI. GAGES, PUMPS, AND HOSES SHALL BE IN GOOD WORKING ORDER WITH NO NOTICEABLE LEAKS.
28. ALL SERVICE LINES SHALL BE COMPLETED PRIOR TO TESTING, AND ARE SUBJECT TO THE SAME TESTING REQUIREMENTS AS THE MAIN LINE.
29. THE SEQUENCE OF TESTING AND DISINFECTION SHALL BE AS FOLLOWS: 1) CONDUCT PRESSURE AND LEAKAGE TESTING; 2) PERFORM FLUSHING PER UTILITY REQUIREMENTS AND AWWA C651; 3) DISINFECT THE WATER MAIN, INCLUDING VALVES AND FITTINGS; AND 4) DECHLORINATE AND FLUSH AFTER DISINFECTION.
30. APPLY HYDROSTATIC TEST PRESSURE OF 150 PSI (WATER MAINS), 200 PSI (FIRE MAINS), OR 150 PSI (RECLAIMED WATER MAINS) FOR 10 MINUTES AND FOR SUCH ADDITIONAL PERIOD NECESSARY FOR THE ENGINEER TO COMPLETE THE INSPECTION OF THE LINE UNDER TEST. DO NOT EXCEED PIPE MANUFACTURER'S SUGGESTED TIME DURATION AT THE TEST PRESSURE. IF DEFECTS ARE NOTED, REPAIRS SHALL BE MADE AND THE TEST REPEATED UNTIL ALL PARTS OF THE LINE WITHSTAND THE TEST PRESSURE.
31. APPLY LEAKAGE TEST PRESSURE OF 150 PSI (WATER MAINS), 200 PSI (FIRE MAINS) OR 150 PSI (RECLAIMED WATER MAINS). MAINTAIN PRESSURE AT A MAXIMUM VARIATION OF 5% DURING THE ENTIRE LEAKAGE TEST. THE DURATION OF THE LEAKAGE TEST SHALL BE TWO HOURS MINIMUM, AND FOR SUCH ADDITIONAL TIME NECESSARY FOR THE ENGINEER TO COMPLETE INSPECTION OF THE SECTION OF LINE UNDER TEST. LEAKAGE MEASUREMENTS SHALL NOT BE STARTED UNTIL A CONSTANT TEST PRESSURE HAS BEEN ESTABLISHED. THE LINE LEAKAGE SHALL BE MEASURED BY MEANS OF A WATER METER INSTALLED ON THE SUPPLY SIDE OF THE PRESSURE PUMP.
32. NO LEAKAGE IS ALLOWED IN EXPOSED PIPING, BURIED PIPING WITH FLANGED, THREADED, OR WELDED JOINTS OR BURIED NON-POTABLE PIPING IN CONFLICT WITH POTABLE WATER LINES.
33. TESTED SECTIONS OF BURIED PIPING WITH SLIP-TYPE OR MECHANICAL JOINTS WILL NOT BE ACCEPTED IF IT HAS A LEAKAGE RATE IN EXCESS OF THAT RATE DETERMINED BY THE FORMULA L = SDP/148000 WHERE L = MAXIMUM PERMISSIBLE LEAKAGE RATE, IN GALLONS PER HOUR, THROUGHOUT THE ENTIRE LENGTH OF LINE BEING TESTED; S = LENGTH OF LINE TESTED (IN FEET); D = NOMINAL INTERNAL DIAMETER (IN INCHES) OF THE PIPE; AND P = THE SQUARE ROOT OF THE ACTUAL PRESSURE IN PSIG ON ALL JOINTS IN THE TESTED PORTION OF THE LINE. THIS ACTUAL PRESSURE SHALL BE DETERMINED BY FINDING THE DIFFERENCE BETWEEN THE AVERAGE ELEVATION OF ALL TESTED PIPE JOINTS AND THE ELEVATION OF THE PRESSURE GAUGE AND ADDING THE DIFFERENCE IN ELEVATION HEAD TO THE AUTHORIZED TEST PRESSURE.
34. ALL APPARENT LEAKS DISCOVERED WITHIN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER SHALL BE LOCATED AND REPAIRED BY CONTRACTOR, REGARDLESS OF THE TOTAL LINE LEAKAGE RATE.
35. PRIOR TO DISINFECTION, CONDUCT FULL DIAMETER FLUSHING OF PIPELINE IN SECTIONS IN ORDER TO REMOVE ANY SOLIDS OR CONTAMINATED MATERIAL THAT MAY HAVE BECOME LODGED IN THE PIPE.
36. OBTAIN A MINIMUM FLUSHING VELOCITY OF 2.5 FEET PER SECOND PER AWWA C651.
37. ALL TAPS REQUIRED FOR FLUSHING AND THE TEMPORARY OR PERMANENT RELEASE OF AIR AS NEEDED FOR FLUSHING SHALL BE PROVIDED BY THE CONTRACTOR.
38. DISINFECT ALL POTABLE WATER LINES, FIRE LINES, VALVES, FITTINGS, HYDRANTS. THE WATER MAIN DISINFECTION AND BACTERIOLOGICAL SAMPLING AND METHODS OF DISINFECTION FOR ALL WATER CONTAINMENT DEVICES AND PIPING SYSTEMS SHALL CONFORM TO AWWA C651. THE DISCHARGE LOCATIONS FOR THE CHLORINATED WATER SHALL BE APPROVED BY THE OWNER. NEUTRALIZE THE CHLORINE RESIDUAL BY MEANS OF A REDUCING AGENT IN ACCORDANCE WITH AWWA C651.
39. ALL DISINFECTION WORK SHALL BE ACCEPTABLE TO THE STATE HEALTH AUTHORITY. IF ANY REQUIREMENTS OF THIS SECTION ARE IN CONFLICT WITH REQUIREMENTS OF THE AUTHORITY FOR DISINFECTION, THOSE OF THE AUTHORITY SHALL GOVERN. ALL BACTERIOLOGICAL TESTING SHALL BE PERFORMED BY A STATE CERTIFIED LABORATORY CONTRACTED BY THE CONTRACTOR. PROPER CHAIN OF CUSTODY PROCEDURES MUST BE FOLLOWED AND SAMPLES SHALL ONLY BE COLLECTED BY CERTIFIED LABORATORY PERSONNEL. COPIES OF ALL TESTING RESULTS AND ALL RELATED CORRESPONDENCE FROM THE TESTING LAB SHALL BE SUBMITTED TO THE OWNER, UTILITY, AND ENGINEER.

FIRE PROTECTION SYSTEMS

1. COMBUSTIBLE CONSTRUCTION CANNOT OCCUR UNTIL PROPER DOCUMENTATION HAS BEEN SUBMITTED TO THE LOCAL FIRE MARSHAL. DOCUMENTATION SHALL SHOW THAT HYDRANTS HAVE BEEN INSTALLED, TESTED, AND ARE IN PROPER WORKING ORDER.
2. INSTALL ALL FIRE LINE PIPING AT A MINIMUM 36 INCHES OF COVER.
3. THE CONTRACTOR INSTALLING THE UNDERGROUND FIRE PROTECTION PIPING SHALL HOLD A CLASS I, II, OR LEVEL V CERTIFICATION AS ISSUED BY THE STATE OF FLORIDA, AS REQUIRED BY FS 633.021(5).
4. ALL FIRE PROTECTION SPRINKLER SYSTEMS INSTALLED SHALL COMPLY WITH NFPA 13, AND SHALL BE MONITORED BY A COMPANY LISTED AS A CENTRAL STATION.
5. HYDRANTS SHALL CONFORM TO AWWA C502 AND SHALL BE FURNISHED COMPLETE WITH WRENCH AND OTHER APPURTENANCES. MANUFACTURER'S CERTIFICATION OF COMPLIANCE WITH AWWA C502 AND TESTS LISTED THEREIN WILL BE REQUIRED.
6. ALL HYDRANTS SHALL BE OF BREAKABLE TYPE, WITH THE BREAKABLE SECTION LOCATED SLIGHTLY ABOVE THE FINISH GROUND LINE. HYDRANTS SHALL CONTAIN TWO-TWO AND A HALF INCH (2-1/2") HOSE CONNECTIONS AND ONE-FOUR AND A HALF INCH (4-1/2") STEAMER CONNECTIONS WITH NATIONAL STANDARD FIRE HOSE COUPLING SCREW THREADS, FIVE AND ONE QUARTER INCH (5-1/4") VALVE OPENING, SIX INCH (6") DIAMETER MECHANICAL JOINT INLET, ONE AND ONE-HALF INCH (1-1/2") PENTAGON OPERATING NUT. THE HYDRANTS SHALL OPEN COUNTERCLOCKWISE.
7. ALL HYDRANTS SHALL BE PAINTED IN AN APPROVED MANNER WITH THE PRIMER PAINT BEING KOPPER'S "GLAMORTEX" NO. 622 RUST PRIMER AND THE FINISH PAINT SHALL BE TWO COATS OF ENAMEL OR SPECIAL COATING TO COLOR AS REQUIRED BY THE LOCAL FIRE DEPARTMENT.

FIRE PROTECTION SYSTEMS (CONTINUED)

8. BLUE PAVEMENT REFLECTORS (CAT EYES) SHALL BE PLACED IN THE CENTERLINE OF THE DRIVING LANE DIRECTLY IN FRONT OF ALL FIRE HYDRANTS. THERE SHALL BE NO TREES, SHRUBS, OR LANDSCAPING PLANTED AROUND THE FIRE HYDRANTS OR IN AREAS DESIGNATED AS FIRE LANES.
9. NEW OR RELOCATED FIRE HYDRANTS SHALL BE LOCATED SUCH THAT THE UNDERGROUND DRAIN (WEEP HOLE) IS AT LEAST: THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER MAIN, OR VACUUM TYPE SANITARY SEWER; SIX FEET FROM ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN; AND TEN FEET FROM ANY ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.
10. THE SEQUENCE OF TESTING AND DISINFECTION SHALL BE AS FOLLOWS: 1) CONDUCT FIRE FLOW, PRESSURE AND LEAKAGE TESTING; 2) PERFORM FLUSHING PER UTILITY REQUIREMENTS AND AWWA C651; 3) DISINFECT THE WATER MAIN, INCLUDING VALVES AND FITTINGS; AND 4) FLUSH AFTER DISINFECTION.
11. THE CONTRACTOR SHALL PROVIDE A POST-CONSTRUCTION FIRE FLOW TEST WITNESSED AND APPROVED BY THE ENGINEER AND THE UTILITY. HYDRANTS SHALL DELIVER A MINIMUM OF 1250 GPM WITH A RESIDUAL PRESSURE OF 20 PSI.
12. APPLY HYDROSTATIC TEST PRESSURE OF 200 PSI (FIRE MAINS) FOR 10 MINUTES AND FOR SUCH ADDITIONAL PERIOD NECESSARY FOR THE ENGINEER TO COMPLETE THE INSPECTION OF THE LINE UNDER TEST. DO NOT EXCEED PIPE MANUFACTURER'S SUGGESTED TIME DURATION AT THE TEST PRESSURE. IF DEFECTS ARE NOTED, REPAIRS SHALL BE MADE AND THE TEST REPEATED UNTIL ALL PARTS OF THE LINE WITHSTAND THE TEST PRESSURE.
13. APPLY LEAKAGE TEST PRESSURE OF 200 PSI (FIRE MAINS) MAINTAIN PRESSURE AT A MAXIMUM VARIATION OF 5% DURING THE ENTIRE LEAKAGE TEST. THE DURATION OF THE LEAKAGE TEST SHALL BE TWO HOURS MINIMUM, AND FOR SUCH ADDITIONAL TIME NECESSARY FOR THE ENGINEER TO COMPLETE INSPECTION OF THE SECTION OF LINE UNDER TEST. LEAKAGE MEASUREMENTS SHALL NOT BE STARTED UNTIL A CONSTANT TEST PRESSURE HAS BEEN ESTABLISHED. THE LINE LEAKAGE SHALL BE MEASURED BY MEANS OF A WATER METER INSTALLED ON THE SUPPLY SIDE OF THE PRESSURE PUMP.
14. NO LEAKAGE IS ALLOWED IN EXPOSED PIPING, BURIED PIPING WITH FLANGED, THREADED, OR WELDED JOINTS OR BURIED NON-POTABLE PIPING IN CONFLICT WITH POTABLE WATER LINES.
15. TESTED SECTIONS OF BURIED PIPING WITH SLIP-TYPE OR MECHANICAL JOINTS WILL NOT BE ACCEPTED IF IT HAS A LEAKAGE RATE IN EXCESS OF THAT RATE DETERMINED BY THE FORMULA L = SDP/148000 WHERE L = MAXIMUM PERMISSIBLE LEAKAGE RATE, IN GALLONS PER HOUR, THROUGHOUT THE ENTIRE LENGTH OF LINE BEING TESTED; S = LENGTH OF LINE TESTED (IN FEET); D = NOMINAL INTERNAL DIAMETER (IN INCHES) OF THE PIPE; AND P = THE SQUARE ROOT OF THE ACTUAL PRESSURE IN PSIG ON ALL JOINTS IN THE TESTED PORTION OF THE LINE. THIS ACTUAL PRESSURE SHALL BE DETERMINED BY FINDING THE DIFFERENCE BETWEEN THE AVERAGE ELEVATION OF ALL TESTED PIPE JOINTS AND THE ELEVATION OF THE PRESSURE GAUGE AND ADDING THE DIFFERENCE IN ELEVATION HEAD TO THE AUTHORIZED TEST PRESSURE.
16. DISINFECT ALL POTABLE WATER LINES, FIRE LINES, VALVES, FITTINGS, HYDRANTS.
17. ALL DISINFECTION WORK SHALL BE ACCEPTABLE TO THE STATE HEALTH AUTHORITY. IF ANY REQUIREMENTS OF THIS SECTION ARE IN CONFLICT WITH REQUIREMENTS OF THE AUTHORITY FOR DISINFECTION, THOSE OF THE AUTHORITY SHALL GOVERN. THE WATER MAIN DISINFECTION AND BACTERIOLOGICAL SAMPLING AND METHODS OF DISINFECTION FOR ALL WATER CONTAINMENT DEVICES AND PIPING SYSTEMS SHALL CONFORM TO AWWA C651.

SANITARY SEWER SYSTEMS

1. THE ENTITY THAT WILL OPERATE AND MAINTAIN THE SEWER SYSTEM SHOWN ON THESE PLANS IS THE GOVERNING AGENCY. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF THE GOVERNING AGENCY.
2. INSTALL ALL SEWER MAINS AT A MINIMUM 36 INCHES OF COVER.
3. JOINTS SHALL MEET THE REQUIREMENTS OF ASTM D3212 USING RUBBER GASKETS CONFORMING TO ASTM F477.
4. FITTINGS SHALL CONFORM TO THE SAME REQUIREMENTS AS THE PIPE. PROVIDE ADAPTERS AS REQUIRED TO JOIN PVC PIPE TO PIPE, FITTINGS AND EQUIPMENT OF OTHER MATERIALS. SOLVENT CEMENT SHALL BE AS RECOMMENDED BY THE PIPE MANUFACTURER.
5. SEWER PIPE SHALL BE COLOR CODED GREEN, STENCILED "SEWER LINE" (2" LETTERING ON TWO SIDES OF THE PIPE IN AT LEAST THREE AREAS PER PIPE SECTION).
6. INSTALL ADHESIVE IDENTIFICATION TAPE ALONG PIPELINE. TAPE SHALL BE MINIMUM THICKNESS 4 MILS, WIDTH 6 INCHES, LETTER SIZE 1 INCH. TAPE COLOR AND LETTERING SHALL BE "SEWER LINE", BLACK PRINTING ON GREEN BACKGROUND. PLACE TAPE AS FOLLOWS: 2" - 8" PIPE - CENTER ALONG TOP HALF OF PIPE; 10" - 18" PIPE - PLACE ALONG BOTH SIDES OF THE TOP HALF OF PIPE; 20" PIPE AND LARGER - PLACE ON BOTH SIDES OF TOP HALF OF PIPE WITH A THIRD STRIP CENTERED ALONG TOP HALF OF PIPE.
7. INSTALL WARNING TAPE ALONG ALL SEWER PIPELINES. TAPE SHALL BE 6-INCH WIDE VINYL CONTINUOUS TAPE, COLORED GREEN WITH BLACK LETTERING CODED AND WORDED "CAUTION: SEWER BURIED BELOW". INSTALL ALONG PIPELINE, 2 FEET ABOVE PIPE, MINIMUM OF 1 FOOT BELOW GRADE.
8. CONNECTIONS TO EXISTING SEWER SHALL BE CONDUCTED IN SUCH A MANNER THAT THE EXISTING SEWER REMAINS IN OPERATION. PROVIDE BY PASS PUMPING OF EXISTING FLOWS OR COLLECT AND LEGALLY DISPOSE OF EXISTING SEWER FLOW AS NEEDED TO ACCOMMODATE CONSTRUCTION WHILE KEEPING EXISTING SEWER IN SERVICE.
9. PRIOR TO INSPECTIONS AND TESTING, CLEAN ALL INSTALLED LINES AND MANHOLES. TEST PROCEDURES SHALL BE APPROVED BY THE ENGINEER. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER AND UTILITY. NOTIFY THE ENGINEER AND THE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY WORK IS TO BE INSPECTED OR TESTED.
10. PROVIDE ALL EQUIPMENT FOR TESTING. INCREMENTS ON GAGES USED FOR LOW PRESSURE AIR TESTING SHALL BE OF SCALED TO THE NEAREST 0.1 PSI. GAGES, PUMPS, AND HOSES SHALL BE IN GOOD WORKING ORDER WITH NO NOTICEABLE LEAKS.
11. ALL SERVICE LATERALS SHALL BE COMPLETED PRIOR TO TESTING, AND ARE SUBJECT TO THE SAME TESTING REQUIREMENTS AS THE MAIN LINE.
12. PROVIDE LIGHT SOURCE AND MIRRORS FOR LAMPING OF SEWER. ANY SEWER IN WHICH THE DIRECT LIGHT OF A LAMP CANNOT BE VIEWED IN EITHER DIRECTION, FULL CIRCLE, BETWEEN ADJACENT MANHOLES SHALL BE CONSIDERED UNSATISFACTORY, UNLESS THE LINE IS DESIGNED WITH HORIZONTAL DEFLECTIONS, AND SHALL BE REPAIRED BY THE CONTRACTOR WITHOUT ADDITIONAL COMPENSATION.
13. CONDUCT LOW PRESSURE AIR TESTING (4.0 PSI INITIAL PRESSURE) OF INSTALLED SEWER PIPING IN ACCORDANCE WITH ASTM F1417. MAXIMUM ALLOWABLE LEAKAGE IS 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE AREA BEING TESTED. ALLOWABLE AIR PRESSURE DROP DURING THE TEST IS 0.5 PSIG. MINIMUM REQUIRED TEST TIME (DURATION) IS: A) 4" PIPE = 1 MIN 53 SEC; B) 6" PIPE = 2 MIN 50 SEC, OR 0.427 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; C) 8" PIPE = 3 MIN 47 SEC, OR 0.760 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; D) 10" PIPE = 4 MIN 43 SEC, OR 1.187 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; E) 12" PIPE = 5 MIN 40 SEC, OR 1.709 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER.
14. CONDUCT DEFLECTION TESTING OF PIPELINE AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. MAXIMUM ALLOWABLE PIPE DEFLECTION IS 5%. MEASURE DEFLECTION BY MANUALLY PULLING A MANDREL THROUGH THE PIPE. THE MINIMUM MANDREL OUTER DIAMETER SHALL BE IN ACCORDANCE WITH THE FOLLOWING: 6" SEWER = 5.45" MANDREL; 8" SEWER = 7.28" MANDREL; 10" SEWER = 9.08" MANDREL; 12" SEWER = 10.79" MANDREL; 15" SEWER = 13.20" MANDREL; 18" SEWER = 16.13" MANDREL; 21" SEWER = 19.00" MANDREL; 24" SEWER = 21.36" MANDREL; 27" SEWER = 24.06" MANDREL.
15. DEFLECTION TESTING IS CONSIDERED SATISFACTORY IF THE MANDREL CAN BE PULLED BY HAND THROUGH THE PIPE BEING TESTED. IF THE MANDREL CANNOT BE PULLED THROUGH THE PIPE, REPLACE OR CORRECT THE PIPE AND RETEST UNTIL TESTING IS SATISFACTORY. ANY PIPE REMOVED OR CORRECTED DUE TO FAILING DEFLECTION TESTING SHALL ALSO BE RE-TESTED FOR LEAKAGE.

GROUTING INJECTION PROGRAM

1. PER INVESTIGATION CONDUCTED BY GEOTECHNICAL SUBCONSULTANT UES PROFESSIONAL SOLUTIONS, LLC AS PART OF PROJECT NO. 0795.24000014.0000 AND THEIR RECOMMENDATION IN REPORT NO. 2070893V2, A GROUTING PROGRAM IS RECOMMENDED TO STABILIZE SUBSURFACE CONDITIONS. REFER TO APPENDIX F "SUBSURFACE IMPROVEMENT GROUT INJECTION PLAN-TECHNICAL SPECIAL PROVISIONS" OF REPORT NO. 2070893V2 FOR SCOPE OF WORK AND SECTION 3.1.1 FOR BID QUANTITIES.

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Matthew D'Angelo, State of Florida, Professional Engineer, License No. 91885. This item has been digitally signed and sealed by 91885 on the date indicated here. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies

CELEBRATING 40 +YEARS

No.	Date	Revision
1		
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Designed: XX
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Job No.: UT-XXXX-XX
Date: 12/05/2025

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Walmart
STORE NO. 967-1011 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

GENERAL NOTES

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

Sheet No.
C0.2

Approved
2025-08-00085
James A. Meyer
1/15/2026

FORCE MAIN SYSTEMS

1. THE ENTITY THAT WILL OPERATE AND MAINTAIN THE FORCE MAIN SYSTEM SHOWN ON THESE PLANS IS THE GOVERNING AGENCY. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF THE GOVERNING AGENCY.
2. INSTALL ALL FORCE MAINS AT A MINIMUM 36 INCHES OF COVER.
3. DUCTILE IRON PIPE AND FITTINGS WITHIN 10 FEET OF GAS MAINS SHALL HAVE AN 8-MIL POLYETHYLENE WRAP IN ACCORDANCE WITH ANSI/AWWA C105/A21.5.
4. PVC PIPE JOINTS SHALL BE RUBBER GASKETED CONFORMING TO AWWA C900 OR C905 THE BELL SHALL BE INTEGRAL WITH THE PIPE AND OF EQUAL OR GREATER PRESSURE RATING. THE BELL OF PIPE AND FITTINGS USING PUSH-ON JOINTS SHALL HAVE AN INTEGRAL GROOVE TO RETAIN THE GASKET IN PLACE.
5. ALL FITTINGS SHALL BE MANUFACTURED OF DUCTILE IRON, CONFORMING TO ANSI/AWWA C110/A21.10 OR ANSI/AWWA C153/A21.53. ALL FULL BODY (C110/A21.10) FITTINGS SHALL BE PRESSURE RATED TO 250 PSI, MINIMUM. ALL COMPACT FITTINGS (C153/A21.53) SHALL BE PRESSURE RATED TO 350 PSI, MINIMUM.
6. INTERIOR LINING FOR PIPES AND FITTINGS SHALL BE EITHER MINIMUM 40 MILS DRY FILM THICKNESS (60 MILS NOMINAL) OF CERAMIC EPOXY LINING, AS MANUFACTURED UNDER THE NAME OF "PROTECTO 401", OR MINIMUM 40 MILS DRY FILM THICKNESS (60 MILS NOMINAL) OF FUSION BONDED EPOXY AND POLYETHYLENE LINING, AS MANUFACTURED UNDER THE NAME OF "POLYBOND PLUS", OR EQUAL. EXTERIOR COATING FOR BURIED PIPE AND FITTINGS SHALL BE A PETROLEUM ASPHALTIC COATING IN ACCORDANCE WITH ANSI/AWWA C110/A21.10. EXTERIOR COATING OF EXPOSED PIPE AND FITTINGS SHALL BE FACTORY APPLIED RUST INHIBITING EPOXY PRIMER, MINIMUM 3 MILS DRY FILM THICKNESS. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH A TWO COAT SYSTEM. THE FIRST COAT (INTERMEDIATE COAT) SHALL BE 4.0-10.0 MIL DFT TNEMEC COLOR HI-BUILD EPOXOLINE II SERIES N69 OR APPROVED EQUAL, AND THE FINAL COAT SHALL BE 2.0-3.0 MIL DFT TNEMEC ENDURASHIELD SERIES 73 OR APPROVED EQUAL. THE FINAL COAT PAINT COLOR SHALL BE AS SELECTED BY THE LOCAL UTILITY.
7. MECHANICAL AND PUSH ON JOINTS FOR DUCTILE IRON PIPE AND FITTINGS SHALL BE RUBBER GASKETED, CONFORMING TO ANSI/AWWA C111/A21.11. LUBRICANTS OTHER THAN THAT FURNISHED BY THE PIPE MANUFACTURER WITH THE PIPE SHALL NOT BE USED.
8. RESTRAINED JOINTS FOR DUCTILE IRON PIPE BELL JOINTS SHALL BE AMERICAN FAST GRIP GASKET, MCWANE SURE GRIP 350 GASKET, U.S. PIPE FIELD LOK 350 GASKET, OR EBAA IRON MEGA LUG SERIES 1100HD. RESTRAINED JOINTS FOR DUCTILE IRON PIPE AND FITTING MECHANICAL JOINTS SHALL BE EBAA IRON MEGA LUG SERIES 1100, STAR GRIP SERIES 3000, OR TYLER UNION TUF-GRIP SERIES TLD. LOCKING BELL JOINT RESTRAINT SHALL BE AMERICAN FLEX RING JOINT, AMERICAN LOK-RING JOINT, OR U.S. PIPE TR-FLEX. RESTRAINED JOINTS FOR PVC PIPE MECHANICAL JOINTS SHALL BE TYLER UNION SERIES 2000 TUF GRIP TLP, JCM SUR-GRIP BELL RESTRAINER, FORD UNI-FLANGE SERIES 1500 CIRCLE LOCK, OR EBAA IRON MEGA LUG SERIES 2000PV. RESTRAINED JOINTS FOR PVC PIPE PUSH ON JOINTS SHALL BE EBAA IRON MEGA LUG SERIES 1500 OR SERIES 1600 (C900 PVC), SERIES 2800 (C905 PVC), FORD UNI-FLANGE SERIES 1390, OR SMITH-BLAIR BELL-LOK SERIES 165. PIPE JOINTS SHALL BE RESTRAINED UPSTREAM AND DOWNSTREAM OF FITTINGS IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS OR THE TABLE SHOWN IN THE DRAWINGS, WHICHEVER IS GREATER.
9. INTERIOR LINING FOR VALVES 4 INCH AND LARGER SHALL BE EITHER MINIMUM 40 MILS DRY FILM THICKNESS (60 MILS NOMINAL) OF CERAMIC EPOXY LINING, AS MANUFACTURED UNDER THE NAME OF "PROTECTO 401", OR MINIMUM 40 MILS DRY FILM THICKNESS (60 MILS NOMINAL) OF FUSION BONDED EPOXY AND POLYETHYLENE LINING, AS MANUFACTURED UNDER THE NAME OF "POLYBOND PLUS", OR EQUAL. EXTERIOR COATING FOR BURIED VALVES SHALL BE RUST INHIBITING EPOXY PRIMER, FOLLOWED BY A COAL TAR EPOXY, TOTAL MINIMUM DRY FILM THICKNESS OF 16 MILS, APPLIED AT THE FACTORY. EXTERIOR COATING OF EXPOSED VALVES SHALL BE FACTORY APPLIED RUST INHIBITING EPOXY PRIMER, MINIMUM 3 MILS DRY FILM THICKNESS. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH A TWO COAT SYSTEM. THE FIRST COAT (INTERMEDIATE COAT) SHALL BE 4.0-10.0 MIL DFT TNEMEC COLOR HI-BUILD EPOXOLINE II SERIES N69 OR APPROVED EQUAL, AND THE FINAL COAT SHALL BE 2.0-3.0 MIL DFT TNEMEC ENDURASHIELD SERIES 73 OR APPROVED EQUAL. THE FINAL COAT PAINT COLOR SHALL BE AS SELECTED BY THE LOCAL UTILITY.
10. ALL FORCE MAIN VALVES SHALL BE CAST IRON SUITABLE FOR WASTEWATER SERVICE WITH PRESSURES UP TO 250 PSIG, AND SHALL BE QUARTER-TURN, NON-LUBRICATED, ECCENTRIC TYPE WITH RESILIENT FACED PLUG, MANUFACTURED AND TESTED IN ACCORDANCE WITH AWWA C517. PORT AREAS OF NOT LESS THAN 100% OF PIPE AREA SHALL BE SUPPLIED ON ALL VALVES. STANDARD PLUG VALVES SHALL BE CLOW F5412 / F5413, VALMATIC 5600 / 5800, DEZURIK SERIES PEC, M&H 1820, PRATT PV, OR APPROVED EQUAL.
11. TAPPING SLEEVES ARE TO BE 18-8 TYPE 304 STAINLESS STEEL AND STAINLESS STEEL OUTLET, AS MANUFACTURED BY JCM OR APPROVED EQUAL. TAPPING VALVES SHALL BE RESILIENT SEATED GATE VALVES AND SHALL CONFORM TO THE REQUIREMENTS OF AWWA C509. TAPPING VALVES SHALL BE AMERICAN FLOW CONTROL SERIES 2500, CLOW SERIES F-6100, OR MUELLER SERIES A2361.
12. AIR RELEASE VALVES SHALL BE COMBINATION CAPABLE OF DISCHARGING ACCUMULATED AIR IN THE LINE WHILE THE LINE IS OPERATING UNDER A PRESSURE OF 150 PSI. FLOAT MATERIAL SHALL BE STAINLESS STEEL. AIR RELEASE VALVES SHALL HAVE A STAINLESS STEEL BODY AND SHALL BE MANUFACTURED BY ARI (NO. ARI-D-020) OR VENT-O-MAT RGX SERIES. ENCLOSURES FOR AIR RELEASE VALVES SHALL BE POLYETHYLENE WITH STAINLESS STEEL HARDWARE, AND SHALL BE PROVIDED WITH A TAMPER PROOF LOCKING DEVICE. ENCLOSURES SHALL BE AS MANUFACTURED BY WATER PLUS CORPORATION (MODEL 182635) OR APPROVED EQUAL, AND SHALL HAVE VENTS AND SHALL BE GREEN IN COLOR.
13. ALL BURIED VALVES SHALL BE PROVIDED WITH ADJUSTABLE VALVE BOXES APPROXIMATELY 5 INCHES IN DIAMETER WITH A MINIMUM THICKNESS OF 3/16 INCH CAST IRON. BOXES SHALL BE OF SUFFICIENT LENGTH TO OPERATE ALL VALVES BURIED IN THE GROUND, CONSISTING OF BASE, CENTER SECTION, AND TOP SECTION WITH COVER. VALVE BOXES LOCATED IN UNPAVED AREAS SHALL BE SLIP TYPE DESIGN TO PERMIT MOVEMENT OF THE TOP SECTION WITHOUT TRANSMITTING FORCES ONTO THE VALVE BODY. VALVE BOXES CAST INTO CONCRETE OR ASPHALT SURFACING SHALL HAVE BRASS COVERS. ALL VALVE BOX COVERS SHALL BE INTERNALLY CHAINED TO VALVE BOXES WITH AN APPROXIMATELY 18 INCH GALVANIZED CHAIN. VALVE BOX COVERS SHALL BE CAST WITH THE INSCRIPTION "SEWER".
14. PVC PIPE SHALL BE COLOR CODED GREEN AND STENCILED (0.75-INCH LETTERING ON THE PIPE IN AT LEAST THREE AREAS PER PIPE SECTION) "SEWER FORCE MAIN".
15. INSTALL IDENTIFICATION TAPE ALONG ALL DUCTILE IRON PIPE AND PVC PIPE, MINIMUM THICKNESS 4 MILS, WIDTH 6 INCHES, LETTER SIZE 1 INCH, TEXT TO BE "SEWER FORCE MAIN". APPLY TAPE TO SURFACE OF PIPE, CONTINUOUSLY EXTENDING FROM JOINT TO JOINT. TAPE COLOR AND LETTERING SHALL BE BLACK PRINTING ON GREEN BACKGROUND. PLACE TAPE AS FOLLOWS: 2" - 8" PIPE - CENTER ALONG TOP HALF OF PIPE; 10" - 18" PIPE - PLACE ALONG BOTH SIDES OF THE TOP HALF OF PIPE; 20" PIPE AND LARGER - PLACE ON BOTH SIDES OF TOP HALF OF PIPE WITH A THIRD STRIP CENTERED ALONG TOP HALF OF PIPE.
16. INSTALL WARNING TAPE ALONG ALL PIPELINES, PLACED 2 FEET ABOVE PIPE. TAPE SHALL BE 6-INCH WIDE VINYL CONTINUOUS TAPE. TAPE SHALL BE COLORED BROWN WITH BLACK LETTERING, CODED AND WORDED "CAUTION: FORCE MAIN BURIED BELOW".
17. INSTALL LOCATING WIRE ALONG ALL PVC PIPELINES. WIRE SHALL BE COLOR-CODED 10 GAUGE CONTINUOUS INSULATED WIRE. COLOR CODING SHALL BE SIMILAR TO WARNING TAPE COLORS. INSTALL LOCATOR WIRE ALONG ALL PRESSURIZED PIPELINES 2" AND LARGER. LOOP WIRE INTO ALL VALVE BOXES. LOOPING TO OCCUR EVERY 500 FEET MINIMUM. WHERE THERE ARE NO VALVE BOXES TO ALLOW LOOPING, PROVIDE ACCESS BOXES PER UTILITY REQUIREMENTS. CHECK WIRE FOR ELECTRICAL CONTINUITY.
18. ALL CHANGES IN DIRECTION SHALL BE MADE WITH FITTINGS OR APPROVED JOINT DEFLECTION. BENDING OF PIPE, EXCEPT COPPER AND POLYETHYLENE, IS PROHIBITED. JOINT DEFLECTION SHALL NOT EXCEED 75% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION.
19. TEST PROCEDURES SHALL BE APPROVED BY THE ENGINEER. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER AND UTILITY. NOTIFY THE ENGINEER AND THE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY WORK IS TO BE INSPECTED OR TESTED.
20. PROVIDE ALL EQUIPMENT FOR TESTING. INCREMENTS ON GAGES USED FOR LOW PRESSURE AIR TESTING SHALL BE OF SCALED TO THE NEAREST 0.1 PSI. GAGES, PUMPS, AND HOSES SHALL BE IN GOOD WORKING ORDER WITH NO NOTICEABLE LEAKS.
21. APPLY HYDROSTATIC TEST PRESSURE OF 100 PSI FOR 10 MINUTES AND FOR SUCH ADDITIONAL PERIOD NECESSARY FOR THE ENGINEER TO COMPLETE THE INSPECTION OF THE LINE UNDER TEST. DO NOT EXCEED PIPE MANUFACTURER'S SUGGESTED TIME DURATION AT THE TEST PRESSURE. IF DEFECTS ARE NOTED, REPAIRS SHALL BE MADE AND THE TEST REPEATED UNTIL ALL PARTS OF THE LINE WITHSTAND THE TEST PRESSURE.
22. APPLY LEAKAGE TEST PRESSURE OF 100 PSI. MAINTAIN PRESSURE AT A MAXIMUM VARIATION OF 5% DURING THE ENTIRE LEAKAGE TEST. THE DURATION OF THE LEAKAGE TEST SHALL BE TWO HOURS MINIMUM, AND FOR SUCH ADDITIONAL TIME NECESSARY FOR THE ENGINEER TO COMPLETE INSPECTION OF THE SECTION OF LINE UNDER TEST. LEAKAGE MEASUREMENTS SHALL NOT BE STARTED UNTIL A CONSTANT TEST PRESSURE HAS BEEN ESTABLISHED. THE LINE LEAKAGE SHALL BE MEASURED BY MEANS OF A WATER METER INSTALLED ON THE SUPPLY SIDE OF THE PRESSURE PUMP.
23. NO LEAKAGE IS ALLOWED IN EXPOSED PIPING, BURIED PIPING WITH FLANGED, THREADED, OR WELDED JOINTS OR BURIED NON-POTABLE PIPING IN CONFLICT WITH POTABLE WATER LINES.
24. TESTED SECTIONS OF BURIED PIPING WITH SLIP-TYPE OR MECHANICAL JOINTS WILL NOT BE ACCEPTED IF IT HAS A LEAKAGE RATE IN EXCESS OF THAT RATE DETERMINED BY THE FORMULA L = SDP/148000 WHERE L = MAXIMUM PERMISSIBLE LEAKAGE RATE, IN GALLONS PER HOUR, THROUGHOUT THE ENTIRE LENGTH OF LINE BEING TESTED; S = LENGTH OF LINE TESTED (IN FEET); D = NOMINAL INTERNAL DIAMETER (IN INCHES) OF THE PIPE; AND P = THE SQUARE ROOT OF THE ACTUAL PRESSURE IN PSIG ON ALL JOINTS IN THE TESTED PORTION OF THE LINE. THIS ACTUAL PRESSURE SHALL BE DETERMINED BY FINDING THE DIFFERENCE BETWEEN THE AVERAGE ELEVATION OF ALL TESTED PIPE JOINTS AND THE ELEVATION OF THE PRESSURE GAUGE AND ADDING THE DIFFERENCE IN ELEVATION HEAD TO THE AUTHORIZED TEST PRESSURE.
25. ALL APPARENT LEAKS DISCOVERED WITHIN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER SHALL BE LOCATED AND

PAVING, SIDEWALKS, AND CURBING

1. MATERIALS AND CONSTRUCTION METHODS FOR THE ROADWAY AND PAVING CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
2. ROADWAY PAVING, BASE, AND SUBGRADE THICKNESSES SHALL BE IN ACCORDANCE WITH DETAILS ON THESE DRAWINGS.
3. SIDEWALKS ARE TO BE CONSTRUCTED IN THE AREAS AS SHOWN ON THE CONSTRUCTION PLANS. HANDICAPPED RAMPS SHALL BE PROVIDED AT ALL INTERSECTIONS AND SHALL BE IN ACCORDANCE WITH THE FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION, LATEST EDITION.
4. CURBING SHALL BE CONSTRUCTED WHERE NOTED ON THE CONSTRUCTION PLANS. ALL CURBS SHALL HAVE SAW CUT CONTRACTION JOINTS AND SHALL BE CONSTRUCTED AT INTERVALS NOT TO EXCEED 10'-0" ON CENTER. CONSTRUCTION OF CURBS SHALL BE IN CONFORMANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION) SECTION 520 AND DETAILS PROVIDED ON THE CONSTRUCTION PLANS.
5. FIELD COMPACTION DENSITY, STABILITY, AND THICKNESS TESTING FREQUENCIES OF SUB-BASE, BASE, AND ASPHALT SHALL BE TESTED ONCE EVERY 300 LINEAR FEET OF PAVING PER 24-FT WIDE STRIP, STAGGERED LEFT, CENTER AND RIGHT OF CENTERLINE. WHERE LESS THAN 300 LINEAR FEET OF SUB-BASE, BASE, AND ASPHALT IS PLACED IN ONE DAY, PROVIDE MIN. OF ONE TEST FOR EACH PER DAY'S CONSTRUCTION AT A LOCATION DESIGNATED BY THE ENGINEER. ASPHALT EXTRACTION GRADATION SHALL BE TESTED FROM GRAB SAMPLES COLLECTED ONCE EVERY 1800 SQUARE YARDS OF ASPHALT DELIVERED TO THE SITE (OR A MINIMUM OF ONCE PER DAY).

PRECAST STRUCTURES AND APPURTENANCES

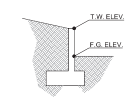
1. ALL MANHOLES SHALL BE PRECAST CONSTRUCTION. THE MINIMUM SIZE DIAMETER OF MANHOLES SHALL BE 48" FOR SEWER LINES 21" IN DIAMETER OR LESS. INTEGRALLY CAST STEPS WITHIN PRECAST STRUCTURES ARE NOT ALLOWED.
2. BASES SHALL BE ONE-PIECE PRECAST BASE SECTIONS CONSISTING OF INTEGRALLY CAST SLAB, BOTTOM RING SECTION AND CONCRETE FLOW CHANNELS. BASE SECTIONS SHALL HAVE INTEGRAL INVERTS WITH GASKETS TO MATCH THE PIPE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ALL INVERT ANGLES. PROVIDE OUTLET STUBS WITH JOINTS TO MATCH THE PIPE.
3. RISERS SHALL BE PRECAST REINFORCED CONCRETE PER ASTM C478, MANUFACTURED USING SULFATE RESISTANT CEMENT (ASTM C150, TYPE II). RISERS SHALL BE 48-INCH DIAMETER UNLESS OTHERWISE INDICATED AND SHALL HAVE A MINIMUM WALL THICKNESS OF 5 INCHES.
4. GASKETS FOR SEATING PRECAST SECTIONS SHALL BE COLD ADHESIVE PREFORMED PLASTIC GASKETS CONFORMING TO FDOT SPECIFICATION 942-2, UNLESS OTHERWISE INDICATED.
5. UNLESS OTHERWISE INDICATED, CONE TOP SECTIONS SHALL BE PRECAST, ECCENTRIC TYPE WITH 24-INCH DIAMETER TOP OPENING CONFORMING TO ASTM C478. PROVIDE 8-INCH MINIMUM THICKNESS FLAT SLAB TOPS WITH ECCENTRIC 24 INCH DIAMETER OPENING, UNLESS OTHERWISE INDICATED.
6. PROVIDE A FLEXIBLE WATERTIGHT SEAL OF THE PIPE TO THE MANHOLE. CONNECTION OF CONCRETE PIPE TO THE MANHOLE SHALL BE MADE WITH NON-SHRINK METALLIC GROUT. CONNECTION OF DUCTILE IRON OR PVC PIPE TO THE MANHOLE SHALL PROVIDE A WATERTIGHT CONNECTION PER ASTM C923. WHERE CONNECTORS ARE USED, THEY SHALL BE INSTALLED IN THE MANHOLE WALL BY ACTIVATING THE EXPANDING MECHANISM IN STRICT ACCORDANCE WITH THE RECOMMENDATION OF THE CONNECTOR MANUFACTURER. THE USE OF ADHESIVES OR LUBRICANTS FOR INSTALLATION OF RUBBER CONNECTORS IS PROHIBITED.
7. FRAMES AND COVERS SHALL BE GREY IRON PER ASTM A48, CLASS 30B AND SHALL BE U.S. FOUNDRY TYPE 227AS, TRAFFIC BEARING (AASHTO H-20 LOADING), UNLESS OTHERWISE NOTED IN THE DRAWINGS. CASTINGS SHALL BE SMOOTH, CLEAN, FREE FROM BLISTERS, BLOWHOLES, AND SHRINKAGE. RAISED LETTERING ON COVERS SHALL BE "STORM", "SEWER", OR AS DETAILED ON THE DRAWINGS.
8. PROVIDE CAST IRON INLETS, FRAMES, AND GRATES IN ACCORDANCE WITH DETAILS ON THE DRAWINGS. ALL FRAMES AND INLET GRATES SHALL BE PRODUCTS OF U.S. FOUNDRY & MANUFACTURING CORPORATION, OR EQUAL.
9. ALL INLET GRATES SHALL BE SECURED BY CHAIN AND EYEBOLT TO THE TOP OF THE STRUCTURE.
10. THE TOP ELEVATION OF MANHOLES CONSTRUCTED IN PAVED AREAS SHALL MATCH FINISHED GRADE. THE TOP ELEVATION OF MANHOLES CONSTRUCTED IN GRASSED AREAS SHALL BE 4" ABOVE FINISHED GRADE (UNLESS NOTED OTHERWISE).
11. ALL MANHOLES AND CLEAN OUTS CONSTRUCTED WITHIN PAVED AREAS SHALL BE INSTALLED WITH TRAFFIC BEARING RINGS AND COVERS.
12. MANHOLE COATINGS AND FINISHES SHALL BE:
A. SANITARY SEWER MANHOLE INTERIOR - BITUMINOUS EPOXY COATING, MINIMUM DRY FILM THICKNESS = 16 MILS.
B. INTERIOR OF MANHOLES WHICH RECEIVE FORCE MAIN DISCHARGE - INTEGRALLY ATTACHED INTERIOR LINER, FULL HEIGHT, FIBERGLASS LINER. LINER THICKNESS TO BE IN ACCORDANCE WITH THE DRAWINGS.
C. EXTERIOR - BITUMINOUS EPOXY COATING, MINIMUM DRY FILM THICKNESS = 16 MILS.

SYMBOLS:

- XX.XX / XX.XX — TOP OF CURB ELEV. / PAVEMENT ELEV.
- XX.XX — PAVEMENT ELEV.
- 10 — PARKING SPACE COUNT
- DIRECTION OF FLOW
- X.X% — SLOPE OF FLOW
- RR — RIP RAP - GROUTED
- C.O. — CLEAN OUT
- D.S. — DOWN SPOUT
- STORM / SANITARY MANHOLE
- DITCH BOTTOM INLET
- MITERED END SECTION
- FLARED END SECTION
- "U" TYPE END WALL
- FLUME
- CURB INLETS
- NYLOPLAST DRAIN BASIN
- RETAINING WALL
- FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION
- WATER LINE FITTINGS
- GATE VALVE
- REDUCER
- PC1 — PIPE CROSSING
- UTILITY POLE
- SITE LIGHTING
- FLAG POLE
- TRANSFORMER
- A — CROSS SECTION (SEE CONSTRUCTION DETAILS SHEET)

ABBREVIATIONS:

A/C	- AIR CONDITIONER
APPROX	- APPROXIMATE
ASPH	- ASPHALT
AVG	- AVERAGE
BFP	- BACK FLOW PREVENTER
BLK	- BLOCK
BLDG	- BUILDING
BOC	- BACK OF CURB
BOW	- BACK OF WALL
C & G	- CURB & GUTTER
CE	- CONSTRUCTION ENTRANCE
C/L	- CENTERLINE
CMP	- CORRUGATED METAL PIPE
CO	- CLEAN OUT
CONC	- CONCRETE
DEPT	- DEPARTMENT
DS	- DOWN SPOUT
ELEC	- ELECTRIC
EM	- ELECTRICAL METER
ELEV	- ELEVATION
EOP	- EDGE OF PAVEMENT
FDC	- FIRE DEPARTMENT CONNECTION
FDOT	- FLORIDA DEPARTMENT OF TRANSPORTATION
FF	- FINISH FLOOR
FG	- FINISH GRADE
FH	- FIRE HYDRANT
FM	- FORCE MAIN
FOC	- FACE OF CURB
FP&L	- FLORIDA POWER AND LIGHT
GOV'T	- GOVERNMENT
HB	- HOSE BIB
HC	- ADA ACCESSIBLE
HDPE	- HIGH DENSITY POLYETHYLENE PIPE
INV	- INVERT
IRR	- IRRIGATION
ME	- MATCH EXISTING ELEVATION
MES	- MITERED END SECTION
MH	- MANHOLE
PVC	- POLYVINYL CHLORIDE PIPE
PVMT	- PAVEMENT
R	- RADIUS
RCP	- REINFORCED CONCRETE PIPE
REV	- REVISION
R/W	- RIGHT-OF-WAY
SF	- SQUARE FEET
S/W	- SIDEWALK
TOB	- TOP OF BANK
TOE	- TOE OF SLOPE
TW	- TOP OF WALL
TYP	- TYPICAL
UNK	- UNKNOWN
UTL	- UNDERGROUND TELEPHONE LINES
W/	- WITH
WV	- WATER VALVE



RETAINING WALL ELEVATION

PAINT STRIPING ABBREVIATIONS:

SWSL	- SINGLE WHITE SOLID LINE
SYSL	- SINGLE YELLOW SOLID LINE
DYSL	- DOUBLE YELLOW SOLID LINE
SWDL	- SINGLE WHITE DASHED LINE
SBYL	- SINGLE BROKEN YELLOW LINE

LINE TYPES:

- GUIDE RAIL
- BASIN LINE
- BUILDING SETBACK LINE
- FENCE (AS NOTED ON PLAN)
- CN-F — CONSTRUCTION FENCE (AS NOTED ON PLAN)
- XX — CONTOUR ELEVATION
- EASEMENT
- E — ELECTRIC LINE
- FO — FIBER OPTIC
- FW — FIRE WATER
- FM — FORCE MAIN
- G — GAS LINE
- H.P. — HIGH POINT
- IC — IRRIGATION LINE
- LANDSCAPE BUFFER
- LOD — LIMITS OF DISTURBANCE
- OHE — OVERHEAD ELECTRIC
- PROPERTY LINE
- RAILROAD
- RWM — RECLAIM WATER
- S — SANITARY SEWER
- STORM PIPE
- TS — TAMPER SWITCH
- T — TELEPHONE LINE
- SF — TEMPORARY SILT FENCE
- UB — UTILITY BOLLARD CONDUIT
- W — WATER MAIN
- WALL (AS NOTED ON PLAN)

SIGNS:

(B)	BUS STOP (R7-7)
(DNE)	DO NOT ENTER (R5-1)
(FL)	NO PARKING - FIRE LANE (R7-94)
(HC)	HANDICAP (FTP-25)
(KR)	KEEP RIGHT (R4-7A)
(KL)	KEEP LEFT (R4-8A)
(LTO)	LEFT TURN ONLY (R3-5L)
(ME)	MEDIAN (R4-7) (R4-8)
(ND)	NO DUMPING
(NL)	NO LEFT TURN (R3-2)
(NLI)	NO LITTERING
(NOR)	NO RIGHT TURN (R3-1)
(NOT)	NO TRUCKS (R5-2A)
(NP)	NO PARKING (R7-1)
(1W)	ONE WAY (R6-1L) (R6-1R)
(PE)	PEDESTRIAN CROSSING (W11-2)
(RTO)	RIGHT TURN ONLY (R3-5R)
(R1)	ROW NUMBER
(SL)	SPEED LIMIT (R2-X)
(ST)	STOP (R1-1)
(TZ)	TOW AWAY ZONE (R7-201)
(TE)	TRUCK ENTRANCE
(WL)	WEIGHT LIMIT (R12-5)
(WW)	WRONG WAY (R5-1A)
(Y)	YIELD (R1-2)
(DT)	RESERVED DRIVE-THRU PARKING

NOTE:
ITEMS SHOWN DASHED / SCREENED REPRESENT EXISTING CONDITIONS. ITEMS SHOWN SOLID / BOLD REPRESENT PROPOSED CONDITIONS.

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CPH, LLC
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MATTHEW S. D'ANGELO LICENSE No. 91885 STATE OF FLORIDA PROFESSIONAL ENGINEER

Matthew D'Angelo, State of Florida, Professional Engineer, License No. 91885. This item has been digitally signed and sealed by 91885 on the date indicated here. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies

CELEBRATING 40 +YEARS

No.	Date	Revision
1		
2		
3		
4		
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7		

Designed: XX
Drawn: XX
Checked: XX
Job No.: UT-XXXX-XX
Date: 12/05/2025 © 2025

GENERAL SITE NOTES

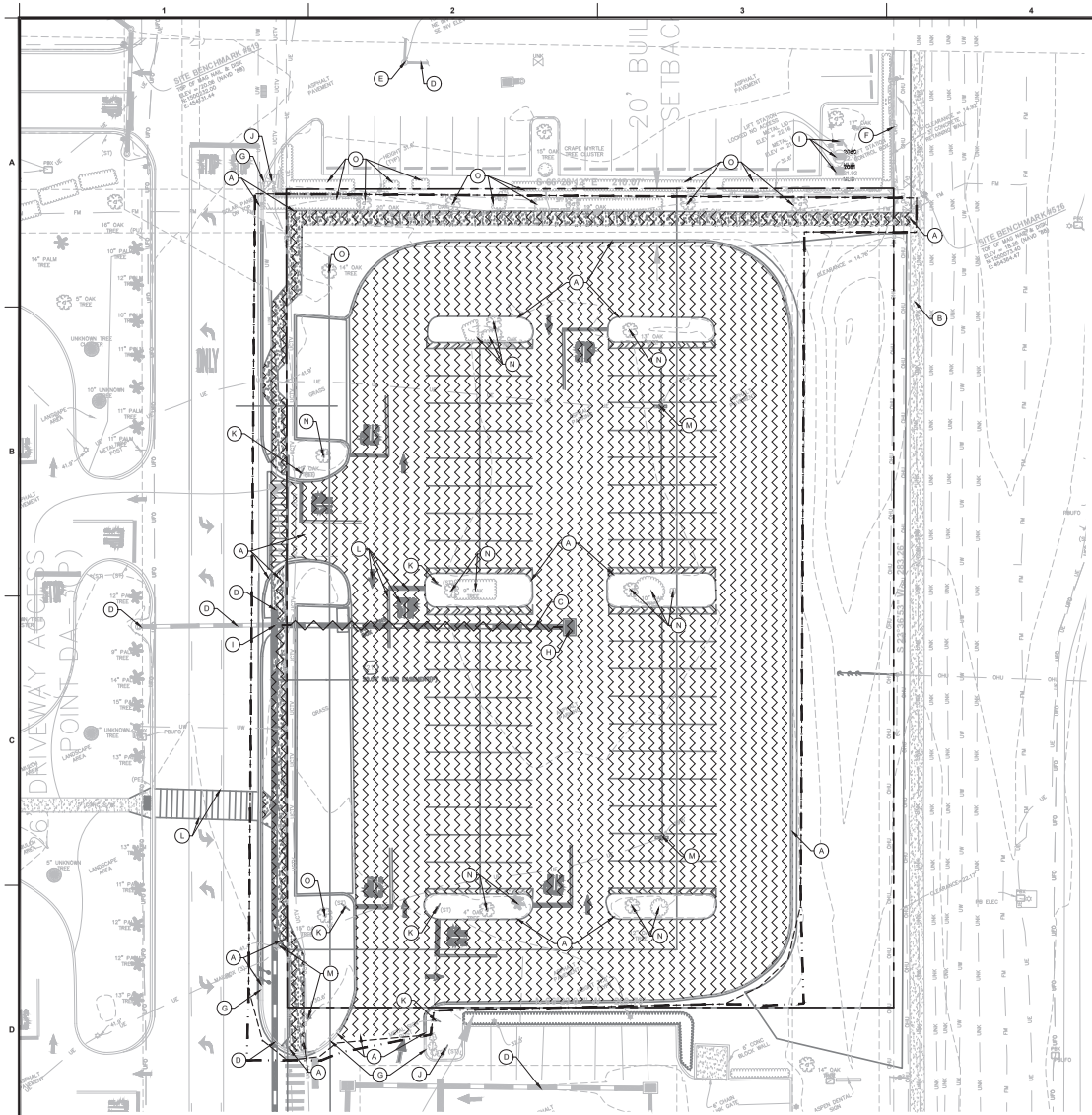
Walmart
STORE NO. 967-1011 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

Sheet No.
C0.3

Approved
2025-RB-00085
James A. Meyer
1/15/2026

\\server-1\H\CPH-Civil\Projects\101_Walmart Fuel #967 Spring Hill\03_Working Files\C-1.0 COVER SHEET\12-05-2025\C-0.1 COVER.dwg, 12/5/2025 12:25:21 PM, Admin,



DEMOLITION NOTES

1. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES FOR ON-SITE LOCATION OF EXISTING UTILITIES.
2. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, SUPERVISION, AND EQUIPMENT REQUIRED FOR THE ORDERLY DEMOLITION AND REMOVAL OF EXISTING STRUCTURES, PAVEMENT AND UTILITIES AS SHOWN ON THE DRAWINGS AND DESCRIBED HEREIN.
3. THE CONTRACTOR IS REQUIRED TO FAMILIARIZE HIMSELF WITH THE STRUCTURES TO BE DEMOLISHED. A BRIEF DESCRIPTION OF THE STRUCTURES IS INCLUDED FOR THE CONTRACTORS CONVENIENCE ONLY.
4. THE FOLLOWING LIST OF STRUCTURES REQUIRING DEMOLITION IS INCLUDED FOR THE CONTRACTORS CONVENIENCE ONLY. THE DRAWINGS INDICATE THE SCOPE OF DEMOLITION WHERE DEMOLITION IS REQUIRED.
   A. DEMOLITION AND REMOVAL OF EXISTING ON-SITE ASPHALT AND CONCRETE.
   B. REMOVAL OF EXISTING ON-SITE ABOVEGROUND AND UNDERGROUND UTILITIES, INCLUDING REMOVAL OR PLUGGING OF EXISTING UTILITIES AS SHOWN ON PLANS.
5. PRIOR TO ANY REMOVAL OF ANY UNDERGROUND TANK AND OTHER COMPONENT, CONTRACTOR MUST COMPLETELY DRAIN THE SYSTEMS TO AN APPROVED SANITATION TANK FOR DISPOSAL TO AN APPROVED LOCATION.
6. ALL ON-SITE UNDERGROUND STRUCTURES AND PIPING MUST BE COMPLETELY REMOVED AND OVEREXCAVATED BY A MINIMUM OF 10' BENEATH THE STRUCTURES. CONTRACTOR SHALL USE APPROVED FILLING MATERIAL FOR FILLING THESE AREAS. FILL SHALL BE OF CLEAN, FINE SAND AASHTO CLASS A-3 AND SHALL BE PLACED IN 6" TO 8" LOSSE LIFTS AND COMPACTED TO AT LEAST 98% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY. (ASTM D-1557).
7. ALL EXISTING STRUCTURES, PAVEMENTS, SLABS, STEPS, AND OTHER EXISTING FEATURES INDICATED ON THE DRAWINGS TO BE REMOVED SHALL BE DEMOLISHED AND REMOVED BY THE CONTRACTOR. REMOVE NO STRUCTURE SUBSTANTIALLY AS A WHOLE UNLESS COMPLETELY ON THE PREMISES.
8. ALL EXISTING SEWERS, PIPING AND UTILITIES SHOWN ARE NOT TO BE INTERPRETED AS THE EXACT LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES. GIVE NOTICE TO ALL UTILITY COMPANIES REGARDING DESTRUCTION AND REMOVAL OF ALL SERVICE LINES AND CAP ALL LINES BEFORE PROCEEDING WITH THE WORK.
9. ELECTRICAL, TELEPHONE, CABLE, AND/OR GAS LINES NEEDING TO BE REMOVED OR RELOCATED SHALL BE COORDINATED WITH THE AFFECTED UTILITY COMPANY. ADEQUATE TIME SHALL BE PROVIDED FOR RELOCATION AND CLOSE COORDINATION WITH THE UTILITY COMPANY IS A NECESSITY TO PROVIDE A SMOOTH TRANSITION IN UTILITY SERVICE.
10. PROVIDE ADEQUATE PROTECTION FOR PERSONS AND PROPERTY AT ALL TIMES. EXECUTE THE WORK IN A MANNER TO AVOID HAZARDS TO PERSONS AND PROPERTY AND PREVENT INTERFERENCE WITH THE USE OF AND ACCESS TO ADJACENT BUILDINGS. STREETS AND SIDEWALKS SHALL NOT BE UNNECESSARILY BLOCKED BY DEBRIS AND EQUIPMENT.
11. WET DOWN CONCRETE AND DEBRIS DURING DEMOLITION AND LOADING OPERATIONS TO PREVENT THE SPREAD OF DUST.
12. CONTRACTOR MUST STOP OPERATION AND NOTIFY THE OWNER FOR PROPER DIRECTION IF ANY ENVIRONMENTAL OR HEALTH RELATED CONTAMINATES ENCOUNTERED DURING DEMOLITION/EXCAVATION PROCESS.
13. DISPOSAL
   A. FILL FOR LOWER LEVELS OF DEMOLISHED STRUCTURES MAY INCLUDE CONCRETE OR MASONRY RUBBLE RESULTING FROM DEMOLITION, SUBJECT TO THE E/A'S APPROVAL. RUBBLE SHALL NOT EXCEED 12 INCHES IN LONGEST DIMENSION.
   B. THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL, AND DISPOSING IN A LOCATION APPROVED BY ALL GOVERNING AUTHORITIES, OF ALL STRUCTURES, PADS, WALLS, FLUMES, FOUNDATIONS, PARKING, DRIVES, DRAINAGE STRUCTURES, UTILITIES, ETC., SUCH THAT THE IMPROVEMENTS SHOWN ON THE REMAINING PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL PER THE SPECIFICATIONS.
   C. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL DEBRIS FROM THE SITE AND DISPOSING THE DEBRIS IN A LAWFUL MANNER. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR THE DEMOLITION AND DISPOSAL.
14. PAVEMENT REMOVAL
   A. WHERE EXISTING PAVEMENT IS TO BE REMOVED, SAW-CUT THE SURFACE LEAVING A UNIFORM AND STRAIGHT EDGE WITH MINIMUM DISTURBANCE TO THE REMAINING ADJACENT SURFACING. IF CONSTRUCTION RESULTS IN RAVELING OF THE SAW-CUT SURFACE, RECUT BACK FROM THE RAVELED EDGE PRIOR TO RESTORATION.
   B. WHERE EXISTING PAVEMENT, CURB AND GUTTER, SIDEWALK, DRIVEWAY, OR VALLEY GUTTER IS REMOVED FOR THE PURPOSE OF CONSTRUCTING OR REMOVING BOX CULVERTS, PIPE INLETS, MANHOLES, APPURTENANCES FACILITIES OR STRUCTURES, SAID PAVEMENT, ETC. SHALL BE REPLACED AND RESTORED IN EQUAL OR BETTER CONDITION THAN THE ORIGINAL. CONTRACTOR SHALL PROVIDE ALL NECESSARY LABOR, MATERIALS, EQUIPMENT, TOOLS, SUPPLIES, PAINT, AND EQUIPMENT REQUIRED.
15. CONTINUOUS ACCESS SHALL BE MAINTAINED FOR THE SURROUNDING PROPERTIES AT ALL TIMES DURING DEMOLITION OF THE EXISTING FACILITIES.
16. PERMITTING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY REQUIRED PERMITTING FOR DEMOLITION FROM RESPONSIBLE REGULATORIES AND FULLY ACKNOWLEDGE AND COMPLY WITH ALL REQUIREMENTS PRIOR TO REQUIREMENTS COMMENCING DEMOLITION WORK.
17. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE THE EXTENT OF DEMOLITION REQUIRED IN ORDER TO PERFORM THE CONTRACT WORK FOR THIS PROJECT. THE CONTRACTOR SHALL CONDUCT SITE VISITS AND SHALL EXAMINE ALL OF THE INFORMATION WITHIN THESE DOCUMENTS. ALL DISCREPANCIES AND/OR OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BID SUBMITTAL.
18. PRIOR TO DEMOLITION OCCURRING, ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED.
19. CONTRACTOR MAY LIMIT SAW-CUT & PAVEMENT REMOVAL TO ONLY THOSE AREAS WHERE IT IS REQUIRED AS SHOWN ON SHEETS C-5, BUT IF ANY DAMAGE IS INCURRED ON ANY OF THE SURROUNDING PAVEMENT, SIDEWALK, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IT'S REMOVAL AND REPAIR.
20. ALL EXISTING UTILITIES WITHIN THE R.O.W SHALL BE ADJUSTED, REMOVED OR RELOCATED AT THE CONTRACTOR'S EXPENSE. ACTUAL WORK SHALL BE COORDINATED BY THE CONTRACTOR DIRECTLY W/ THE APPROPRIATE UTILITY COMPANY. ALL EXPENSES SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
21. COORDINATE ALL WATER MAIN ABANDONMENT WITH PACE WATER SYSTEMS STAFF.

DEMOLITION KEYNOTE LEGEND

- (A) NEATLY SAW-CUT & REMOVE EXISTING SIDEWALK, CURB AND GUTTER.
- (B) PROTECT AND SAVE EXISTING SIDEWALK.
- (C) EXISTING 2'-0" STORM PIPE TO BE REMOVED.
- (D) PROTECT AND SAVE EXISTING STORM PIPE.
- (E) PROTECT AND SAVE EXISTING MANHOLE.
- (F) PROTECT AND SAVE EXISTING FENCE.
- (G) PROTECT AND SAVE EXISTING CURB AND GUTTER.
- (H) EXISTING STORM DRAIN INLET TO BE REMOVED.
- (I) PROTECT AND SAVE EXISTING DRAIN INLET (TO BE CONVERTED).
- (J) SALVAGE AND RELOCATE EXISTING STOP SIGN.
- (K) EXISTING STOP SIGN TO BE REMOVED.
- (L) SANDBLAST & COMPLETELY REMOVE EXISTING PAVEMENT MARKINGS.
- (M) NEATLY REMOVE LIGHT.
- (N) NEATLY REMOVE TREE.
- (O) NEATLY RELOCATE TREE.

SITE BENCHMARK

#519
TOP OF MAG NAIL & DISK
ELEV = 20.06 (NAVD '88)
N:1500232.00
E:454131.44

#526
TOP OF MAG NAIL & DISK
ELEV = 18.25 (NAVD '88)
N:1500073.40
E:454364.47

NOTES

PAVEMENT REMOVAL

1. WHERE EXISTING PAVEMENT IS TO BE REMOVED, SAW-CUT THE SURFACING LEAVING A UNIFORM AND STRAIGHT EDGE WITH MINIMUM DISTURBANCE TO THE REMAINING ADJACENT SURFACING. IF CONSTRUCTION RESULTS IN RAVELING OF THE SAW-CUT SURFACE, RECUT BACK FROM THE RAVELED EDGE PRIOR TO RESTORATION.
2. AFTER REMOVAL OF ASPHALT PAVEMENT AND PROOF ROLLING THE DEPTH OF REMAINING BASE MATERIAL. VERIFICATION SHALL BE COMPLETED TO ENSURE THE SELECTED AREAS OF BASE MATERIAL TO BE REPLACED IS ADEQUATE. PHASED WORK MAY INCLUDE EXISTING UNDERGROUND UTILITIES TO BE PROTECTED.
3. CONTRACTOR SHALL REMOVE ANY RESIDUAL ROOTS AND ORGANICS ASSOCIATED WITH ANY TREE REMOVAL PRIOR TO SUBGRADE PREPARATION.
4. CONTRACTOR SHALL TAKE CARE TO PROTECT EXISTING CURBS AND STRUCTURES FROM DAMAGE DURING REMOVAL AND REPLACEMENT OF EXISTING ASPHALT.
5. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL DEBRIS FROM THE SITE AND DISPOSING THE DEBRIS IN A LAWFUL MANNER. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL.
6. WET DOWN MASONRY DEBRIS DURING DEMOLITION AND LOADING OPERATIONS TO PREVENT THE SPREAD OF DUST.
7. USE A CARBORUNDUM SAW WHENEVER MASONRY OR CONCRETE IS TO BE REMOVED WITHIN EXISTING STRUCTURES. AIR HAMMERS OR OTHER DEVICES WILL BE PERMITTED ON EXTERIOR WORK.

PROPOSED LEGEND

- APPROXIMATE LIMITS OF EXISTING PAVEMENT SECTION, SIDEWALK, AND CURB REMOVAL.
- LIMITS OF PAVEMENT SAWCUT AND REMOVAL
- LIMITS OF WORK AREA
- REMOVAL OF EXISTING UNDERGROUND UTILITY, FENCE, AND PAVEMENT MARKINGS.

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NOTE:
ITEMS SHOWN SCREENED REPRESENT EXISTING CONDITIONS. ITEMS SHOWN BOLD REPRESENT PROPOSED CONDITIONS.

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2216 Altamonte Avenue
Ft. Myers, FL 33901
Ph: 239.332.5499

Plans Prepared By:
CPH, LLC
A Full Service A & E Firm

MATTHEW S. D'ANGELO LICENSE No. 91885 STATE OF FLORIDA PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by Matthew D'Angelo. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies

No.	Date	Revision
1	12/05/25	Per City Comments

Designed: ##
Drawn: ##
Checked: ##
Job No.: UT-XXXX-XX
Date: 12/05/2025 © 2025

DEMOLITION PLAN

Walmart

STORE NO. 967-1011 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

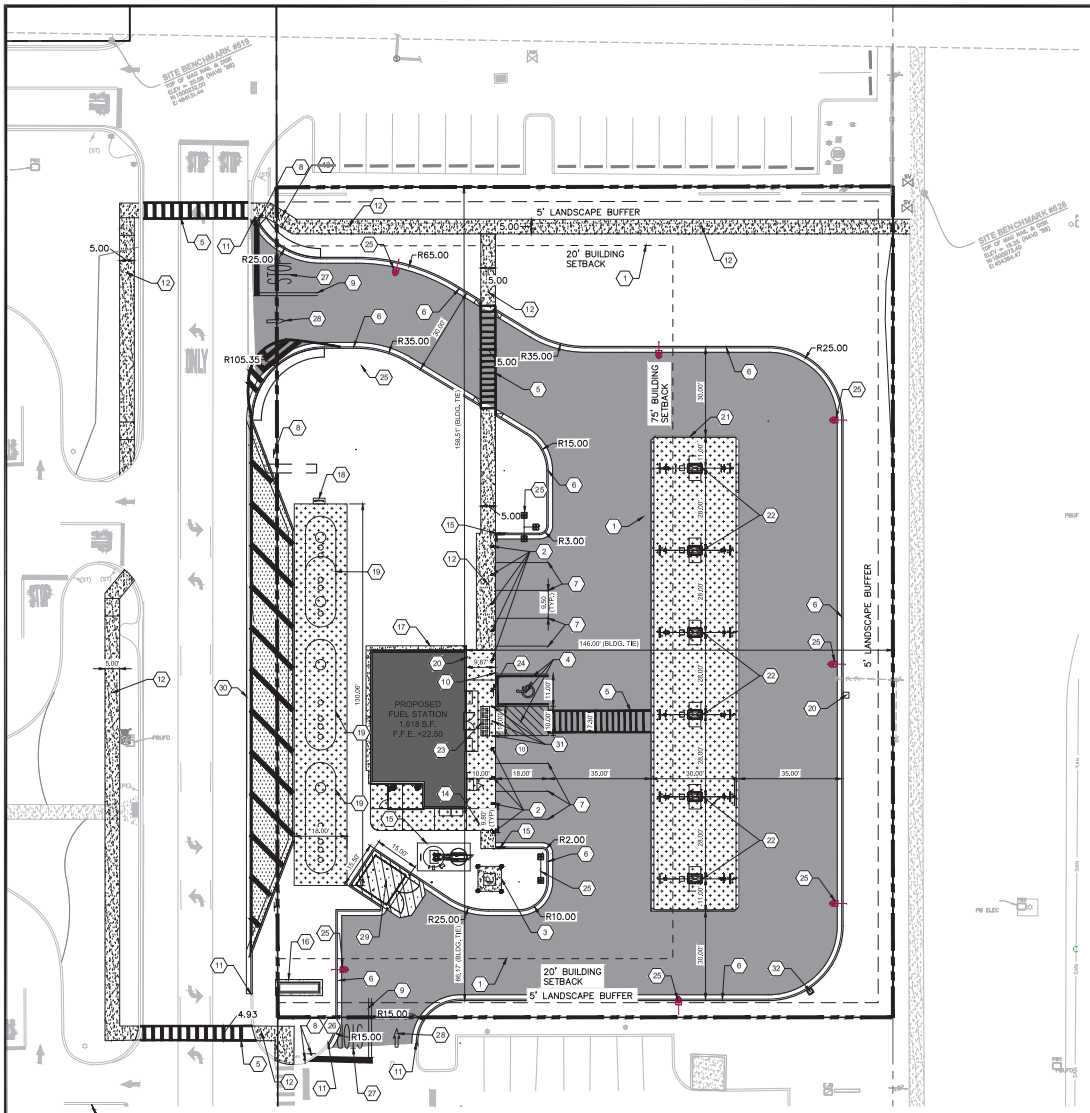
THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

Sheet No.
C1.1

Approved
Case #: 2025-08-00085
James A. Meyer
1/15/2026

i:\2500192\Civil\DWG\Revised_Files\Upstream\2025-12-05\C1.1 DEMOLITION PLAN.dwg, 12/5/2025 2:10:14 PM, Jose Ramirez,

136



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SITE BENCHMARK

#519
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ELEV = 20.06 (NAVD '88)
N:1500232.00
E:454131.44

#526
TOP OF MAG NAIL & DISK
ELEV = 18.25 (NAVD '88)
N:1500073.40
E:454364.47

SITE LEGEND

1. BUILDING SETBACK LINE PER ZONING RESOLUTION.
2. PIPE BOLLARD, SEE DETAIL SHEET C5.1.
3. CONCRETE TRANSFORMER PAD, SEE DETAIL SHEET C5.7. CONTRACTOR TO COORDINATE INSPECTION WITH UTILITY PROVIDER.
4. ACCESSIBLE PARKING SPACE PER FDOT INDEX NO. 711-001 AND SIGNAGE PER FDOT INDEX NO. 700-102 TYPICAL. SEE DETAIL SHEET.
5. PEDESTRIAN CROSSWALK, SEE PLAN FOR WIDTH, REF. WALMART DETAILS, SHEET C5.4.
6. 24" STANDARD CURB & GUTTER. SEE DETAIL SHEET C5.2.
7. PROPOSED SWSL / 4".
8. NEW SIGN MOUNTING AND BASE WITH BREAK AWAY POST.
9. PROPOSED DYSL / 4". REF. WALMART DETAILS, SHEET C5.3.(LINES TO BE EXTENDED FROM THE CROSSWALK/STOP BAR).
10. FLUSH PAVEMENT AND SIDEWALK AREA.
11. COORDINATE WITH DEVELOPER'S CONTRACTOR TO CONSTRUCT SMOOTH TRANSITION TO EXISTING CURB AND PAVEMENT.
12. PROPOSED CONCRETE SIDEWALK, 6% MAX. LONGITUDINAL SLOPE, 2% MAX. CROSS SLOPE.
13. PROPOSED ACCESSIBLE CURB RAMP 1:12 MAX. SLOPE WITH 2' DEEP DETECTABLE WARNINGS, PER FDOT INDEX 522-002.
14. CONCRETE SIDEWALK, SEE ARCH. PLAN FOR SPECIFICATION AND DETAILS.
15. PROPOSED LIFT STATION ENCLOSURE, SEE ARCH PLANS FOR DETAILS.
16. PROPOSED MONUMENT SIGN LOCATION, BY OTHERS.
17. PROPOSED CONCRETE RODENT BARRIER, SEE ARCH PLANS FOR DETAILS.
18. PROPOSED TANK VENT SYSTEM, REF. FUEL PLANS FOR DETAILS.
19. PROPOSED UNDERGROUND FUEL STORAGE TANKS, REF. FUEL PLANS FOR DETAILS.
20. PROPOSED E-STOP, REF. ARCH. PLANS FOR DETAILS.
21. PROPOSED GAS CANOPY, REF. ARCH. PLANS FOR DETAILS.
22. PROPOSED FUEL DISPENSER (TYP.), REF. FUEL PLANS FOR DETAILS.
23. PROPOSED TACTILE WARNING, REF. ARCH PLANS.
24. NEW SIGN MOUNTING AND BASE WITH BOLLARD, SEE DETAIL SHEET C5.1.
25. PROPOSED SITE LIGHTING POLE (TYP.), REF. PHOTOMETRIC PLANS.
26. PROPOSED "STOP" SIGN
27. PROPOSED STOP TEXT AND STOP BAR, REF. WALMART DETAILS, SHEET C5.3.
28. PROPOSED OPEN ARROW PAVEMENT MARKINGS, REF. WALMART DETAILS, SHEET C5.3.
29. PROPOSED DUMPSTER ENCLOSURE REF. ARCH PLANS FOR DETAILS
30. PROPOSED 24" CONCRETE GUTTER. SEE DETAIL SHEET C5.2.
31. PROPOSED ARCHITECTURAL BOLLARDS, REF. ARCH PLANS FOR DETAILS.
32. PROPOSED AIR STATION, REF. ARCH PLANS FOR DETAILS

SITE NOTES:

1. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL CITY/COUNTY REGULATIONS AND CODES AND O.S.H.A. STANDARDS.
2. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULES, SLOPE PAVING, SIDEWALKS, EXIT PORCHES, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
3. ALL DISTURBED AREAS ARE THE RECEIVE FOUR INCHES OF TOPSOIL, SEED, MULCH AND WATER UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED.
4. ALL CURBED RADII ARE TO BE 10' UNLESS OTHERWISE NOTED. STRIPED RADII ARE TO BE 5'
5. ALL DIMENSIONS AND RADII ARE TO BE FACE OF CURB UNLESS OTHERWISE NOTED.
6. EXISTING STRUCTURES WITHIN CONSTRUCTION LIMITS ARE TO BE ABANDONED, REMOVED OR RELOCATED AS NECESSARY. ALL COST SHALL BE INCLUDED IN BASE BID.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, (UNLESS OTHERWISE NOTED ON PLANS) INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, TRAFFIC SIGNALS & POLES, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES REQUIREMENTS AND PROJECT SITE WORK SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COST SHALL BE INCLUDED IN BASE BID.
8. SITE BOUNDARY, TOPOGRAPHY, UTILITY AND ROAD INFORMATION TAKEN FROM A SURVEY PREPARED BY CPH, CORP.
9. TOTAL LAND AREA IS 1.36± ACRES.
10. THE SITE WORK FOR THIS PROJECT SHALL MEET OR EXCEED "THE SITE SPECIFIC SPECIFICATIONS".
11. PYLON SIGNS SHALL BE CONSTRUCTED BY OTHERS.
12. REFER TO ARCH. PLANS FOR SITE LIGHTING.
13. ALL WM GENERAL CONTRACTOR WORK TO BE COMPLETED (EARTHWORK, FINAL UTILITIES, AND FINAL GRADING) BY THE MILESTONE DATE IN PROJECT DOCUMENTS. OUTLOT AREA TO BE KEPT FREE OF JOB TRAILERS AND STORAGE AFTER THE CONTRACT MILESTONE DATE FOR THE OUTLET. WM GENERAL CONTRACTOR TO PROVIDE CLEAR ACCESS FOR OUTLOT CONTRACTOR TO THE SPECIFIC PARCEL AT ALL TIMES AFTER MILESTONE DATE. PURCHASER OF OUTLOT TO PROVIDE PERMIT DOCUMENTS AND SWPPP REQUIRED BY STATE/LOCAL REQUIREMENTS FOR SPECIFIC OUTLOT.

SIGN LEGEND

(HC) ACCESSIBLE PARKING (FTP-21-06 & FTP-22-06)
(ST) STOP (R1-1)
(PE) STOP HERE FOR PEDESTRIANS (SEE DETAIL SHEET)

PROPOSED LEGEND

PROPERTY LINE
PROPOSED BUFFER LINE
LANDSCAPE BUFFER LINE
BUILDING SETBACK LINE

PAINTING STRIPING LEGEND

SWSL SINGLE WHITE SOLID LINE
DYSL DOUBLE YELLOW SOLID LINE

PROPOSED PAVEMENT LEGEND

CONCRETE SIDEWALK. REF. DETAIL SHEET
ARCHITECTURAL CONCRETE, SEE ARCH. PLANS
STANDARD DUTY CONCRETE: REF. DETAIL SHEET
HEAVY DUTY CONCRETE: PER DETAIL SHEET
STANDARD DUTY ASPHALT PAVEMENT: REF. DETAIL SHEET
HEAVY DUTY ASPHALT PAVEMENT: REF. DETAIL SHEET
(10) PARKING SPACE COUNT
SITE LIGHTING, REF. PHOTOMETRIC PLANS
TRANSFORMER

SITE LOCATION

SITE DATA INFORMATION:

SITE PARCEL NUMBERS:

PARCEL NO. R29 223 17 2608 0000 0020 1867 COMMERCIAL WAY, 59,420 S.F.(1.36 AC.)

SECTION – 29 / TOWNSHIP – 23 S / RANGE – 17 E

ON–SITE LAND INFORMATION:

CURRENT LAND USE:	VACANT LAND
PROPOSED LAND USE:	FUEL STATION
CURRENT ZONING:	PDP(GC) WITH C2 USE– PLANNED DEVELOPMENT PROJECT
PROPOSED ZONING:	PDP(GC) WITH C2 USE– PLANNED DEVELOPMENT PROJECT
AREA OF PROPOSED IMPROVEMENTS:	59,420 S.F. (1.36 AC.)
DEVELOPMENT TYPE:	GENERAL COMMERCIAL

ADJACENT LAND INFORMATION:

	NORTH	EAST	SOUTH	WEST
EXISTING LAND USE	XXX	XXX	XXX	XXX
FUTURE LAND USE	XXX	XXX	XXX	XXX
EXISTING ZONING	XXX	XXX	XXX	XXX
PROPOSED ZONING	XXX	XXX	XXX	XXX

FLOOD ZONE INFORMATION:

HAVING CONSULTED THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP (FIRM) NUMBER 12053C0284E, COMMUNITY PANEL NO. 120110, HERNANDO COUNTY UNINCORPORATED AREAS, EFFECTIVE DATE JANUARY 15, 2021, THE SUBJECT PROPERTY APPEARS TO LIE IN ZONE X, THE FLOOD ZONE "X"HAS A 0.2% ANNUAL CHANCE FLOOD HAZARD, AREAS WITH A 1% ANNUAL CHANCE FLOOD W/ AVERAGE DEPTH LESS THAN 1 FOOT – MINIMAL FLOOD HAZARD

BUILDING INFORMATION:

BUILDING AREA:	1,618± S.F.
BUILDING USE:	FUEL STATION + CONVENIENCE STORE
MAXIMUM BUILDING HEIGHT (COUNTY CODE):	35'
ACTUAL BUILDING HEIGHT (ONE STORY):	19'–0"
CANOPY HEIGHT	17'–8"
MAXIMUM FLOOR AREA RATIO (FAR) (COUNTY CODE):	0.75
MAXIMUM FLOOR AREA RATIO (FAR) PROVIDED:	2.72%

PERVIOUS / IMPERVIOUS AREAS:

PRE DEVELOPMENT:			
PERVIOUS AREA:	18,020 S.F.	(0.41 AC.)	(30.32%)
IMPERVIOUS AREA:	41,400 S.F.	(0.95 AC.)	(69.68%)
TOTAL SITE AREA:	59,420 S.F.	(1.36 AC.)	(100.00%)
POST DEVELOPMENT:			
PERVIOUS AREA:	21,799 S.F.	(0.50 AC.)	(36.69%)
IMPERVIOUS AREA:	37,621 S.F.	(0.86 AC.)	(63.31%)
TOTAL SITE AREA:	59,420 S.F.	(1.36 AC.)	(100.00%)

PARKING INFORMATION:

PARKING REQUIRED:

USE TYPE: GAS STATION + CONVENIENCE STORE
1 SPACES PER 4 PUMPS + 5/1,000 SF CONVENIENCE STORE AREA
(6 PUMPS / 4) + (5 x 1.618) = 10 SPACES REQUIRED.

PARKING SPACES PROVIDED = 10 (INC. 1 ADA SPACE AND 1 TRUCKING LOADING ZONE)

PARKING RATIO PROVIDED = 6 SPACES PER 1,000 SF

BLDG. SETBACKS AND LANDSCAPE BUFFERS:

PRINCIPLE BLDG. SETBACKS:	N	E	S	W
REQUIRED:	X'(MIN)	X'(MIN)	X'(MIN)	XX'(MIN)
PROVIDED :	XXX.XX'	XX.XX'	XX.XX'	XXX.XX'
ACCESSORY STRUCTURE (DUMPSTER) SETBACK:	N	E	S	W
REQUIRED:	X'	X'	X'	X'
PROVIDED :	XX.XX'	XX.XX'	XXX.XX'	XXX.XX'
SIGNAGE SETBACK:	N	E	S	W
REQUIRED:	X'	X'	X'	X'
PROVIDED :	XXX.XX'	XXX.XX'	XX.XX'	X.XX'
LANDSCAPE BUFFERS:	N	E	S	W
REQUIRED:	X'	X'	X'	XX'(MIN)
PROVIDED :	X'	XX.XX'	X'	XX.XX'

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Ph: 239.332.5499

Plans Prepared By:
CPH, LLC
A Full Service A & E Firm

MATTHEW S. D'ANGELO LICENSE No. 91885 STATE OF FLORIDA PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by Matthew D'Angelo. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies

No.	Date	Revision
1	12/05/25	Per City Comments

Designed: ##
Drawn: ##
Checked: ##
Job No.: UT-XXXX-XX
Date: 12/05/2025 © 2025

SITE DIMENSION PLAN

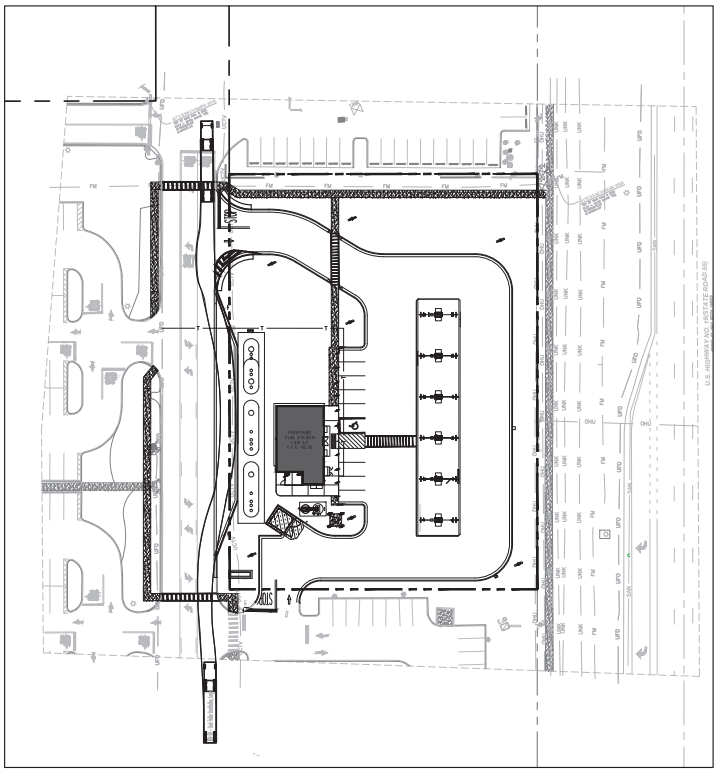
Walmart

STORE NO. 967-1011 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

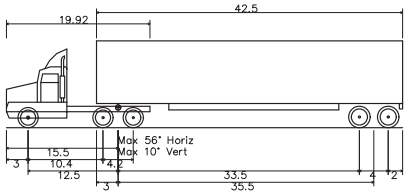
Sheet No.
C1.2

Approved
24-08-00085
James A. Meyer
1/15/2026



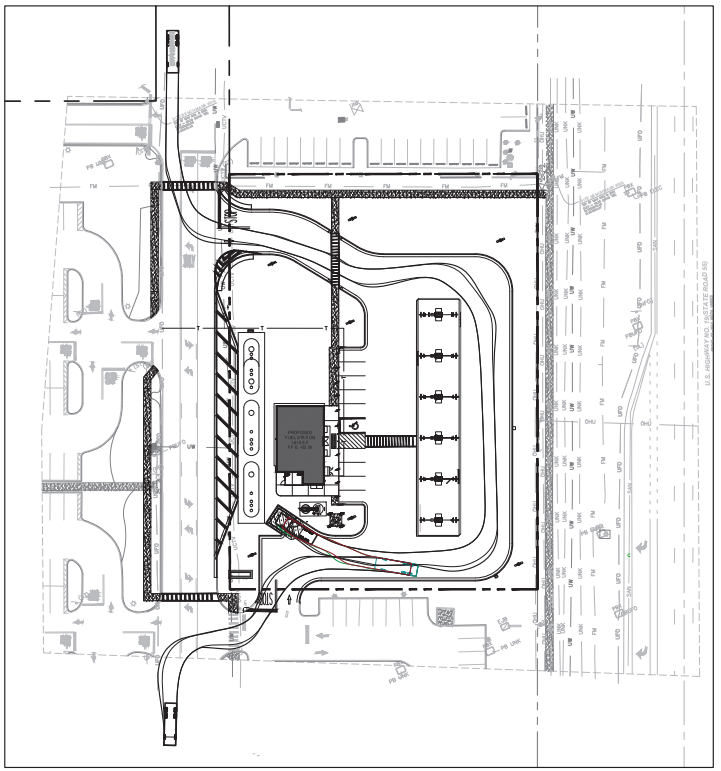
WB-50 DELIVERY TRUCK EXHIBIT

SCALE = 1" = 40'



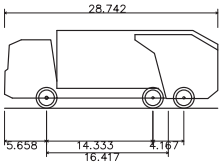
WB–50 – Semi–Trailer Combination, Large

Overall Length	55.000ft
Overall Width	8.500ft
Overall Body Height	12.052ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.500ft
Lock–to–lock time	6.00s
Curb to Curb Turning Radius	45.000ft



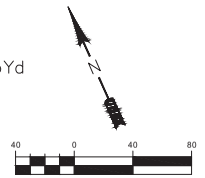
REFUSE TRUCK EXHIBIT

SCALE = 1" = 40'



Mack TerraPro Low Entry 6x4 LEU 613 + Wayne Phoenix III 25Yd

Overall Length	28.742ft
Overall Width	8.000ft
Overall Body Height	10.481ft
Min Body Ground Clearance	1.311ft
Track Width	8.000ft
Lock–to–lock time	6.00s
Curb to Curb Turning Radius	34.000ft



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Plans Prepared By:
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MATTHEW S. D'ANGELO LICENSE No. 91885 STATE OF FLORIDA PROFESSIONAL ENGINEER

No.	Date	Revision

Designed: ##
Drawn: ##
Checked: ##
Job No.: UT-XXXX-XX
Date: 12/05/2025 © 2025

TRUCK TURN EXHIBIT

Walmart

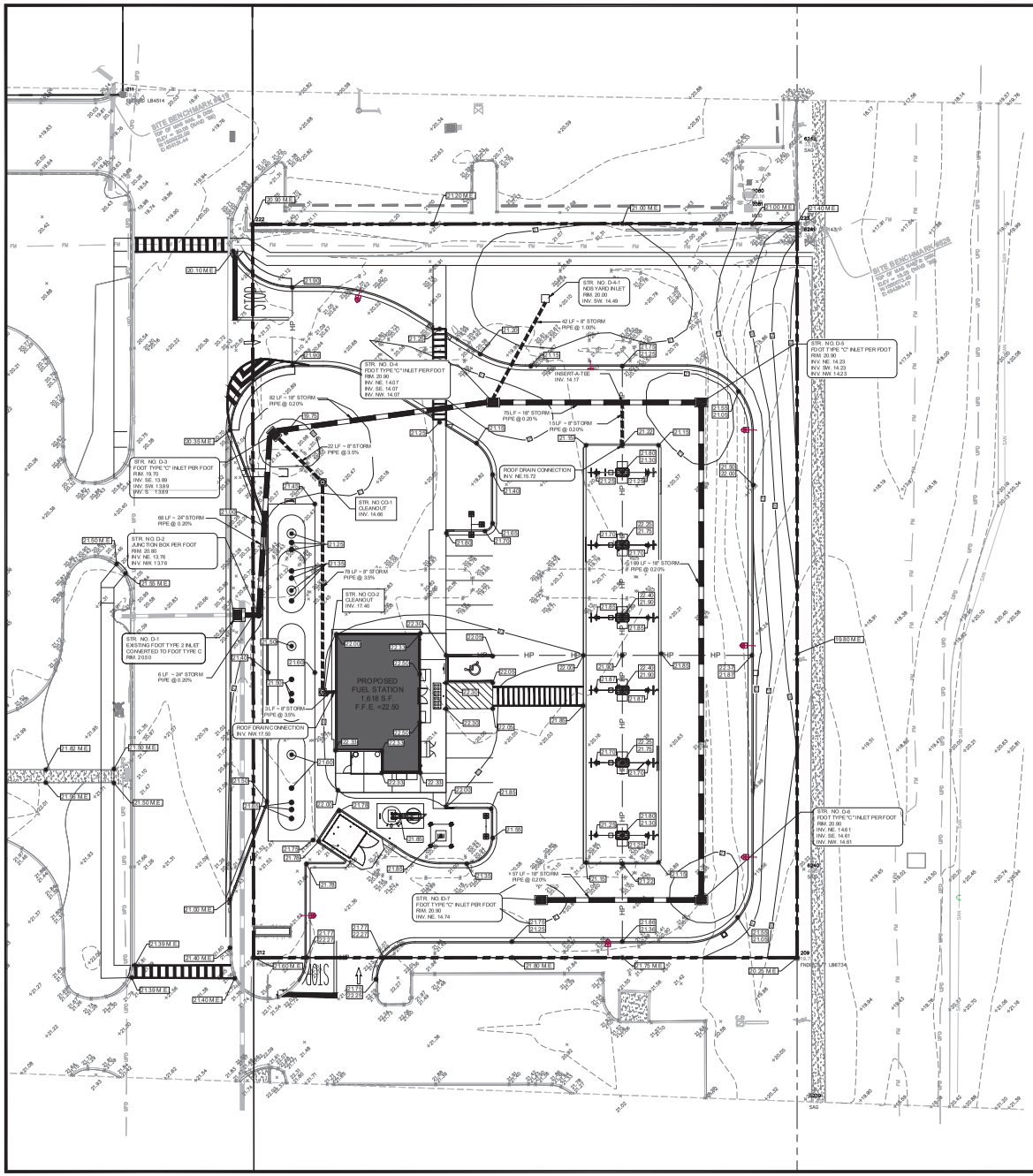
STORE NO. 967 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

Sheet No.
TTE-1

Approved
24-0085
James A. Meyer
1/15/2026

\\server-1\pt\CPH-Civil\Projects\101_Walmart Fuel #967 Spring Hill\03_Working Files\TTE-1 – TRUCK TURN\12-05-2025\TTE-1 – TRUCK TURN.dwg, 12/5/2025 12:19:44 PM, Admin,



SITE BENCHMARK

#519
TOP OF MAG NAIL & DISK
ELEV = 20.06 (NAVD '88)
N:1500232.00
E:454131.44

#526
TOP OF MAG NAIL & DISK
ELEV = 18.25 (NAVD '88)
N:1500073.40
E:454364.47

GENERAL GRADING NOTES:

1. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
2. IF ANY EXISTING STRUCTURES ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
3. EXISTING GRADE CONTOURS ARE SHOWN AT ONE FOOT (1') INTERVALS.
4. FINISHED GRADE CONTOURS ARE SHOWN AT ONE FOOT (1') INTERVALS.
5. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
6. SITEWORK SHALL MEET OR EXCEED THE "WAL MART STANDARD SITEWORK SPECIFICATIONS".
7. ALL EROSION CONTROL MEASURES MUST BE INSTALLED PRIOR TO ANY LAND DISTURBANCE ACTIVITIES.
8. THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE EPA OR APPLICABLE STATE GENERAL N.P. D.E.S. PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES AND THE WALMART SPECIAL CONDITIONS, SECTION 6, ENVIRONMENTAL COMPLIANCE AND STORMWATER POLLUTION PREVENTION. THIS APPLIES TO WALMART BUILT PROJECTS ONLY. ONLY THE EPA OR APPLICABLE STATE GENERAL N.P.D.E.S. PERMIT FOR STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES APPLY TO JOINT DEVELOPER BUILT PROJECTS.
9. ELEVATION OF NEW PAVEMENT TO MATCH ELEVATION OF PAVEMENT TO REMAIN. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
10. TOPOGRAPHIC INFORMATION TAKEN FROM A TOPOGRAPHIC SURVEY BY SITE DESIGN, INC. IF CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, HE SHALL HAVE MADE, AT HIS EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR AND SUBMIT IT TO THE OWNER FOR REVIEW.
11. CONTRACTOR MUST STOP OPERATION AND NOTIFY THE OWNER FOR PROPER DIRECTION IF ANY ENVIRONMENTAL OR HEALTH RELATED CONTAMINATES ENCOUNTERED DURING EXCAVATION/CONSTRUCTION.
12. REFER TO EROSION AND SEDIMENTATION PLANS, SHEETS SP-1 - SP-5 FOR EROSION CONTROL LOCATIONS & SPECIFICATIONS.
13. CONTRACTOR SHALL FIELD VERIFY EXISTING AND SURROUNDING DEVELOPMENT GRADES AND CONTACT ENGINEER IF ANY DISCREPANCIES EXIST PRIOR TO CONSTRUCTION.

PIPE MATERIALS:

STORMWATER PIPE

RCP PIPE SHALL COMPLY WITH ASTM C76
ERCP PIPE SHALL COMPLY WITH ASTM C507
HDPE PIPE SHALL COMPLY WITH ASTM D3350
PVC PIPE SHALL COMPLY WITH ASTM D3034, SDR 35
PP PIPE SHALL COMPLY WITH ASTM F2881 AND AASHTO M330

STRUCTURE NOTES:

FDOT TYPE 'C'
INDEX NO. 425-052

NOTES:

1. **ANY WELLS FOUND ON-SITE SHALL BE CUT, PLUGGED AND ABANDONED IN ACCORDANCE WITH SWFWMD REQUIREMENTS - FLORIDA ADMINISTRATIVE CODE CHAPTER 40D-3.531**
2. GRADING SHOWN ON THESE PLANS IS PROVIDED TO THE CONTRACTOR TO EXPRESS THE GENERAL GRADING INTENT OF THE PROJECT. THE CONTRACTOR SHALL BE EXPECTED TO GRADE THE ENTIRE SITE TO ENSURE POSITIVE DRAINAGE IN ALL AREAS THROUGHOUT THE SITE. THE FOLLOWING MINIMUM SLOPES SHALL BE PROVIDED BY THE CONTRACTOR.
   a. ASPHALT PAVEMENT: MIN. 1% SLOPE
   b. CONCRETE PAVEMENT: MIN. 1% SLOPE
   c. GUTTERS: MIN 0.5%
3. STRUCTURE BOTTOMS SHALL BE TYPE 'P' BOTTOMS PER FDOT REQUIREMENTS, UNLESS PIPE SIZES AND LOCATION REQUIRE A TYPE 'J' BOTTOM. CONTRACTOR SHALL REVIEW DESIGN AND PROVIDE APPROPRIATELY SIZED BOTTOMS PER FDOT REQUIREMENTS. ALL STORM STRUCTURES SHALL BE IN COMPLIANCE WITH FDOT STANDARD PLANS, LATEST EDITION, INDEX NO. 425 AND INDEX NO. 430
4. CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ADA AREAS ARE CONSTRUCTED IN STRICT ACCORDANCE WITH THE LATEST EDITION OF THE FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION. IF THE CONTRACTOR DETERMINES THAT ANY INFORMATION SHOWN ON THIS PLAN MAY NOT BE IN COMPLIANCE THEY SHALL NOTIFY THE ENGINEER PRIOR TO THE WORK BEING COMPLETED.
5. ITEMS SHOWN SCREENED REPRESENT EXISTING CONDITIONS. ITEMS SHOWN BOLD REPRESENT PROPOSED CONDITIONS.
6. WORK PROPOSED NEXT TO THE R/W WITH EXISTING SWALES SYSTEM MAY REQUIRE ADDITIONAL PROVISIONS TO REPAIR/RESTORE EXISTING DRAINAGE SWALES AS NEEDED TO ENSURE ADEQUATE DRAINAGE. R/W SHOULDER STABILIZATION SHOULD BE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION LATEST EDITION.
7. VERTICAL DATUM: NAVD 88

20 0 20 40
Graphic Scale in Feet

LEGEND

- PROPERTY LINE
- CONTOUR ELEVATION
- HIGH POINT
- STORM PIPE
- XX.XX — TOP OF CURB ELEV. / PAVEMENT ELEV.
- XX.XX — PAVEMENT ELEV.
- HANDICAP RAMP 1:12 SLOPE (MAX.)
- STORM / SANITARY MANHOLE
- DITCH BOTTOM INLET

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Plans Prepared By:
CPH, LLC
A Full Service A & E Firm

MATTHEW S. D'ANGELO
LICENSE
No. 91885
STATE OF FLORIDA
PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by Matthew D'Angelo. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies

No.	Date	Revision
1	12/05/2025	Revision

Designed: ##
Drawn: ##
Checked: ##
Job No.: UT-XXXX-XX
Date: 12/05/2025 © 2025

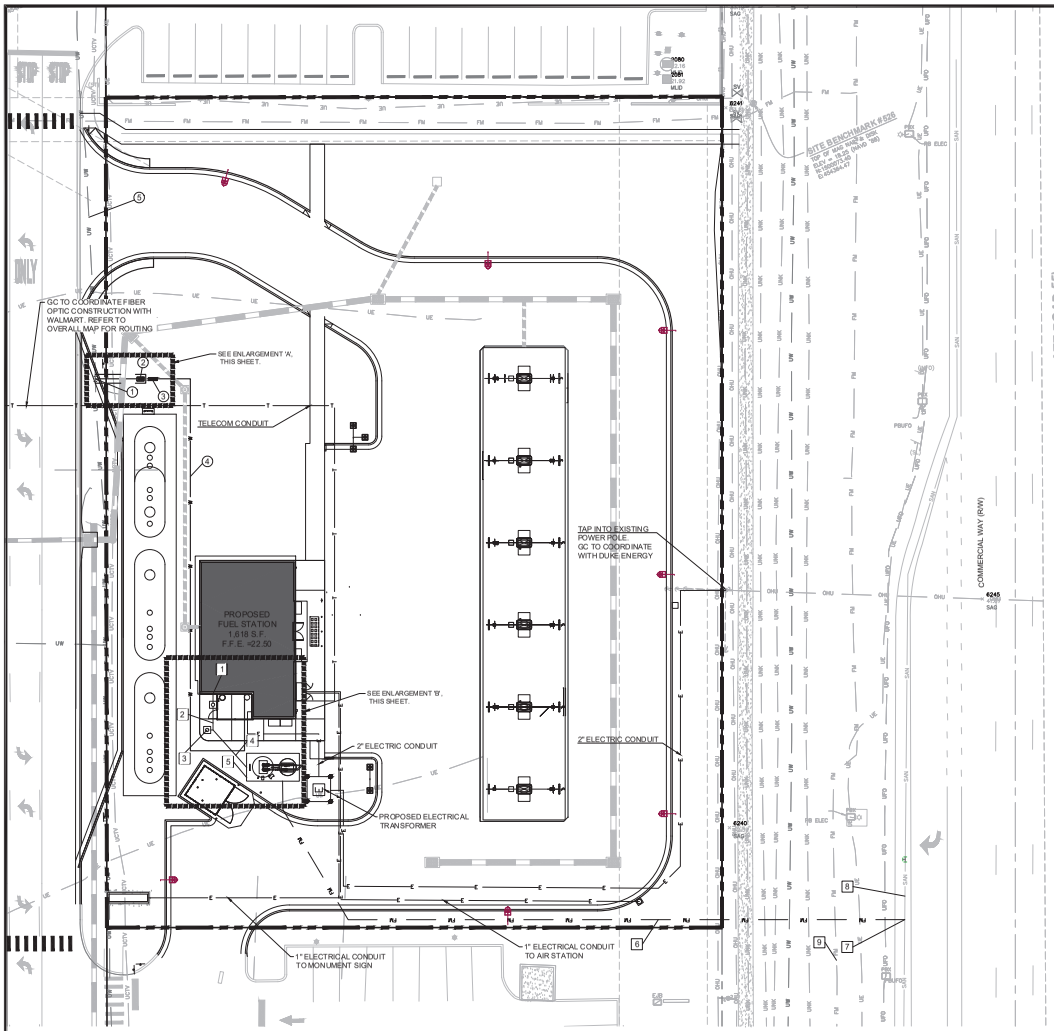
SITE GRADING PLAN

Walmart
STORE NO. 967-1011 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

Sheet No.
C1.3

Approved
24-08-00085
James A. Meyer
1/15/2026



UTILITY GENERAL NOTES

1. CONTRACTOR SHALL CONTACT PWS AT LEAST 48 HOURS PRIOR TO CONNECTION OF PROPOSED FACILITIES TO EXISTING PWS FACILITIES. PWS PERSONNEL SHOULD BE PRESENT FOR ALL TAPS.
2. ALL ON-SITE WATER AND SEWER FACILITIES SHALL BE PRIVATELY OWNED, OPERATED, AND MAINTAINED.
3. CONTRACTOR IS RESPONSIBLE FOR ADJUSTMENT OF EXISTING UTILITIES IF PROPOSED IMPROVEMENTS IMPACT EXISTING UTILITIES.
4. NO PRESSURE PIPING OR FITTINGS SHALL BE ALLOWED UNDER ANY PROPOSED PAVING INCLUDING SIDEWALKS, PLUMES, ROADWAYS, ETC.
5. CONTRACTOR SHALL HAVE AT MINIMUM ONE SET OF PLANS APPROVED BY PWS ON THE JOB SITE.
6. SUBMITTALS ON ALL MATERIAL LOCATED IN THE RIGHT-OF-WAY SHALL BE SUBMITTED TO PWS FOR APPROVAL PRIOR TO CONSTRUCTION.
7. ANY DEVIATIONS OF THE FINISHED GRADE FROM APPROVED CONSTRUCTION PLANS THAT AFFECT ANY WATER, SEWER, OR RECLAIMED WATER MAINS AND/OR SERVICES MUST BE ADJUSTED TO REQUIRED DEPTHS AT DEVELOPERS EXPENSE.
8. ENSURE 3' SEPARATION BETWEEN PRESSURE PIPING AND SIDEWALK
9. ALL GRAVITY SEWER SHALL BE SDR 26 AND COLORED GREEN (TO INCLUDE LATERALS AS WELL).
10. VIDEO INSPECT ALL GRAVITY SEWER MAINS AND LATERALS AND PROVIDE TO PWS PRIOR TO ACCEPTANCE. ALL MAINS AND SERVICES TO BE CLEANED PRIOR TO VIDEO INSPECTION.

NOTES: THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUES.

UTILITY LINE MATERIALS

POTABLE WATER LINE

ALL UNDERGROUND PIPING LESS THAT 3" DIAMETER SHALL BE: ASTM D2737, PRESSURE CLASS 200, SDR SHOPE

3" DIAMETER SHALL BE: PRESSURE RATED 200, SDR 21, PVC CONFORMING TO ASTM D2241

4"–12" D.A. PRIVATE LINE SHALL BE: AWWA C-900, CLASS 235, DR 18 PVC, UNLESS OTHERWISE LABELED

DIP SHALL CONFORM TO ANSI / AWWA C151 / A21.51, CLASS 50

GRAVITY SEWER LINE

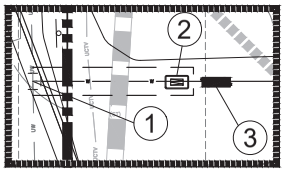
PVC PIPE 4"–12" DIAMETER SHALL BE: ASTM D3034, SDR 26

FORCE MAIN

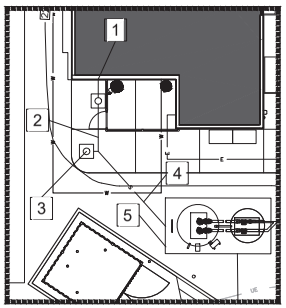
3" HDPE (TE 4710) SHALL CONFORM TO AWWA C906, ASTM D2737, CLASS 200, ASTM D3350, DR 11

NOTE:

1. REFERENCE ARCH. PLANS FOR LIGHTING CONDUIT TYPE, SIZE, ROUTING AND ADDITIONAL SPECIFICATIONS



ENLARGEMENT 'A'
SCALE: N.T.S.



ENLARGEMENT 'B'
1": 10'

LEGEND

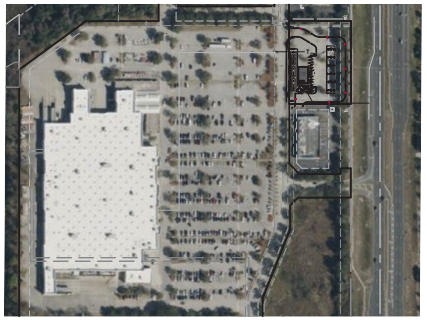
- PROPERTY LINE
- EASEMENT
- E — ELECTRIC LINE
- T — TELEPHONE LINE
- S — SANITARY SEWER
- W — WATER MAIN
- C.O. — CLEAN OUT
- D.S. — DOWN SPOUT
- WATER LINE FITTINGS
- BFP
- FIRE HYDRANT
- WATER VALVE
- SITE LIGHTING AND LOCATION POINT
- WATER METER

WATER LEGEND

1. WET TAP EXISTING 8" PVC WATER LINE WITH 2"X8" TAPPING TEE AND VALVE PER HERNANDO COUNTY SPECIFICATIONS. REF AGENCY DETAIL SHEETS
2. PROPOSED 2" WATER METER. REFER TO AGENCY DETAIL SHEETS
3. PROPOSED REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY, REFER TO AGENCY DETAIL SHEETS
4. PROPOSED 2" DOMESTIC WATER LINE.
5. EXISTING 8" WATER TO REMAIN

SANITARY SEWER LEGEND

1. PROPOSED 6" C.O. LOCATED 3' O.S. BUILDING, INV. EL.=17.50'. REF. ARCH/M.E.P. PLANS FOR CONTINUATION
2. 9 L.F. ~ 6" PVC GRAVITY SANITARY SEWER @ 1.0%
3. 6" WYE W/ C.O., INV. 17.41'
4. 18 L.F. ~ 6" PVC GRAVITY SANITARY SEWER @ 1.0%
5. PROPOSED PRIVATE LIFT STATION. REF. SHEET C5.X. INLET EL.=17.19'
6. 245 L.F. ~ 2" HDPE FORCE MAIN PIPE (DIRECTIONAL BORE)
7. 10" X 2" TEE SLEEVE
8. EXISTING 10" FORCE MAIN SANITARY SEWER
9. EXISTING ABANDONED FORCEMAIN



PROPOSED FIBER OPTIC ROUTE
OVERALL PLAN
SCALE: 1"=200'

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MATTHEW S. D'ANGELO
LICENSE
No. 91885
STATE OF FLORIDA
PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by Matthew D'Angelo. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

No.	Date	Revision
1	12/05/2025	Revised per Agency Comments

Designed: ##
Drawn: ##
Checked: ##
Job No.: UT-XXXX-XX
Date: 12/05/2025 © 2025

COMPOSITE UTILITY PLAN

Walmart
STORE NO. 967 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

Sheet No.
C1.4

Approved
Case #: 2025-00085
James A. Mayer
1/15/2026

GENERAL NOTES

A. PROJECT OFFICE WALL SWPPP POSTINGS:
THE FOLLOWING ITEMS MUST BE POSTED TOGETHER IN A SINGLE, ORGANIZED LOCATION ON A WALL INSIDE THE PROJECT OFFICE: 1) SWPPP SITE MAPS (ALL PHASES); 2) SWPPP DETAIL SHEETS; 3) MAP SHOWING LOCATION OF OFFSITE IMPORT OR EXPORT FACILITY; 4) REVISIONS TO DETAILS, SITE MAPS, OR SWPPP-RELATED RFIS; 5) SITE SWPPP BINDER; 6) SWCT PLACARD; 7) CURRENT OWNER STORMWATER COMPLIANCE TRAINING CERTIFICATES FOR SUPERINTENDENT(S) AND COMPLIANCE OFFICER(S); AND 8) CERTIFICATIONS AND/OR TRAINING CERTIFICATES REQUIRED TO PERFORM INSPECTIONS BY THE APPLICABLE CONSTRUCTION GENERAL PERMIT OR AUTHORITY HAVING JURISDICTION.

B. PERMITTED PROJECT AREA:
FOR PURPOSES OF THIS SWPPP AND ASSOCIATED STORMWATER PERMIT, 'PERMITTED PROJECT AREA' IS DEFINED AS ANY AND ALL AREAS WITHIN THE PROJECT LIMITS OF DISTURBANCE, AS SHOWN ON THE SWPPP SITE MAPS AND IDENTIFIED IN THE NOTICE OF INTENT TO THE AGENCY. ALL GROUND-DISTURBING AND CONSTRUCTION-RELATED ACTIVITIES (MATERIAL STORAGE, DUMPSTERS, PARKING AREAS, PROJECT OFFICE TRAILER, ETC.) MUST BE INCLUDED WITHIN THE PERMITTED PROJECT AREA LIMITS OF DISTURBANCE.

OFFSITE AREA(S) TO BE DISTURBED AS PART OF THIS PROJECT (NOT ON OWNER PROPERTY): 1.25 AC
OFFSITE WORK INCLUDES CONNECTIONS TO EXISTING UTILITIES LOCATED IN THE EASTERN ROW OF US HWY 19.

ALL AREAS OUTSIDE THE PERMITTED PROJECT AREA (I.E., LIMITS OF DISTURBANCE) ACQUIRED FOR USE BY THE GC OR A SUBCONTRACTOR OF THE GC (BORROW SOURCES, DISPOSAL AREAS, ETC.) MUST BE MANAGED IN ACCORDANCE WITH APPENDIX E - TAB 21 OF THE 02370 SPECIFICATION. THE CONTRACTOR IS REQUIRED TO LOCATE OFFICE TRAILERS AND MATERIAL STORAGE AREAS FOR THE PROJECT WITHIN THE LIMITS OF DISTURBANCE. THE CONTRACTOR MAY REQUEST USE OF OFF-SITE LOCATIONS FOR OFFICE TRAILERS OR NON-ERODIBLE MATERIAL STORAGE; HOWEVER, APPROVAL MUST BE OBTAINED FROM THE CONSTRUCTION MANAGER, THE CEC AND THE WAL-MART SWCT PRIOR TO THEIR USE. REQUESTS WILL BE REVIEWED ON A CASE BY CASE BASIS AND IF APPROVED, LIMITATIONS ON USE WILL BE PROVIDED BY THE CEC.

C. SPECIAL PROJECT VERIFY:
THERE ARE NO SPECIAL PROJECTS, LOCATED BEYOND THE OWNER PERMITTED PROJECT AREA, REQUIRING INSPECTION AND MAINTENANCE ASSOCIATED WITH THIS CONSTRUCTION PROJECT.

D.1 NON-STORMWATER DISCHARGES:
THE GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES PROHIBITS MOST NON-STORMWATER DISCHARGES DURING THE CONSTRUCTION PHASE. ALLOWABLE NON-STORMWATER DISCHARGES THAT OCCUR DURING CONSTRUCTION ON THIS PROJECT, ARE INCLUDED IN PART 3.2 OF THE GENERIC PERMIT AND INCLUDE THE FOLLOWING, PROVIDED THAT THE NON-STORMWATER COMPONENT OF THE DISCHARGE IS IN COMPLIANCE WITH PART 1.5 OF THE GENERIC PERMIT.

1. DISCHARGES FROM FIREFIGHTING ACTIVITIES.
2. FIRE HYDRANT FLUSHINGS.
3. WATERS WITHOUT DETERGENTS USED TO SPRAY OFF LOOSE SOLIDS FROM VEHICLES.
4. WATERS USED TO CONTROL DUST.
5. POTABLE WATER SOURCES SUCH AS WATERLINE FLUSHINGS.
6. LANDSCAPE IRRIGATION WATER AND DRAINAGE.
7. ROUTINE EXTERNAL BUILDING WASHDOWN PROVIDED NO DETERGENTS ARE USED.
8. PAVEMENT WASHWATERS THAT DO NOT CONTAIN DETERGENTS, LEAKS, SPILLS OF TOXIC OR HAZARDOUS MATERIALS.
9. AIR CONDITIONING CONDENSATE.
10. SPRING WATER.
11. FOUNDATION OR FOOTING DRAIN FLOWS THAT ARE NOT CONTAMINATED WITH PROCESS MATERIAL SUCH AS SOLVENTS.
12. NONCONTAMINATED GROUND WATER ASSOCIATED WITH DEWATERING ACTIVITIES AS DESCRIBED IN PART 3.4.

BEST MANAGEMENT PRACTICES (BMPS) MUST BE IMPLEMENTED FOR THE GENERAL PERMIT ALLOWABLE DISCHARGES FOR THE DURATION OF THE PERMIT. THE TECHNIQUES DESCRIBED IN THIS SWPPP FOCUS ON PROVIDING CONTROL OF POLLUTANT DISCHARGES WITH PRACTICAL APPROACHES THAT UTILIZE READILY AVAILABLE EXPERTISE, MATERIAL, AND EQUIPMENT.

NON-STORMWATER COMPONENTS OF SITE DISCHARGES MUST BE UNCONTAMINATED NON-TURBID WATER. ALL NON-STORMWATER DISCHARGES MUST BE ROUTED TO A STORMWATER CONTROL PRIOR TO DISCHARGE. WATER USED FOR CONSTRUCTION WHICH DISCHARGES FROM THE SITE MUST ORIGINATE FROM A PUBLIC WATER SUPPLY OR PRIVATE WELL APPROVED BY THE STATE HEALTH DEPARTMENT. WATER USED FOR CONSTRUCTION THAT DOES NOT ORIGINATE FROM AN APPROVED PUBLIC SUPPLY MUST NOT DISCHARGE FROM THE SITE; IT CAN BE RETAINED IN RETENTION PONDS UNTIL IT INFILTRATES OR EVAPORATES. WHEN NON-STORMWATER IS DISCHARGED FROM THE SITE, IT MUST BE DONE IN A MANNER SUCH THAT IT DOES NOT CAUSE EROSION OF THE SOIL DURING DISCHARGE.

D.2 POWER WASHING:
PROCESS WATER SUCH AS POWER WASHING WATER AND CONCRETE CUTTING EFFLUENT, AMONG OTHERS, MUST BE COLLECTED FOR TREATMENT AND DISPOSAL. IT MUST NOT BE FLUSHED INTO THE SITE STORM DRAIN SYSTEM OR DISCHARGED OFF-SITE.

10. DISCHARGE POINTS:
ALL DISCHARGE POINTS MUST BE INSPECTED TO DETERMINE WHETHER EROSION AND SEDIMENTATION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING DISCHARGE OF SEDIMENT FROM THE SITE AND/OR IMPACTS TO RECEIVING WATERS. SEDIMENT ACCUMULATION DOWNGRADIENT OF DISCHARGE LOCATIONS SHALL BE REPORTED AS A SEDIMENT DISCHARGE (SEE APPENDIX E - TAB 14, SEDIMENT RELEASES, OF THE 02370 SPECIFICATION) AND THE POTENTIAL UPSTREAM CAUSE SHALL BE INVESTIGATED TO PREVENT FUTURE OCCURRENCE. CONTACT THE CM, CEC AND SWCT TO DETERMINE APPROPRIATE ACTION FOR CLEANUP OF DISCHARGED SEDIMENT THAT MAY BE OUTSIDE OF THE LIMITS OF DISTURBANCE. SEE SAMPLING AND MONITORING OF EFFLUENT PLAN (IF APPLICABLE).

EROSION AND SEDIMENT CONTROL NOTES

A. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THIS STORM WATER POLLUTION PREVENTION PLAN. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.

B. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.

C. SITE MAP MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.

D. CONTRACTOR TO LIMIT DISTURBANCE OF SITE IN STRICT ACCORDANCE WITH SWPPP IMPLEMENTATION SEQUENCE, OR AS REQUIRED BY THE APPLICABLE GENERIC PERMIT. NO UNNECESSARY OR IMPROPERLY SEQUENCED CLEARING AND/OR GRADING SHALL BE PERMITTED.

E. ALL DENUDED/BARE AREAS THAT WILL BE INACTIVE FOR 7 DAYS OR MORE, MUST BE STABILIZED IMMEDIATELY UPON COMPLETION OF MOST RECENT GRADING ACTIVITY, WITH THE USE OF FAST-GERMINATING ANNUAL GRASS/GRAIN VARIETIES, STRAW/HAY MULCH, WOOD CELLULOSE FIBERS, TACKIFIERS, NETTING AND/OR BLANKETS. COMPLETION MUST BE ACHIEVED WITHIN 7 DAYS.

F. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY STABILIZED AS SHOWN ON THE PLANS. THESE AREAS SHALL BE SEEDED, SODDED, AND/OR VEGETATED IMMEDIATELY, AND COMPLETED NO LATER THAN 7 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANDSCAPE PLAN.

G. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION. TEMPORARY AND/OR PERMANENT STABILIZATION SHALL BE APPLIED PER REQUIREMENTS IN THESE E&S CONTROL NOTES.

H. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION AND SEDIMENT CONTROL MEASURES (SILT FENCES, ETC.) TO PREVENT EROSION AND POLLUTANT DISCHARGE OFF-SITE.

I. ALL MEASURES STATED ON THIS SITE MAP, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR THE APPLICABLE PERMIT, WHICHEVER IS MORE STRINGENT, AND REPAIRED IN ACCORDANCE WITH THE SITE PLANS.

J. STORM WATER POLLUTANT CONTROL MEASURES INSTALLED DURING CONSTRUCTION, THAT WILL ALSO PROVIDE STORM WATER MANAGEMENT AFTER CONSTRUCTION, ARE INCLUDED IN THE CONTRACT DOCUMENTS. THE SITE-SPECIFIC POST CONSTRUCTION STORM WATER OPERATION AND MAINTENANCE (O&M) MANUAL IS INCLUDED IN THE CONTRACT DOCUMENTS.

K. ALL PERMANENT CONTROLS AND SYSTEMS MUST BE INSTALLED AND FUNCTIONING AS DESIGNED AND FREE OF ACCUMULATED SEDIMENT AND DEBRIS DURING FINAL PROJECT INSPECTION AND APPROVAL.

HAZARDOUS MATERIAL MANAGEMENT & SPILL REPORTING

ANY HAZARDOUS OR POTENTIALLY HAZARDOUS MATERIAL THAT IS BROUGHT ONTO THE CONSTRUCTION SITE SHALL BE HANDLED PROPERLY TO REDUCE THE POTENTIAL FOR STORMWATER POLLUTION. ALL MATERIALS USED ON THIS CONSTRUCTION SITE SHALL BE PROPERLY STORED, HANDLED, DISPENSED AND DISPOSED OF FOLLOWING ALL APPLICABLE LABEL DIRECTIONS. FLAMMABLE AND COMBUSTIBLE LIQUIDS SHALL BE STORED AND HANDLED ACCORDING TO APPLICABLE REGULATIONS, AND, AT A MINIMUM, ACCORDING TO 29 CFR 1926.152. ONLY APPROVED CONTAINERS AND PORTABLE TANKS SHALL BE USED FOR STORAGE AND HANDLING OF FLAMMABLE AND COMBUSTIBLE LIQUIDS.

MATERIAL SAFETY DATA SHEETS (MSDS) INFORMATION SHALL BE KEPT ON SITE FOR ANY AND ALL APPLICABLE MATERIALS. HOWEVER, MSDS MAY ALSO BE ACCESSED VIA TELEPHONE OR OTHER ELECTRONIC MEANS OR APPARATUS.

IN THE EVENT OF AN ACCIDENTAL SPILL, IMMEDIATE ACTION SHALL BE TAKEN BY THE GC TO CONTAIN AND REMOVE THE SPILLED MATERIAL. THE SPILL SHALL BE REPORTED TO THE APPROPRIATE AGENCIES IN THE REQUIRED TIME FRAMES. AS REQUIRED UNDER THE PROVISIONS OF THE CLEAN WATER ACT, ANY SPILL OR DISCHARGE ENTERING WATERS OF THE UNITED STATES SHALL BE PROPERLY REPORTED.

ALL HAZARDOUS MATERIALS, INCLUDING CONTAMINATED SOIL AND LIQUID CONCRETE WASTE, SHALL BE DISPOSED OF BY THE CONTRACTOR IN THE MANNER SPECIFIED BY FEDERAL, STATE AND LOCAL REGULATIONS AND BY THE MANUFACTURER OF SUCH PRODUCTS.

THE GC SHALL PREPARE A WRITTEN RECORD OF ANY SPILL AND ASSOCIATED CLEAN-UP ACTIVITIES OF PETROLEUM PRODUCTS OR HAZARDOUS MATERIALS IN EXCESS OF 1 GALLON OR REPORTABLE QUANTITIES, WHICHEVER IS LESS, ON THE DAY OF THE SPILL. THE GC SHALL PROVIDE NOTICE TO OWNER, VIA THE ONLINE CRITICAL INCIDENT REPORT, IMMEDIATELY UPON IDENTIFICATION OF ANY SPILL. SPILL REPORT FORMS ARE AVAILABLE IN THE ONLINE SWPPP REPORTING SYSTEM PROVIDED BY THE OWNER. COPIES OF SPILL CRITICAL INCIDENT REPORTS SHALL BE PRINTED AND MAINTAINED IN THE JOBSITE BINDER.

ANY SPILLS OF PETROLEUM PRODUCTS OR HAZARDOUS MATERIALS IN EXCESS OF REPORTABLE QUANTITIES AS DEFINED BY EPA OR THE STATE OR LOCAL AGENCY REGULATIONS, SHALL BE IMMEDIATELY REPORTED TO THE EPA NATIONAL RESPONSE CENTER (1-800-424-8802) AND FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (1-800-320-0519, HTTP://DEP.STATE.FL.US/OER/REPORTABLE_INCIDENT.HTM))

THE STATE REPORTABLE QUANTITY FOR PETROLEUM PRODUCTS IS: 25 GALLONS OR ANY QUANTITY THAT COMES INTO CONTACT WITH STATE WATERS PER F.A.C. 62-780.210

DISCHARGES OF PETROLEUM OR PETROLEUM PRODUCTS OF LESS THAN 25 GALLONS THAT ARE NOT ADDRESSED PURSUANT TO SUBSECTION 62-780.560(1), F.A.C., SHALL BE REPORTED WITHIN ONE WEEK OF DISCOVERY. DISCHARGES OF PETROLEUM OR PETROLEUM PRODUCTS EQUAL TO, OR EXCEEDING, 25 GALLONS ONTO PERVIOUS SURFACES OR ANY DISCHARGE TO SURFACE WATERS SHALL BE REPORTED TO THE STATE WATCH OFFICE OR FDEP OFFICE OF EMERGENCY RESPONSE AS SOON AS POSSIBLE, BUT NO LATER THAN 24 HOURS AFTER OCCURRENCE. THE REPORTABLE QUANTITY FOR HAZARDOUS MATERIALS CAN BE FOUND IN 40 CFR 302 AND THE EPA LISTS AT HTTP://WWW2.EPA.GOV/EPCRA/CONSOLIDATED-LIST-LISTS.

TO MINIMIZE THE POTENTIAL FOR A SPILL OF PETROLEUM PRODUCT OR HAZARDOUS MATERIALS TO COME IN CONTACT WITH STORMWATER, THE FOLLOWING STEPS SHALL BE IMPLEMENTED:

1) ALL MATERIALS WITH HAZARDOUS PROPERTIES, SUCH AS PESTICIDES, PETROLEUM PRODUCTS, FERTILIZERS, SOAPS, DETERGENTS, CONSTRUCTION CHEMICALS, ACIDS, BASES, PAINTS, PAINT SOLVENTS, ADDITIVES FOR SOIL STABILIZATION, CONCRETE, CURING COMPOUNDS AND ADDITIVES, ETC., SHALL BE STORED IN A SECURE LOCATION, UNDER COVER AND IN APPROPRIATE, TIGHTLY SEALED CONTAINERS WHEN NOT IN USE.

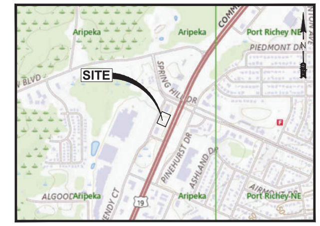
2) THE MINIMUM PRACTICAL QUANTITY OF ALL SUCH MATERIALS SHALL BE KEPT ON THE JOB SITE AND SCHEDULED FOR DELIVERY AS CLOSE TO TIME OF USE AS PRACTICAL.

3) A SPILL CONTROL AND CONTAINMENT KIT (CONTAINING FOR EXAMPLE, ABSORBENT MATERIAL SUCH AS KITTY LITTER OR SAWDUST, ACID, BASE, NEUTRALIZING AGENT, BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, PLASTIC AND METAL TRASH CONTAINERS, ETC.) SHALL BE PROVIDED AT THE CONSTRUCTION SITE AND ITS LOCATION(S) SHALL BE IDENTIFIED WITH LEGIBLE SIGNAGE AND SHOWN ON SITE MAPS.
   a. THE SPILL CONTROL AND CONTAINMENT KIT SUPPLIES SHALL BE OF SUFFICIENT QUANTITIES AND APPROPRIATE CONTENT TO CONTAIN A SPILL FROM THE LARGEST ANTICIPATED PIECE OF EQUIPMENT AND FROM THE LARGEST ANTICIPATED QUANTITIES OF PRODUCTS STORED ON THE SITE AT ANY GIVEN TIME.
   b. CONTENTS SHALL BE INSPECTED DAILY DURING THE DAILY STORMWATER INSPECTION.

4) ALL PRODUCTS SHALL BE STORED IN AND USED FROM THE ORIGINAL CONTAINER WITH THE ORIGINAL PRODUCT LABEL. CONTAINERS MUST BE STORED IN A MANNER TO PROTECT THEM FROM THE ELEMENTS AND INCIDENTAL DAMAGE.

5) ALL PRODUCTS SHALL BE USED IN STRICT COMPLIANCE WITH INSTRUCTIONS ON THE PRODUCT LABEL.

6) THE DISPOSAL OF EXCESS OR USED PRODUCTS SHALL BE IN STRICT COMPLIANCE WITH INSTRUCTIONS ON THE PRODUCT LABEL AND REGULATIONS.



USGS QUADRANGLE MAP
NTS

SITE LOCATION MAP
NTS

Always call 811 two full business days before you dig
Sunshine811.com
www.sunshine811.com

DEVELOPER/OWNER:
WAL-MART STORES EAST, LP
708 SW 8TH STREET,
MAILSTOP 0505
BENTONVILLE, AR 72716-5570
479-430-1103

SITE OPERATOR/GENERAL CONTRACTOR:

SUPERINTENDENT:

IMPORTANT: GC MUST SIGN ALL PLAN SHEETS AND ANY NEW PLAN SHEETS ISSUED BY THE CEC.

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Building Better Communities Together

Plans Prepared By:
CPH, LLC
A Full Service A & E Firm

MATTHEW S. D'ANGELO
LICENSE No. 91885
STATE OF FLORIDA
PROFESSIONAL ENGINEER

No.	Date	Revision
1		
2		
3	#	#
4	#	#
5	#	#
6	#	#
7	#	#

Designed: XX
Drawn: XX
Checked: XX
Job No.: UT-XXXX-XX
Date: 12/05/2025

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Walmart
STORE NO. 967-1011 FUEL STATION
HERNANDO COUNTY/ FLORIDA 34606

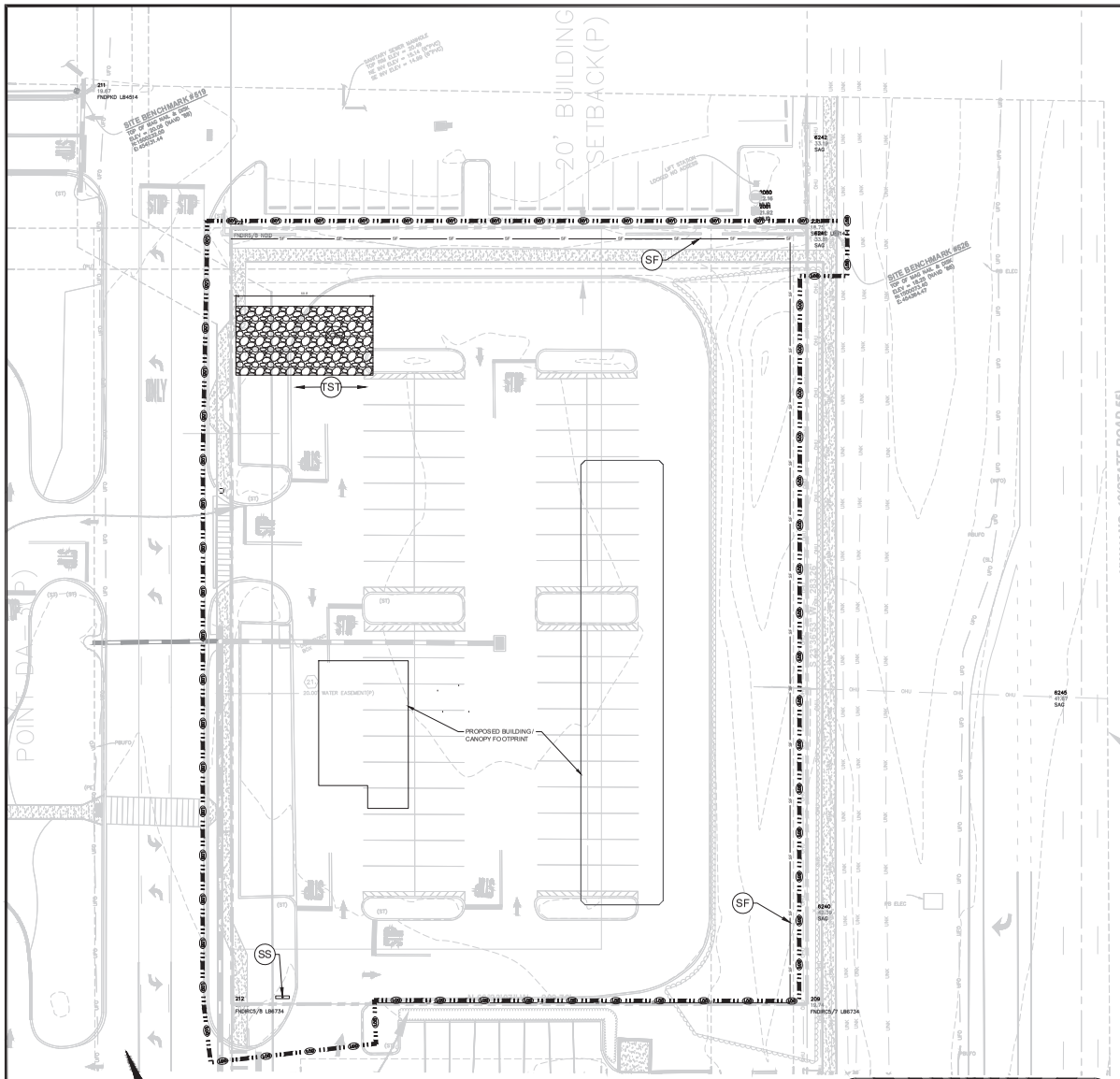
SWPPP NOTES

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

Sheet No.
C4.1

Approved
James A. Meyer
1/15/2026

\\server-1\H\CPH-Civil\Projects\101_Walmart Fuel #967 Spring Hill\03_Working Files\C-1.2 EROSION AND SEDIMENTATION CONTROL PLAN\SWPPP NOTES\12-05-2025\C4.1 SWPPP NOTES.dwg, 12/5/2025 12:52:20 PM, Admin,



SITE BENCHMARK

#519
TOP OF MAG NAIL & DISK
ELEV = 20.06 (NAVD '88)
N:1500232.00
E:454131.44

#526
TOP OF MAG NAIL & DISK
ELEV = 18.25 (NAVD '88)
N:1500073.40
E:454364.47

SWPPP UPDATES AND AMENDMENTS

THE QC MUST UPDATE THE SWPPP, INCLUDING THE JOBSITE BINDER AND SITE MAPS, TO REFLECT THE PROGRESS OF CONSTRUCTION ACTIVITIES AND GENERAL CHANGES TO THE PROJECT SITE. UPDATES SHALL BE MADE DAILY TO TRACK PROGRESS WHEN ANY OF THE FOLLOWING ACTIVITIES OCCUR: BMP INSTALLATION, MODIFICATION OR REMOVAL, CONSTRUCTION ACTIVITIES (E.G., PAVING, STORM SEWER INSTALLATION, FOOTING INSTALLATION, ETC.), CLEARING, GRUBBING OR GRADING, OR TEMPORARY OR PERMANENT STABILIZATION.

IMPORTANT:
THE GENERAL CONTRACTOR MUST SUBMIT A REQUEST FOR INFORMATION (RFI) TO THE CEC AND OBTAIN WRITTEN CEC APPROVAL BEFORE DOING ANY OF THE FOLLOWING:

1. MODIFYING EROSION OR SEDIMENT CONTROL BMPS (SUBSTITUTIONS ARE TYPICALLY ONLY APPROVED IF SPECIFIED MATERIALS ARE NOT AVAILABLE OR THERE IS A VALID REASON THE SPECIFIED BMP WILL NOT WORK)
2. ADDING/DELETING EROSION OR SEDIMENT CONTROL BMPS
3. MODIFYING THE SWPPP IMPLEMENTATION SEQUENCE; OR
4. PERFORMING ANY ACTIONS OR IN ANY MANNER THAT IS CONTRARY TO THE SWPPP.

THE CONTRACTOR MAY MODIFY OR ADD ADDITIONAL BMPS, WITHOUT CEC APPROVAL, IN AN EMERGENCY SITUATION TO PREVENT SEDIMENT DISCHARGE OR PROTECT WATER QUALITY. HOWEVER, GC MUST NOTIFY THE CEC AS SOON AS PRACTICAL AS TO THEIR ACTIONS TO DISCUSS THE NEED FOR ADDITIONAL OR SUPPLEMENTAL MEASURES AND TO OBTAIN THE REQUIRED APPROVALS. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE TO ENSURE COMPLIANCE WITH THE PERMIT AND PROTECTION OF DOWNSTREAM WATER QUALITY.

AMENDING THE SWPPP DOES NOT MEAN THAT IT HAS TO BE REPRINTED. IT IS ACCEPTABLE TO ADD ADDENDA, SKETCHES, NEW SECTIONS, DETAILS, AND/OR REVISED DRAWINGS THAT HAVE THE CEC NAME IN PRINT, ARE STAMPED, SIGNED, DATED, AND ARE ACCOMPANIED BY WRITTEN COPY OF THE ASSOCIATED RFI AND ITS RESPONSE FROM CEC. ENGINEERED ITEMS MUST BE SIGNED AND STAMPED BY THE CEC OF RECORD FOR THE PROJECT.

LEGEND

SITE FEATURES:

- PROPERTY LINE
- RIGHT OF WAY LINE
- LIMITS OF DISTURBANCE (LOD)
- EXISTING CONTOUR
- EXISTING STORM PIPE
- DIRECTION OF OVERLAND FLOW (X.XX%)
- ADD LIMITS OF DRAINAGE SUB-BASIN

EROSION DETAILS:

- CE — TEMPORARY CONSTRUCTION EXIT
- SF — SEDIMENTATION SILT FENCE WITH WIRE BACKING
- TST — TEMPORARY SEDIMENT TRAP
- SS — SWPPP INFORMATION SIGN

EROSION NOTES:

- X — SOIL TYPE: ENTISOLS

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www.sunshine811.com

DEWATERING NOTE:
WHEN PERFORMING GRADING OPERATIONS DURING PERIODS OF WET WEATHER, PROVIDE ADEQUATE DEWATERING, DRAINAGE AND GROUND WATER MANAGEMENT TO CONTROL MOISTURE OF SOILS. REFER TO MASTER SITE SPECIFICATIONS.

NOTE TO GENERAL CONTRACTOR:
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SUPERINTENDENT:

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MATTHEW S. D'ANGELO
LICENSE
No. 91885
STATE OF FLORIDA
PROFESSIONAL ENGINEER

No.	Date	Revision
1	12/05/2025	Per Review Comments

Designed: ##
Drawn: ##
Checked: ##
Job No.: UT-XXXX-XX
Date: 12/05/2025 © 2025

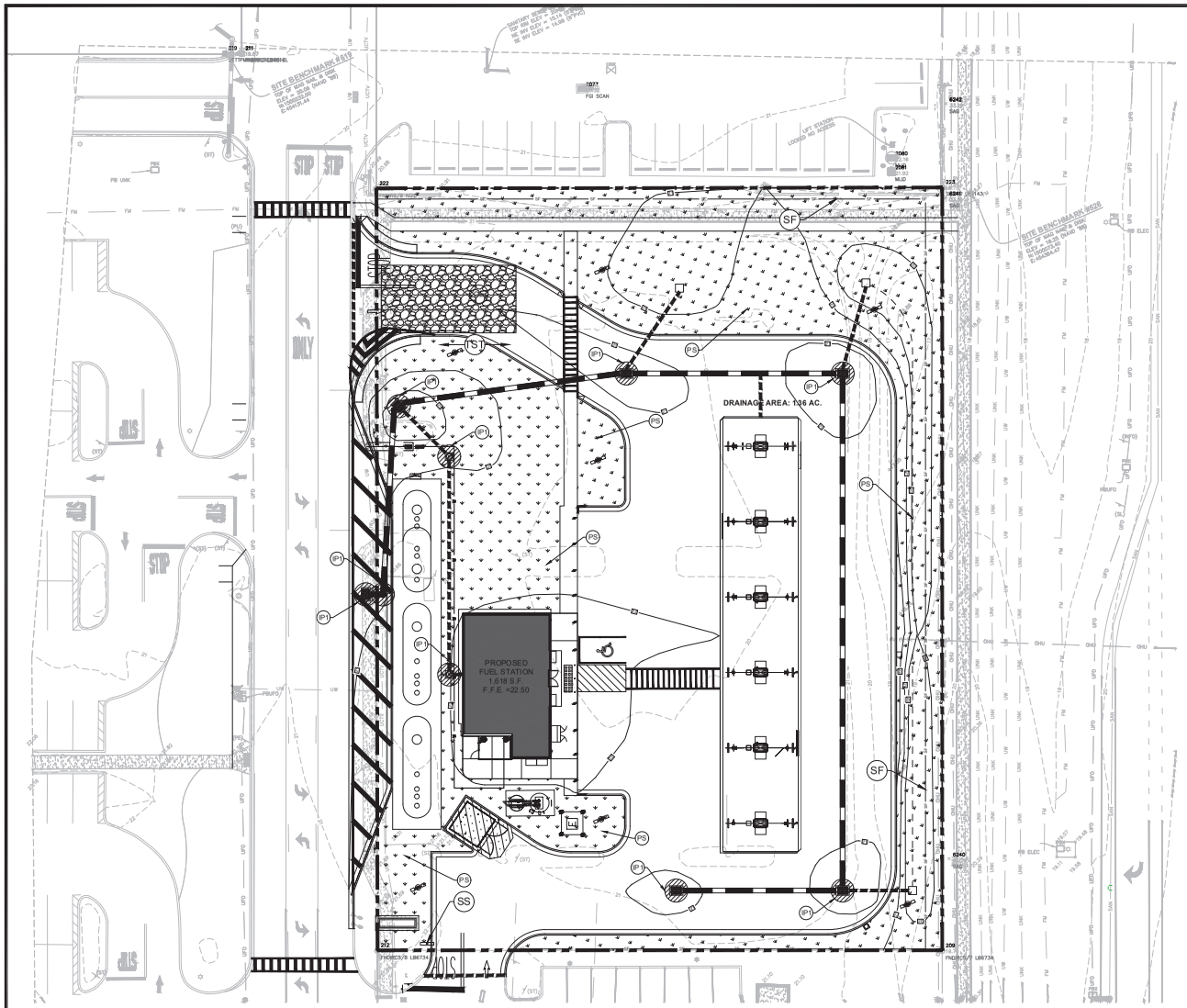
SWPPP PHASE 1

Walmart
STORE NO. 967 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

Sheet No.
C4.3

Approved
24-08-00085
James A. Weaver
1/15/2026



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LEGEND

SITE FEATURES:

- PROPERTY LINE
- RIGHT OF WAY LINE
- LOD — LIMITS OF DISTURBANCE
- EXISTING CONTOUR
- EXISTING STORM PIPE
- XXXX — DIRECTION OF OVERLAND FLOW

EROSION DETAILS:

- CE — TEMPORARY CONSTRUCTION EXIT
- SF — SEDIMENTATION SILT FENCE WITH WIRE BACKING
- TST — TEMPORARY SEDIMENT TRAP
- SS — SWPPP INFORMATION SIGN
- IP1 — INLET PROTECTION FILTER SACK

EROSION NOTES:

- PS — PERMANENT SEEDING, SOD, OR MULCHING (SEE LANDSCAPE PLANS)
- PROPOSED FDOT TYPE III BARRICADES PER FDOT INDEX 102-600 WITH ROAD CLOSURE SIGN (R11-2)

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Sunshine811.com
www.sunshine811.com

DEWATERING NOTE:
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708 SW 8TH STREET,
MAILSTOP 0505
BENTONVILLE, AR 72716-5570
479-430-1103

SITE OPERATOR/GENERAL CONTRACTOR

SUPERINTENDENT:

IMPORTANT: GC MUST SIGN ALL PLAN SHEETS AND ANY NEW PLAN SHEETS ISSUED BY THE CEC.

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Plans Prepared By:
CPH, LLC
A Full Service A & E Firm

MATTHEW S. D'ANGELO
LICENSE
No. 91885
STATE OF FLORIDA
PROFESSIONAL ENGINEER

No.	Date	Revision
1		
2		
3		
4		
5		
6		

Designed: ##
Drawn: ##
Checked: ##
Job No.: UT-XXXX-XX
Date: 12/05/2025 © 2025

SWPPP PHASE 2

Walmart
STORE NO. 967-1011 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

Sheet No.
C4.4

Approved
24-08-00085
James A. Meyer
1/15/2026

SOIL EROSION/SEDIMENTATION CONTROL OPERATION TIME SCHEDULE

NOTE: GENERAL CONTRACTOR TO COMPLETE TABLE WITH THEIR ESTIMATED PROJECT SCHEDULE

CONSTRUCTION SEQUENCE	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
TEMPORARY CONSTRUCTION EXITS																								
TEMPORARY CONTROL MEASURES																								
SEDIMENT CONTROL BASIN(S)/TRAP(S)																								
STRIP & STOCKPILE TOPSOIL																								
ROUGH GRADING																								
STORM FACILITIES																								
SITE CONSTRUCTION																								
FINISH GRADING																								
PERMANENT CONTROL STRUCTURES																								
FOUNDATION / BUILDING CONSTRUCTION																								
LANDSCAPING/SEED/FINAL STABILIZATION																								

1) CONTRACTOR MUST COMPLETE TABLE WITH ESTIMATED DATES OF PROJECT ACTIVITIES PRIOR TO BMP CERTIFICATION.
2) TIME SCHEDULE MUST COINCIDE WITH THE SWPPP IMPLEMENTATION SEQUENCE.

LAST REVISED:	WAL-MART STANDARD DETAIL
APRIL 30, 2011	

ACREAGE SUMMARY
(IN ACRES)

1	WAL-MART/SAM'S PROPERTY AREA	1.25
2	PERMITTED AREA WITHIN WAL-MART PROPERTY	1.50
3	PERMITTED AREA OUTSIDE OF WAL-MART PROPERTY	0.16
4	TOTAL PERMITTED PROJECT AREA (MUST MATCH NOI)	1.50
5	IMPERVIOUS AREA BEFORE PROJECT	0.00
6	IMPERVIOUS AREA AT COMPLETION	0.87
7	PERVIOUS AREA AT COMPLETION	0.38

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2013	

OFF-SITE RUN-ON SUMMARY

OFF-SITE DRAINAGE AREA	FLOW (CFS)	AREA (ACRES)	AVERAGE SLOPE	MAXIMUM SIDPE	COVER TYPE

OFF-SITE RUN-ON DESCRIPTION:

1. FLOW BASED ON 10YR / 24 HR STORM = 7 INCHES/HR., TC = 10 MINUTES, C= 0.3 FOR GRASS AND C = 0.78 FOR GRASS / PAVEMENT AREAS.
2. AREA 1 IS LOCATED TO THE WEST OF THE WALMART SITE.
3. AREA 2 IS LOCATED ON WEST SIDE OF SITE NORTH OF EAST/WEST CONNECTOR DRIVE THAT CONNECTS TO MC DAVIS BLVD.

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2012	

RUNOFF COEFFICIENT SUMMARY

PRE-CONSTRUCTION RUNOFF COEFFICIENT [OR SCS TR-55 CURVE NUMBER]:	CN = 63.20
POST-CONSTRUCTION RUNOFF COEFFICIENT [OR SCS TR-55 CURVE NUMBER]:	CN = 76.60

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2012	

SITE LOCATION SUMMARY

ADDRESS:	1485 COMMERCIAL WAY, SPRING HILL, FLORIDA 34607
CENTER OF SITE:	
LATITUDE:	28° 27' 30.7"N/28.458537717028154
LONGITUDE:	82° 37' 43.7"W/82.62881555801586
ADJACENT SURROUNDING PROPERTIES:	PROPERTY IS SURROUNDED BY COMMERCIAL WAY / PROPOSED COMMERCIAL DEVELOPMENT

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2012	

SITE TOPOGRAPHY SUMMARY

LOWEST ELEVATION OF PROJECT SITE:	10' (NAVD 83)
HIGHEST ELEVATION OF PROJECT SITE:	13' (NAVD 83)
PERCENT SLOPE VARIATION:	PROPERTY HAS BEEN GRADED TO DRAIN TO CENTER OF SITE.
TOPOGRAPHY CHANGES:	0-5' ON AVERAGE.
VEGETATION:	THE EXISTING SITE HAS BEEN CLEARED.
AVERAGE SLOPE:	1-3% FROM PROPERTY BOUNDARY TO EXISTING STORM DRAIN AT CENTER OF SITE.

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2013	

SITE SOILS SUMMARY

SOIL TYPE AND TEXTURE:	SPARR FINE SAND PER USDA WEB SOIL SURVEY
AVERAGE DEPTH OF TOPSOIL:	3"-12" DEPTH WERE OBSERVED ON THE SITE BASED ON GEOTECHNICAL FINDINGS.
AVERAGE DEPTH TO GROUNDWATER:	3 FT.- 5 FT. BELOW EXISTING GRADE, BASED ON GEOTECHNICAL BORINGS CONDUCTED ON-SITE.

NOTE: THE ABOVE SOILS INFORMATION IS FOR INFORMATION ONLY AND SHOULD NOT BE USED FOR BIDDING PURPOSES, CONSTRUCTION COSTS OR ESTIMATING.

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2012	

SITE RAINFALL SUMMARY

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
AVGERAGE RAINFALL IN INCHES	4.33"	5.12"	4.65"	4.65"	3.35"	4.76"	5.79"	6.10"	5.24"	2.83"	4.21"	4.76"

THE TOTAL AVERAGE ANNUAL RAINFALL FOR THE PROJECT AREA IS: 4.65 INCHES

THE DESIGN RAIN EVENT FOR THE PROJECT IS: 10YR-24HR

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2012	

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No.	Date	Revision
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3	XXXXX	XXXXX
2		
1		

Designed: XX
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Job No.: UT-XXXX-XX
Date: 12/05/2025 © 2025

SWPPP DETAILS

Walmart

STORE NO. 967-1011 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

DEVELOPER/OWNER:
WAL-MART STORES EAST, LP
702 SW 8TH STREET,
MAILSTOP 0505
BENTONVILLE, AR 72716-0505
479-430-1103

SITE OPERATOR/GENERAL CONTRACTOR:

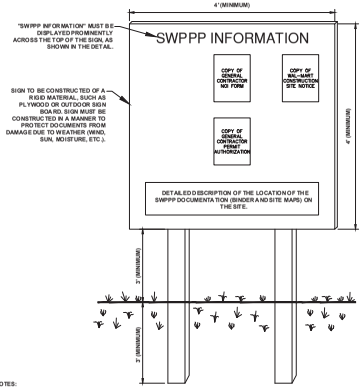
SUPERINTENDENT:

IMPORTANT: GC MUST SIGN ALL PLAN SHEETS AND ANY NEW PLAN SHEETS ISSUED BY THE CEC.

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

Sheet No.
C4.5

Approved
24-8-00085
James A. Mayer
1/15/2026

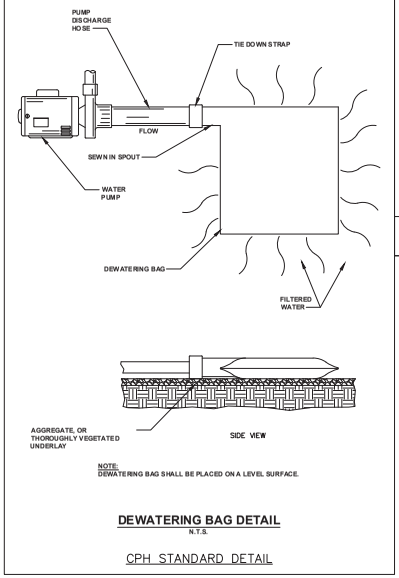


NOTES:

1. THE SWPPP INFORMATION SIGN MUST BE LOCATED IN A PROMINENT, PUBLICLY ACCESSIBLE LOCATION NEAR THE MAIN ENTRANCE OF THE SITE, SUCH THAT THE DOCUMENTATION CAN BE READ WITHOUT ACCESSING THE JOBSITE, BUT NOT OBSTRUCTING VIEWS AS TO CAUSE A TRAFFIC SAFETY HAZARD.
2. ALL POSTED DOCUMENTS MUST BE MAINTAINED IN A CLEARLY READABLE CONDITION AT ALL TIMES THROUGHOUT CONSTRUCTION AND UNTIL THE NOTICE-OF-TERMINATION (NOT) IS FILED FOR THE PERMIT.
3. ALL PAGES OF NOTICES OF INTENT AND PERMIT AUTHORIZATIONS MUST BE POSTED. THE CONTRACTOR MAY UTILIZE ACCESSIBLE WATERPROOF FOLDERS TO STORE THESE DOCUMENTS IF IT WILL BE DIFFICULT TO POST ALL PAGES INDIVIDUALLY.
4. CONTRACTOR SHALL POST OTHER STORMWATER AND/OR EROSION AND SEDIMENT CONTROL RELATED PERMITS ON THE SIGN AS REQUIRED BY THE GOVERNING AGENCIES.
5. SUBSEQUENT PERMIT MODIFICATION REQUESTS OR RENEWAL APPLICATIONS AND THEIR ASSOCIATED AUTHORIZATIONS OR RESPONSES SHALL BE POSTED ON THE SWPPP SIGN.
6. SIGN SHALL BE LOCATED OUTSIDE OF PUBLIC RIGHT-OF-WAY AND EASEMENTS UNLESS APPROVED BY THE GOVERNING AGENCY.
7. CONTRACTOR IS RESPONSIBLE FOR ENSURING STABILITY OF THE SWPPP INFORMATION SIGN.

SS SWPPP INFORMATION SIGN
N.T.S

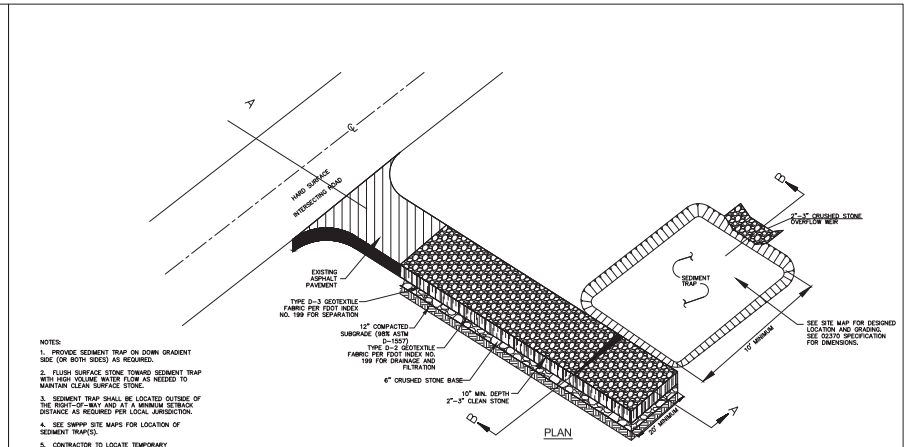
LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2012	



NOTE:
DEWATERING BAG SHALL BE PLACED ON A LEVEL SURFACE.

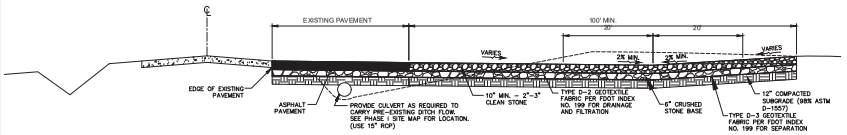
DEWATERING BAG DETAIL
N.T.S.

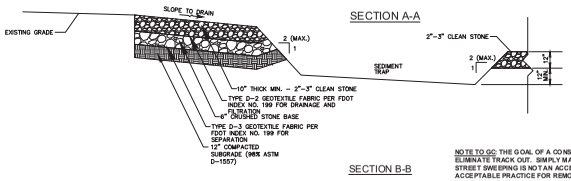
CPH STANDARD DETAIL



NOTES:

1. PROVIDE SEDIMENT TRAP ON DOWN GRADIENT SIDE (OR BOTH SIDES) AS REQUIRED.
2. FLUSH SURFACE STONE TOWARD SEDIMENT TRAP WITH HIGH VOLUME WATER FLOW AS NEEDED TO MAINTAIN CLEAN SURFACE STONE.
3. SEDIMENT TRAP SHALL BE LOCATED OUTSIDE OF THE RIGHT-OF-WAY AND AT A MINIMUM SETBACK DISTANCE AS REQUIRED PER LOCAL JURISDICTION.
4. SEE SWPPP SITE MAPS FOR LOCATION OF SEDIMENT TRAP(S).
5. CONTRACTOR TO LOCATE TEMPORARY CONSTRUCTION FENCING, JERSEY BARRIERS, OR BOTH ALONG THE SIDES OF THE CONSTRUCTION EXIT TO PREVENT CONSTRUCTION TRAFFIC FROM SHORT CIRCUITING/BYPASSING THE EXIT.





CE CONSTRUCTION EXIT
N.T.S.

NOTE TO GC: THE GOAL OF A CONSTRUCTION EXIT AND ASSOCIATED WHEEL WASH AREAS IS TO ELIMINATE TRACK OUT. SIMPLY MANAGING TRACK OUT THROUGH DESIGNATED OR CONTINUAL STREET SWEEPING IS NOT AN ACCEPTABLE PRACTICE. WHILE STREET SWEEPING IS AN ACCEPTABLE PRACTICE FOR REMOVING DUST AND MINIMAL AMOUNTS OF FINE SEDIMENT, OBSERVABLE TRACK OUT FROM THE PROJECT SHOULD TRIGGER THE USE OF ADDITIONAL MEASURES (WHEEL WASH), CONSIDERATION OF ALTERNATE EXITS, OR DISCONTINUING VEHICLE TRAFFIC UNTIL CONDITIONS ON-SITE HAVE IMPROVED. TRACK OUT IS A SEDIMENT RELEASE. ALL SEDIMENT RELEASES MUST BE REPORTED TO THE SWCT VIA THE ONLINE CRITICAL INCIDENT REPORT.

LAST REVISED:	WAL-MART MODIFIED DETAIL
JUNE 2012	

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Building Better Communities Together

Plans Prepared By:
CPH, LLC
A Full Service A & E Firm

MATTHEW S. D'ANGELO LICENSE No. 91885 STATE OF FLORIDA PROFESSIONAL ENGINEER

No.	Date	Revision
1	XX/XX/XX	XXXXX

Designed: XX
Drawn: XX
Checked: XX
Job No.: UT-XXXX-XX
Date: 12/05/2025 © 2025

SWPPP DETAILS

Walmart
STORE NO. 967-1011 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

DEVELOPER/OWNER:
WAL-MART STORES EAST, LP
702 SW 8TH STREET,
MAILSTOP 0505
BENTONVILLE, AR 72716-0505
479-430-1103

SITE OPERATOR/GENERAL CONTRACTOR:

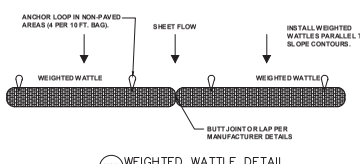
SUPERINTENDENT:

IMPORTANT: GC MUST SIGN ALL PLAN SHEETS AND ANY NEW PLAN SHEETS ISSUED BY THE CEC.

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

Sheet No.
C4.6

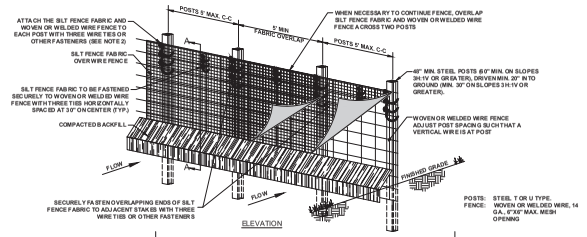
Approved
23-0085
James A. Weaver
1/15/2026



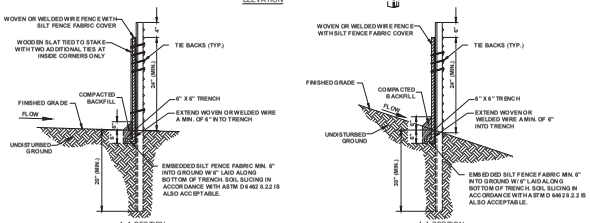
WW WEIGHTED WATTLE DETAIL
N.T.S.

SOURCE BOX

LAST REVISED:	CPH DETAIL
OCT 2014	



ELEVATION



A-A SECTION
(FOR SLOPES LESS THAN 3:1)

A-A SECTION
(FOR SLOPES 3:1 AND GREATER)

INSIDE CORNER - PLAN VIEW

SILT FENCE SECTION	TYPE (WIRE BACK OR SLICED)	SECTION LENGTH (FT)	DRAINAGE AREA (ACRES)	AVERAGE SLOPE OF AREA
N. PROP. LINE	WIRE	235 LF	0.09 AC	9.8%
E. PROP. LINE	WIRE	166 LF	0.98 AC	2.9%
S. PROP. LINE	WIRE	217 LF	0.98 AC	2.9%
W. PROP. LINE	WIRE	246 LF	0.21 AC	4.5%

TABLE 1 Temporary Silt Fence Material Property Requirements

	Test Method	Units	Supported Silt Fence	Unsupported Silt Fence	Type of Value
Grab Strength	ASTM D 4632	N (lbs)			
Machine Direction			400 (90)	500 (90)	MARV
X-Machine Direction			400 (90)	400 (90)	MARV
Permittivity	ASTM D 4491	sec-1	0.05	0.05	MARV
Apparent Opening Size	ASTM D 4751	mm (US Sieve #)	0.60 (30)	0.60 (30)	Max. AVG
Ultraviolet Stability	ASTM D 4355	% Retained Strength	70% after 500 h of exposure	70% after 500 h of exposure	Typical

A Silt fence supported fabric consist of 14 gage steel wire with a mesh spacing of 150 mm (6 in.) or preferably of polymer mesh of equivalent strength.

Values default values are based on empirical evidence with a variety of materials. For environmentally sensitive areas, a review of previous experience and/or site or regionally specific guidelines shall be in accordance with Test Method D 5141 should be performed by the agency to confirm suitability of these requirements.

Measured in accordance with Test Method D 4491.

TABLE 1 TAKEN FROM ASTM D 6461-99 (1987)

SPECIFICATIONS FOR SILT FENCE INSTALLATION

1. MATERIALS AND INSTALLATION SHALL COMPLY WITH ASTM D 6462 LATEST EDITION.
2. IN STALL SILT FENCE AT A FAIRLY LEVEL GRADE ALONG THE CONTOUR WITH THE ENDS CURVED UPHILL TO PROVIDE SUFFICIENT UPSTREAM STORAGE VOLUME FOR THE ANTICIPATED RUNOFF.
3. ATTACH THE GEOTEXTILE OR FABRIC TO THE WOVEN OR WELDED WIRE FENCE WITH THREE WIRE TIES OR OTHER FASTENERS (HORIZONTALLY SPACED EVERY 30"), ALL SPACED WITHIN THE TOP 8 " OF THE FABRIC. ATTACH EACH TIE DIAGONALLY 45 DEGREES THROUGH THE FABRIC, WITH EACH PUNCTURE AT LEAST 1" VERTICALLY APART. AT EACH POST, ATTACH THE GEOTEXTILE OR FABRIC AND THE WOVEN OR WELDED WIRE FENCE TO THE POST AS PREVIOUSLY STATED. IN ADDITION, EACH TIE PLACED ON A POST SHOULD BE POSITIONED TO HANG ON A POST NIPPLE WHEN TIGHTENED TO PREVENT SAGGING.
4. WHEN TWO SECTIONS OF SILT FENCE FABRIC ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED A MINIMUM OF 60" ACROSS TWO POSTS, AS SHOWN.
5. ALL SILT FENCE SHALL INCLUDE WIRE SUPPORT UNLESS THE STATIC SLICING EQUIPMENT IS UTILIZED TO INSTALL THE FENCE PER DETAIL, "SILT FENCE INSTALLATION (SLICING METHOD)".
6. WRAP APPROXIMATELY 6" OF FABRIC AROUND THE END POSTS AND SECURE WITH 3 TIES.
7. COMPACT THE SOIL IMMEDIATELY NEXT TO THE SILT FENCE FABRIC WITH THE FRONT WHEEL OF THE TRACTOR, SKID STEER, OR ROLLER EXERTING AT LEAST 60 POUNDS PER SQ. IN.OIL COMPACT THE UPSTREAM SIDE FIRST. COMPACT EACH SIDE TWICE FOR A TOTAL OF FOUR TRIPS.
8. ADD POST CAPS AS NEEDED BASED ON SITE CONDITIONS AND APPLICABLE AGENCY REQUIREMENTS.

MAINTENANCE NOTES

1. SILT FENCES SHALL BE INSPECTED ALONG ITS ENTIRETY AND MUST BE CLEANED WHEN SEDIMENT HAS ACCUMULATED TO ONE-THIRD THE HEIGHT OF THE SILT FENCE. MAINTENANCE CLEANOUT MUST BE CONDUCTED REGULARLY TO PREVENT ACCUMULATED SEDIMENTS FROM REACHING ON-THIRD THE HEIGHT OF THE SILT FENCE.
2. ALL MATERIAL EXCAVATED FROM BEHIND SILT FENCE SHALL BE STOCKPILED ON AN UPLAND PORTION OF THE SITE IF SUITABLE FOR REUSE.
3. SPECIAL ATTENTION SHOULD BE PAID TO ENSURE THAT NO UNDERMINING OF SILT FENCE HAS OCCURRED AND THAT NO BYPASS IS OCCURRING AT JOINING SECTIONS.
4. IF EXCESS SEDIMENT IS ACCUMULATING IN ANY SECTION OF SILT FENCE, THE CONTRACTOR SHOULD IMPLEMENT ADDITIONAL UPSTREAM STABILIZATION MEASURES OR ADDITIONAL BMPS (PENDING CEC APPROVAL) TO PREVENT EXCESSIVE BUILDUP ON SILT FENCE.
5. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED.

SF SEDIMENTATION/SILT FENCE WITH WIRE BACKING
N.T.S.

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2012	

NOTES:

1. CONSIDERATION MUST BE GIVEN TO ANTICIPATED CLIMATE AND SEASONAL CONDITIONS WHEN PLANTING SEED.
2. SEED SHALL BE FREE OF WEEDY SPECIES AND APPROPRIATE FOR SITE SOILS AND REGIONAL CLIMATE. SEED AND MULCH PER THE CONSTRUCTION DRAWINGS AND THE 02900 PLANTING SPECIFICATION IMMEDIATELY AFTER TOPSOIL IS APPLIED AND FINAL GRADE IS REACHED.
3. THE SITE HAS ACHIEVED FINAL STABILIZATION ONCE ALL AREAS ARE COVERED WITH BUILDING FOUNDATION OR PAVEMENT, OTHER LAND SCARING COVER (STONE, MULCH, ETC.), OR HAVE A STAND OF GRASS WITH A MINIMUM OF 70 PERCENT DENSITY OVER THE ENTIRE VEGETATED AREA, OR GREATER IN ACCORDANCE WITH THE GENERAL PERMIT REQUIREMENTS.
4. VEGETATED AREAS MUST BE WATERED, FERTILIZED, AND RESEEDED AS NEEDED TO ACHIEVE THIS REQUIREMENT.
5. THE VEGETATIVE DENSITY MUST BE MAINTAINED THROUGH PROJECT COMPLETION TO BE CONSIDERED STABILIZED. AREAS PROTECTED BY EROSION CONTROL BLANKETS ARE NOT PERMANENTLY STABILIZED UNTIL THE APPLICABLE GENERAL PERMIT REQUIREMENT FOR FINAL VEGETATIVE DENSITY IS ACHIEVED.
6. RIP-RAP, MULCH, GRAVEL, DECOMPOSED GRANITE OR OTHER EQUIVALENT PERMANENT STABILIZATION MEASURES MAY BE EMPLOYED IN LIEU OF VEGETATION BASED ON SITE-SPECIFIC CONDITIONS, DESIGN AND GOVERNING AUTHORITY APPROVAL.
7. ALL VEGETATED AREAS SHALL BE INSPECTED REGULARLY TO CONFIRM THAT A HEALTHY STAND OF GRASS IS MAINTAINED.

SVR SEEDING/VEGETATION REQUIREMENTS
N.T.S.

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2012	

NOTES:

1. THE QC IS REQUIRED TO, AT A MINIMUM, INITIATE SOIL STABILIZATION MEASURES IMMEDIATELY WHENEVER ANY CLEARING, GRADING, EXCAVATING OR OTHER EARTH DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT LIKELY RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS.
2. THE QC HAS 7 DAYS FROM INITIATION OF STABILIZATION TO COMPLETE SOIL PREPARATION, SEEDING, MULCHING, AND ANY OTHER REQUIRED ACTIVITIES RELATED TO THE PLANTING AND ESTABLISHMENT OF VEGETATION. THE QC ALSO HAS 7 DAYS FROM INITIATION OF STABILIZATION TO COMPLETELY INSTALL NON-VEGETATED MEASURES, IF UTILIZED.
3. ALL DISTURBED AREAS MUST BE STABILIZED TEMPORARILY WITH THE USE OF FAST-GERMINATING ANNUAL GRASS/GRAIN VARIETIES APPROPRIATE FOR SITE SOIL AND CLIMATE CONDITIONS. MULCH IS REQUIRED FOR ALL SEEDING APPLICATIONS, AND ALL MULCH APPLICATIONS MUST INCLUDE A SUITABLE FORM OF MULCH ANCHORING TO MINIMIZE MOVEMENT OF MULCH BY WIND OR WATER.
4. ALTERNATIVE STABILIZATION MEASURES TO SEEDING, SUCH AS ANCHORED MULCH APPLICATION (WITHOUT SEEDING), MAY BE UTILIZED DURING PERIODS WHEN VEGETATIVE GROWTH IS UNLIKELY (E.G. WINTER MONTHS).
5. IT IS NOT ACCEPTABLE TO ALLOW BARE SOIL TO REMAIN EXPOSED AT ANY TIME DURING THE YEAR, REGARDLESS OF WEATHER/TEMPERATURE/SITE CONDITIONS.
6. ALTERNATIVE STABILIZATION MEASURES INCLUDE, BUT ARE NOT LIMITED TO: ANCHORED STRAW/HAY MULCH, WOOD CELLULOSE FIBER MULCH, SPRAY-ON SOIL GLUES/BINDERS, AND ROLLED EROSION CONTROL PRODUCTS.
7. ALL ROLLED EROSION CONTROL PRODUCTS SHALL HAVE CURRENT QDOR/TM) STATUS ISSUED BY THE EROSION CONTROL TECHNOLOGY COUNCIL (ECTC) PLUS ANY STATE OR AGENCY-SPECIFIC REQUIREMENTS. EVIDENCE OF QDOR/TM) APPROVAL SHALL ACCOMPANY THE PRODUCT SHIPPED TO THE JOBSITE FOR READY IDENTIFICATION BY THE CONTRACTOR OR AGENCY INSPECTOR.
8. ROLLED EROSION CONTROL PRODUCTS (NETS, BLANKETS, TURF REINFORCED MATES) AND VEGETATED AREAS NOT MEETING REQUIRED VEGETATIVE DENSITIES FOR FINAL STABILIZATION MUST BE INSPECTED DAILY. RILING, RUTTING AND OTHER SIGNS OF EROSION INDICATE THE SPECIFIED EROSION CONTROL DEVICE IS NOT FUNCTIONING OR INSTALLED PROPERLY, AND/OR ADDITIONAL EROSION CONTROL DEVICES ARE WARRANTED.

TS TEMPORARY SEEDING OR STABILIZATION
N.T.S.

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2012	

NOTES:

1. PERMANENT STABILIZATION SHALL BE ACCOMPLISHED IN ALL DISTURBED AREAS BY COVERING THE SOIL WITH PAVEMENT, BUILDING STRUCTURES, VEGETATION, OR OTHER FORMS OF SOIL STABILIZATION.
2. THE QC IS REQUIRED TO INITIATE PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY UPON REACHING FINAL GRADE FOR THOSE AREAS NOT AT FINAL GRADE THAT WILL NOT BE DISTURBED FOR GREATER THAN 14 DAYS, THE CONTRACTOR SHOULD INITIATE TEMPORARY STABILIZATION PER THE TEMPORARY SEEDING OR STABILIZATION DETAIL.
3. THE QC HAS 7 DAYS FROM INITIATION OF STABILIZATION TO COMPLETE SOIL PREPARATION, SEEDING, MULCHING, AND ANY OTHER REQUIRED ACTIVITIES RELATED TO THE PLANTING AND ESTABLISHMENT OF VEGETATION. THE QC ALSO HAS 7 DAYS FROM INITIATION OF STABILIZATION TO COMPLETELY INSTALL NON-VEGETATED MEASURES, IF UTILIZED.
4. SOILS MUST BE PREPARED BEFORE INSTALLATION OF SOD OR SEED. SEE 02900 SPECIFICATION FOR INSTRUCTION ON PROPER SOIL PREPARATION.
5. AT THE COMPLETION OF GROUND-DISTURBING ACTIVITIES, THE ENTIRE SITE MUST HAVE PERMANENT VEGETATIVE COVER MEETING VEGETATIVE DENSITY REQUIREMENTS IN THE GENERAL PERMIT, OR MULCH PER LANDSCAPE PLAN, IN ALL AREAS NOT COVERED BY HARDSCAPE (STONE, PAVEMENT, BUILDINGS, ETC.).
6. SEEDED AREAS SHALL BE PROTECTED WITH STRAW MULCH, HYDRAULIC MULCH OR A ROLLED EROSION CONTROL PRODUCT. STRAW MULCH MUST BE TACKIFIED OR CRIMPED BY DISC OR OTHER MACHINERY, AND ROLLED EROSION CONTROL PRODUCTS MUST BE INSTALLED PER MANUFACTURER RECOMMENDATIONS. ONLY ROLLED EROSION CONTROL PRODUCTS ARE PERMITTED TO BE USED IN FLOW CONVEYANCES.
7. ALL AREAS TO BE SEEDED MUST MEET TOPSOIL DEPTH, PH AND ORGANIC CONTENT REQUIREMENTS.
8. FINAL SITE STABILIZATION IS ACHIEVED WHEN PERENNIAL VEGETATIVE COVER PROVIDES PERMANENT STABILIZATION WITH A UNIFORM DENSITY GREATER THAN 70 PERCENT OVER THE ENTIRE AREA TO BE STABILIZED BY VEGETATIVE COVER. THIS AREA IS EXCLUSIVE OF AREAS THAT ARE COVERED WITH ROCK (CRUSHED GRANITE, GRAVEL, ETC.) OR LANDSCAPE MULCH, PAVED OR HAVE A BUILDING OR OTHER PERMANENT STRUCTURE ON THEM.

PS PERMANENT SEEDING, SOD OR MULCHING
N.T.S.

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2012	

DEVELOPER/OWNER:
WAL-MART STORES EAST, LP
702 SW 8TH STREET,
MAILSTOP 0505
BENTONVILLE, AR 72716-0505
479-430-1103

SITE OPERATOR/GENERAL CONTRACTOR:

SUPERINTENDENT:

IMPORTANT: GC MUST SIGN ALL PLAN SHEETS AND ANY NEW PLAN SHEETS ISSUED BY THE CEC.

cph
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Building Better Communities Together

Plans Prepared By:
CPH, LLC
A Full Service A & E Firm

MATTHEW S. D'ANGELO
LICENSE
No. 91885
STATE OF FLORIDA
PROFESSIONAL ENGINEER

No.	Date	Revision
1	XX/XX/XX	XXXXX
2	XX/XX/XX	XXXXX

Designed: XX
Drawn: XX
Checked: XX
Job No.: UT-XXXX-XX
Date: 12/05/2025 © 2025

SWPPP DETAILS

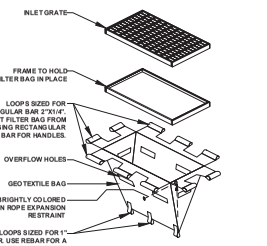
Walmart

STORE NO. 967-1011 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

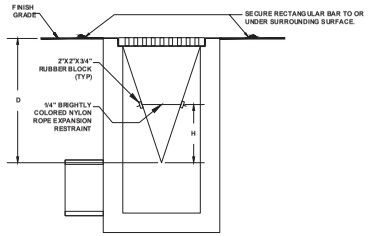
THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

Sheet No.
C4.7

Reviewed
2025-08-00085
James A. Meyer
1/15/2026



ISOMETRIC VIEW



SECTION VIEW
(FILTER SACK INSTALLED)

NOTES:

1. GEOTEXTILE SHALL BE A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS REQUIREMENTS IN THE SPECIFICATIONS TABLE.
2. PLACE AN OIL ABSORBENT PAD OR PILLOW OVER INLET GRATE WHEN OIL SPILLS ARE A CONCERN.
3. THE WIDTH, "W", OF THE FILTER SACK SHALL MATCH THE INSIDE WIDTH OF THE GRATED INLET BOX.
4. THE DEPTH, "D", OF THE FILTER SACK SHALL BE BETWEEN 18 INCHES AND 36 INCHES.
5. THE LENGTH, "L", OF THE FILTER SACK SHALL MATCH THE INSIDE LENGTH OF THE GRATED INLET BOX.

MAINTENANCE NOTES:

1. INLET PROTECTION DEVICES MUST BE INSPECTED FOR SEDIMENT ACCUMULATION WITHIN THE CATCH BASIN. REMOVE TRAPPED SEDIMENT WHEN BRIGHTLY COLORED EXPANSION RESTRAINT CAN NO LONGER BE SEEN.
2. REMOVAL OF SEDIMENT ACCUMULATED IN OR ADJACENT TO A STORM DRAIN INLET MUST BEGIN IMMEDIATELY UPON DISCOVERY, WITH COMPLETION OF THE ACTIVITY OCCURRING NO LATER THAN THE END OF THE FOLLOWING BUSINESS DAY.
3. INLET PROTECTION DEVICES SHALL BE INSPECTED FOR UNINTENDED BYPASS OR IMPROPER FLOW-RATES THAT MAY CAUSE DOWNSTREAM FLOODING.
4. CONTACT THE CEC FOR ALTERNATE INLET PROTECTION IF THE DESIGNED PROTECTION MAY IMPACT DOWNSTREAM BMPS, ADJACENT SLOPES, ETC., DUE TO PONDING ISSUES. ENSURE THAT NO UNDERMINING OF INLET PROTECTION DEVICES HAS OCCURRED.
5. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION.

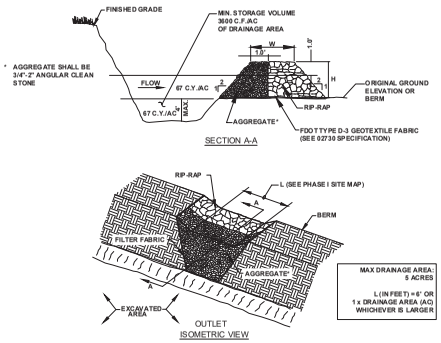
LOW TO MODERATE FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	300 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1

IP1 INLET PROTECTION FILTER SACK
N.T.S.

FOR USE ONLY IN PAVED AREAS WHERE SEDIMENT LOADS ARE EXPECTED TO BE VERY LOW. FILTER SACK MUST HAVE OVERFLOW HOLES TO PREVENT PONDING.

LAST REVISED:	WAL-MART STANDARD DETAIL
APRIL 30, 2011	



SECTION A-A

OUTLET
ISOMETRIC VIEW

MAX DRAINAGE AREA: 5 ACRES

L (IN FEET) = 6' OR 1 x DRAINAGE AREA (AC) WHICHEVER IS LARGER

SEDIMENT TRAPS								
TRAP NAME	L	W	H	DRAINAGE AREA (ACRES)	DESIGN VOLUME (CU.FT.)	DESIGNED RETENTION TIME (HRS.)	PERMANENT (Y OR N)	EMERGENCY OUTLET TYPE
TRAP 1								

MAINTENANCE NOTES:

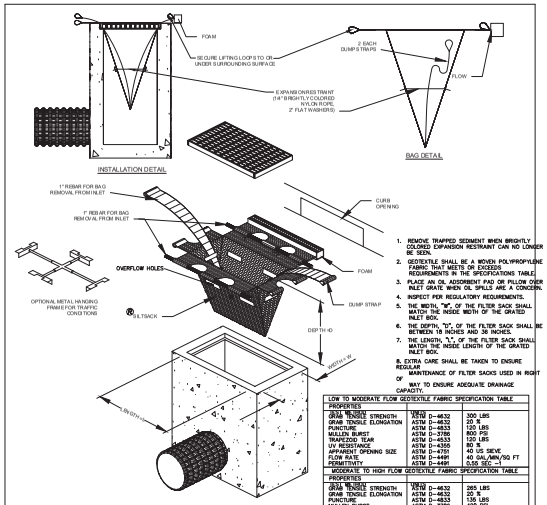
1. SEDIMENT TRAPS MUST BE INSPECTED AND MUST BE CLEANED WHEN THE ORIGINAL CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR LESS, AS REQUIRED BY THE GOVERNING AGENCY.
2. ALL MATERIAL EXCAVATED FROM BEHIND SEDIMENT BARRIERS OR FROM TRAPS SHALL BE INCORPORATED INTO ON-SITE SOILS OR SPREAD OUT ON AN UPLAND PORTION OF THE SITE AND STABILIZED.
3. VERIFY THAT NO EROSION IS OCCURRING AT DISCHARGE POINTS TO AND FROM IMPOUNDMENTS AND VERIFY THAT TRAP SIDE SLOPES ARE STABILIZED AND SHOW NO SIGNS OF EROSION.

ST TEMPORARY SEDIMENT TRAP
N.T.S.

LAST REVISED:	WAL-MART MODIFIED DETAIL
JUNE 2012	

EDITOR NOTES:

1. COMPLETE THE SEDIMENT TRAP TABLE TO PROVIDE DIMENSIONS, DRAINAGE AREAS AND VOLUME CALCULATIONS FOR EACH AND EVERY SEDIMENT TRAP SHOWN ON THE SITE MAPS, AS STIPULATED IN THE CONSTRUCTION GENERIC PERMIT, AGENCY REQUIREMENTS, OR STANDARD ENGINEERING PRACTICE. DEMONSTRATE ADEQUATE VOLUME TO RETAIN RUNOFF AND ALLOW SETTLEMENT OF SUSPENDED SOILS BEFORE DISCHARGING DOWNSTREAM OR BEFORE DEWATERING.
2. STATE THE TRAPS, IF ANY, WHICH WILL BE CONVERTED TO A PERMANENT STORMWATER BMP AT THE COMPLETION OF THE CONSTRUCTION PROJECT.



1. REMOVE TRAPPED SEDIMENT WHEN BRIGHTLY COLORED EXPANSION RESTRAINT CAN NO LONGER BE SEEN.
2. GEOTEXTILE SHALL BE A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS REQUIREMENTS IN THE SPECIFICATIONS TABLE.
3. PLACE AN OIL ADSORBENT PAD OR PILLOW OVER INLET GRATE WHEN OIL SPILLS ARE A CONCERN.
4. INSPECT PER REGULATORY REQUIREMENTS.
5. THE WIDTH, "W", OF THE FILTER SACK SHALL MATCH THE INSIDE WIDTH OF THE GRATED INLET BOX.
6. THE DEPTH, "D", OF THE FILTER SACK SHALL BE BETWEEN 18 INCHES AND 36 INCHES.
7. THE LENGTH, "L", OF THE FILTER SACK SHALL MATCH THE INSIDE LENGTH OF THE GRATED INLET BOX.
8. EXTRA CARE SHALL BE TAKEN TO ENSURE REGULAR MAINTENANCE OF FILTER SACKS USED IN RIGHT OF WAY TO ENSURE ADEQUATE DRAINAGE CAPACITY.

LOW TO MODERATE FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES		
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES		
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1

FILTER SACKS (GRATED CURBED INLETS) IP2
NTS

12/08/11	CPH DETAIL

DEVELOPER/OWNER:
WAL-MART STORES EAST, LP
702 SW 8TH STREET,
MAILSTOP 0505
BENTONVILLE, AR 72716-0505
479-430-1103

SITE OPERATOR/GENERAL CONTRACTOR

SUPERINTENDENT:

IMPORTANT: GC MUST SIGN ALL PLAN SHEETS AND ANY NEW PLAN SHEETS ISSUED BY THE CEC.

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MATTHEW S. D'ANGELO LICENSE No. 91885 STATE OF FLORIDA PROFESSIONAL ENGINEER

No.	Date	Revision
1	XX/XX/XX	XXXXX
2	XX/XX/XX	XXXXX

Designed: XX
Drawn: XX
Checked: XX
Job No.: UT-XXXX-XX
Date: 12/05/2025 © 2025

SWPPP DETAILS

Walmart
STORE NO. 967-1011 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

Sheet No.
C4.8

Approved
24-08-00085
James A. Weaver
1/15/2026

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SKIMMER (SK)

NOTES:

1. SKIMMER OR DEWATERING BMP MUST DRAW WATER FROM THE TOP OF THE WATER COLUMN (I.E., WATER SURFACE) PER US EPA CGP.
2. DO NOT USE RISERS WITH PERFORATED PIPE OR ANY OTHER SYSTEM/BMP THAT DRAWS WATER FROM BELOW THE WATER SURFACE.

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2013	

CHEMICALLY–ENHANCED SETTLEING PASSIVE TREATMENT SYSTEMS (CES)

NOTES:

1. IMPORTANT: GC SHALL NOT APPLY FLOCCULANTS WITHOUT PREVIOUS REVIEW AND WRITTEN CONFIRMATION BY CEC. FLOCCULANTS MUST BE USED ONLY IN LOCATIONS SHOWN ON THE SWPPP MAPS, AT RATES AND METHODS SPECIFIED AND AS APPROVED BY CEC. CEC SHALL CONFIRM WHETHER TO FOLLOW MANUFACTURER DIRECTION, OR MODIFY MANUFACTURER'S DIRECTION.
2. FLOCCULANTS SHALL BE USED AS FAR UPSTREAM OF BASINS, TRAPS, TANKS, OR OTHER WATER CONTAINMENT AREAS AS POSSIBLE. THE EFFECTIVENESS OF FLOCCULANTS DEPENDS ON THE TRAVEL TIME AND AGITATION OF THE WATER, FOR PROPER MIXING.
3. ALL SEDIMENTATION/SETTLING MUST OCCUR WITHIN THE LOD. THAT IS, VELOCITY OF FLOW IN WATER CONTAINMENT SHOULD BE NEAR ZERO, AND THE TIME OF RESIDENCE AS LONG AS POSSIBLE.
4. FLOC BLOCKS, FLOCCULANT-IMPREGNATED WATTLES, AND ANY OTHER CONTROL MEASURES WHICH SUPPLY FLOCCULANTS MUST BE REGULARLY INSPECTED AND MAINTAINED, AS ARE ALL OTHER CONTROL MEASURES.
5. STANDARD EROSION AND SEDIMENT CONTROLS ARE REQUIRED BOTH PRIOR TO AND AFTER CHEMICAL TREATMENT IN ACCORDANCE WITH THE SWPPP PLANS.

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DEWATERING (DW)

NOTES:

1. VERIFY WITH CEC WHICH DISCHARGES FROM DEWATERING ACTIVITIES ARE ALLOWED OR ARE NOT ALLOWED NON-STORMWATER DISCHARGES UNDER THE GENERAL PERMIT AND OTHER REGULATIONS. OBTAIN ALL DEWATERING PERMITS AND AUTHORIZATIONS REQUIRED BY STATE AND LOCAL REGULATIONS. SEE THE REQUIRED DEWATERING PERMITS AND AUTHORIZATIONS TABLE BELOW. GC MUST COMPLETE COLUMNS 3 AND 4.
2. GC MUST WAIT TO HAVE WRITTEN COPY OF ALL REQUIRED DEWATERING PERMITS AND AUTHORIZATIONS BEFORE PERFORMING DEWATERING ACTIVITIES.
3. DISCHARGES FROM DEWATERING OPERATIONS MUST BE DIRECTED THROUGH AN APPROPRIATE POLLUTION PREVENTION/TREATMENT SYSTEM OF CONTROL MEASURES, SUCH AS A SEDIMENT/FILTER BAG, SEDIMENT TRAP OR SEDIMENT BASIN, AND OTHERS, AS NEEDED, PRIOR TO BEING DISCHARGED FROM THE SITE OR INTO A WATER BODY OF THE STATE. UNDER NO CIRCUMSTANCES ARE DISCHARGES FROM DEWATERING OPERATIONS TO BE DISCHARGED DIRECTLY INTO SANITARY SEWER SYSTEMS, STREAMS, RIVERS, LAKES OR OTHER AREAS BEYOND THE PERMITTED PROJECT AREA. LIKEWISE, DISCHARGES INTO STORM SEWER SYSTEMS THAT DO NOT DRAIN TO A SUITABLE ON-SITE TREATMENT FACILITY, SUCH AS A BASIN, ARE ALSO PROHIBITED. DISCHARGES FROM DEWATERING OPERATIONS MUST ALSO BE CONDUCTED IN A MANNER SUFFICIENT TO PREVENT EROSION FROM THE DISCHARGE RUNOFF.
4. IN SEDIMENT TRAP OR BASIN OR POND DEWATERING OPERATIONS, WATER MUST ONLY BE REMOVED FROM THE SURFACE OF THE CONTAINED WATER. A SKIMMER OR SIMILAR FLOATING DEVICE MUST BE USED, TO ONLY REMOVE THE WATER AT THE SURFACE.
5. DO NOT DISCHARGE ON A SLOPE GREATER THAN THREE PERCENT NOR WITHIN 20 FEET OF A SURFACE WATER BODY.
6. DEWATERING SHALL NOT OCCUR DURING OR IMMEDIATELY AFTER PRECIPITATION EVENTS, BUT EXCEPTIONS SHALL BE EVALUATED ON CASE BY CASE BASIS. CONTACT THE CEC AND RECEIVE WRITTEN APPROVAL.

REQUIRED DEWATERING PERMITS AND AUTHORIZATIONS			
1	2	3	4
GOVERNING AGENCY	PERMIT NAME/TYPE	PERMIT NO. (GC TO COMPLETE)	DATE PERMIT WAS ISSUED BY AGENCY (GC TO COMPLETE)
NPDES STORMWATER NOTICES CENTER MS #3585 FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION	FDEP NPDES GENERIC PERMIT FOR LARGE AND SMALL CONSTRUCTION SITES		
WALTON COUNTY	DEVELOPMENT ORDER APPROVAL		
NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT	ENVIRONMENTAL RESOURCE PERMIT		

LAST REVISED:	WAL-MART STANDARD DETAIL
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STOCKPILES (SP)

NOTES:

1. ALL ON-SITE TOPSOIL MUST BE PRESERVED FOR REUSE ON THE SITE DURING REVEGETATION, UNLESS IT IS INFEASIBLE OR UNREASONABLE TO DO SO. (NOTE: TOPSOIL STOCKPILING ON-SITE MAY BE INFEASIBLE IF SPACE IS NOT AVAILABLE ON-SITE FOR TOPSOIL STOCKPILING OR IF LITTLE TO NO VEGETATION IS TO REMAIN UNDER POST-CONSTRUCTION CONDITIONS. STOCKPILING OF TOPSOIL AT AN OFF-SITE LOCATION OR TRANSFER OF TOPSOIL TO OTHER LOCATIONS MAY ALSO BE ACCEPTABLE BUT MUST BE AUTHORIZED BY THE CEC).
2. ALL SOIL STOCKPILES MUST BE STABILIZED TO PREVENT EROSION AND FUGITIVE DUST. THE SURFACE OF THE STOCKPILE MUST BE PROPERLY PROTECTED TO ELIMINATE THE RISK OF EROSION. SEE TEMPORARY SEEDING OR STABILIZATION DETAIL. SUITABLE ALTERNATIVE MEANS OF STABILIZATION CAN BE USED, SUCH AS PROPERLY ANCHORED PLASTIC TARPS.
3. PERIMETER SEDIMENT CONTROLS ALSO MUST BE INSTALLED AT STOCKPILE LOCATIONS TO PREVENT CONTACT WITH STORMWATER, INCLUDING RUN-ON.
4. STOCKPILES MUST BE LOCATED OUTSIDE OF ANY VEGETATED BUFFER AREAS AND SHOULD BE LOCATED AS FAR AS PRACTICABLE FROM STORMWATER CONVEYANCES AND IMPOUNDMENTS AND WATER BODIES.
5. STOCKPILE LOCATIONS SHALL BE NOTED ON THE SITE MAPS.

LAST REVISED:	WAL-MART STANDARD DETAIL
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DUST CONTROL (DC)

NOTES:

1. LARGE AREAS OF SOIL THAT ARE DENUDED OF VEGETATION AND HAVE NO PROTECTION FROM PARTICLES BEING PICKED UP AND CARRIED BY WIND SHOULD BE PROTECTED WITH A TEMPORARY COVER OR KEPT UNDER CONTROL WITH WATER OR OTHER SOIL ADHERING PRODUCTS TO PREVENT SOIL PARTICLES FROM BECOMING AIRBORNE, AND FROM EXITING THE SITE PERIMETER.
2. WATER TRUCKS OR OTHER DUST CONTROL AGENTS SHALL BE USED AS NEEDED DURING CONSTRUCTION TO MINIMIZE DUST GENERATED ON THE SITE. TACKIFIERS MAY BE USED TO HOLD SOIL IN PLACE AND PREVENT DUST. MANUFACTURER RECOMMENDATIONS FOR APPLICATION LOCATIONS AND RATES MUST BE USED FOR DUST CONTROL APPLICATIONS. ONLY SWPPP-SPECIFIED TACKIFIERS MAY BE USED ON THE PROJECT SITE; ANY CHEMICAL APPLICATION NOT INCLUDED IN THE SWPPP MUST BE APPROVED, IN WRITING, BY THE CEC.
3. DUST CONTROL MUST BE PROVIDED BY THE GC TO A DEGREE THAT IS IN COMPLIANCE WITH APPLICABLE FEDERAL, LOCAL AND STATE DUST CONTROL REGULATIONS.
4. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
5. IN ADDITION TO BMPS, GC SHALL PERFORM PER PRACTICES AND PROCEDURES WHICH MINIMIZE AND PREVENT AIRBORNE DUST OR OTHER PARTICLES FROM OCCURRING.

LAST REVISED:	WAL-MART STANDARD DETAIL
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IRRIGATION OR DISPERSION (ID)

NOTES:

1. USING WATER FROM BASINS, TRAPS, TANKS, OR OTHER WATER CONTAINMENT AREAS FOR IRRIGATION MINIMIZES DISCHARGES FROM THE SITE, AND IT MAY SATISFY OTHER NEEDS OF THE CONSTRUCTION PROJECT, SUCH AS DUST CONTROL, VEGETATIVE ESTABLISHMENT, ETC.
2. CARE SHOULD BE TAKEN THAT WATER UTILIZED FROM CONTAINMENT AREAS ON-SITE FOR CONSTRUCTION PURPOSES DOES NOT DISCHARGE OFF-SITE. IF DISCHARGE IS ANTICIPATED OR OBSERVED, DEWATERING PROCEDURES STATED IN THE DEWATERING DETAIL MUST BE FOLLOWED.
3. GC SHALL IMPLEMENT IRRIGATION OR DISPERSION AS PRACTICABLE TO REDUCE WATER VOLUME IN IMPOUNDMENTS AND TO FOSTER VEGETATION GROWTH.

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INLET PROTECTION (IP)

NOTES:

1. STORM DRAIN INLET PROTECTION MEASURES SHALL PREVENT SOIL AND DEBRIS FROM ENTERING STORM DRAIN INLETS.
2. TEMPORARY CONTROLS SHALL BE CONSTRUCTED BEFORE THE SURROUNDING AREA IS DISTURBED.
3. TO PREVENT CLOGGING, STORM DRAIN CONTROL STRUCTURES MUST BE MAINTAINED FREQUENTLY.
4. CHECK ALL TEMPORARY CONTROL MEASURES DAILY, AND AFTER EACH STORM EVENT.
5. CONTROL MEASURES MUST BE BUILT PER DETAIL AND PLANS, AND MUST BE IN GOOD WORKING CONDITION AT ALL TIMES.

LAST REVISED:	WAL-MART STANDARD DETAIL
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SOLID WASTE DISPOSAL (SWD)

NOTES:

1. SUBSTANCES THAT HAVE THE POTENTIAL FOR POLLUTING SURFACE AND/OR GROUNDWATER MUST BE CONTROLLED BY ANY MEANS NECESSARY TO ENSURE THAT THOSE DO NOT DISCHARGE FROM THE SITE. IN THIS REGARD, POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED AND HANDLED IN A MANNER CONSISTENT WITH THE RISK OF IMPACT THOSE REPRESENT, AND ACCORDING WITH THE REGULATIONS.
2. NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, ARE ALLOWED TO BE DISCHARGED FROM THE SITE WITH STORMWATER. ALL SOLID WASTE, INCLUDING DISPOSABLE MATERIALS INCIDENTAL TO THE CONSTRUCTION ACTIVITIES, MUST BE COLLECTED AND PLACED IN CONTAINERS. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE. THE CONTAINERS SHALL BE HAULED AWAY FROM THE SITE AND EMPTIED WHEN THOSE BECOME 95% FULL, OR AS NECESSARY, BY A CERTIFIED TRASH DISPOSAL SERVICE. LIDS OR COVERS FOR THE CONTAINERS SHALL BE PROVIDED FOR USE DURING RAIN EVENTS TO PREVENT WASTE CONTACT WITH STORMWATER. WASTES THAT CANNOT BE STORED IN A CONTAINER MUST BE STORED UNDER COVER OR INDOORS. THE LOCATION OF SOLID WASTE RECEPTACLES SHALL BE SHOWN ON THE SITE MAPS.

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HAZARDOUS WASTE DISPOSAL (HWD)

NOTES:

1. CONTRACTOR SHALL PROVIDE DESIGNATED LOCATION FOR SORTING AND SEPARATING HAZARDOUS WASTES.
2. HAZARDOUS WASTE STORAGE MUST BE PROTECTED FROM WEATHER ELEMENTS AND HAVE RESTRICTED ACCESS.
3. HAZARDOUS WASTE STORAGE MUST COMPLY WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
4. HAZARDOUS WASTE STORAGE MUST COMPLY WITH CONTRACT DOCUMENTS.

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SANITARY FACILITIES (SAF)

NOTES:

1. ALL PERSONNEL INVOLVED WITH CONSTRUCTION ACTIVITIES MUST COMPLY WITH STATE AND LOCAL SANITARY OR SEPTIC SYSTEM REGULATIONS. PORTABLE TOILETS MUST BE LOCATED AT LEAST 30 FEET FROM INLETS, CHANNELS, SWALES, OR PERMITTED LIMITS OF DISTURBANCE, AND MUST BE LOCATED AT LEAST 50 FEET FROM WATERS OF THE STATE, OR WATERS OF THE U.S.. PORTABLE TOILETS MUST BE SECURELY ANCHORED AND/OR TIED DOWN. SECONDARY CONTAINMENT SHALL BE PROVIDED AND FULL CAPACITY SHALL BE RESTORED IMMEDIATELY UPON DISCOVERY OF ITS DIMINISHMENT. THE LOCATION OF SANITARY FACILITIES SHALL BE SHOWN ON THE SITE MAPS.

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TEMPORARY PARKING (TP)

NOTES:

1. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AREA AS CONDITIONS DEMAND.

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MATERIAL LAYDOWN AND STORAGE AREA (MLSA)

NOTES:

1. MATERIAL STORAGE AREAS SHOULD BE LOCATED, WHEN POSSIBLE, TO MINIMIZE EXPOSURE TO WEATHER. INSPECTIONS SHALL EVALUATE DISTURBED AREAS AND AREAS USED FOR STORING MATERIALS THAT ARE EXPOSED TO RAINFALL FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM OR DISCHARGING FROM THE SITE. IF NECESSARY, THE MATERIALS MUST BE COVERED OR ORIGINAL COVERS MUST BE REPAIRED OR SUPPLEMENTED. ALSO, PROTECTIVE BERMS MUST BE CONSTRUCTED, IF NEEDED, TO CONTAIN RUNOFF FROM MATERIAL STORAGE AREAS. GC SHALL ADHERE TO ALL STATE AND LOCAL REGULATIONS PERTAINING TO MATERIAL STORAGE AREAS.
2. CHEMICALS, PAINTS, SOLVENTS, FERTILIZERS, AND OTHER TOXIC MATERIALS MUST BE STORED IN WATERPROOF CONTAINERS. EXCEPT DURING APPLICATION, THE CONTAINERS AND THE CONTENTS MUST BE KEPT IN TRUCKS OR INSIDE OF STORAGE FACILITIES. RUNOFF CONTAINING SUCH MATERIAL MUST BE COLLECTED, REMOVED FROM THE SITE, TREATED, AND DISPOSED OF AT AN APPROVED SOLID WASTE AND CHEMICAL DISPOSAL FACILITY.

LAST REVISED:	WAL-MART STANDARD DETAIL
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CEMENT AND CONCRETE WASHOUT (CW)

NOTES:

1. CONCRETE WASTE MANAGEMENT PERTAINS TO WASTE FROM CONCRETE READY-MIX TRUCKS, MASONRY OPERATIONS, AND SIMILAR WASTE.
2. THE STATE OFFLORIDA PROHIBITS CONCRETE WASH OUT ONSITE
3. DISCHARGE OF EXCESS OR WASTE CONCRETE AND/OR WASH WATER FROM CONCRETE TRUCKS IS ALLOWED AT THE CONSTRUCTION SITE. ONLY COMMERCIALLY AVAILABLE ABOVE GROUND PORTABLE CONCRETE WASHOUT CONTAINERS ARE ALLOWED AND MUST BE PROTECTED FROM VEHICLE TRAFFIC AND CLEARLY IDENTIFIED BY LEGIBLE SIGNAGE, AND MUST BE LOCATED OUTSIDE OF VEGETATED BUFFERS AND AS FAR AS PRACTICABLE FROM STORMWATER CONVEYANCES AND IMPOUNDMENTS AND WATER BODIES. PORTABLE CONCRETE WASHOUT CONTAINERS SHALL CONTAIN AND/OR ACTIVELY MANAGE BOTH, SOLID AND FLUID, COMPONENTS OF THE MIX. CONCRETE WASHOUT CONTAINERS MUST BE CLEANED OR EXCHANGED WHEN THE REMAINING VOLUME IS REDUCED BY 85% TO PREVENT ANY POTENTIAL OVERFLOW IN A STORM EVENT.
4. ALTERNATIVELY, WASTE CONCRETE CAN BE PLACED INTO FORMS TO MAKE RIP RAP AND/OR OTHER USEFUL CONCRETE PRODUCTS. PORTABLE CONCRETE WASHOUT CONTAINERS SHALL BE DISPOSED IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. THE GC IS RESPONSIBLE FOR ASSURING THAT THESE PROCEDURES, APPLICABLE LAWS, AND ENVIRONMENTAL REGULATIONS ARE FOLLOWED. THE LOCATION OF CONCRETE WASHOUT CONTAINERS SHALL BE SHOWN ON THE SITE MAPS.

LAST REVISED:	WAL-MART STANDARD DETAIL
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PAINT AND STUCCO WASHOUT (PSW)

NOTES:

1. PROVIDE WASH STATION IN A LOCATION PROTECTED FROM WEATHER ELEMENTS.
2. COLLECT ALL USED WASH WATER AND DISPOSE OF IT PROPERLY.
3. PROVIDE ADEQUATE SUPPLY OF WATER AND ANY OTHER SUPPLIES TO ENSURE PROPER OPERATION OF WASH STATION WHEN NEEDED.

LAST REVISED:	WAL-MART STANDARD DETAIL
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MASONS' AREA (MA)

NOTES:

1. THE GC SHALL IDENTIFY MASONS' AREA WITH LEGIBLE SIGNAGE ON THE SITE. TO THE EXTENT PRACTICAL, ALL MASONRY TOOLS, MATERIAL, INCLUDING SAND AND SACKED CEMENT AND/OR MORTAR MATERIALS, MIX, AND EQUIPMENT SHALL BE LOCATED WITHIN THE AREA IDENTIFIED. MATERIALS VULNERABLE TO WEATHER ELEMENTS SHALL BE STORED IN CONTAINERS AT THE END OF EACH WORK DAY; SUCH MATERIALS SHALL REMAIN STORED IN CONTAINERS WHEN NOT IN USE.
2. RUNOFF CONTROL, SUCH AS DIVERSION BERMS, SILT FENCE, SILT DIKE, OR OTHER MEANS OF CONTAINMENT SHALL BE PROVIDED TO PREVENT THE MIGRATION OF STORMWATER POLLUTANTS FROM THE MASONS' AREA. COVERED RECEPTACLES FOR DEBRIS AND TRASH DISPOSAL SHALL ALSO BE PROVIDED.
3. THE MASONS' AREA SHALL MEET OSHA AND OTHER REGULATORY REQUIREMENTS FOR PERSONAL PROTECTIVE EQUIPMENT (PPE), FIRE EXTINGUISHERS, ETC. GC SHALL PROVIDE SCREENING OR OTHER TECHNOLOGIES FOR MASONS' AREA TO PREVENT AIRBORNE TRANSPORT OF CEMENT DUST AND OTHER PARTICULATES DUE TO HIGH SPEED WIND OR OTHER CONDITIONS. THE LOCATION OF THE MASONS' AREA SHALL BE SHOWN ON THE SITE MAPS.

LAST REVISED:	WAL-MART STANDARD DETAIL
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FUEL AND PETROLEUM STORAGE AND USE (FPSU)

NOTES:

1. THE GC SHALL IDENTIFY FUELING AREAS WITH LEGIBLE SIGNAGE ON THE SITE. TEMPORARY ON-SITE FUEL TANKS FOR CONSTRUCTION VEHICLES SHALL MEET ALL LOCAL, STATE AND FEDERAL REGULATIONS. ALL TANKS, SINGLE AND DOUBLE WALLED, SHALL BE PROVIDED WITH SECONDARY CONTAINMENT (THAT IS CONTAINMENT EXTERNAL TO AND SEPARATE FROM PRIMARY CONTAINMENT). TANKS SHALL HAVE APPROVED SPILL CONTAINMENT WITH THE CAPACITY REQUIRED BY THE APPLICABLE REGULATIONS. SECONDARY CONTAINMENT SHALL BE CONSTRUCTED OF MATERIALS OF SUFFICIENT THICKNESS, DENSITY, AND COMPOSITION SO AS NOT TO BE STRUCTURALLY WEAKENED AS A RESULT OF CONTACT WITH THE FUEL STORED AND CAPABLE OF CONTAINING DISCHARGED FUEL FOR A PERIOD OF TIME EQUAL TO OR LONGER THAN THE MAXIMUM ANTICIPATED TIME SUFFICIENT TO ALLOW RECOVERY OF DISCHARGED FUEL. IT SHALL BE CAPABLE OF CONTAINING 110% OF THE VOLUME OF THE PRIMARY TANK IF A SINGLE TANK IS USED, OR IN THE CASE OF MULTIPLE TANKS, 150% OF THE LARGEST TANK OR 110% OF THE AGGREGATE, WHICHEVER IS LARGER.
2. THE TANKS SHALL BE IN SOUND CONDITION, FREE OF RUST OR OTHER DAMAGE WHICH MIGHT COMPROMISE CONTAINMENT. FUEL STORAGE AREAS SHALL MEET ALL EPA, OSHA AND OTHER REGULATORY REQUIREMENTS FOR SIGNAGE, FIRE EXTINGUISHERS, ETC. HOSES, VALVES, FITTINGS, CAPS, FILLER NOZZLES, AND ASSOCIATED HARDWARE SHALL BE MAINTAINED IN PROPER WORKING CONDITION AT ALL TIMES. TANKS SHALL BE LOCATED TO MINIMIZE EXPOSURE TO WEATHER AND SURFACE WATER DRAINAGE FEATURES. THE LOCATION OF FUEL TANKS SHALL BE SHOWN ON THE SITE MAPS.
3. A SPILL PREVENTION, CONTROL AND COUNTERMEASURE (SPCC) PLAN MUST BE DEVELOPED IF ABOVEGROUND OIL STORAGE CAPACITY AT THE CONSTRUCTION SITE EXCEEDS 1,320 GALLONS OR AS SPECIFIED BY STATE.
4. CONTAINERS WITH A STORAGE CAPACITY OF 55-GALLONS OR LESS ARE NOT INCLUDED WHEN CALCULATING SITE STORAGE CAPACITY. THE GC SHALL WORK WITH THE CEC TO DEVELOP AND IMPLEMENT A SPCC PLAN IN ACCORDANCE WITH THE OIL POLLUTION PREVENTION REGULATION AT TITLE 40 OF THE CODE OF FEDERAL REGULATIONS, PART 112, (40 CFR 112).

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2013	

EQUIPMENT AND VEHICLE CLEANING AND MAINTENANCE AREAS (EMA)

NOTES:

1. THE GC SHALL DESIGNATE AREAS ON THE SITE MAPS FOR EQUIPMENT CLEANING, MAINTENANCE, AND REPAIR. THE GC AND SUBCONTRACTORS SHALL UTILIZE SUCH DESIGNATED AREAS. CLEANING, MAINTENANCE, AND REPAIR AREAS SHALL BE PROTECTED BY A TEMPORARY PERIMETER BERM, SHALL NOT OCCUR WITHIN 150 FEET OF ANY WATERWAY, WATER BODY OR WETLAND, AND SHALL OCCUR IN AREAS LOCATED AS FAR AS PRACTICAL FROM STORM SEWER INLETS. DRIP PANS SHALL BE USED FOR VEHICLE MAINTENANCE ACTIVITIES AND RESULTANT WASTES SHALL BE DISPOSED OF IN ACCORDANCE WITH THE HAZARDOUS MATERIAL MANAGEMENT AND SPILL REPORTING PLAN NOTES INCLUDED ON THIS PLAN SHEET.
2. USE OF DETERGENTS FOR LARGE SCALE WASHING IS PROHIBITED (FOR EXAMPLE, WASHING VEHICLES, BUILDINGS, PAVEMENT SURFACES, ETC.). ALL WASH WATER SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2013	

DEVELOPER/OWNER:
WAL-MART STORES EAST, LP
702 SW 8TH STREET,
MAILSTOP 0505
BENTONVILLE, AR 72716-0505
479-430-1103

SITE OPERATOR/GENERAL CONTRACTOR:

SUPERINTENDENT:

IMPORTANT: GC MUST SIGN ALL PLAN SHEETS AND ANY NEW PLAN SHEETS ISSUED BY THE CEC.

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Plans Prepared By:
CPH, LLC
A Full Service A & E Firm

MATTHEW S. D'ANGELO LICENSE No. 91885 STATE OF FLORIDA PROFESSIONAL ENGINEER

No.	Date	Revision
1		
2	XX/XX/XX	XXXXX
3		
4		
5		
6		
7		

Designed: XX
Drawn: XX
Checked: XX
Job No.: UT-XXXX-XX
Date: 12/05/2025

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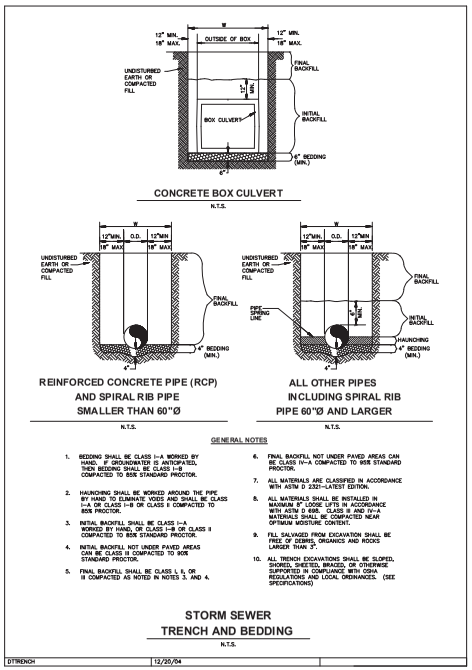
Walmart
STORE NO. 967-1011 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

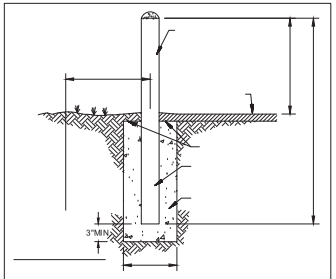
SWPPP DETAILS

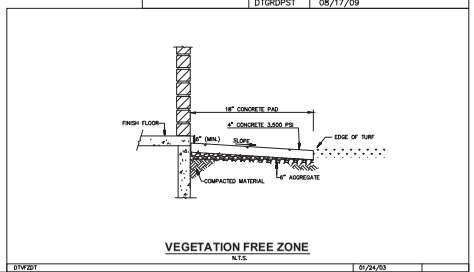
THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

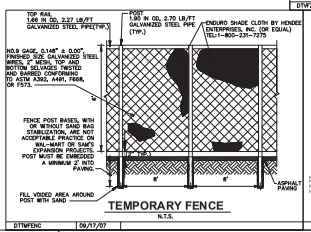
Sheet No.
C4.9

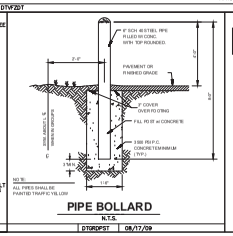
Approved
James A. Meyer
1/15/2026

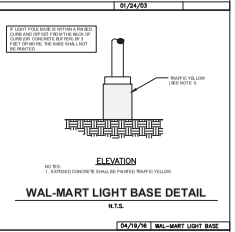


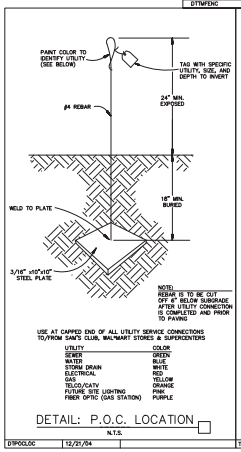


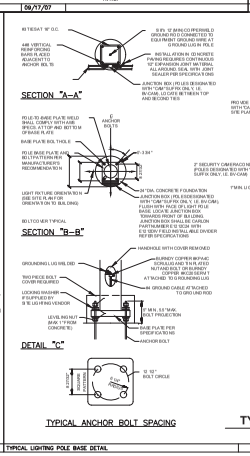


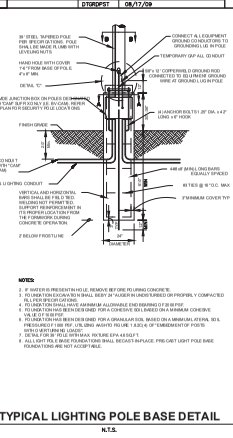


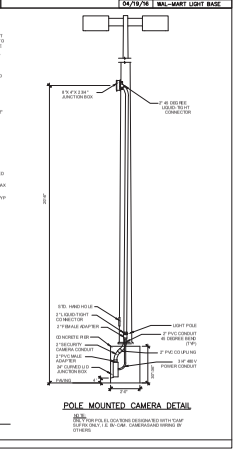












cph
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Building Better Communities Together
Plans Prepared By:
CPH, LLC
A Full Service A & E Firm
MATTHEW S. D'ANGELO
LICENSE
No. 91885
STATE OF FLORIDA
PROFESSIONAL ENGINEER

No.	Date	Revision
1	XX/XX/XX	XXXXX
2	XX/XX/XX	XXXXX
3	XX/XX/XX	XXXXX
4	XX/XX/XX	XXXXX
5	XX/XX/XX	XXXXX

Designed: XX
Drawn: XX
Checked: XX
Job No.: UT-XXXX-XX
Date: 12/05/2025
© 2025

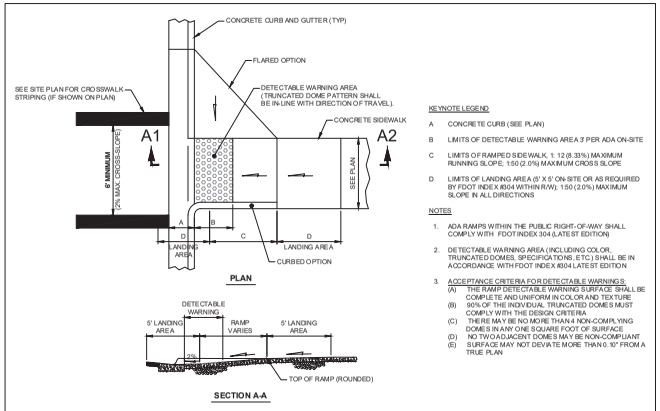
MISCELLANEOUS DETAILS

Walmart
STORE NO. 967-1011 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

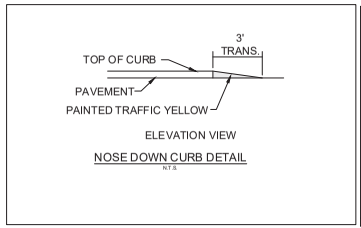
Sheet No.
C5.1

Approved
2025-08-00085
James A. Beaver
1/15/2026



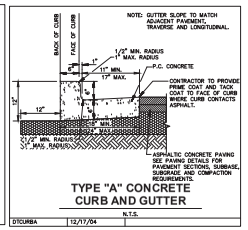
ADA RAMP DETAIL
(NOT FOR USE WITHIN THE PUBLIC RIGHT-OF-WAY)

N.T.S.



NOSE DOWN CURB DETAIL

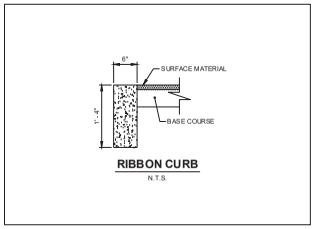
N.T.S.



TYPE "A" CONCRETE CURB AND GUTTER

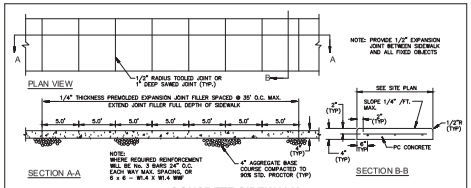
N.T.S.

DTCURBA 12/17/04



RIBBON CURB

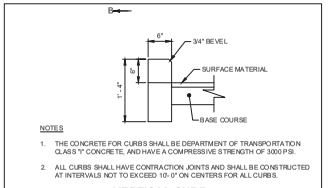
N.T.S.



CONCRETE SIDEWALK

N.T.S.

DTWALKPC 12/17/04

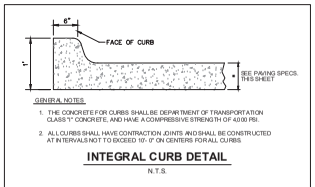


NOTES

1. THE CONCRETE FOR CURBS SHALL BE DEPARTMENT OF TRANSPORTATION CLASS "I" CONCRETE, AND HAVE A COMPRESSIVE STRENGTH OF 3000 P.S.I.
2. ALL CURBS SHALL HAVE CONTRACTION JOINTS AND SHALL BE CONSTRUCTED AT INTERVALS NOT TO EXCEED 10'- 0" ON CENTERS FOR ALL CURBS.

VERTICAL CURB

N.T.S.

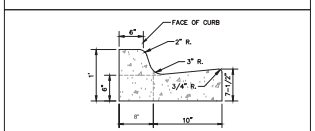


GENERAL NOTES:

1. THE CONCRETE FOR CURBS SHALL BE DEPARTMENT OF TRANSPORTATION CLASS "I" CONCRETE, AND HAVE A COMPRESSIVE STRENGTH OF 4,000 PSI.
2. ALL CURBS SHALL HAVE CONTRACTION JOINTS AND SHALL BE CONSTRUCTED AT INTERVALS NOT TO EXCEED 10'- 0" ON CENTERS FOR ALL CURBS.

INTEGRAL CURB DETAIL

N.T.S.

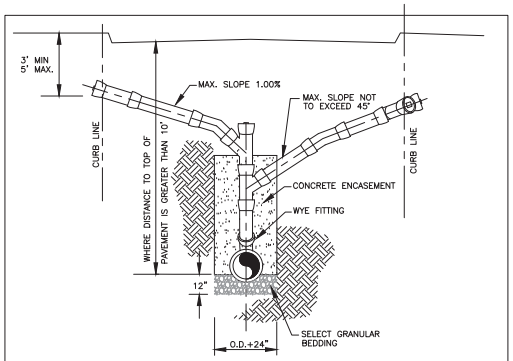


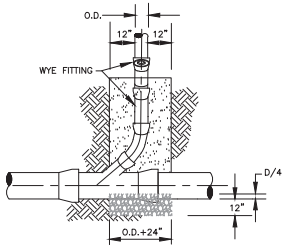
GENERAL NOTES:

1. THE CONCRETE FOR CURBS SHALL BE DEPARTMENT OF TRANSPORTATION CLASS "I" CONCRETE, AND HAVE A COMPRESSIVE STRENGTH OF 3,000 PSI.
2. ALL CURBS SHALL HAVE CONTRACTION JOINTS AND SHALL BE CONSTRUCTED AT INTERVALS NOT TO EXCEED 10'-0" ON CENTERS FOR ALL CURBS.

STANDARD CONCRETE CURB AND GUTTER DETAIL

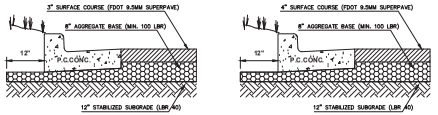
N.T.S.





SANITARY SERVICE CHIMNEY CONNECTION

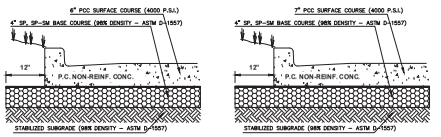
CHM-CONN.DWG



STANDARD DUTY ASPHALT PAVING

HEAVY DUTY ASPHALT PAVING

ASPHALT PAVING



STANDARD DUTY CONCRETE PAVING

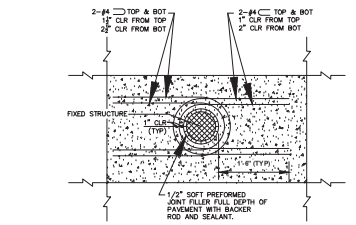
HEAVY DUTY CONCRETE PAVING

PC CONCRETE PAVING

PAVING DETAILS

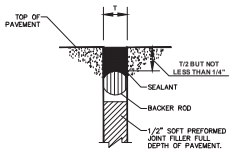
N.T.S.

DTPAVING 12/04/08

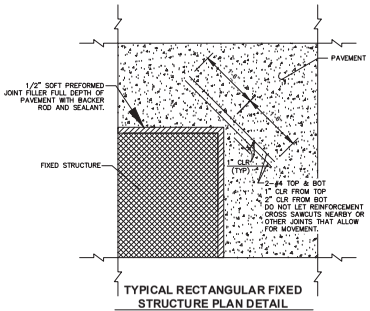


TYPICAL ROUND FIXED STRUCTURE PLAN DETAIL

USES: MANHOLES, LIGHT POLE BASES AND BOLLARDS

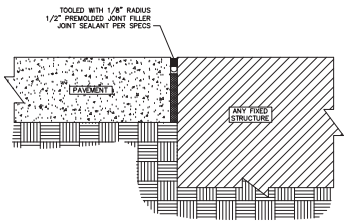


BACKER ROD AND SEALANT SECTION AT FIXED STRUCTURE



TYPICAL RECTANGULAR FIXED STRUCTURE PLAN DETAIL

USES: BUILDINGS, RETAINING WALLS/DOCK WALLS AND DROP INLETS



ISOLATION JOINT

NOTES:

ISOLATION JOINT TO BE USED FOR FIXED STRUCTURES SUCH AS BUILDINGS, RETAINING WALLS/DOCK WALLS, DROP INLETS, MANHOLES, LIGHT POLE BASES AND BOLLARDS.

PAVEMENT IS NOT CONSIDERED A FIXED STRUCTURE.

ISOLATION JOINT DETAILS

N.T.S.

DTISOJNT 12-04-08

cph
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Building Better Communities Together

Plans Prepared By:
CPH, LLC
A Full Service A & E Firm

MATTHEW S. D'ANGELO LICENSE No. 91885 STATE OF FLORIDA PROFESSIONAL ENGINEER

No.	Date	Revision

Designed: ##
Drawn: ##
Checked: ##
Job No.: UT-XXXX-XX
Date: 12/05/2025 © 2025

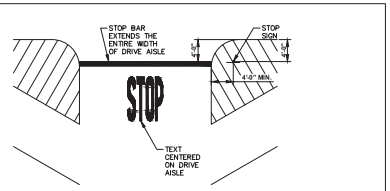
PARKING PAVEMENT DETAILS

Walmart
STORE NO. 967-1011 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

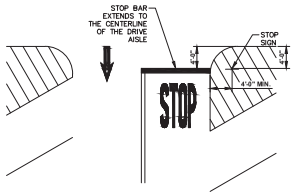
THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

Sheet No.
C5.2

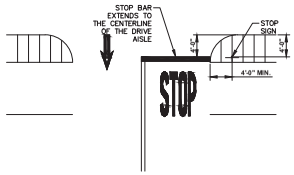
Reviewed
24-00085
James A. Meyer
1/15/2026



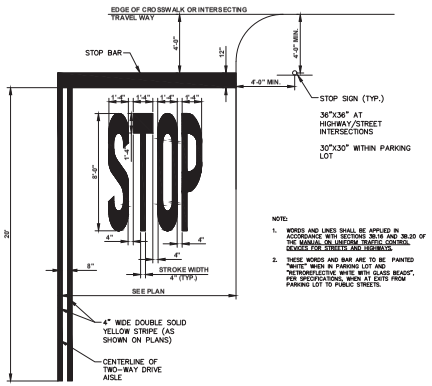
60° PARKING – ONE–WAY DRIVE AISLE



60° PARKING – TWO–WAY DRIVE AISLE



90° PARKING

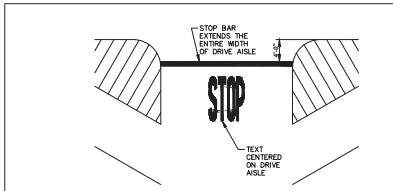


NOTE:
1. WORDS AND LINES SHALL BE APPLIED IN ACCORDANCE WITH SECTIONS 3B.16 AND 3B.20 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
2. THESE WORDS AND BAR ARE TO BE PAINTED "WHITE" WHEN IN PARKING LOT AND "RETROREFLECTIVE WHITE WITH GLASS BEADS", PER SPECIFICATIONS, WHEN AT EXITS FROM PARKING LOT TO PUBLIC STREETS.

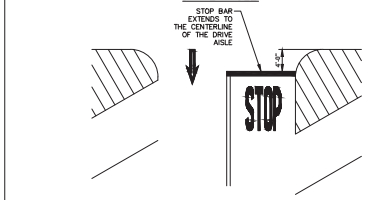
STOP PAVEMENT MARKINGS - PARKING LOT WHERE INTERSECTING DRIVES ARE AT 90° WITH STOP SIGN (AS SHOWN ON PLANS)

N.T.S.

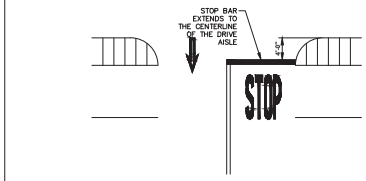
03/16/20



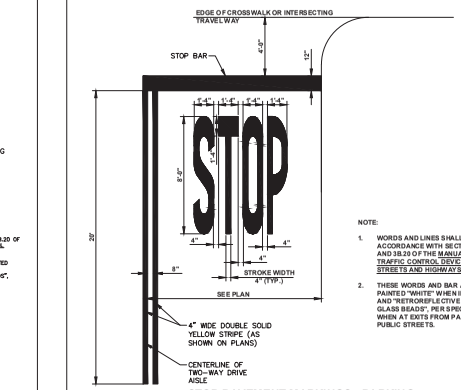
60° PARKING – ONE–WAY DRIVE AISLE



60° PARKING – TWO–WAY DRIVE AISLE



90° PARKING

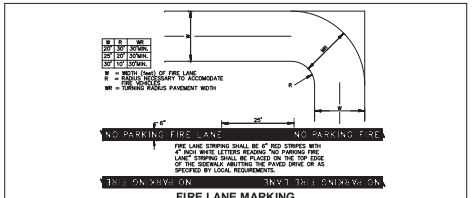


NOTE:
1. WORDS AND LINES SHALL BE APPLIED IN ACCORDANCE WITH SECTIONS 3B.16 AND 3B.20 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
2. THESE WORDS AND BAR ARE TO BE PAINTED "WHITE" WHEN IN PARKING LOT AND "RETROREFLECTIVE WHITE WITH GLASS BEADS", PER SPECIFICATIONS, WHEN AT EXITS FROM PARKING LOT TO PUBLIC STREETS.

STOP PAVEMENT MARKINGS - PARKING LOT WHERE INTERSECTING DRIVES ARE AT 90° WITHOUT STOP SIGN (AS SHOWN ON PLANS)

N.T.S.

03/16/20



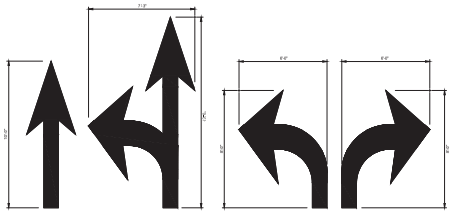
FIRE LANE MARKING

N.T.S.

D:\FIRELN 12/17/04

NOTES:
1. WORDS AND ARROWS SHALL BE APPLIED IN ACCORDANCE WITH SECTION 3B.20 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
2. THESE WORDS ARE TO BE PAINTED "RETROREFLECTIVE WHITE WITH GLASS BEADS", PER SPECIFICATIONS, WHEN AT EXITS FROM PARKING LOT TO PUBLIC STREETS.

"ONLY" PAVEMENT MARKING AS INDICATED ON PLANS

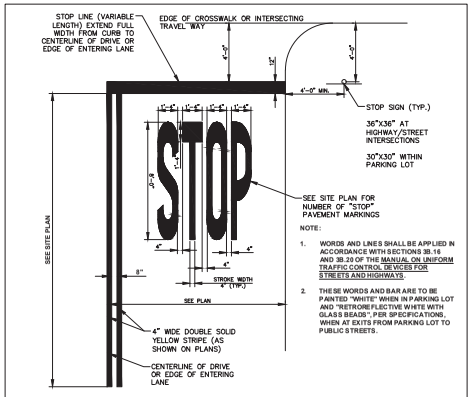


SOLID ARROW MARKINGS AS INDICATED ON PLANS PAINTED "RETROREFLECTIVE WHITE"

SOLID ARROW PAVEMENT MARKINGS

N.T.S.

D:\PB_TURN 04/28/14



NOTE:
1. WORDS AND LINES SHALL BE APPLIED IN ACCORDANCE WITH SECTIONS 3B.16 AND 3B.20 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
2. THESE WORDS AND BAR ARE TO BE PAINTED "WHITE" WHEN IN PARKING LOT AND "RETROREFLECTIVE WHITE WITH GLASS BEADS", PER SPECIFICATIONS, WHEN AT EXITS FROM PARKING LOT TO PUBLIC STREETS.

STOP PAVEMENT MARKINGS – STREETS AND ROADS

N.T.S.

03/16/20

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Building Better Communities Together

Plans Prepared By:
CPH, LLC
A Full Service A & E Firm

MATTHEW S. D'ANGELO
LICENSE
No. 91885
STATE OF FLORIDA
PROFESSIONAL ENGINEER

No.	Date	Revision

Designed: ##
Drawn: ##
Checked: ##
Job No.: UT-XXXX-XX
Date: 12/05/2025 © 2025

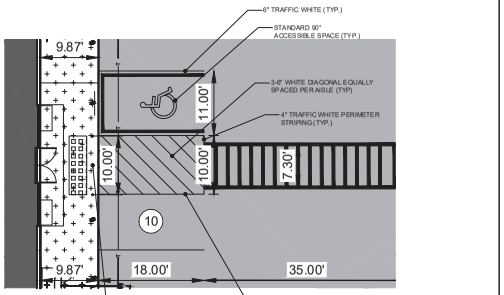
PAVEMENT MARKINGS DETAILS

Walmart
STORE NO. 967-1011 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

Sheet No.
C5.3

Approved
25-0085
James A. Weaver
1/15/2026



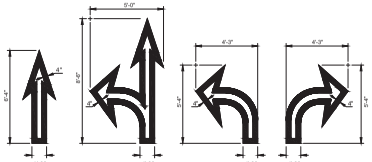
NOTES:
1. SEE SITE PLAN FOR TOTAL LAY OUT.
2. THESE DETAILS ARE FOR REFERENCE AND DIMENSION CONTROL ONLY.
3. ALL DIMENSIONS ARE TO C/L OF STRIPE UNLESS OTHERWISE INDICATED.
4. ALL COLORS AS SHOWN OR SPECIFIED BY LOCAL CODES.
5. ACCESSIBLE SPACE STRIPING SHALL BE CONSTRUCTED PER FDOT INDEX NO. 711-001

90° STRIPING DETAIL

ACCESSIBLE STALLS PARKING STRIPING
N.T.S.

NOTES:
1. WORDS AND ARROWS SHALL BE APPLIED IN ACCORDANCE WITH SECTION 3B.20 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
2. THESE WORDS ARE TO BE PAINTED "WHITE" WHEN IN PARKING LOT.
3. OPEN ARROWS SHALL CONSIST OF A 4" PERIMETER STRIPE.

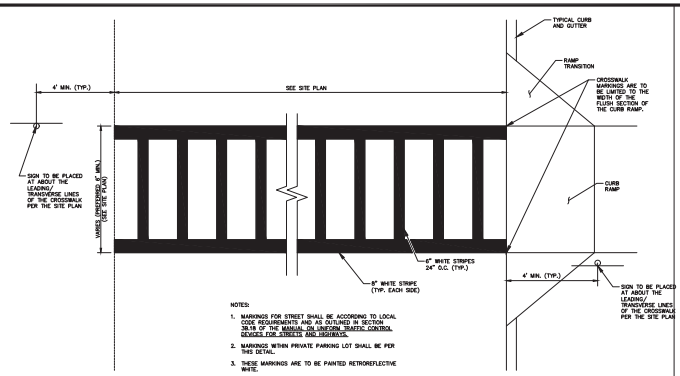
"ONLY" PAVEMENT MARKING
AS INDICATED ON PLANS



OPEN ARROW MARKINGS
AS INDICATED ON PLANS
PAINTED "WHITE"

OPEN ARROW PAVEMENT MARKINGS
N.T.S.

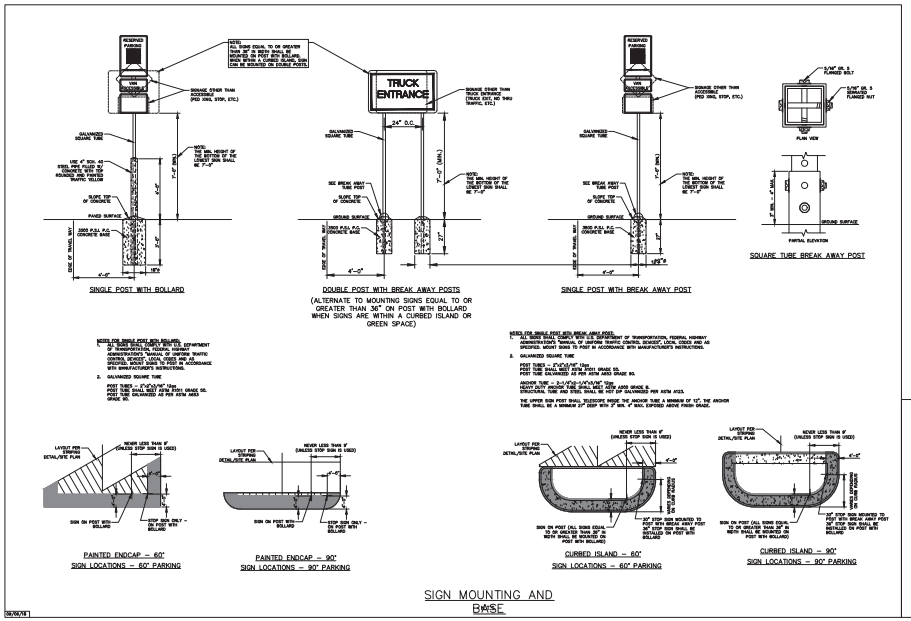
DTR/TURN | 04/28/14



NOTES:
1. MARKINGS FOR STREET SHALL BE ACCORDING TO LOCAL CODE REQUIREMENTS AND AS OUTLINED IN SECTION 3B.18 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
2. MARKINGS WITHIN PRIVATE PARKING LOT SHALL BE PER THIS DETAIL.
3. THESE MARKINGS ARE TO BE PAINTED RETROREFLECTIVE WHITE.

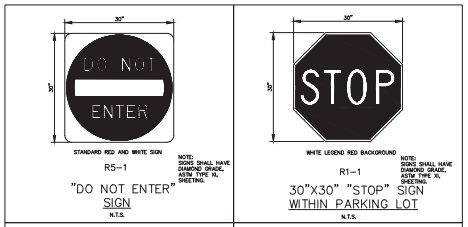
CROSSWALK MARKING W/ LONGITUDINAL STRIPES
N.T.S.

02/15/19



SIGN MOUNTING AND BASE

08/16/18



STANDARD RED AND WHITE SIGN

R5-1

"DO NOT ENTER" SIGN
N.T.S.

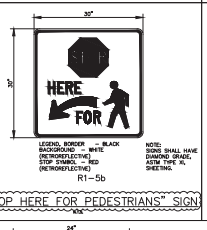
NOTE: SIGNS SHALL HAVE DIAMOND GRADE, ASTM TYPE XI, SHEETING.

WHITE LEGEND RED BACKGROUND

R1-1

30"X30" "STOP" SIGN WITHIN PARKING LOT
N.T.S.

NOTE: SIGNS SHALL HAVE DIAMOND GRADE, ASTM TYPE XI, SHEETING.

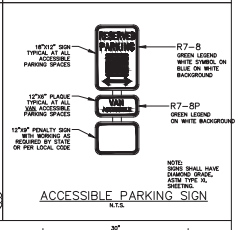


LEGEND, BORDER BACKGROUND = BLACK (RETROREFLECTIVE) = WHITE (RETROREFLECTIVE) STOP SYMBOL = RED (RETROREFLECTIVE)

R1-5b

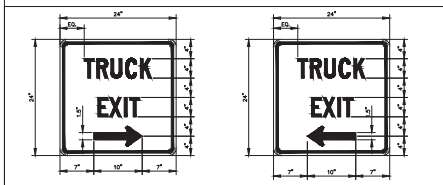
"STOP HERE FOR PEDESTRIANS" SIGN

NOTE: SIGNS SHALL HAVE DIAMOND GRADE, ASTM TYPE XI, SHEETING.



NOTE: SIGNS SHALL HAVE DIAMOND GRADE, ASTM TYPE XI, SHEETING.

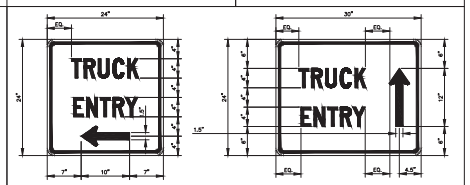
ACCESSIBLE PARKING SIGN
N.T.S.



ALL SIGN LETTERS TO COMPLY WITH STANDARD ALPHABETS FOR HIGHWAY SIGNS (SERIES C 2000)

"NO TRUCK" SIGN (W/ARROW)
N.T.S.

BLACK LEGEND ON WHITE BACKGROUND (TYP.) HORIZONTAL ALIGNMENT (TYP.) VERTICAL ALIGNMENT (TYP.)



"TRUCK ENTRY" SIGN (W/ ARROW)
N.T.S.

ALL SIGN LETTERS TO COMPLY WITH STANDARD ALPHABETS FOR HIGHWAY SIGNS (SERIES C 2000)

BLACK LEGEND ON WHITE BACKGROUND (TYP.) HORIZONTAL ALIGNMENT (TYP.) VERTICAL ALIGNMENT (TYP.)

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MATTHEW S. D'ANGELO LICENSE No. 91885 STATE OF FLORIDA PROFESSIONAL ENGINEER

No.	Date	Revision
1	10/25/2025	Revised per Comments

Designed: ##
Drawn: ##
Checked: ##
Job No.: UT-XXXX-XX
Date: 12/05/2025 © 2025

PAVEMENT MARKINGS DETAILS

Walmart
STORE NO. 967-1011 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

Sheet No.
C5.4

Approved
24-08-00085
James A. Weaver
1/15/2026

DRMP

TRAFFIC IMPACT ANALYSIS

FOR

Walmart Fuel Station

LOCATED

IN

Spring Hill, FL

Prepared For:

CPH Consulting, LLC
500 W Fulton Street
Sanford, FL 32771

FEBRUARY 2026

DRMP Project No. 25325

Prepared By: MW

Reviewed By: GV

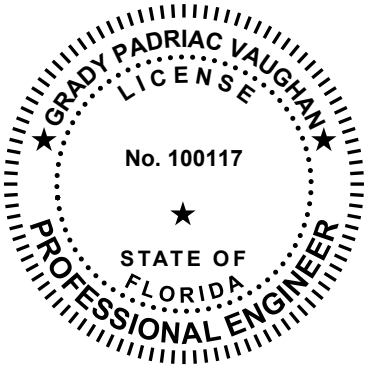
TRAFFIC IMPACT ANALYSIS

FOR

Walmart Fuel Station

LOCATED IN

Spring Hill, FL



Grady P Vaughan 2026.02.02 13:30:30-05'00'

Prepared For:

CPH Consulting, LLC

500 W Fulton Street

Sanford, FL 32771

Prepared By:

DRMP, Inc.

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Appendix A: Scoping Documentation

Appendix B: Traffic Count Data

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Walmart Fuel Station

Tampa, Florida

1. Introduction

The contents of this report present the findings of the Traffic Impact analysis (TIA) that was performed for the proposed Walmart Fuel Station development in accordance with the Florida Department of Transportation (FDOT) and Hernando County (County) Traffic Impact Analysis Guidelines. The proposed development is to be located at the existing Walmart Supercenter located at 1485 Commercial Way in Spring Hill, Florida. The purpose of this study is to determine the potential impacts to the surrounding transportation system created by traffic generated by the proposed development, as well as recommend improvements to mitigate the impacts.

The proposed development, anticipated to be completed by the year 2027, consists of a fuel station that includes twelve (12) vehicle fueling positions (VFP) and a 1,618 square-foot convenience store.

The study analyzes traffic conditions during the weekday AM and PM peak hours for the following scenarios:

- 2025 Existing
- 2027 No-Build
- 2027 Build

1.1. Study Area

The proposed development is to be located at the existing Walmart Supercenter located at 1485 Commercial Way in Spring Hill, Florida. Refer to Figure 1 for the site location map. Refer to Figure 2 for a copy of the preliminary site plan. The study area was determined during scope coordination with the FDOT and County using the methodology in the FDOT guidelines. The submitted scope can be found in Appendix A. Refer to Table 1 for a summary of the existing roadway inventory. Figure 3 illustrates the existing lane configurations at the study intersections.

The study area consists of the following roadway segments:

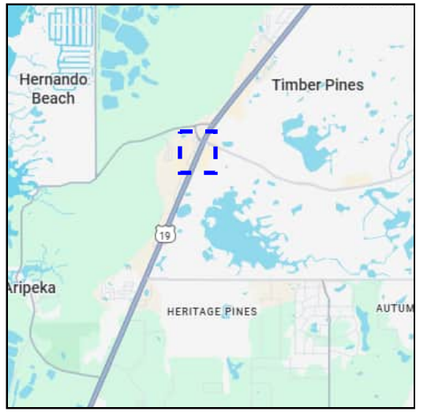
- US 19 (Commercial Way) from Hunters Lake Road to Forest Oaks Boulevard
- Spring Hill Drive from Commercial Way to Mariner Boulevard
- Osowaw Boulevard from Commercial Way to Osowaw Boulevard
- Applegate Drive from Commercial Way to Kenlake Avenue

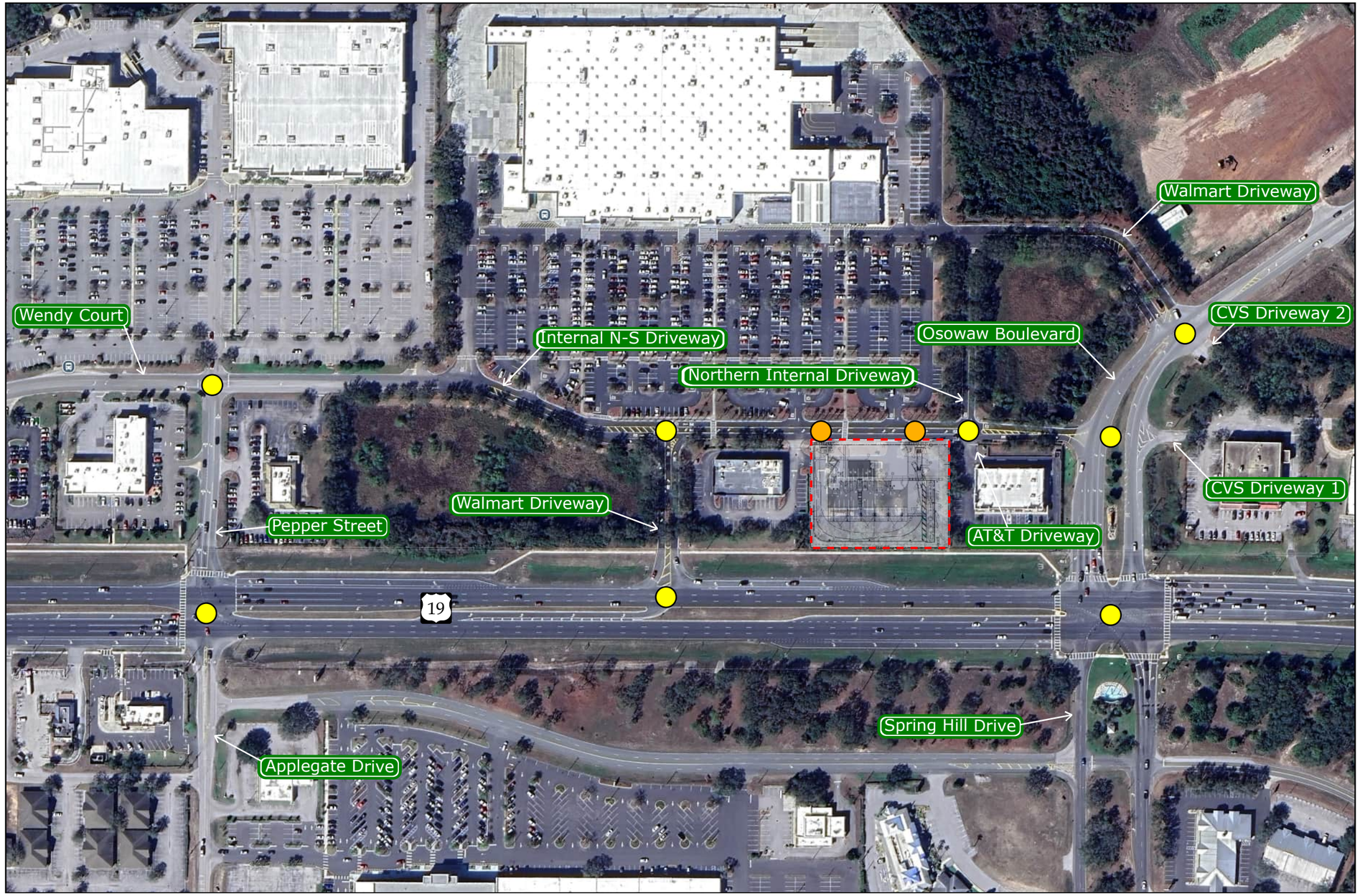
The study area consists of the following intersections:

- US 19 (Commercial Way) and Spring Hill Drive / Osowaw Boulevard (signalized)
- US 19 (Commercial Way) and Walmart Driveway (unsignalized)
- US 19 (Commercial Way) and Applegate Drive / Pepper Street (signalized)
- Pepper Street / Internal Walmart Driveway and Wendy Court / Internal N-S Driveway (unsignalized)
- Internal N-S Driveway and Walmart Driveway (unsignalized)
- Internal N-S Driveway and AT&T Driveway (unsignalized)
- Osowaw Boulevard and Internal N-S Driveway / CVS Driveway 1 (unsignalized)
- Osowaw Boulevard and Walmart Driveway / CVS Driveway 2 (unsignalized)
- Internal N-S Driveway and Proposed Site Drive 1 (unsignalized)
- Internal N-S Driveway and Proposed Site Drive 1 (unsignalized)

Table 1: Existing Roadway Inventory

Road Segment	From	To	2024 AADT (vpd)
US 19 (Commercial Way)	Hunters Lake Road	Forest Oaks Boulevard	43,000
Spring Hill Drive	Commercial Way	Mariner Boulevard	23,000
Osowaw Boulevard	Commercial Way	Osowaw Boulevard	1,200
Applegate Drive	Commercial Way	Kenlake Avenue	2,200





LEGEND

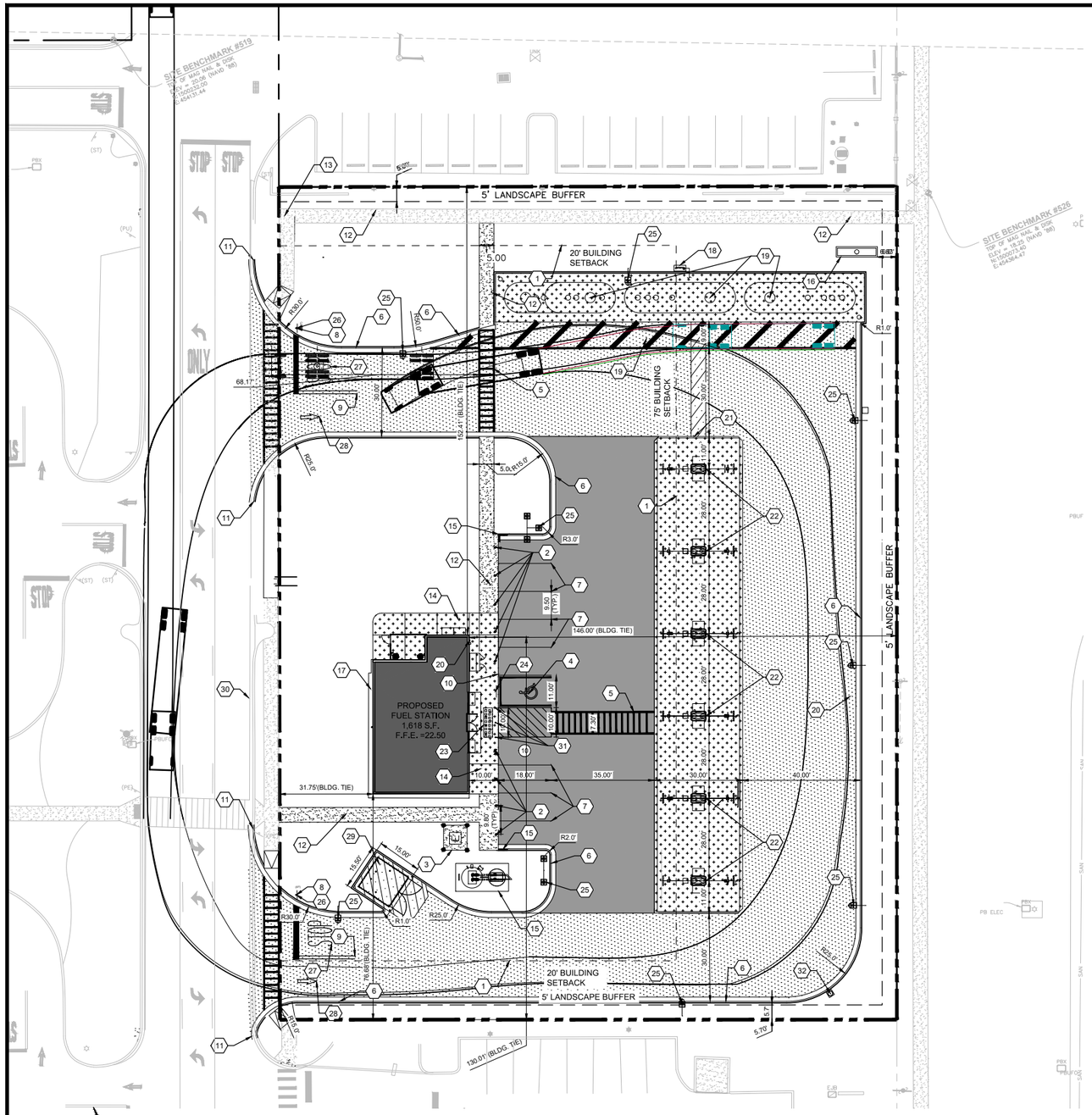
- Study Intersection
- Proposed Site Access
- Study Area

DRMP

Walmart Fuel Station
Spring Hill, FL

Site Location Map

Scale: Not to Scale | Figure 1



NOTE:
ITEMS SHOWN SCREENED REPRESENT EXISTING CONDITIONS. ITEMS SHOWN BOLD REPRESENT PROPOSED CONDITIONS.

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SITE BENCHMARK

#519
TOP OF MAG NAIL & DISK
ELEV = 20.06 (NAVD '88)
N:1500232.00
E:454131.44

#526
TOP OF MAG NAIL & DISK
ELEV = 18.25 (NAVD '88)
N:1500073.50
E:454364.47

SITE LEGEND

1. BUILDING SETBACK LINE PER ZONING RESOLUTION.
2. PIPE BOLLARD, SEE DETAIL SHEET C5.1.
3. CONCRETE TRANSFORMER PAD. SEE DETAIL SHEET C5.7. CONTRACTOR TO COORDINATE INSPECTION WITH UTILITY PROVIDER.
4. ACCESSIBLE PARKING SPACE PER FDOT INDEX NO. 711-001 AND SIGNAGE PER FDOT INDEX NO. 700-102 TYPICAL. SEE DETAIL SHEET.
5. PEDESTRIAN CROSSWALK, SEE PLAN FOR WIDTH, REF. WALMART DETAILS, SHEET C5.4.
6. 24" STANDARD CURB & GUTTER. SEE DETAIL SHEET C5.2.
7. PROPOSED SWSL / 4".
8. NEW SIGN MOUNTING AND BASE WITH BREAK AWAY POST.
9. PROPOSED DYSL / 4", REF. WALMART DETAILS, SHEET C5.3 (LINES TO BE EXTENDED FROM THE CROSSWALK/ STOP BAR).
10. FLUSH PAVEMENT AND SIDEWALK AREA.
11. COORDINATE WITH DEVELOPER'S CONTRACTOR TO CONSTRUCT SMOOTH TRANSITION TO EXISTING CURB AND PAVEMENT.
12. PROPOSED CONCRETE SIDEWALK, 5% MAX. LONGITUDINAL SLOPE, 2% MAX. CROSS SLOPE.
13. PROPOSED ACCESSIBLE CURB RAMP 1:12 MAX. SLOPE WITH 2' DEEP DETECTABLE WARNINGS, PER FDOT INDEX 522-002.
14. CONCRETE SIDEWALK, SEE ARCH. PLAN FOR SPECIFICATION AND DETAILS.
15. PROPOSED LIFT STATION ENCLOSURE, SEE ARCH PLANS FOR DETAILS.
16. PROPOSED MONUMENT SIGN LOCATION, BY OTHERS.
17. PROPOSED CONCRETE RODENT BARRIER, SEE ARCH PLANS FOR DETAILS.
18. PROPOSED TANK VENT SYSTEM, REF. FUEL PLANS FOR DETAILS.
19. PROPOSED UNDERGROUND FUEL STORAGE TANKS, REF. FUEL PLANS FOR DETAILS.
20. PROPOSED E-STOP, REF. ARCH. PLANS FOR DETAILS.
21. PROPOSED GAS CANOPY, REF. ARCH. PLANS FOR DETAILS.
22. PROPOSED FUEL DISPENSER (TYP.), REF. FUEL PLANS FOR DETAILS.
23. PROPOSED TACTILE WARNING, REF. ARCH PLANS.
24. NEW SIGN MOUNTING AND BASE WITH BOLLARD, SEE DETAIL SHEET C5.1.
25. PROPOSED SITE LIGHTING POLE (TYP.), REF. PHOTOMETRIC PLANS.
26. PROPOSED "STOP" SIGN
27. PROPOSED STOP TEXT AND STOP BAR, REF. WALMART DETAILS, SHEET C5.3.
28. PROPOSED OPEN ARROW PAVEMENT MARKINGS, REF. WALMART DETAILS, SHEET C5.3.
29. PROPOSED DUMPSTER ENCLOSURE.REF. ARCH PLANS FOR DETAILS
30. PROPOSED 24" CONCRETE GUTTER. SEE DETAIL SHEET C5.2.
31. PROPOSED ARCHITECTURAL BOLLARDS, REF. ARCH PLANS FOR DETAILS.
32. PROPOSED AIR STATION, REF. ARCH PLANS FOR DETAILS

SITE NOTES:

1. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL CITY/COUNTY REGULATIONS AND CODES AND O.S.H.A. STANDARDS.
2. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULES, SLOPE PAVING, SIDEWALKS, EXIT PORCHES, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
3. ALL DISTURBED AREAS ARE THE RECEIVE FOUR INCHES OF TOPSOIL, SEED, MULCH AND WATER UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED.
4. ALL CURBED RADII ARE TO BE 10' UNLESS OTHERWISE NOTED. STRIPED RADII ARE TO BE 5'
5. ALL DIMENSIONS AND RADII ARE TO BE FACE OF CURB UNLESS OTHERWISE NOTED.
6. EXISTING STRUCTURES WITHIN CONSTRUCTION LIMITS ARE TO BE ABANDONED, REMOVED OR RELOCATED AS NECESSARY. ALL COST SHALL BE INCLUDED IN BASE BID.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, (UNLESS OTHERWISE NOTED ON PLANS) INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, TRAFFIC SIGNALS & POLES, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES REQUIREMENTS AND PROJECT SITE WORK SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COST SHALL BE INCLUDED IN BASE BID.
8. SITE BOUNDARY, TOPOGRAPHY, UTILITY AND ROAD INFORMATION TAKEN FROM A SURVEY PREPARED BY CPH, CORP.
9. TOTAL LAND AREA IS 1.36± ACRES.
10. THE SITE WORK FOR THIS PROJECT SHALL MEET OR EXCEED "THE SITE SPECIFIC SPECIFICATIONS".
11. PYLON SIGNS SHALL BE CONSTRUCTED BY OTHERS.
12. REFER TO ARCH. PLANS FOR SITE LIGHTING.
13. ALL WM GENERAL CONTRACTOR WORK TO BE COMPLETED (EARTHWORK, FINAL UTILITIES, AND FINAL GRADING) BY THE MILESTONE DATE IN PROJECT DOCUMENTS. OUTLOT AREA TO BE KEPT FREE OF JOB TRAILERS AND STORAGE AFTER THE CONTRACT MILESTONE DATE FOR THE OUTLET. WM GENERAL CONTRACTOR TO PROVIDE CLEAR ACCESS FOR OUTLOT CONTRACTOR TO THE SPECIFIC PARCEL AT ALL TIMES AFTER MILESTONE DATE. PURCHASER OF OUTLOT TO PROVIDE PERMIT DOCUMENTS AND SWPPP REQUIRED BY STATE/LOCAL REQUIREMENTS FOR SPECIFIC OUTLOT.

SIGN LEGEND

(HC)	ACCESSIBLE PARKING (FTP-21-06 & FTP-22-06)
(ST)	STOP (R1-1)
(PE)	STOP HERE FOR PEDESTRIANS (SEE DETAIL SHEET)

PROPOSED LEGEND

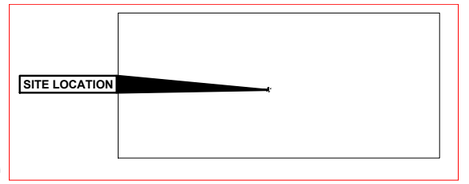
	PROPERTY LINE
	PROPOSED BUFFER LINE
	LANDSCAPE BUFFER LINE
	BUILDING SETBACK LINE

PAINTING STRIPING LEGEND

SWSL	SINGLE WHITE SOLID LINE
DYSL	DOUBLE YELLOW SOLID LINE

PROPOSED PAVEMENT LEGEND

	CONCRETE SIDEWALK: REF. DETAIL SHEET
	ARCHITECTURAL CONCRETE, SEE ARCH. PLANS
	STANDARD DUTY CONCRETE: REF DETAIL SHEET
	HEAVY DUTY CONCRETE: PER DETAIL SHEET
	STANDARD DUTY ASPHALT PAVEMENT: REF. DETAIL SHEET
	HEAVY DUTY ASPHALT PAVEMENT: REF. DETAIL SHEET
(10)	PARKING SPACE COUNT
	SITE LIGHTING, REF. PHOTOMETRIC PLANS
	TRANSFORMER



SITE DATA INFORMATION:

SITE PARCEL NUMBERS:

PARCEL NO. R29 223 17 2608 0000 0020 1867 COMMERCIAL WAY, 59,420 S.F.(1.36 AC.)

SECTION – 29 / TOWNSHIP – 23 S / RANGE – 17 E

ON–SITE LAND INFORMATION:

CURRENT LAND USE:	VACANT LAND
PROPOSED LAND USE:	FUEL STATION
CURRENT ZONING:	PDP(GC) WITH C2 USE– PLANNED DEVELOPMENT PROJECT
PROPOSED ZONING:	PDP(GC) WITH C2 USE– PLANNED DEVELOPMENT PROJECT
AREA OF PROPOSED IMPROVEMENTS:	59,420 S.F. (1.36 AC.)
DEVELOPMENT TYPE:	GENERAL COMMERCIAL

ADJACENT LAND INFORMATION:

	NORTH	EAST	SOUTH	WEST
EXISTING LAND USE	XXX	XXX	XXX	XXX
FUTURE LAND USE	XXX	XXX	XXX	XXX
EXISTING ZONING	XXX	XXX	XXX	XXX
PROPOSED ZONING	XXX	XXX	XXX	XXX

FLOOD ZONE INFORMATION:

HAVING CONSULTED THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP (FIRM) NUMBER 12053C0284E, COMMUNITY PANEL NO. 120110, HERNANDO COUNTY UNICORPORATED AREAS, EFFECTIVE DATE JANUARY 15, 2021, THE SUBJECT PROPERTY APPEARS TO LIE IN ZONE X, THE FLOOD ZONE "X"HAS A 0.2% ANNUAL CHANCE FLOOD HAZARD, AREAS WITH A 1% ANNUAL CHANCE FLOOD W/ AVERAGE DEPTH LESS THAN 1 FOOT – MINIMAL FLOOD HAZARD

BUILDING INFORMATION:

BUILDING AREA:	1,618± S.F.
BUILDING USE:	FUEL STATION + CONVENIENCE STORE
MAXIMUM BUILDING HEIGHT (COUNTY CODE):	35'
ACTUAL BUILDING HEIGHT (ONE STORY):	19'–0"
CANOPY HEIGHT	17'–8"
MAXIMUM FLOOR AREA RATIO (FAR) (COUNTY CODE):	0.75
MAXIMUM FLOOR AREA RATIO (FAR) PROVIDED:	2.72%

PERVIOUS / IMPERVIOUS AREAS:

PRE DEVELOPMENT:			
PERVIOUS AREA:	18,020 S.F.	(0.41 AC.)	(30.32%)
IMPERVIOUS AREA:	41,400 S.F.	(0.95 AC.)	(69.68%)
TOTAL SITE AREA:	59,420 S.F.	(1.36 AC.)	(100.00%)
POST DEVELOPMENT:			
PERVIOUS AREA:	21,810 S.F.	(0.50 AC.)	(36.70%)
IMPERVIOUS AREA:	37,610 S.F.	(0.86 AC.)	(63.30%)
TOTAL SITE AREA:	59,420 S.F.	(1.36 AC.)	(100.00%)

PARKING INFORMATION:

PARKING REQUIRED:

USE TYPE: GAS STATION + CONVENIENCE STORE
1 SPACES PER 4 PUMPS + 5/1,000 SF CONVENIENCE STORE AREA
(6 PUMPS / 4) + (5 x 1.618) = 10 SPACES REQUIRED.

PARKING SPACES PROVIDED = 10 (INC. 1 ADA SPACE AND 1 TRUCKING LOADING ZONE)

PARKING RATIO PROVIDED = 6 SPACES PER 1,000 SF

BLDG. SETBACKS AND LANDSCAPE BUFFERS:

PRINCIPLE BLDG. SETBACKS:	N	E	S	W
REQUIRED:	20'(MIN)	75'(MIN)	20'(MIN)	XX'(MIN)
PROVIDED :	152.41'	146.00'	76.68'	31.75'

ACCESSORY STRUCTURE (DUMPSTER) SETBACK:	N	E	S	W
REQUIRED:	X'	X'	X'	X'
PROVIDED :	225.3'	164.2'	36.6'	24.3'

SIGNAGE SETBACK:	N	E	S	W
REQUIRED:	X'	X'	X'	X'
PROVIDED :	XXX.XX'	XXX.XX'	XX.XX'	X.XX'

LANDSCAPE BUFFERS:	N	E	S	W
REQUIRED:	5'	5'	5'	XX'(MIN)
PROVIDED :	5.00'	6.63'	5.70'	X.XX'

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MATTHEW S. D'ANGELO LICENSE No. 91885 STATE OF FLORIDA PROFESSIONAL ENGINEER

Matthew D'Angelo, State of Florida, Professional Engineer, License No. 91885. This item has been digitally signed and sealed by 91885 on the date indicated here. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies

No.	Date	Revision
#	#	#
#	#	#

Designed: ##
Drawn: ##
Checked: ##
Job No.: UT-XXXX-XX
Date: 12/29/2025 © 2026

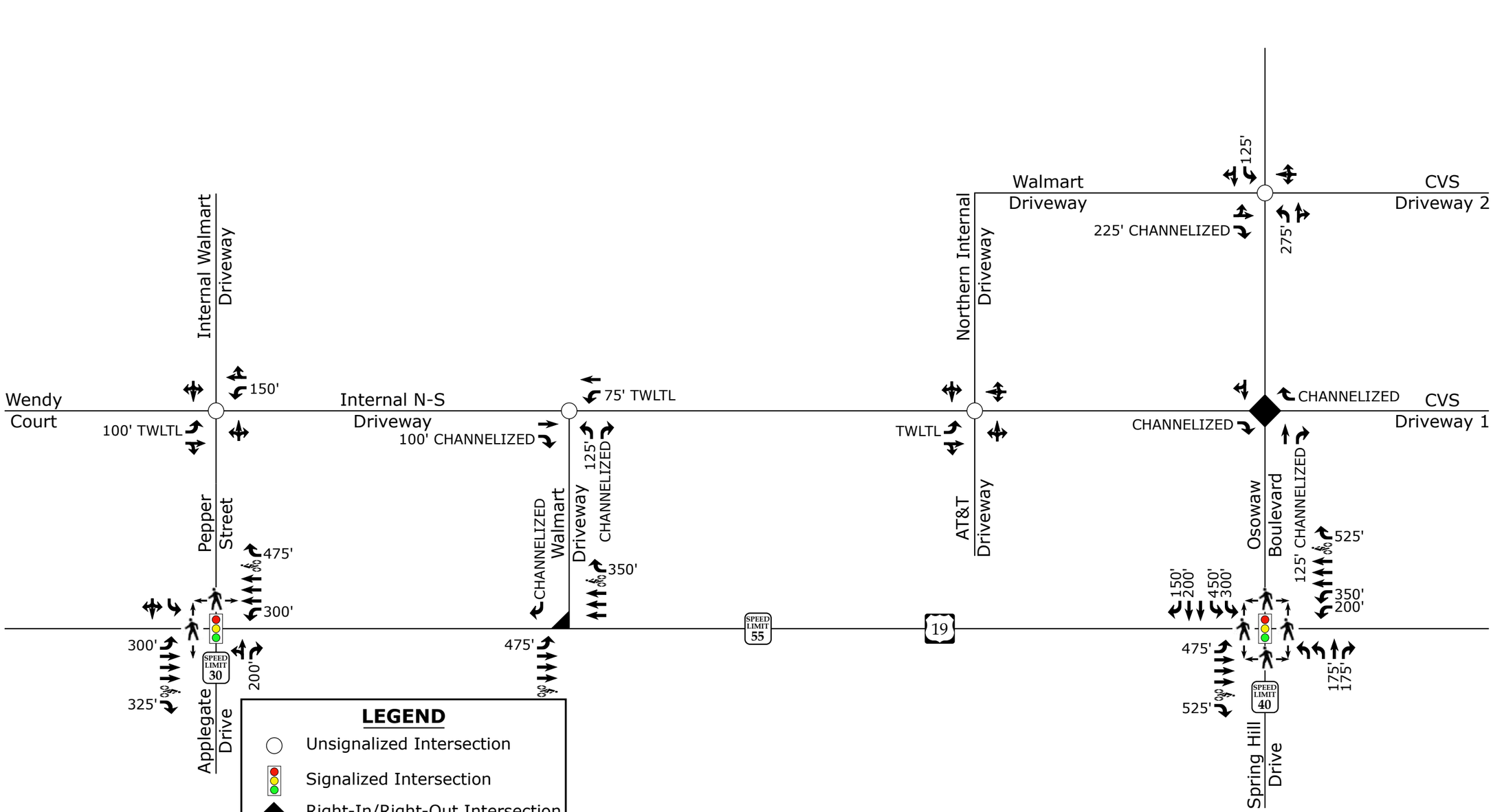
SITE DIMENSION PLAN

Walmart

STORE NO. 967-1011 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

Sheet No.
C1.2



DRMP

Walmart Fuel Station
Spring Hill, FL

2025 Existing Lane Configurations

Scale: Not to Scale | Figure 3

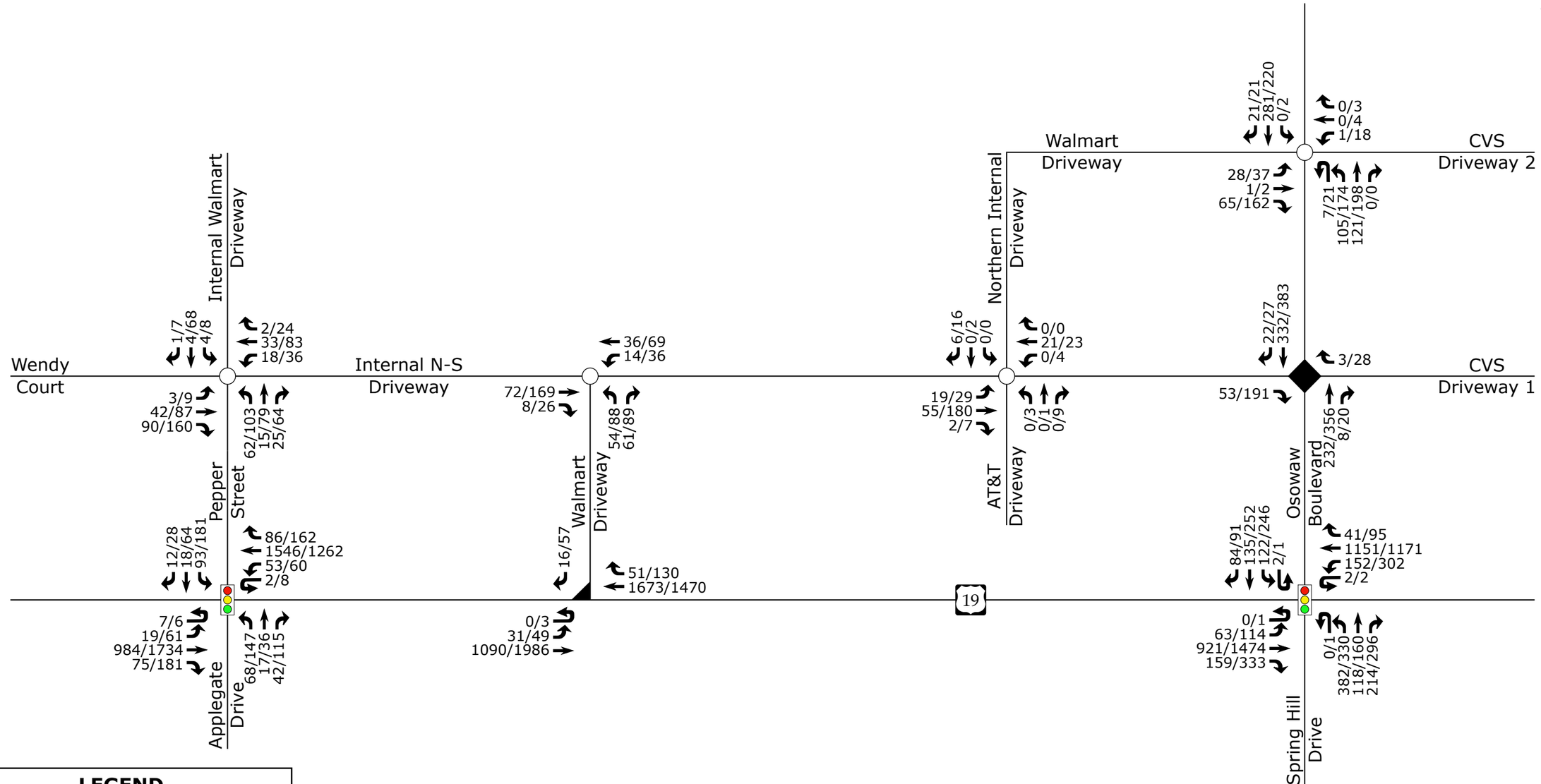
2. 2025 EXISTING PEAK HOUR CONDITIONS

2.1. 2025 Existing Peak Hour Traffic Volumes

Existing peak hour traffic volumes were determined based on traffic counts conducted at the study intersections November of 2025 during typical weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak periods. Weekday AM and PM traffic volumes were balanced between study intersections, where appropriate. Refer to Figure 4 for 2025 existing weekday AM and PM peak hour traffic volumes. A copy of the count data is located in Appendix B of this report.

2.2. 2025 Existing Peak Hour Traffic Analysis

The 2025 existing weekday AM and PM peak hour traffic volumes were analyzed to determine the current levels of service at the study intersections under existing roadway conditions. Signal information was obtained and is included in Appendix C. The results of the analysis are presented in Section 7 of this report.



LEGEND

- Unsignalized Intersection
- Signalized Intersection
- Right-In/Right-Out Intersection
- Left-Over Intersection
- X / Y → Weekday AM / PM Peak Hour Traffic

DRMP

Walmart Fuel Station
Spring Hill, FL

2025 Existing
Peak Hour Traffic

Scale: Not to Scale | Figure 4

3. 2027 NO-BUILD PEAK HOUR CONDITIONS

In order to account for growth of traffic and subsequent traffic conditions at a future year, no-build traffic projections are needed. No-build traffic is the component of traffic due to the growth of the community and surrounding area that is anticipated to occur regardless of whether or not the proposed development is constructed. No-build traffic is comprised of existing traffic growth within the study area and additional traffic created as a result of adjacent approved developments.

3.1. Ambient Traffic Growth

Through coordination with the FDOT and County, it was determined that an annual growth rate of 1.5% would be used to generate 2027 projected weekday AM and PM peak hour traffic volumes.

3.2. Adjacent Development Traffic

Based on coordination with the FDOT and County, it was determined there were no adjacent developments to consider with this study.

3.3. Future Roadway Improvements

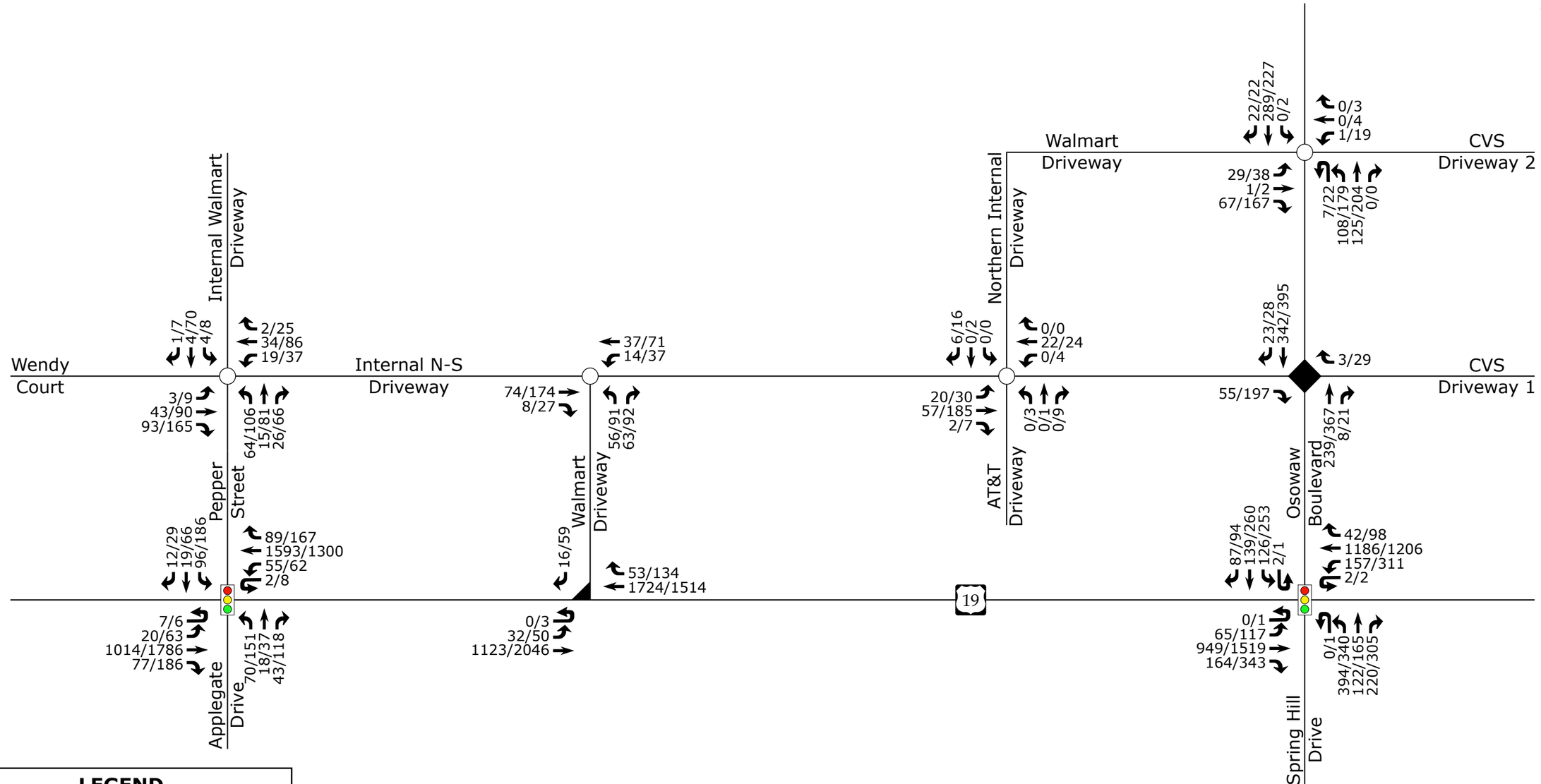
Through coordination with the FDOT and County, it was determined there were no future roadway improvements to consider with this study.

3.4. 2027 No-Build Peak Hour Traffic Volumes

The 2027 no-build traffic volumes were determined by projecting the 2025 existing peak hour traffic to the year 2027. Refer to Figure 5 for an illustration of the 2027 no-build peak hour traffic volumes at the study intersections.

3.5. 2027 No-Build Peak Hour Traffic Analysis

The 2027 no-build AM and PM peak hour traffic volumes at the study intersections were analyzed with no changes to the existing geometric roadway conditions. The analysis results are presented in Section 7 of this report.



LEGEND

- Unsignalized Intersection
- Signalized Intersection
- Right-In/Right-Out Intersection
- Left-Over Intersection
- X / Y → Weekday AM / PM Peak Hour Traffic

Note: Based on NCDOT Congestion Management guidelines, a volume of 4 vehicles per hour (vph) was analyzed for any movement with less than 4 vph.

DRMP

Walmart Fuel Station
Spring Hill, FL

2027 No-Build
Peak Hour Traffic

Scale: Not to Scale | Figure 5

4. SITE TRIP GENERATION AND DISTRIBUTION

4.1. Trip Generation

Trip estimates for the proposed fuel station were were estimated using methodology contained within the ITE Trip Generation Manual, 12th Edition. Additionally, pass-by trip reductions were applied based on ITE Land Use Code 944 (Gasoline/Service Station with Convenience Market). These pass-by percentages were used to account for vehicles already traveling along US 19 (Commercial Way) and Osowaw Boulevard that would briefly enter the site before continuing to their destination. Based on the location of the proposed gas station and the proximity to the existing Wal-Mart store, it is anticipated that some internal capture trips between the two uses will occur throughout the day. To be conservative, it was determined during scoping that internal capture trips would not be considered. The actual external trip generation of the proposed gas station may therefore be lower than analyzed in this study. Table 2 provides a summary of the trip generation potential for the site.

Table 2: Trip Generation Summary

Land Use	Intensity	Daily Traffic AADT (vpd)*	Weekday AM Peak Hour Trips (vph)			Weekday PM Peak Hour Trips (vph)		
			Enter	Exit	Total	Enter	Exit	Total
Fuel Station (944)	12 VFP	2,064	71	71	142	91	91	182
Pass-By Trips - From LUC 944 (58% AM, 42% PM)		*-1,072*	*-41*	*-41*	*-82*	*-38*	*-38*	*-76*
Total Primary Trips		**992**	**30**	**30**	**60**	**53**	**53**	**106**

4.2. Site Trip Distribution and Assignment

Site trips were distributed based on 2024 AADT data from the 2024 FDOT. Figure 8 illustrates the trip distribution percentages.

It is estimated that the site trips will be regionally distributed as follows:

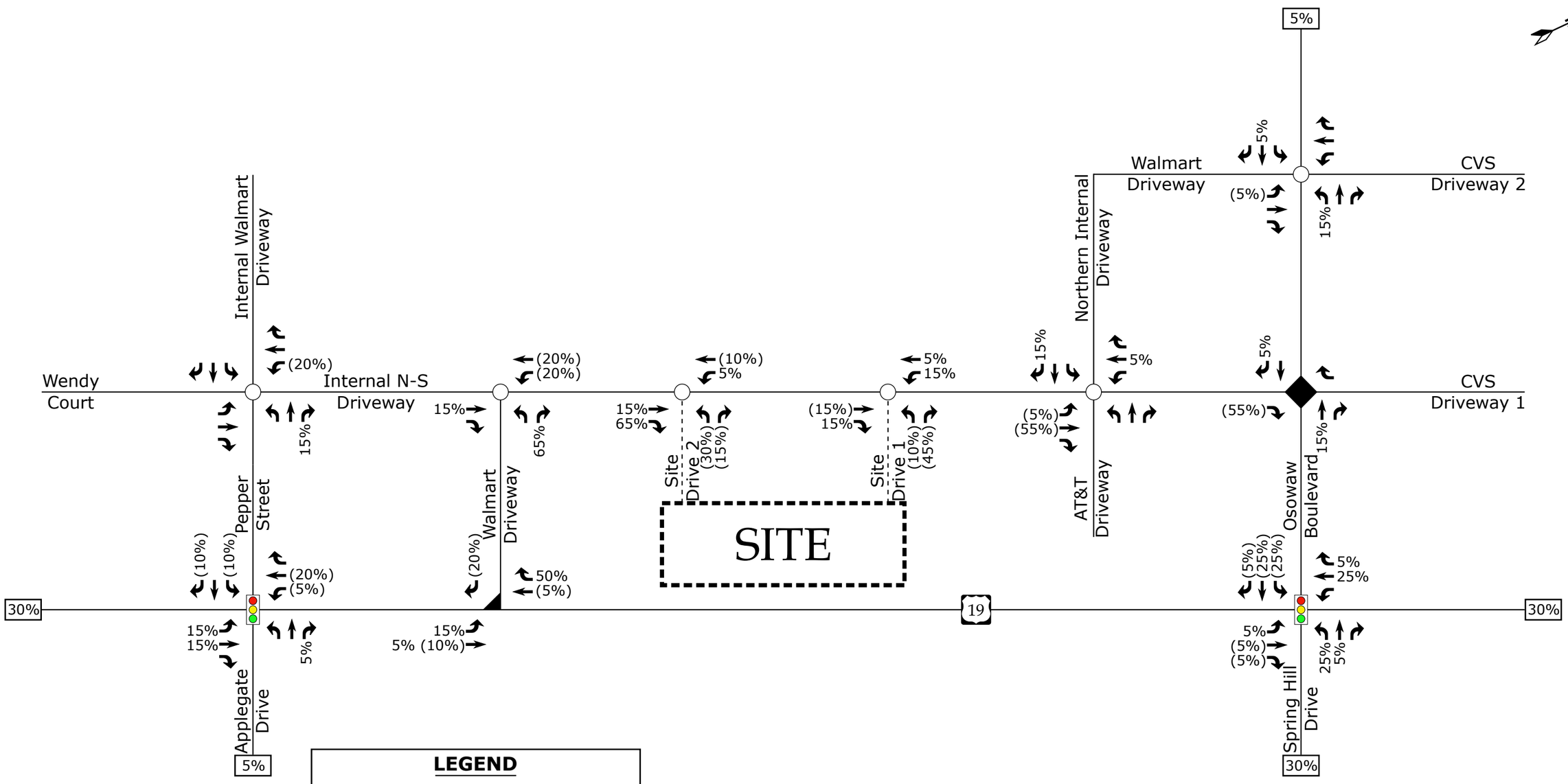
- 30% to/from the east via US 19
- 30% to/from the west via US 19
- 30% to/from the south via Spring Hill Drive

- 5% to/from the south via Applegate Drive
- 5% to/from the north via Osowaw Boulevard

The site trip distribution is shown in Figure 6. Refer to Figure 7 for the site trip assignment.

The pass-by site trips were distributed based on existing traffic patterns with consideration given to the proposed driveway access and site layout. Refer to Figure 8 for the pass-by site trip distribution. Pass-by site trips are shown in Figure 9.

The total site trips were determined by adding the primary site trips and the pass-by site trips. Refer to Figure 10 for the total peak hour site trips at the study intersections.



LEGEND

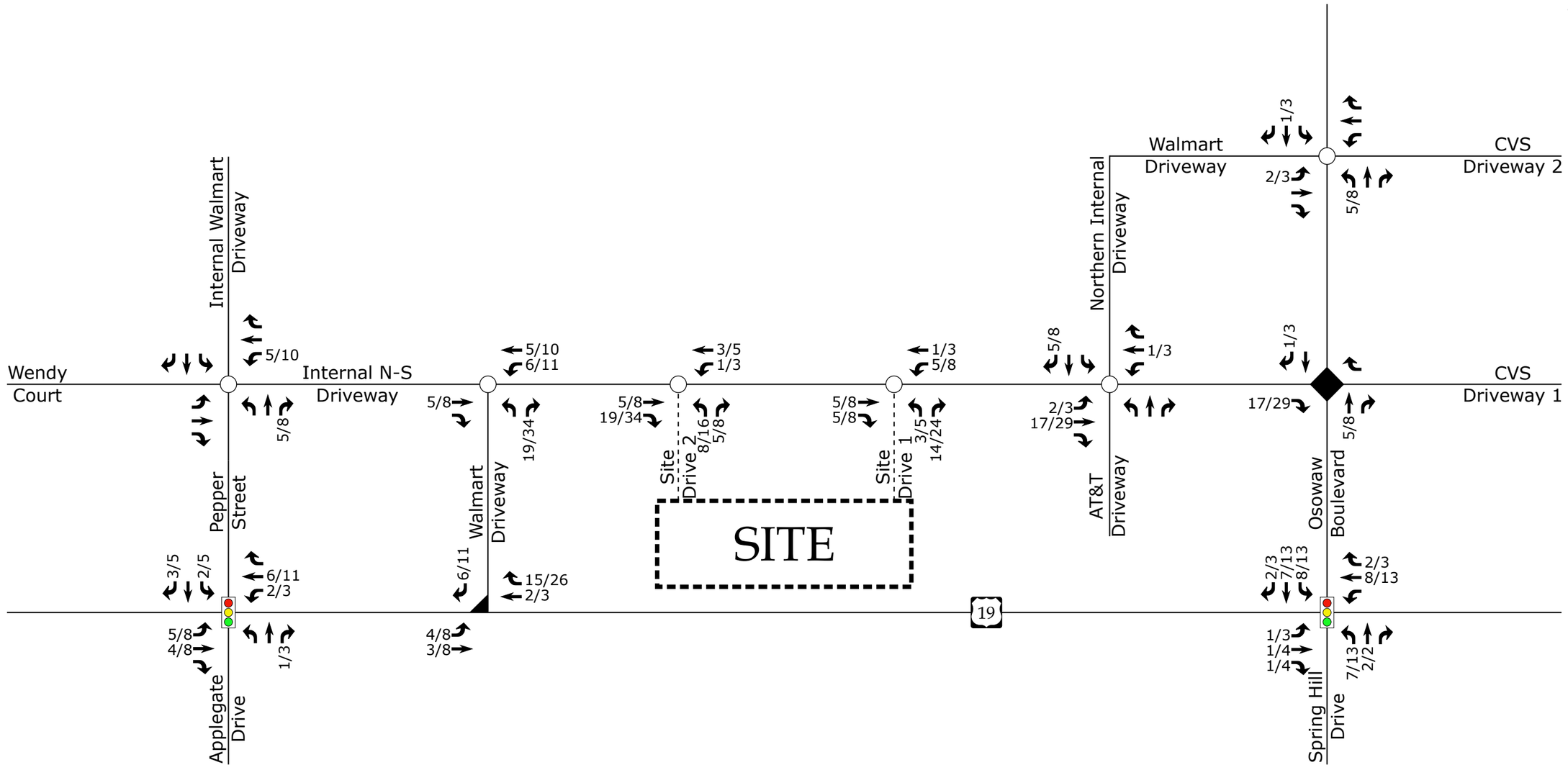
- Unsignalized Intersection
- Signalized Intersection
- Right-In/Right-Out Intersection
- Left-Over Intersection
- X% → Entering Trip Distribution
- (Y%) → Exiting Trip Distribution
- XX% Regional Trip Distribution

DRMP

Walmart Fuel Station
Spring Hill, FL

Site Trip Distribution

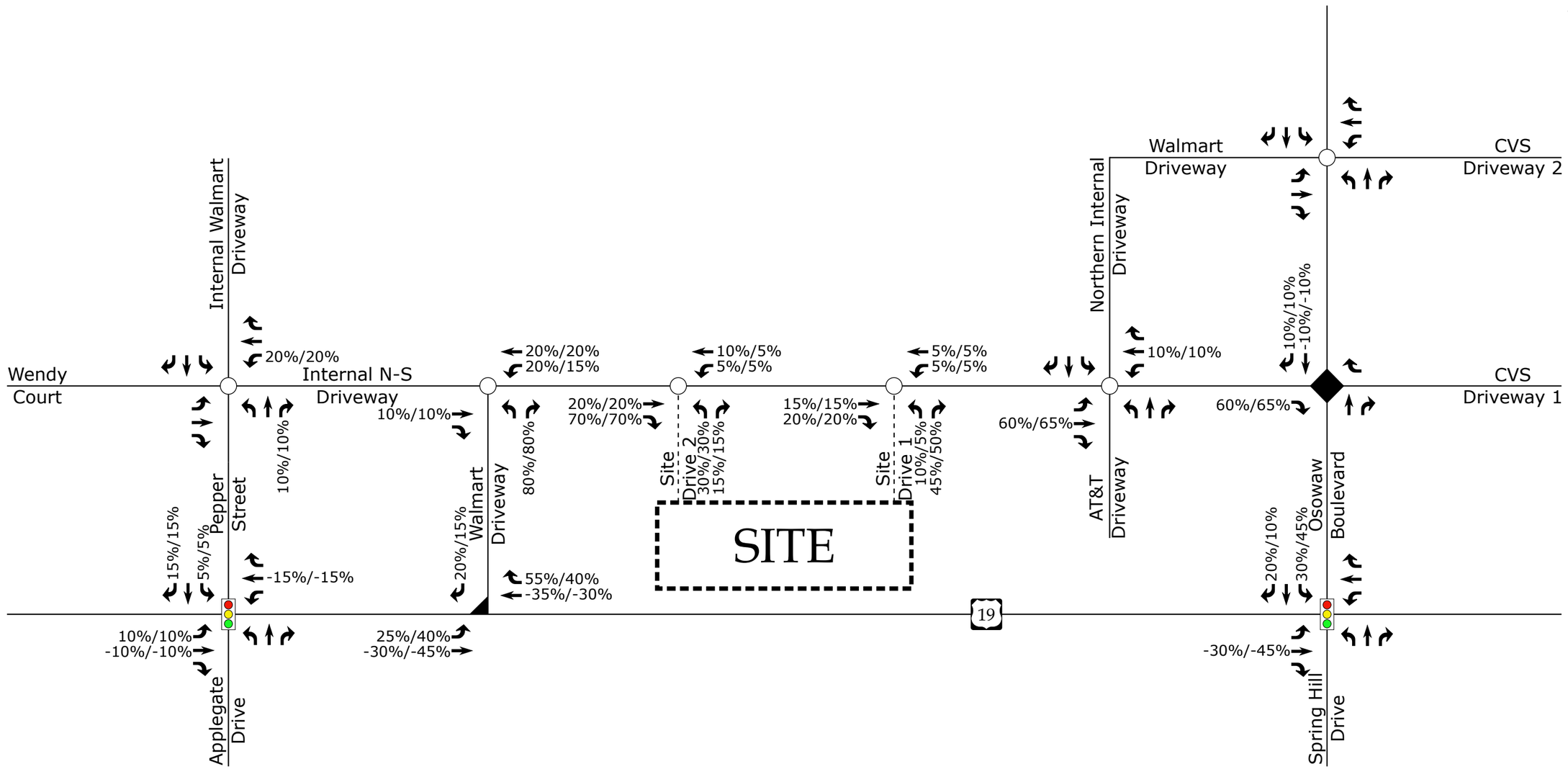
Scale: Not to Scale | Figure 6



LEGEND

- Unsignalized Intersection
- Signalized Intersection
- Right-In/Right-Out Intersection
- Left-Over Intersection
- X / Y → Weekday AM / PM Peak Hour Site Trips

DRMP	Walmart Fuel Station Spring Hill, FL	Site Trip Assignment Scale: Not to Scale | Figure 7



LEGEND

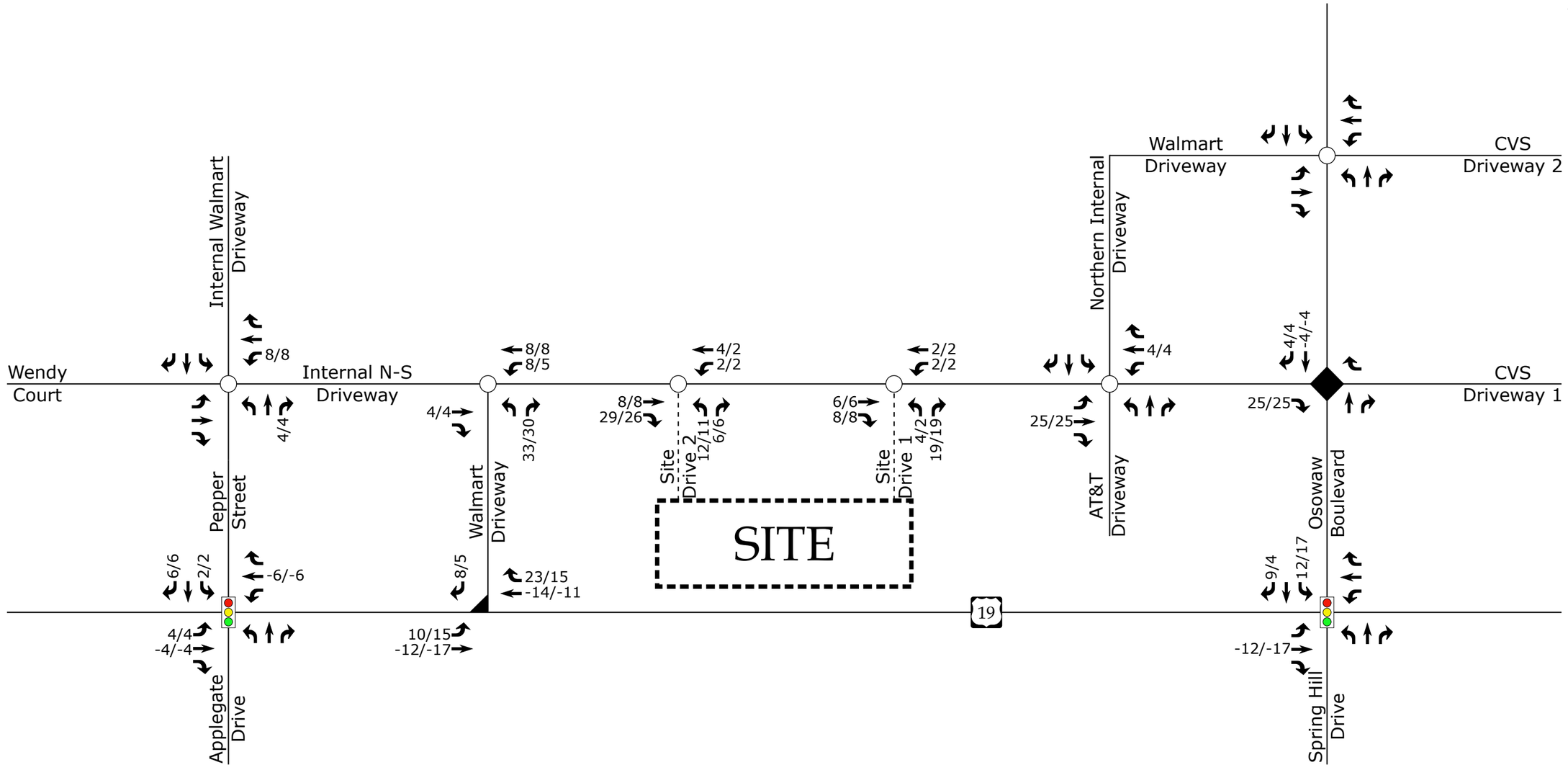
- Unsignalized Intersection
- Signalized Intersection
- Left-Over Intersection
- X% / Y% → Weekday AM / PM Pass-By Trip Distribution

DRMP

Walmart Fuel Station
Spring Hill, FL

Pass-By Site
Trip Distribution

Scale: Not to Scale | Figure 8



LEGEND

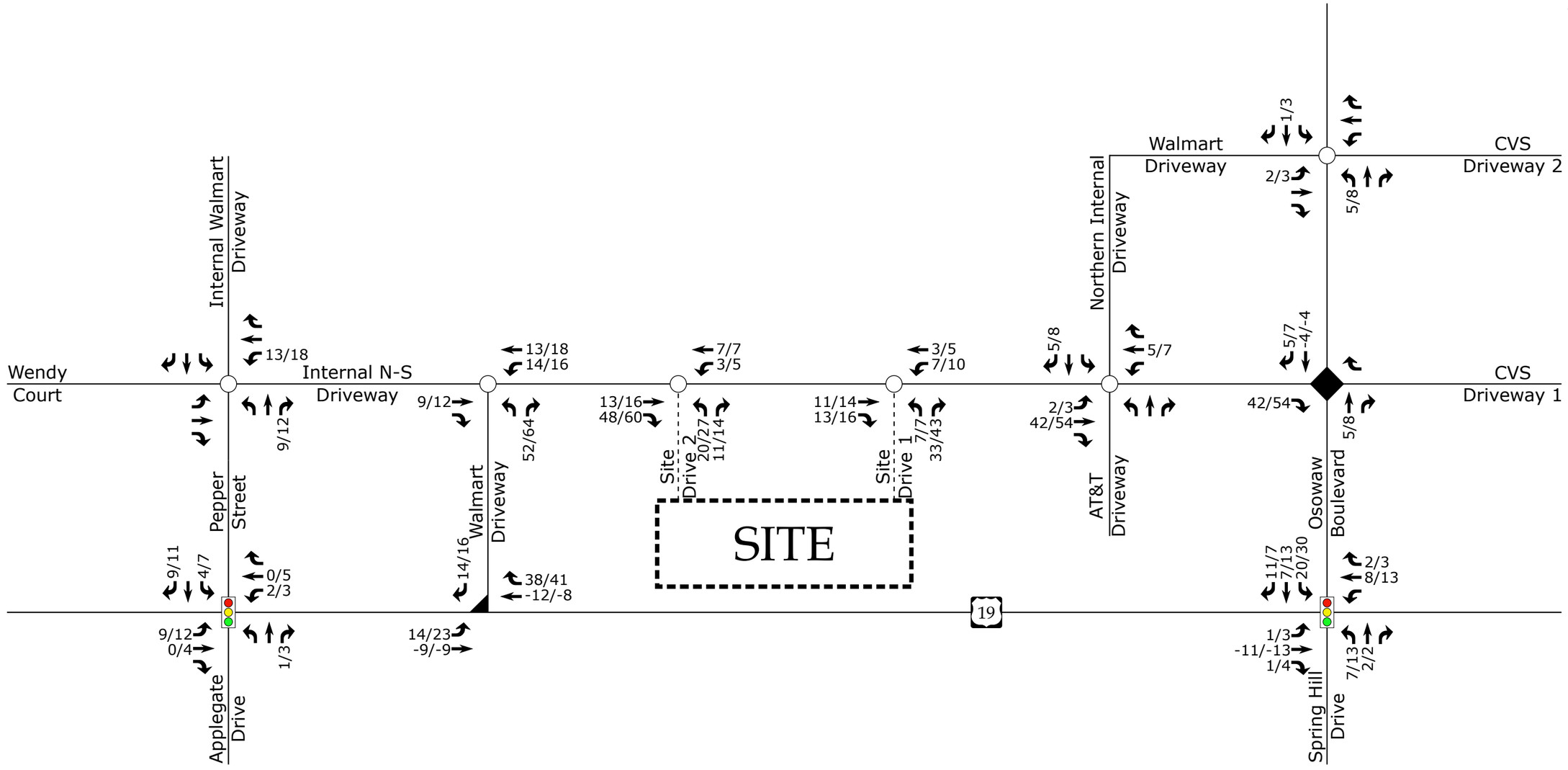
- Unsignalized Intersection
- Signalized Intersection
- Left-Over Intersection
- X / Y → Weekday AM / PM Peak Hour Site Pass-by Trips

DRMP

Walmart Fuel Station
Spring Hill, FL

Pass-By Site Trip Assignment

Scale: Not to Scale | Figure 9



LEGEND

- Unsignalized Intersection
- Signalized Intersection
- Right-In/Right-Out Intersection
- Left-Over Intersection
- X / Y → Weekday AM / PM Peak Hour Site Trips

DRMP

Walmart Fuel Station
Spring Hill, FL

Total Site Trip Assignment

Scale: Not to Scale | Figure 10

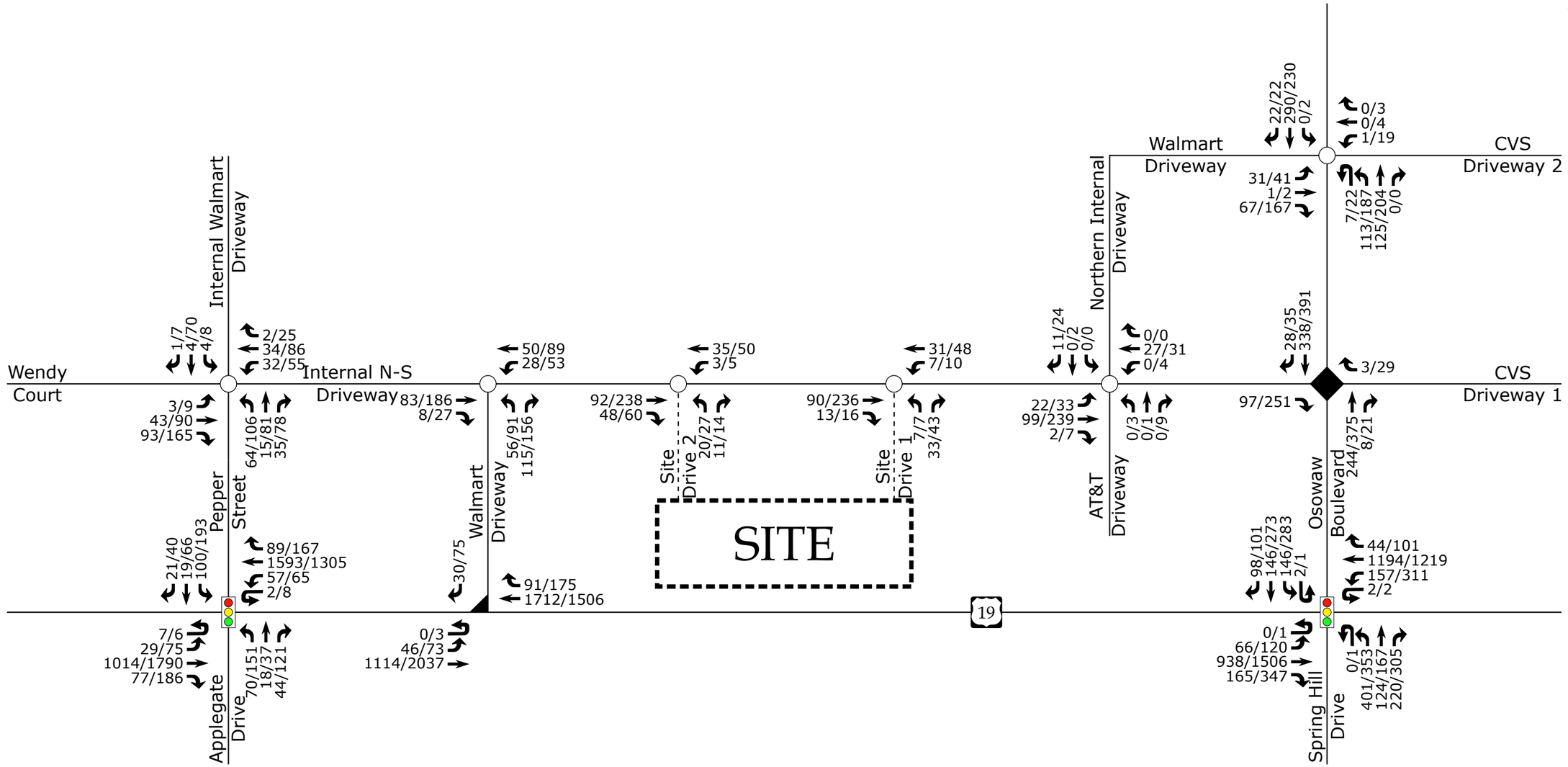
5. 2027 BUILD TRAFFIC CONDITIONS

5.1. 2027 Build Peak Hour Traffic Volumes

To estimate traffic conditions with the site fully built-out, the total site trips were added to the 2027 no-build traffic volumes to determine the 2027 build traffic volumes. Refer to Figure 11 for an illustration of the 2027 build peak hour traffic volumes with the proposed site fully developed.

5.2. 2027 Build Peak Hour Traffic Analysis

Study intersections were analyzed with the 2027 build traffic volumes using the same methodology previously discussed for existing and no-build traffic conditions. Intersections were analyzed with improvements necessary to accommodate future traffic volumes. The results of the capacity analysis for each intersection are presented in Section 7 of this report.



LEGEND

- Unsignalized Intersection
- Signalized Intersection
- Right-In/Right-Out Intersection
- Left-Over Intersection
- X / Y → Weekday AM / PM Peak Hour Traffic

Note: Based on NCDOT Congestion Management guidelines, a volume of 4 vehicles per hour (vph) was analyzed for any movement with less than 4 vph.

DRMP

Walmart Fuel Station
Spring Hill, FL

2027 Build
Peak Hour Traffic

Scale: Not to Scale | Figure 11

6. TRAFFIC ANALYSIS METHODOLOGY

Study intersections were analyzed using the methodology outlined in the *Highway Capacity Manual* (HCM), 6th Edition published by the Transportation Research Board. Capacity and level of service are the design criteria for this traffic study. A computer software package, Synchro (Version 11.1), was used to complete the analyses for the study area intersections. Please note that the unsignalized capacity analysis does not provide an overall level of service for an intersection; only delay for an approach with a conflicting movement.

The HCM defines capacity as "the maximum hourly rate at which persons or vehicles can reasonably be expected to traverse a point or uniform section of a lane or roadway during a given time period under prevailing roadway, traffic, and control conditions." Level of service (LOS) is a term used to represent different driving conditions and is defined as a "qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers." Level of service varies from Level "A" representing free flow, to Level "F" where breakdown conditions are evident. Refer to Table 3 for HCM levels of service and related average control delay per vehicle for both signalized and unsignalized intersections. Control delay as defined by the HCM includes "initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay". An average control delay of 50 seconds at a signalized intersection results in LOS "D" operation at the intersection.

Table 3: Highway Capacity Manual – Levels-of-Service and Delay

Unsignalized Intersection		Signalized Intersection	
Level of Service	**Average Control Delay Per Vehicle (Seconds)**	**Level of Service**	**Average Control Delay Per Vehicle (Seconds)**
A	0-10	A	0-10
B	10-15	B	10-20
C	15-25	C	20-35
D	25-35	D	35-55
E	35-50	E	55-80
F	>50	F	>80

7. 2025 EXISTING ANALYSIS

The 2025 Base Year No-Build scenario included the traffic characteristics that currently exist in the study area. Existing peak hour traffic volumes were determined based on traffic counts conducted at the study intersections in November 2025 during typical weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak periods (Figure 4). Refer to Appendix D for the Synchro reports. All SimTraffic reports can be found in Appendix G.

All unsignalized minor and major street approaches operate at LOS C or better, with the exception of the northbound left approach from US 19 of the intersection of US 19 and Walmart Driveway, which operates at LOS E during both AM and PM peak hours. Note that significant delays are not uncommon at two-way stop-controlled intersections.

All signalized intersections operate at an overall LOS D or better.

Table 4: 2025 Existing Intersection Analysis

Intersection Number	Intersection	Approach	Lane Group	Delay (sec/veh)		LOS		95th % Queue Length (ft)		Maximum Queue Length (ft)	
				AM	PM	AM	PM	AM	PM	AM	PM
1	US 19 (Commercial Way) and Osowaw Boulevard / Spring Hill Drive	Osowaw Boulevard Eastbound	LT (2)	54.6	67.6	D	E	91	195	131	236
			TH (2)					103	202	133	275
			RT					117	124	132	182
		Spring Hill Drive Westbound	LT (2)	54.0	60.9	D	E	243	248	358	739
			TH					175	264	274	275
			RT					233	338	224	225
		US 19 (Commercial Way) Northbound	LT	19.6	34.5	B	C	116	m159	136	312
			TH (3)					127	#572	156	575
			RT					54	249	99	477
		US 19 (Commercial Way) Southbound	LT (2)	29.8	38.5	C	D	106	202	267	374
			TH (3)					365	447	339	446
			RT					33	83	64	129
		Overall		**33.8**	**44.1**	**C**	**D**				
2	US 19 and Walmart Driveway	Walmart Driveway Eastbound	RT	21.9	22.0	C	C	5	23	--	38
		US 19 (Commercial Way) Northbound	LT	39.6	37.9	E	E	23	35	91	116
			TH (3)					--	--	--	135
		US 19 (Commercial Way) Southbound	TH (3)	0	0	--	--	--	--	--	--
			RT					--	--	7	30
		Overall		**--**	**--**	**--**	**--**				
3	US 19 (Commercial Way) and Pepper Street / Applegate Drive	Pepper Street Eastbound	LT	64.5	74.0	E	E	111	229	111	206
			LT-TH-RT					111	230	126	266
		Applegate Drive Westbound	LT-TH	58.1	77.7	E	E	137	#371	168	466
			RT					64	167	92	278
		US 19 (Commercial Way) Northbound	LT	18.7	36.3	B	D	57	130	86	400
			TH (3)					287	741	307	635
			RT					25	84	57	425
		US 19 (Commercial Way) Southbound	LT	10.6	13.9	B	B	m97	m132	143	279
			TH (3)					226	172	272	322
			RT					m30	45	73	153
		Overall		**17.7**	**33.6**	**B**	**C**				
4	Pepper Street / Internal Walmart Driveway and Wendy Court / Internal N-S Driveway	Internal Walmart Driveway Eastbound	LT-TH-RT	7.6	9.5	A	A	0	13	36	77
		Pepper Street Westbound	LT-TH-RT	8.1	11.6	A	B	13	48	--	16
		Wendy Court Northbound	LT	8.1	9.1	A	B	0	3	--	33
			TH-RT	8.1	11.6			18	50	78	139
		Internal N-S Driveway Southbound	LT	8.3	9.7	A	A	3	5	33	54
			TH-RT	7.9	9.9			5	18	49	108
		Overall		**8.1**	**11.0**	**A**	**B**				

Table 4: 2025 Existing Intersection Analysis *Continued*

Intersection Number	Intersection	Approach	Lane Group	Delay (sec/veh)		LOS		95th % Queue Length (ft)		Maximum Queue Length (ft)	
				AM	PM	AM	PM	AM	PM	AM	PM
5	Internal N-S Driveway and Walmart Driveway	Walmart Driveway Westbound	LT	7.3	7.4	A	A	3	5	--	--
			RT					0	0	60	85
		Internal N-S Driveway Northbound	TH	10.2	12.1	B	B	9	30	70	92
			RT					--	--	--	--
		Internal N-S Driveway Southbound	LT	10.1	11.9	B	B	2	7	36	45
			TH					4	10	51	77
		Overall		--	--	--	--				
6	Internal N-S Driveway and Northern Internal Driveway / AT&T Driveway	Northern Internal Driveway Eastbound	LT-TH-RT	6.8	7.1	A	A	0	3	31	40
		AT&T Driveway Westbound	LT-TH-RT	0	7.3	--	A	0	3	--	36
		Internal N-S Driveway Northbound	LT	7.7	8.8	A	A	3	3	30	48
			TH-RT					8	28	58	70
		Internal N-S Driveway Southbound	LT-TH-RT	7.3	7.5	A	A	3	3	31	53
		Overall		**7.6**	**8.5**	**A**	**A**				
7	Osowaw Boulevard and Internal N-S Driveway / CVS Driveway 1	Osowaw Boulevard Eastbound	TH (2)	0	0	--	--	--	--	--	--
			TH-RT					--	--	--	5
		Osowaw Boulevard Westbound	TH (2)	0	0	--	--	--	--	--	--
			RT					--	--	--	--
		Internal N-S Driveway Northbound	RT	10.7	13.0	B	B	8	35	22	103
		CVS Driveway 1 Southbound	RT	9.0	9.6	A	A	0	3	--	--
		Overall		--	--	--	--				
8	Osowaw Boulevard and Walmart Driveway / CVS Driveway 2	Walmart Driveway Eastbound	LT-TH	11.6	12.2	B	B	8	22	66	73
			RT					8	22	56	99
		CVS Driveway 2 Westbound	LT-TH-RT	14.3	18.3	B	C	0	7	11	49
		Osowaw Boulevard Northbound	LT	3.8	8.3	A	A	8	13	96	110
			TH-RT					0	0	--	--
		Osowaw Boulevard Southbound	LT	0	7.7	A	A	0	0	--	6
			TH-RT					0	0	13	8
		Overall		--	--	--	--				

Volume for the 95th percentile cycle exceeds capacity.
m Volume for the 95th percentile queue is metered by an upstream signal.

Table 5: 2025 Existing Left Turn Lane Analysis

Intersection	Turn Lane	Posted Speed Limit	Existing Lane Length	Required Deceleration Length	Number of Lanes	95th Percentile Queue Length (AM)	95th Percentile Queue Length (PM)	Required Turn Lane Length	Turn Lane Length Deficiency
US 19 (Commercial Way) and Osowaw Boulevard / Spring Hill Drive	EBL	40	375	145	2	91	195	340	-35
	WBL	40	FULL	145	2	243	248	393	N/A
	NBL	55	475	240	1	116	159	399	-76
	SBL	55	375	240	2	106	202	442	67
US 19 (Commercial Way) and Walmart Driveway	NBL	55	475	240	1	23	35	275	-200
US 19 (Commercial Way) and Pepper Street / Applegate Drive	NBL	55	300	240	1	57	130	370	70
	SBL	55	300	240	1	97	132	372	72

8. 2027 NO-BUILD ANALYSIS

The 2027 Future Year No-Build scenario includes the traffic characteristics that are expected to exist under future conditions, without the construction of the Walmart fuel station. Future Year peak hour traffic volumes were developed from growing the traffic at a 1.5% growth rate to the year 2027. No changes to the existing lane configurations were made. Table 7 summarizes the analysis results for this scenario. Refer to Appendix E for the Synchro reports. All SimTraffic reports can be found in Appendix H.

All intersections are expected to operate acceptably by the year 2027. The northbound left approach from US 19 at the intersection of US 19 and Walmart Driveway is expected to continue to operate at LOS E in the 2027 no-build scenario. Note that significant delays are not uncommon at two-way stop-controlled intersections.

Table 6: 2027 No-Build Roadway Segment Analysis

Roadway Segment	Current LOS	2024 Peak Hour Directional Service Volume (vph)	2024 AADT	2024 Peak Hour Directional Volume (vph)	2027 Peak Hour Directional Volume (vph)	2027 No-Build		
						Peak Hour Directional Volume (vph)	V/C	Exceeds Service Volume?
US 19/Commercial Way								
Hunters Lake Rd to Forest Oaks Blvd	D	2,810	43,000	2,129	2,226	2,226	0.79	No
Osowaw Blvd								
US 19/Commercial Way to Osowaw Blvd	D	870	1,200	59	62	62	0.07	No
Spring Hill Dr								
US 19/Commercial Way to FL 589	D	1,790	23,000	1,139	1,191	1,191	0.67	No
Applegate Dr								
US 19/Commercial Way to Kenlake Ave	C	970	2,200	109	114	114	0.12	No

Table 7: 2027 No-Build Intersection Analysis

Intersection Number	Intersection	Approach	Lane Group	Delay (sec/veh)		LOS		95th % Queue Length (ft)		Maximum Queue Length (ft)	
				AM	PM	AM	PM	AM	PM	AM	PM
1	US 19 and Spring Hill Drive/Osowaw Boulevard	Osowaw Boulevard Eastbound	LT (2)	54.7	68.1	D	E	94	200	168	226
			TH (2)					105	208	174	300
			RT					120	128	148	167
		Spring Hill Drive Westbound	LT (2)	54.3	61.3	D	E	252	256	343	957
			TH					181	271	273	275
			RT					238	350	225	225
		US 19 Northbound	LT	19.8	36.9	B	D	118	m157	140	413
			TH (3)					131	#725	192	693
			RT					56	m254	112	540
		US 19 Southbound	LT (2)	30.4	39.2	C	D	108	208	289	354
			TH (3)					379	464	373	442
			RT					33	85	74	100
		Overall		**34.1**	**45.4**	**C**	**D**				
2	US 19 and Walmart Driveway	Walmart Driveway Eastbound	RT	22.7	23.1	C	C	8	25	--	20
		US 19 Northbound	LT	43.2	41.6	E	E	25	40	99	188
			TH (3)					--	--	--	330
		US 19 Southbound	TH (3)	0	0	--	--	--	--	--	--
			RT					--	--	--	36
		Overall		**--**	**--**	**--**	**--**				
3	US 19 and Pepper Street/Applegate Drive	Pepper Street Eastbound	LT	64.5	73.8	E	E	115	234	113	208
			LT-TH-RT					114	237	143	247
		Applegate Drive Westbound	LT-TH	58	79.1	E	E	142	#386	162	532
			RT					64	171	88	300
		US 19 Northbound	LT	19.2	37.7	B	D	58	132	93	400
			TH (3)					301	781	297	689
			RT					26	87	78	424
		US 19 Southbound	LT	11.1	14.1	B	B	m99	m133	122	231
			TH (3)					264	184	283	265
			RT					m33	47	86	170
		Overall		**18.2**	**34.5**	**B**	**C**				
4	Wendy Court/Internal N-S Driveway and Southern Internal Driveway/Pepper Street	Southern Internal Driveway Eastbound	LT-TH-RT	7.7	9.7	A	A	0	13	31	70
		Pepper Street Westbound	LT-TH-RT	8.2	12	A	B	13	50	4	10
		Wendy Court Northbound	LT	8.1	9.2	A	B	0	3	23	29
			TH-RT	8.1	12			18	53	81	132
		Internal N-S Driveway Southbound	LT	8.3	9.8	A	A	3	5	29	56
			TH-RT	7.9	10			5	18	58	79
		Overall		**8.1**	**11.3**	**A**	**B**				
5	Internal N-S Driveway and Walmart Driveway	Walmart Driveway Westbound	LT	3.4	3.7	--	--	3	5	--	4
			RT					0	0	11	72
		Internal N-S Driveway Northbound	TH	10.3	12.2	B	B	9	31	59	90
			RT					--	--	--	--
		S Lois Ave Southbound	LT	10.2	12	B	B	2	7	36	40
			TH					4	10	45	64
		Overall		**7**	**9**	**A**	**A**				

Table 7: 2027 No-Build Intersection Analysis *Continued*

Intersection Number	Intersection	Approach	Lane Group	Delay (sec/veh)		LOS		95th % Queue Length (ft)		Maximum Queue Length (ft)	
				AM	PM	AM	PM	AM	PM	AM	PM
6	Internal N-S Driveway and Northern Internal Driveway/AT&T Driveway	Northern Internal Driveway Eastbound	LT-TH-RT	6.8	7.1	A	A	0	3	31	31
		AT&T Driveway Westbound	LT-TH-RT	7.2	7.3	--	A	0	3	--	31
		Internal N-S Driveway Northbound	LT	7.8	8.9	A	A	3	3	30	44
			TH-RT					8	28	35	85
		Internal N-S Driveway Southbound	LT-TH-RT	7.3	7.6	A	A	3	3	36	40
		Overall		**7.6**	**8.6**	**A**	**A**				
7	Internal N-S Driveway/CVS Driveway 1 and Osowaw Boulevard	Osowaw Boulevard Eastbound	TH (2)	--	--	--	--	--	--	--	--
			TH-RT					--	--	--	--
		Osowaw Boulevard Westbound	TH (2)	--	--	--	--	--	--	--	--
			RT					--	--	--	--
		Internal N-S Driveway Northbound	RT	10.8	13.3	B	B	8	38	--	116
		CVS Driveway 1 Southbound	RT	9.1	9.7	A	A	0	3	--	--
		Overall		**--**	**--**	**--**	**--**				
8	Osowaw Boulevard and Walmart Driveway/CVS Driveway 2	Walmart Driveway Eastbound	LT-TH	12.5	13.2	B	B	8	15	52	69
			RT					8	23	31	91
		CVS Driveway 2 Westbound	LT-TH-RT	16.7	23.3	C	C	0	10	22	45
		Osowaw Boulevard Northbound	LT	--	--	--	--	--	--	89	110
			TH-RT					--	--	--	--
		Osowaw Boulevard Southbound	LT	0	7.7	A	A	0	0	--	11
			TH-RT					--	--	20	14
		Overall									

Volume for the 95th percentile cycle exceeds capacity.
m Volume for the 95th percentile queue is metered by an upstream signal.

Table 8: 2027 No-Build Left Turn Lane Analysis

Intersection	Turn Lane	Posted Speed Limit	Existing Lane Length	Required Deceleration Length	Number of Lanes	95th Percentile Queue Length (AM)	95th Percentile Queue Length (PM)	Required Turn Lane Length	Turn Lane Length Deficiency
US 19 (Commercial Way) and Osowaw Boulevard / Spring Hill Drive	EBL	40	375	145	2	94	200	345	-30
	WBL	40	FULL	145	2	252	256	401	N/A
	NBL	55	475	240	1	118	157	397	-78
	SBL	55	375	240	2	108	208	448	73
US 19 (Commercial Way) and Walmart Driveway	NBL	55	475	240	1	25	40	280	-195
US 19 (Commercial Way) and Pepper Street / Applegate Drive	NBL	55	300	240	1	58	132	372	72
	SBL	55	300	240	1	99	133	373	73

9. 2027 BUILD ANALYSIS

The 2027 Future Year Build scenario includes the traffic characteristics that are expected to exist under future conditions with the construction of the Walmart Fuel Station. Peak hour traffic volumes were developed from adding the site trip assignment to the 2027 No-Build peak hour traffic volumes. No changes to the existing lane configurations were made. Table 10 summarizes the analysis results for this scenario. Refer to Appendix F for the Synchro reports. All SimTraffic reports can be found in Appendix H.

The intersection of US 19 and Walmart Driveway is expected to continue to operate with delays in the 2027 build scenario. The major-street northbound left approach of US 19 is expected to operate at LOS F. Note that significant delays are not uncommon at two-way stop-controlled intersections, and do not always require improvements to be made. As the eastbound approach exiting the site is designed to operate as a right-in/right-out intersection, and expected northbound left-turn queuing is significantly less than the storage offered by the existing northbound left-turn lane, improvements by the development are not recommended.

Table 9: 2027 Build Roadway Segment Analysis

Roadway Segment	Current LOS	2024 Peak Hour Directional Service Volume (vph)	2024 AADT	2024 Peak Hour Directional Volume (vph)	2027 No-Build Peak Hour Directional Volume (vph)	Site Trips		2027 Build		
						Trip Dist %	Trips	Peak Hour Directional Volume (vph)	V/C	Exceeds Service Volume?
US 19/Commercial Dr										
Hunters Lake Rd to Forest Oaks Blvd	D	2,810	43,000	2,129	2,226	30%	32	2,258	0.80	No
Osowaw Blvd										
US 19/Commercial Way to Osowaw Blvd	D	870	1,200	59	62	5%	5	67	0.08	No
Spring Hill Dr										
US 19/Commercial Way to FL 589	D	1,790	23,000	1,139	1,191	30%	32	1,222	0.68	No
Applegate Dr										
US 19/Commercial Way to Kenlake Ave	C	970	2,200	109	114	5%	5	119	0.12	No

Table 10: 2027 Build Intersection Analysis

Intersection Number	Intersection	Approach	Lane Group	Delay (sec/veh)		LOS		95th % Queue Length (ft)		Maximum Queue Length (ft)	
				AM	PM	AM	PM	AM	PM	AM	PM
1	US 19 and Spring Hill Drive/Osowaw Boulevard	Osowaw Boulevard Eastbound	LT (2)	54.7	69.0	D	E	107	221	149	240
			TH (2)					110	218	137	327
			RT					133	137	160	198
		Spring Hill Drive Westbound	LT (2)	54.4	61.8	D	E	257	265	367	590
			TH					182	274	274	275
			RT					238	350	225	225
		US 19 Northbound	LT	20.0	38.1	B	D	119	m159	151	329
			TH (3)					130	#713	193	629
			RT					56	m259	169	490
		US 19 Southbound	LT (2)	30.8	39.6	C	D	108	208	278	361
			TH (3)					383	471	370	448
			RT					34	88	66	117
		Overall		**34.7**	**46.4**	**C**	**D**				
2	US 19 and Walmart Driveway	Walmart Driveway Eastbound	RT	23.9	24.6	C	C	13	33	--	54
		US 19 Northbound	LT	52.4	57.3	F	F	43	73	112	168
			TH (3)					--	--	--	204
		US 19 Southbound	TH (3)	0	0	--	--	--	--	--	4
			RT					--	--	15	31
		Overall		**--**	**--**	**--**	**--**				
3	US 19 and Pepper Street/Applegate Drive	Pepper Street Eastbound	LT	64.6	73	E	E	125	248	107	231
			LT-TH-RT					121	245	146	274
		Applegate Drive Westbound	LT-TH	57.9	79.4	E	E	142	#386	179	511
			RT					65	175	137	300
		US 19 Northbound	LT	20.0	39.3	C	D	72	150	120	400
			TH (3)					305	795	321	829
			RT					27	91	78	425
		US 19 Southbound	LT	12.7	14.9	B	B	m101	m135	113	224
			TH (3)					283	206	300	316
			RT					m34	48	86	164
		Overall		**19.5**	**35.6**	**B**	**D**				
4	Wendy Court/Internal N-S Driveway and Southern Internal Driveway/Pepper Street	Southern Internal Driveway Eastbound	LT-TH-RT	7.7	9.8	A	A	0	13	31	88
		Pepper Street Westbound	LT-TH-RT	8.2	12.4	A	B	13	55	4	27
		Wendy Court Northbound	LT	8.2	12.1	A	B	0	3	28	33
			TH-RT					18	55	69	134
		Internal N-S Driveway Southbound	LT	8.2	10.1	A	B	5	10	52	78
			TH-RT					5	18	64	89
		Overall		**8.2**	**11.5**	**A**	**B**				
5	Internal N-S Driveway and Walmart Driveway	Walmart Driveway Westbound	LT	2.4	2.7	--	--	3	5	--	45
			RT					0	0	68	134
		Internal N-S Driveway Northbound	TH	10.4	12.5	B	B	11	34	62	84
			RT					--	--	--	22
		S Lois Ave Southbound	LT	10.3	12.5	B	B	4	11	54	57
			TH					6	13	71	72
		Overall		**6.4**	**8.5**	**A**	**A**				

Table 10: 2027 Build Intersection Analysis *Continued*

Intersection Number	Intersection	Approach	Lane Group	Delay (sec/veh)		LOS		95th % Queue Length (ft)		Maximum Queue Length (ft)	
				AM	PM	AM	PM	AM	PM	AM	PM
6	Internal N-S Driveway and Northern Internal Driveway/AT&T Driveway	Northern Internal Driveway Eastbound	LT-TH-RT	6.9	7.3	A	A	0	3	36	44
		AT&T Driveway Westbound	LT-TH-RT	0	7.5	--	A	0	3	--	30
		Internal N-S Driveway Northbound	LT	8	9.6	A	A	3	5	23	23
			TH-RT					13	40	57	65
		Internal N-S Driveway Southbound	LT-TH-RT	7.4	7.7	A	A	3	5	56	53
		Overall		**7.8**	**9.2**	**A**	**A**				
7	Internal N-S Driveway/CVS Driveway 1 and Osowaw Boulevard	Osowaw Boulevard Eastbound	TH (2)	0	0	--	--	--	--	--	--
			TH-RT					--	--	--	26
		Osowaw Boulevard Westbound	TH (2)	0	0	--	--	--	--	--	--
			RT					--	--	--	--
		Internal N-S Driveway Northbound	RT	11.3	14.6	B	B	15	53	22	113
		CVS Driveway 1 Southbound	RT	9.1	9.7	A	A	0	3	--	--
		Overall		**--**	**--**	**--**	**--**				
8	Osowaw Boulevard and Walmart Driveway/CVS Driveway 2	Walmart Driveway Eastbound	LT-TH	12.7	13.5	B	B	8	18	66	79
			RT					10	23	10	102
		CVS Driveway 2 Westbound	LT-TH-RT	16.9	24	C	C	0	13	21	44
		Osowaw Boulevard Northbound	LT	--	--	--	--	--	--	101	116
			TH-RT					--	--	--	10
		Osowaw Boulevard Southbound	LT	0	7.7	A	A	0	0	--	10
			TH-RT					--	--	9	15
		Overall		**--**	**--**	**--**	**--**				
9	Internal N-S Driveway and Site Drive 1	Site Drive 1 Westbound	LT-RT	9.1	10.2	A	B	5	5	50	88
		Internal N-S Driveway Northbound	TH-RT	--	--	--	--	--	--	36	128
		Internal N-S Driveway Southbound	LT	7.5	7.8	A	A	0	0	--	18
			TH					--	--	6	25
		Overall		**--**	**--**	**--**	**--**				
10	Internal N-S Driveway and Site Drive 2	Site Drive 2 Westbound	LT-RT	9.5	10.6	A	B	3	5	46	69
		Internal N-S Driveway Northbound	TH-RT	--	--	--	--	--	--	--	17
		Internal N-S Driveway Southbound	LT	7.5	7.9	A	A	0	0	12	30
			TH					--	--	--	--
		Overall		**--**	**--**	**--**	**--**				

Volume for the 95th percentile cycle exceeds capacity.
m Volume for the 95th percentile queue is metered by an upstream signal

Table 11: 2027 Build Left Turn Lane Analysis

Intersection	Turn Lane	Posted Speed Limit	Existing Lane Length	Required Deceleration Length	Number of Lanes	95th Percentile Queue Length (AM)	95th Percentile Queue Length (PM)	Required Turn Lane Length	Turn Lane Length Deficiency
US 19 (Commercial Way) and Osowaw Boulevard / Spring Hill Drive	EBL	40	375	145	2	107	221	366	-9
	WBL	40	FULL	145	2	257	265	410	N/A
	NBL	55	475	240	1	119	159	399	-76
	SBL	55	375	240	2	108	208	448	73
US 19 (Commercial Way) and Walmart Driveway	NBL	55	475	240	1	43	73	313	-162
US 19 (Commercial Way) and Pepper Street / Applegate Drive	NBL	55	300	240	1	72	150	390	90
	SBL	55	300	240	1	101	135	375	75

10. CONCLUSION

The recommendations in this report are outlined in the following sections.

Adjustments to Analysis Guidelines

Capacity analysis at all study intersections was completed according to FDOT guidelines.

Intersection Capacity Analysis Summary

The existing intersection of US 19 and Walmart Driveway is expected to operate poorly under future year conditions whether or not the fuel station is built. Due to the low impact by the proposed development, no additional offsite improvements are recommended.

11. RECOMMENDATIONS

Based on the findings of this study, specific geometric improvements have been identified and are recommended to accommodate future traffic conditions. Refer to Figure 12 for an illustration of the recommended lane configurations.

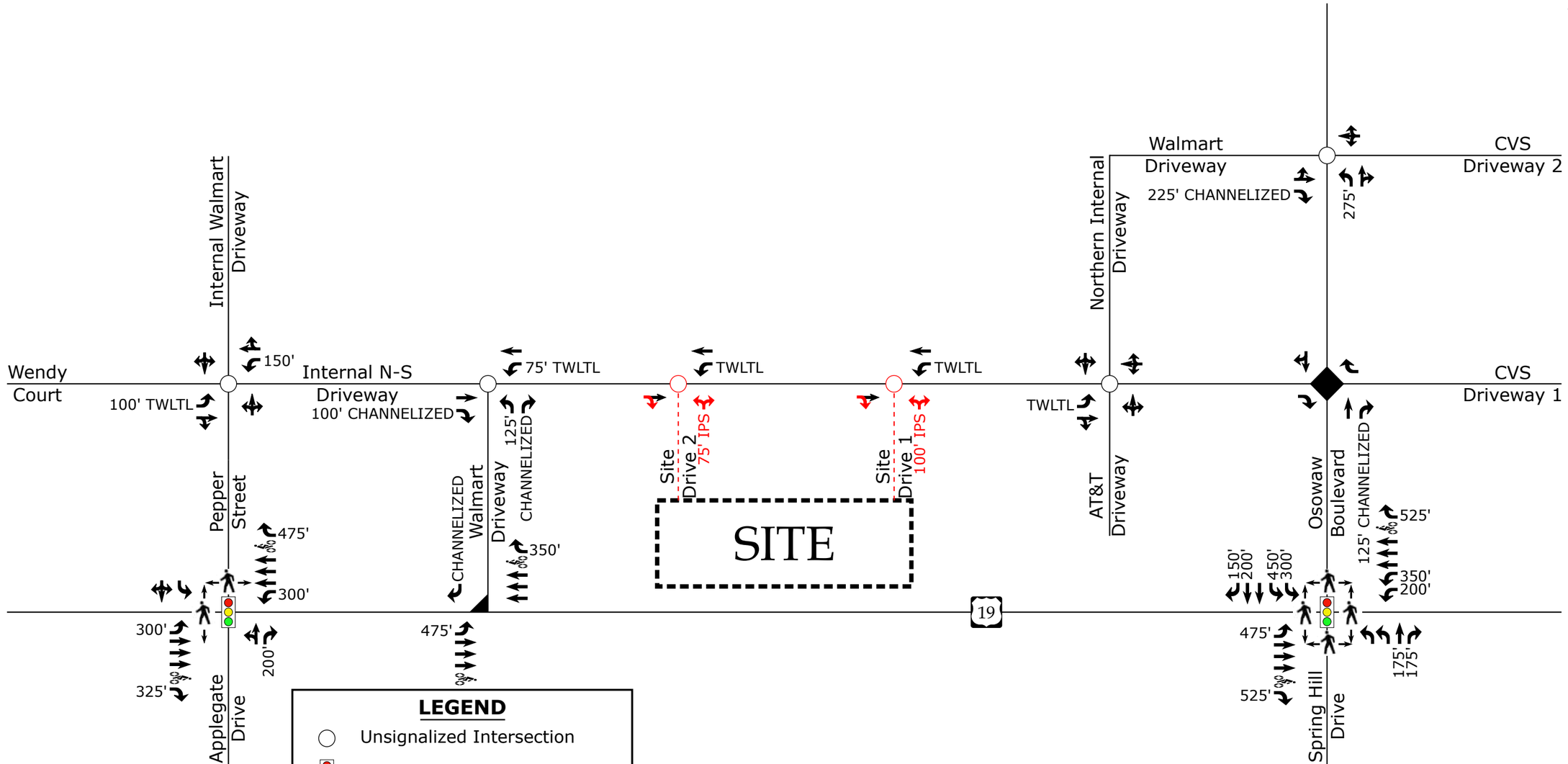
Recommended Improvements by Developer

Internal N-S Driveway and Site Drive 1:

- Construct the westbound proposed driveway as a full-movement driveway with one ingress lane and one egress lane striped as a shared left-turn/right-turn lane with an internal protected stem of at least 100 feet.
- Provide stop control for westbound approach.

Internal N-S Driveway and Site Drive 2:

- Construct the westbound proposed driveway as a full-movement driveway with one ingress lane and one egress lane striped as a shared left-turn/right-turn lane with an internal protected stem of at least 75 feet.
- Provide stop control for westbound approach.



LEGEND

- Unsignalized Intersection
- Signalized Intersection
- Right-In/Right-Out Intersection
- Left-Over Intersection
- Existing Lane
- Improvement by Developer
- X' Storage (In Feet)
- TWLTL Two-Way Left-Turn Lane
- Bicycle Lane
- Pedestrian Crosswalk

DRMP

Walmart Fuel Station
Spring Hill, FL

Recommended Lane Configurations

Scale: Not to Scale | Figure 12

TECHNICAL APPENDIX

APPENDIX A

SCOPING DOCUMENTATION

December 11, 2025

Planning Department
Hernando County, FL
1653 Blaise Drive
Brooksville, FL 34601
Planning@hernandocounty.us

[Sent via Email]

Reference: Walmart Fuel Station – Spring Hill, Florida

Subject: Memorandum of Understanding for TIA Report

Dear Mr. Herring:

The following is a Memorandum of Understanding (MOU) outlining the proposed scope of work and assumptions related to the Traffic Impact Analysis (TIA) for the proposed Florida Walmart Fuel Station, at the existing Walmart Supercenter located at 1485 Commercial Way in Spring Hill, Florida. Refer to the attached site location map.

The development proposes a fuel station that includes twelve (12) vehicle fueling positions (VFP) and a 1,618 square-foot convenience store. Access to the fueling station will be provided via turning movements from Wendy Court. A new full-movement driveway will be constructed on the south side of the fuel parcel, and a second driveway will be located near the northern edge of the site.

The Walmart Supercenter driveways are currently not aligned with the access drives that serve the proposed development. No direct access to Commercial Way (US 19), Osowaw Boulevard, or Pepper Street is proposed. Fuel deliveries will utilize a designated zone along the eastern edge of Wendy Court, entering from the south and exiting north to Osowaw Boulevard.

Trip Generation

Average weekday daily, AM peak hour, and PM peak hour trips for the proposed development were estimated using methodology contained within the ITE *Trip Generation Manual*, 12th Edition. Refer to the following Table 1 for the proposed site trip generations.

Table 1: Site Trip Generation

Land Use (ITE Code)	Intensity	Daily Traffic AADT (vpd)	Weekday AM Peak Hour Trips (vph)			Weekday PM Peak Hour Trips (vph)		
			Enter	Exit	Total	Enter	Exit	Total
Gasoline Station (944)	12 VFP	2,064*	71	71	142	91	91	182
Pass-By Trips - From LUC 944 (58% AM, 42% PM)		*-1,072*	*-41*	*-41*	*-82*	*-38*	*-38*	*-76*
Total Primary Trips		**992**	**30**	**30**	**60**	**53**	**53**	**106**

*Note that the ITE *Trip Generation Manual* 12th Edition only provides the average daily trip value via the average rate.

It is estimated that upon build-out, the proposed development will generate approximately 2,064 site trips on the roadway network during a typical 24-hour weekday period. Of the daily traffic volume, it is anticipated that 142 primary trips (71 entering and 71 exiting) will occur during the weekday AM peak hour and 182 primary trips (91 entering and 91 exiting) will occur during the weekday PM peak hour.

Pass-by trips were taken into consideration in this study. Pass-by trips are made by the traffic already using the adjacent roadway, entering the site as an intermediate stop on their way to another destination. Pass-by trips are expected to account for approximately 82 trips (41 entering and 41 exiting) during the weekday AM peak hour, and 76 trips (38 entering and 38 exiting) during the weekday PM peak hour. It should be noted that the pass-by trips were balanced, as it is likely that these trips would enter and exit in the same hour.

The total primary site trips are the calculated site trips after the reduction for internal capture and pass-by trips. Primary site trips are expected to generate approximately 60 primary trips (30 entering and 30 exiting) during the weekday AM peak hour and 106 primary trips (53 entering and 53 exiting) during the weekday PM peak hour.

Trip Generation

Site trips were distributed based on 2024 AADT data from the 2024 FDOT. Table 2 illustrates how the regional trip distribution percentages were calculated. Figure 3 illustrates the trip distribution percentages.

Table 2: Site Trip Distribution

Segment	From	To	2024 AADT	Percent of Total AADTs	Regional Trip Distribution Percentages
US 19 (Commercial Way)	Hunters Lake Rd	Forest Oaks Blvd	43,000	62.0%	60%
Spring Hill Dr	Commercial Way	Mariner Blvd	23,000	33.1%	30%
Osowaw Blvd	Commercial Way	Osowaw Blvd	1,200	1.7%	5%
Applegate Drive	Commercial Way	Kenlake Ave	2,200	3.2%	5%

Study Area

The study area was determined using the methodology in the City of Tampa Traffic Impact Analysis Guidelines. Refer to the table on the following page for a summary of the existing conditions inventory and study area determination. The study area consists of the following roadway segments:

- Commercial Way (US 19) and Spring Hill Drive / Osowaw Boulevard (signalized)
- Commercial Way (US 19) and Pepper Street / Applegate Drive (signalized)
- Osowaw Boulevard and Internal North–South Driveway / CVS Access 1
- Osowaw Boulevard and Walmart Access Driveway / CVS Access 2
- Internal North–South Driveway and Fuel Station Access Driveways 1 and 2
- Wendy Court and Internal North-South Driveway
- Pepper Street and Wendy Court

Existing Traffic Volumes

Existing peak hour traffic volumes will be determined based on turning movement counts conducted at the existing study intersections, during typical weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak periods, while schools are in session for in-person learning.

Weekday AM and PM peak hour counts will be conducted at the following intersections:

- Commercial Way (US 19) and Spring Hill Drive / Osowaw Boulevard (signalized)
- Commercial Way (US 19) and Pepper Street / Applegate Drive (signalized)
- Osowaw Boulevard and Internal North–South Driveway / CVS Access 1
- Osowaw Boulevard and Walmart Access Driveway / CVS Access 2
- Internal North–South Driveway and Northern Internal Driveway / AT&T Driveway
- Internal North-South Driveway and Walmart Driveway
- Pepper Street and Wendy Court

Background Traffic Volumes

Based on historical Average Annual Daily Traffic (AADT) volumes from FDOT, background traffic volumes will be determined by projecting existing traffic volumes to the year 2027 using a 1.5% annual growth rate. Determination of the average growth rate is summarized in the table on the following page. Trips from vested/committed developments will be added to the project traffic volumes. Table 3 illustrates the methodology used to determine the annual growth rate.

Hernando County and FDOT are to confirm if there are any vested/committed developments to include in the TIA.

Table 3: Segmented Growth Rate Calculation

Segment	From	To	2023	2024	2023-2024 Growth Rate
US 19 (Commercial Way)	Hunters Lake Rd	Forest Oaks Blvd	41,000	43,000	4.88%
Spring Hill Dr	Commercial Way	Mariner Blvd	24,500	23,000	-6.12%
Osowaw Blvd	Commercial Way	Osowaw Blvd	N/A	1,200	N/A
Applegate Drive	Commercial Way	Kenlake Ave	N/A	2,200	N/A
				Average Growth Rate	**-0.62%**
				Weighted Average Growth Rate	**1.50%**

Future Roadway Improvements

The analysis also considers relevant regional planning documents issued by the Hernando/Citrus Metropolitan Planning Organization (MPO), including the 2050 Long-Range Transportation Plan (LRTP), Transit Development Plan (TDP), and Transportation Improvement Program (TIP). A corridor-wide Arterial Traffic Management System (ATMS) upgrade is listed in the 2026–2030 Transportation Improvement Program (TIP), including the addition of fiber, detectors, signal controller upgrades, and travel time readers. This improvement will apply to the entire corridor from the Pasco County Line to Citrus County but will not include any direct widening.

Analysis

All roadway segments will be analyzed for the 2025 Existing, 2027 No-Build, and 2027 Build conditions. All intersections will be analyzed using Synchro (Version 11.1) during the weekday AM and PM peak hours under the following scenarios:

- 2025 Existing
- 2027 No-Build
- 2027 Build

Left turn lane and right turn lane analysis will be performed at all signalized intersections to determine if existing storage lengths are adequate. Turn lane analysis will be performed at all proposed driveways.

Signal warrant analysis will be performed if delay and queue results indicate installation of a traffic signal is needed to reach satisfactory traffic operations. Warrants 1, 2, and 3 from the Manual on Uniform Traffic Control Devised would be reviewed.

Report

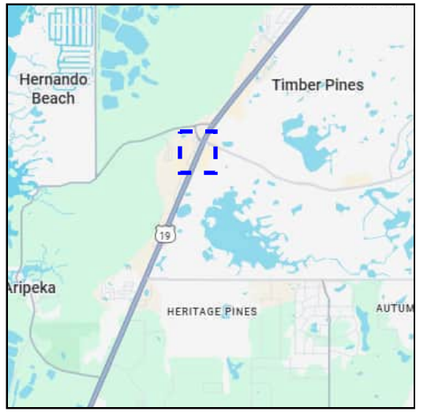
The TIA report will be prepared based on Hernando County and FDOT requirements. If you find this memorandum of understanding acceptable, please let me know so that we may include it in the TIA report. If you have any questions or concerns, please do not hesitate to contact me.

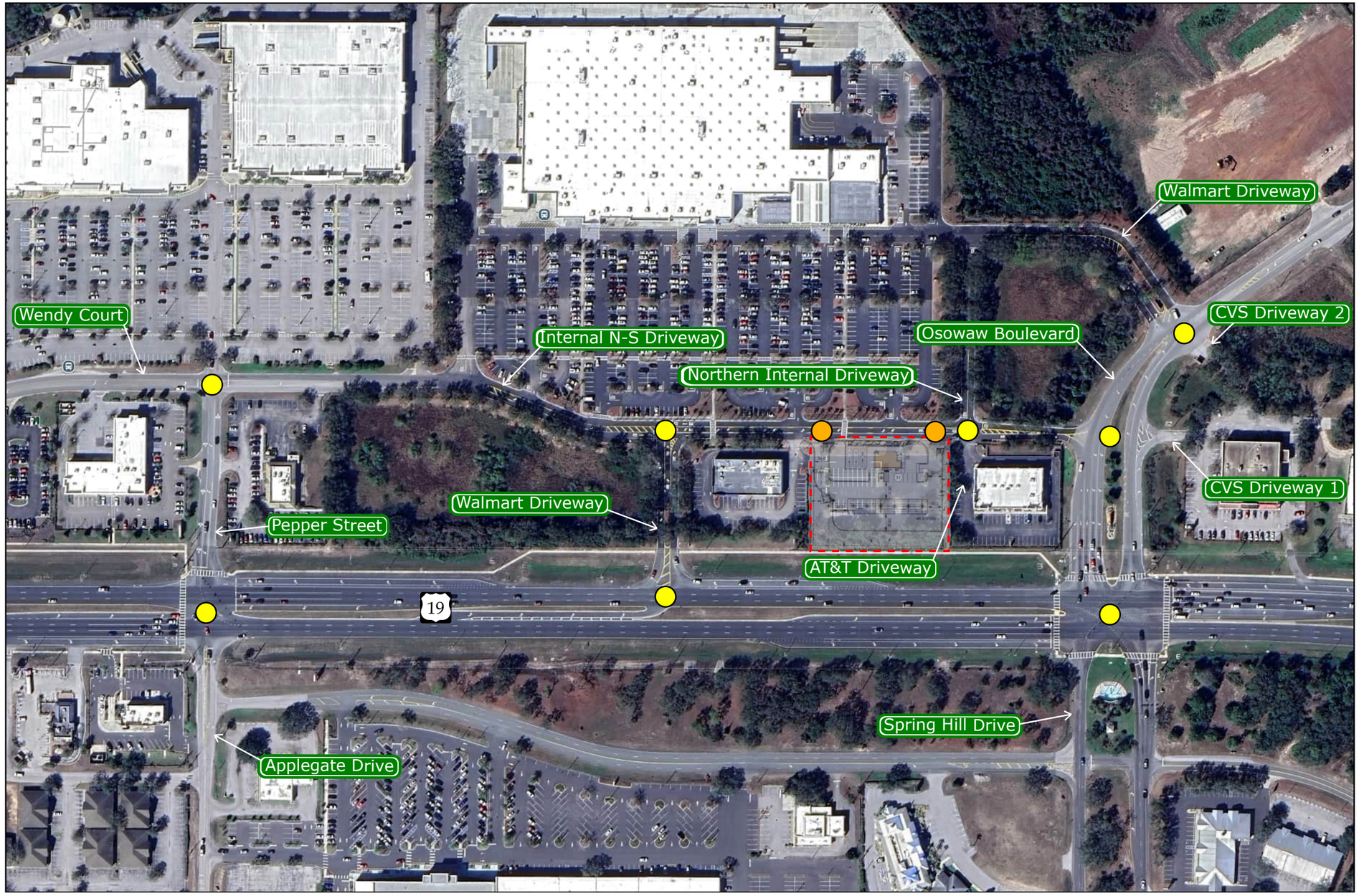
Sincerely,

Caroline Cheeves, PE
Traffic Analysis Project Manager
DRMP, Inc.

Attachments:

- Figure 1 - Site Location Map
- Figure 2 - Site Plan
- Figure 3 – Trip Distribution Percentages





LEGEND

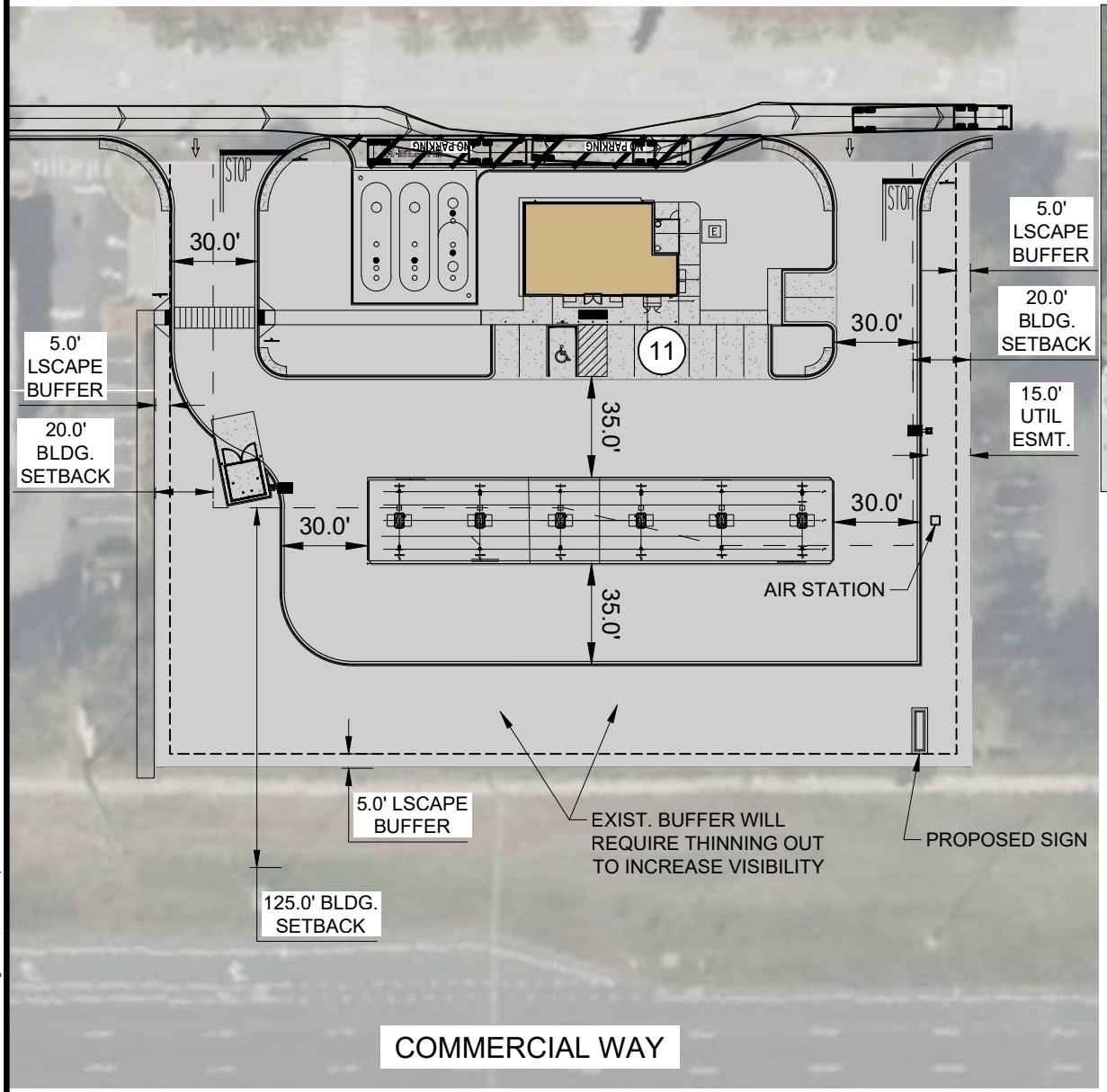
- Study Intersection
- Proposed Site Access
- Study Area

DRMP

Walmart Fuel Station
Spring Hill, FL

Site Location Map

Scale: Not to Scale | Figure 1



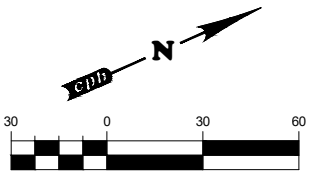
FUEL STATION
SCALE 1'=60'

OVERALL SITE
SCALE 1'=500'

SITE ANALYSIS TABLE

FUEL STATION: 1485 COMMERCIAL WAY, SPRING HILL, FL		
CURRENT ZONE:		PDP
EXISTING WALAMRT PARCEL AREA:		30.14 AC
EXISTING WALAMRT STORE AREA:		217,584 SF
	PARKING COUNT	PARKING RATIO
EXISTING PARKING	961 SPACES	4.4 / 1000 SF
PROPOSED PARKING	889 SPACES	4.1 / 1000 SF
AGENCY REQ. PARKING	871 SPACES	4.0 / 1000 SF
WALMART REQ. PARKING	871 SPACES	4.0 / 1000 SF
FUEL STATION STORE AREA		1,618 SF
EXISTING WALMART FUEL PARCEL AREA		NA
PROPOSED WALMART FUEL PARCEL AREA		1.36+/- AC
	PARKING COUNT	PARKING RATIO
PROPOSED PARKING	11 SPACES	6.8 / 1000 SF
CITY REQ. PARKING	7 SPACES	4.0 / 1000 SF
WALMART REQ. PARKING	5 SPACES	1 / 375 SF
	BUILDING SETBACK	LANDSCAPE BUFFER
FRONT	125'	5'
REAR	35'	5'
SIDE	20'	5'
SIDE	20'	5'

BUILDING , CANOPY & TANKS
SUP 1440 - 6 PUMPS INLINE
(3) 20,000 GALLON TANKS



REVISIONS | BY

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STORE #967
WAL-MART STORES, INC.
1485 COMMERCIAL WAY
SPRING HILL, FLORIDA 34606

Walmart

DATE:
02/28/25

OF
PL/ 420

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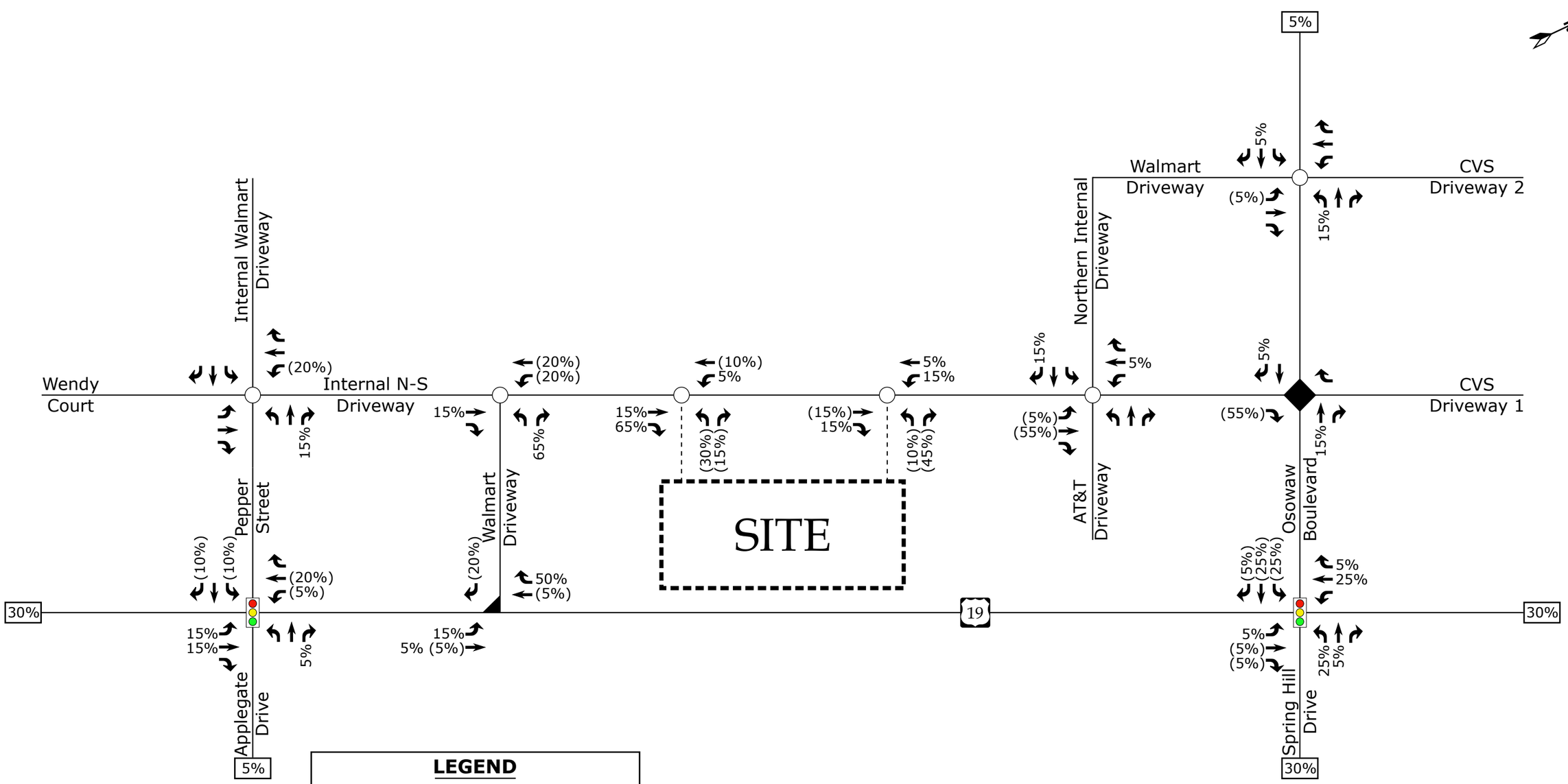


LEGEND

- Unsignalized Intersection
- Signalized Intersection
- Right-In/Right-Out Intersection
- Left-Over Intersection
- X% → Entering Trip Distribution
- (Y%) → Exiting Trip Distribution
- XX% Regional Trip Distribution

DRMP

Walmart Fuel Station
Spring Hill, FL

Site Trip Distribution

Scale: Not to Scale | Figure 8

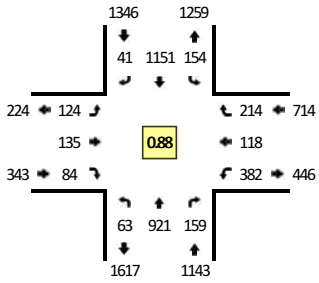
APPENDIX B

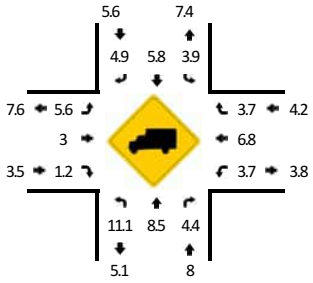
TRAFFIC COUNT DATA

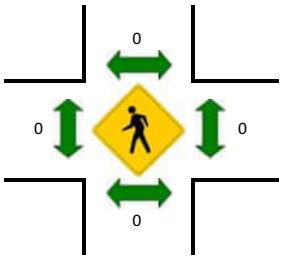
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

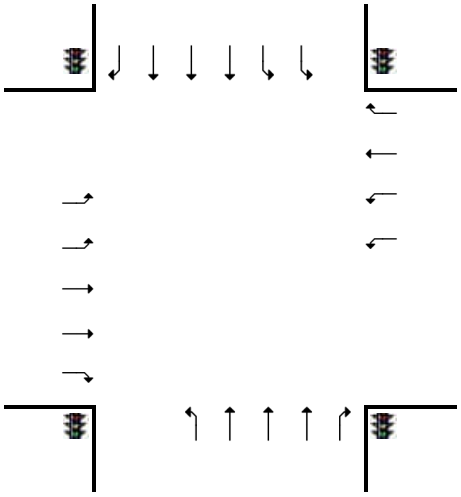
LOCATION: US-19 (Commercial Way) -- Spring Hill Dr / Osowaw Blvd | **QC JOB #:** 17330303
CITY/STATE: Hernando, FL | **DATE:** Thu, Nov 13 2025

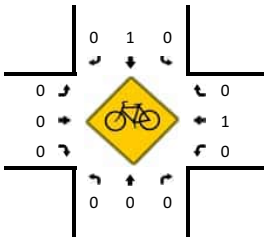
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

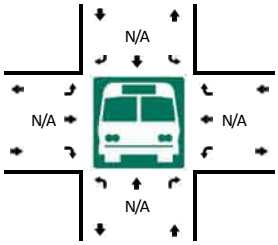


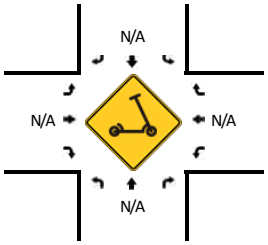












15-Min Count Period Beginning At	US-19 (Commercial Way) (Northbound)				US-19 (Commercial Way) (Southbound)				Spring Hill Dr / Osowaw Blvd (Eastbound)				Spring Hill Dr / Osowaw Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	11	138	19	0	17	276	2	0	22	21	14	0	85	11	32	0	648	
7:15 AM	6	177	28	0	25	335	9	1	11	23	14	0	102	19	34	0	784	
7:30 AM	16	279	52	0	35	359	8	0	18	19	16	1	118	22	60	0	1003	
7:45 AM	16	219	37	0	34	276	10	0	18	29	11	0	102	28	47	0	827	3262
8:00 AM	22	211	30	0	40	270	12	0	43	44	36	0	79	41	57	0	885	3499
8:15 AM	9	212	40	0	43	246	11	2	43	43	21	1	83	27	50	0	831	3546
8:30 AM	8	233	56	0	63	336	18	0	40	23	16	0	72	19	54	0	938	3481
8:45 AM	20	220	40	0	59	245	25	0	34	21	17	0	87	25	75	0	868	3522

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	64	1116	208	0	140	1436	32	0	72	76	64	4	472	88	240	0	4012
Heavy Trucks	16	96	4		4	80	4		8	4	0		12	12	16		256
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 11/20/2025 8:33 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

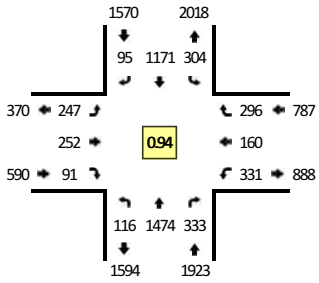
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

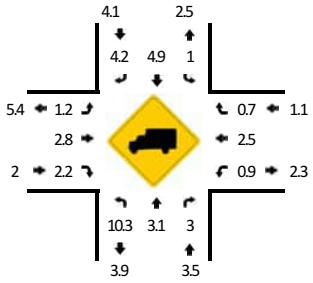
LOCATION: US-19 (Commercial Way) -- Spring Hill Dr / Osowaw Blvd | **QC JOB #:** 17330304

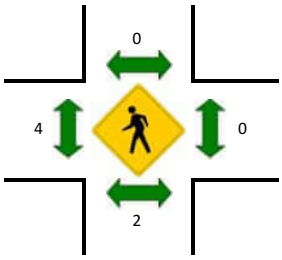
CITY/STATE: Hernando, FL | **DATE:** Thu, Nov 13 2025

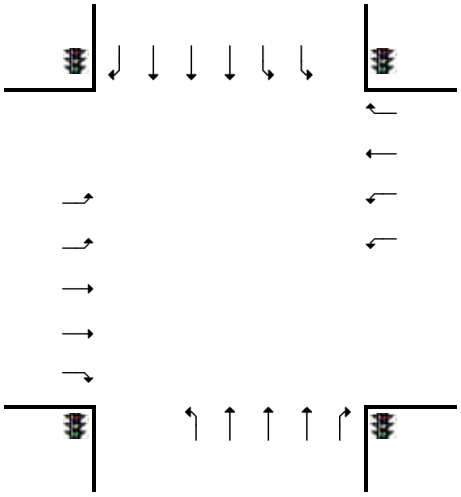
Peak-Hour: 4:30 PM -- 5:30 PM

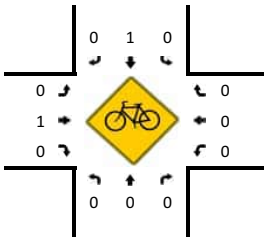
Peak 15-Min: 5:15 PM -- 5:30 PM

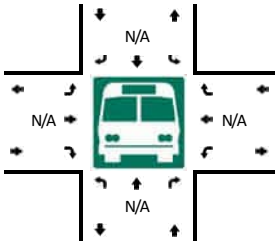


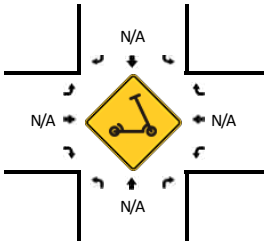












15-Min Count Period Beginning At	US-19 (Commercial Way) (Northbound)				US-19 (Commercial Way) (Southbound)				Spring Hill Dr / Osowaw Blvd (Eastbound)				Spring Hill Dr / Osowaw Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	26	389	87	0	92	258	38	0	61	57	24	2	68	33	76	0	1211	
4:15 PM	20	326	89	0	80	274	31	1	60	58	30	0	77	46	72	0	1164	
4:30 PM	23	337	66	0	62	288	25	0	70	63	18	1	89	45	74	1	1162	
4:45 PM	29	382	80	1	72	278	26	1	43	54	25	0	75	33	84	0	1183	4720
5:00 PM	36	324	76	0	98	329	24	1	62	66	26	0	75	47	71	0	1235	4744
5:15 PM	26	431	111	1	70	276	20	0	71	69	22	0	91	35	67	0	1290	4870
5:30 PM	23	364	91	0	63	264	25	4	44	62	16	0	66	42	77	0	1141	4849
5:45 PM	15	325	101	0	58	186	26	6	74	54	15	0	76	41	71	0	1048	4714

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	104	1724	444	4	280	1104	80	0	284	276	88	0	364	140	268	0	5160
Heavy Trucks	0	52	16		4	72	8		4	4	4		0	4	0		168
Buses																	
Pedestrians		4				0				4				0			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

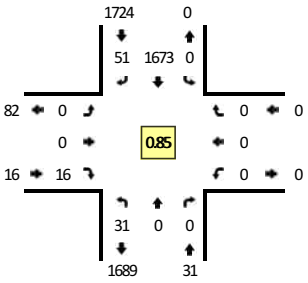
Comments:

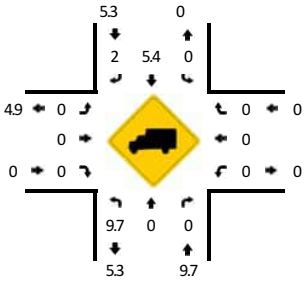
Report generated on 11/20/2025 8:33 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

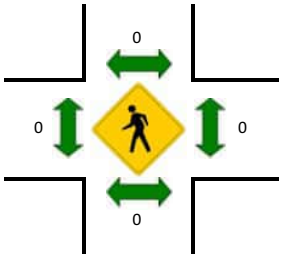
LOCATION: US-19 (Commercial Way) -- RIRO Walmart Dwy | **QC JOB #:** 17330305
CITY/STATE: Hernando, FL | **DATE:** Thu, Nov 13 2025

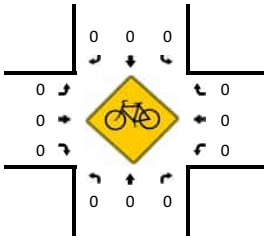
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

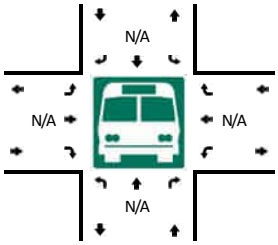


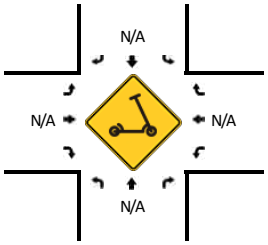


TRUE DATA TO IMPROVE MOBILITY









15-Min Count Period Beginning At	US-19 (Commercial Way) (Northbound)				US-19 (Commercial Way) (Southbound)				RIRO Walmart Dwy (Eastbound)				RIRO Walmart Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	6	0	0	0	0	364	5	0	0	0	6	0	0	0	0	0	381	
7:15 AM	6	0	0	0	0	433	9	0	0	0	1	0	0	0	0	0	449	
7:30 AM	5	0	0	0	0	496	13	0	0	0	5	0	0	0	0	0	519	
7:45 AM	9	0	0	0	0	372	16	0	0	0	6	0	0	0	0	0	403	1752
8:00 AM	11	0	0	0	0	372	13	0	0	0	4	0	0	0	0	0	400	1771
8:15 AM	12	0	0	0	0	331	17	0	0	0	5	0	0	0	0	0	365	1687
8:30 AM	4	0	0	0	0	397	24	0	0	0	5	1	0	0	0	0	431	1599
8:45 AM	7	0	0	1	0	321	24	0	0	0	7	0	0	0	0	0	360	1556

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	0	0	0	0	1984	52	0	0	0	20	0	0	0	0	0	2076
Heavy Trucks	0	0	0		0	104	4		0	0	0		0	0	0		108
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

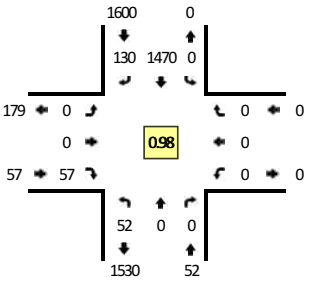
Comments:

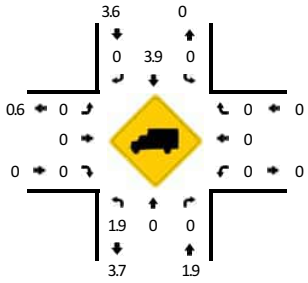
Report generated on 11/20/2025 8:33 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

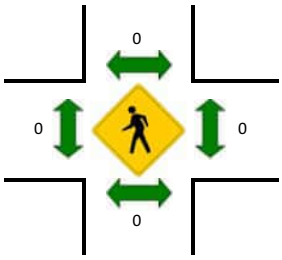
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

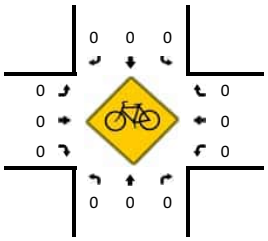
LOCATION: US-19 (Commercial Way) -- RIRO Walmart Dwy | **QC JOB #:** 17330306
CITY/STATE: Hernando, FL | **DATE:** Thu, Nov 13 2025

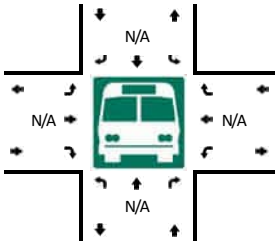
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

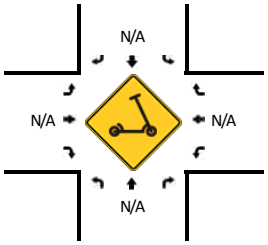












15-Min Count Period Beginning At	US-19 (Commercial Way) (Northbound)				US-19 (Commercial Way) (Southbound)				RIRO Walmart Dwy (Eastbound)				RIRO Walmart Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	21	0	0	1	0	330	28	0	0	0	21	0	0	0	0	0	401	
4:15 PM	14	0	0	1	0	363	22	0	0	0	14	0	0	0	0	0	414	
4:30 PM	10	0	0	0	0	367	34	0	0	0	12	0	0	0	0	0	423	
4:45 PM	15	0	0	3	0	346	34	0	0	0	16	0	0	0	0	0	414	1652
5:00 PM	11	0	0	0	0	382	34	0	0	0	11	0	0	0	0	0	438	1689
5:15 PM	13	0	0	0	0	375	28	0	0	0	18	0	0	0	0	0	434	1709
5:30 PM	20	0	0	0	0	320	29	0	0	0	19	1	0	0	0	0	389	1675
5:45 PM	14	0	0	0	0	255	22	0	0	0	12	0	0	0	0	0	303	1564

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	44	0	0	0	0	1528	136	0	0	0	44	0	0	0	0	0	1752
Heavy Trucks	0	0	0		0	48	0		0	0	0		0	0	0		48
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

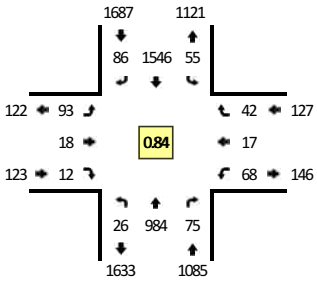
Comments:

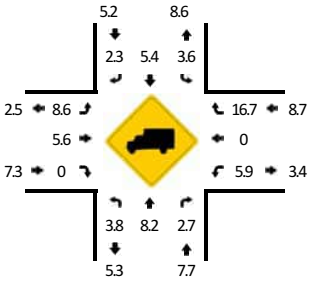
Report generated on 11/20/2025 8:33 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

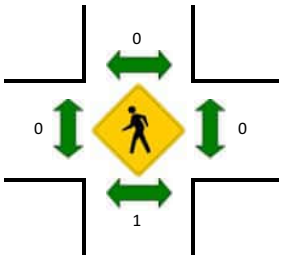
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

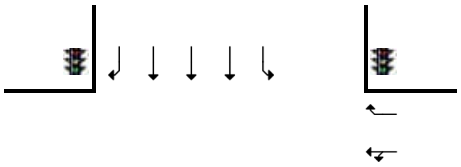
LOCATION: US-19 (Commercial Way) -- Pepper St / Applegate Dr | **QC JOB #:** 17330307
CITY/STATE: Spring Hill, FL | **DATE:** Thu, Nov 13 2025

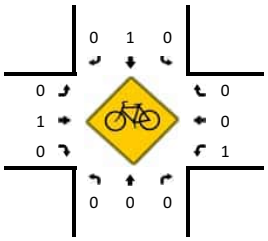
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

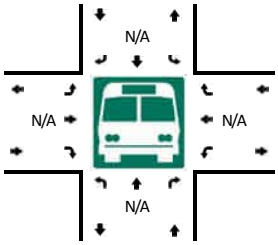


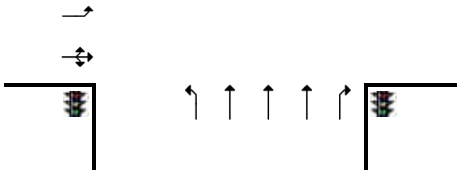


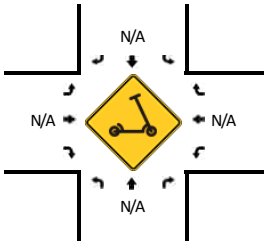












15-Min Count Period Beginning At	US-19 (Commercial Way) (Northbound)				US-19 (Commercial Way) (Southbound)				Pepper St / Applegate Dr (Eastbound)				Pepper St / Applegate Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	5	158	8	4	7	365	4	0	8	4	3	0	14	0	8	0	588	
7:15 AM	4	216	18	2	10	388	24	0	10	2	0	0	19	4	9	0	706	
7:30 AM	4	264	16	1	16	468	30	1	50	6	5	0	19	1	18	0	899	
7:45 AM	7	276	22	2	19	338	19	0	20	8	2	0	15	11	6	0	745	2938
8:00 AM	4	228	19	2	8	352	13	1	13	2	5	0	15	1	9	0	672	3022
8:15 AM	10	252	17	1	18	297	18	0	6	4	3	0	12	5	14	0	657	2973
8:30 AM	13	289	27	4	28	345	27	0	17	7	3	0	23	5	18	0	806	2880
8:45 AM	12	245	33	1	20	288	21	1	13	8	6	0	15	7	17	0	687	2822

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	16	1056	64	4	64	1872	120	4	200	24	20	0	76	4	72	0	3596
Heavy Trucks	0	76	0		0	88	8		4	4	0		4	0	20		204
Buses																	
Pedestrians		4				0				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		4	0	0		4
Scooters																	

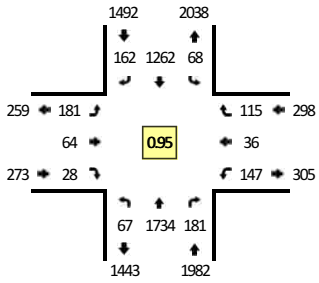
Comments:

Report generated on 11/20/2025 8:33 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

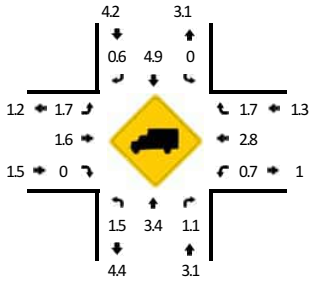
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

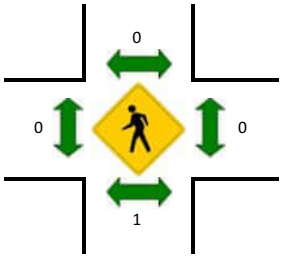
LOCATION: US-19 (Commercial Way) -- Pepper St / Applegate Dr | **QC JOB #:** 17330308
CITY/STATE: Spring Hill, FL | **DATE:** Thu, Nov 13 2025

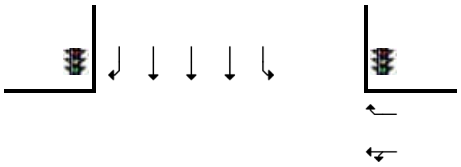
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

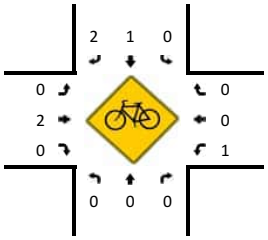


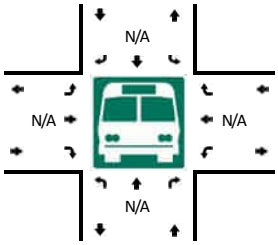
TRUE DATA TO IMPROVE MOBILITY

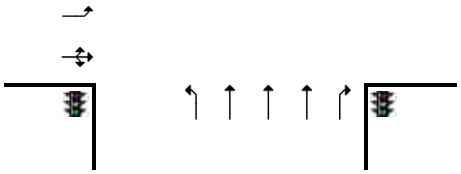


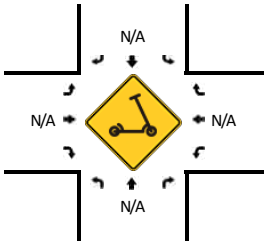












15-Min Count Period Beginning At	US-19 (Commercial Way) (Northbound)				US-19 (Commercial Way) (Southbound)				Pepper St / Applegate Dr (Eastbound)				Pepper St / Applegate Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	17	437	57	0	19	300	35	5	54	23	17	0	27	11	26	0	1028	
4:15 PM	18	385	61	1	23	301	29	0	46	14	10	0	37	7	34	0	966	
4:30 PM	3	338	54	0	21	325	52	0	48	15	12	0	46	10	30	0	954	
4:45 PM	12	429	46	1	18	302	50	3	32	9	3	0	35	5	32	0	977	3925
5:00 PM	18	432	44	3	15	326	32	1	57	16	13	0	38	11	38	0	1044	3941
5:15 PM	16	439	54	0	12	350	39	3	54	25	6	0	36	9	21	0	1064	4039
5:30 PM	15	434	37	2	15	284	41	1	38	14	6	0	38	11	24	0	960	4045
5:45 PM	21	397	40	1	11	221	28	1	49	21	12	0	37	9	24	0	872	3940

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	64	1756	216	0	48	1400	156	12	216	100	24	0	144	36	84	0	4256
Heavy Trucks	0	64	4		0	84	0		4	4	0		0	4	4		168
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	4		0	0	0		0	0	0		4
Scooters																	

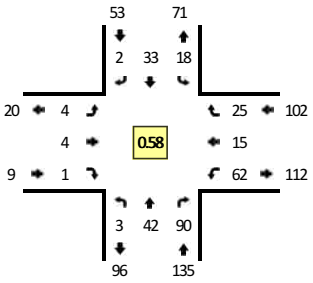
Comments:

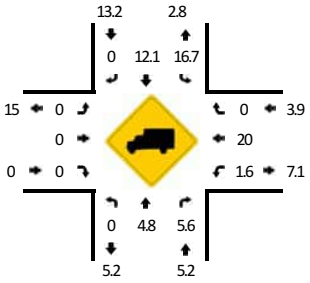
Report generated on 11/20/2025 8:34 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

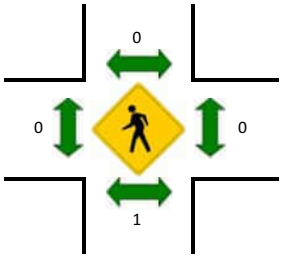
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

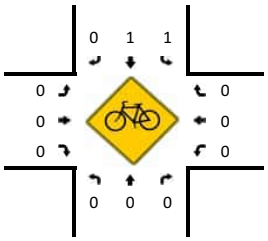
LOCATION: Wendy Ct / Internal N-S Dwy -- Pepper St | **QC JOB #:** 17330317
CITY/STATE: Spring Hill, FL | **DATE:** Thu, Nov 13 2025

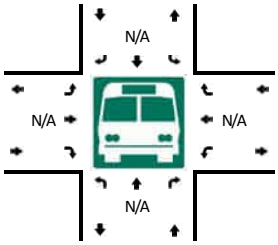
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

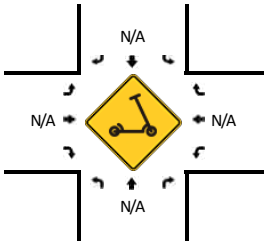












15-Min Count Period Beginning At	Wendy Ct / Internal N-S Dwy (Northbound)				Wendy Ct / Internal N-S Dwy (Southbound)				Pepper St (Eastbound)				Pepper St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	4	4	0	4	5	0	0	0	2	0	0	3	1	3	0	26	
7:15 AM	1	3	8	0	3	7	0	0	0	2	0	0	20	1	5	0	50	
7:30 AM	2	17	58	0	3	12	0	0	2	2	0	0	28	4	2	0	130	
7:45 AM	1	12	21	0	3	9	1	0	1	2	0	0	12	7	10	0	79	285
8:00 AM	0	7	7	0	7	7	1	0	0	0	0	0	6	0	3	0	38	297
8:15 AM	0	6	4	0	5	5	0	0	1	0	1	0	16	4	10	0	52	299
8:30 AM	2	17	14	0	8	8	1	0	0	4	1	0	18	7	13	0	93	262
8:45 AM	0	13	8	0	10	13	0	0	0	0	0	0	17	3	10	0	74	257

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	68	232	0	12	48	0	0	8	8	0	0	112	16	8	0	520
Heavy Trucks	0	4	8		4	8	0		0	0	0		4	4	0		32
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

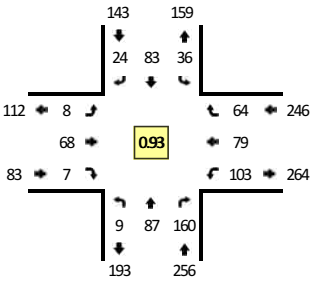
Comments: WB does not have a stop sign

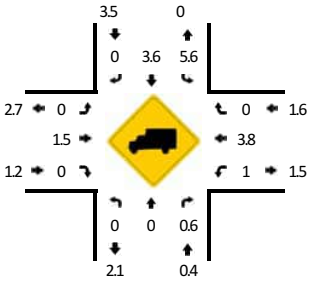
Report generated on 11/20/2025 8:34 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

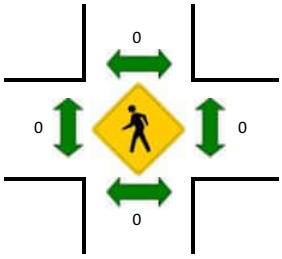
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

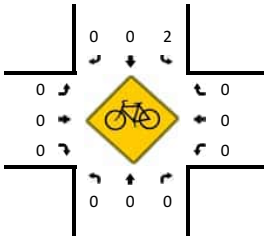
LOCATION: Wendy Ct / Internal N-S Dwy -- Pepper St | **QC JOB #:** 17330318
CITY/STATE: Spring Hill, FL | **DATE:** Thu, Nov 13 2025

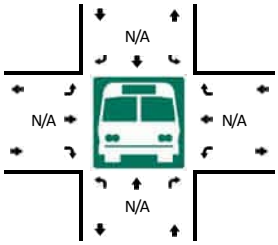
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

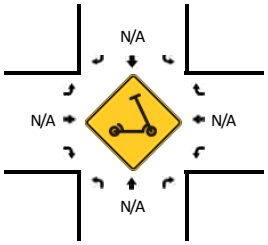












15-Min Count Period Beginning At	Wendy Ct / Internal N-S Dwy (Northbound)				Wendy Ct / Internal N-S Dwy (Southbound)				Pepper St (Eastbound)				Pepper St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	16	57	0	10	33	2	0	5	16	0	0	33	17	16	0	206	
4:15 PM	4	13	39	0	8	22	7	0	4	25	0	0	21	14	15	0	172	
4:30 PM	1	16	41	0	13	28	2	0	1	12	0	0	33	24	6	0	177	
4:45 PM	0	24	26	0	5	20	3	0	0	14	2	0	32	24	13	0	163	718
5:00 PM	3	19	50	0	11	22	6	0	3	18	3	0	19	17	18	0	189	701
5:15 PM	3	22	50	0	10	21	8	0	3	16	2	0	24	22	15	0	196	725
5:30 PM	3	22	34	0	10	20	7	0	2	20	0	0	28	16	18	0	180	728
5:45 PM	3	16	33	0	13	14	6	0	1	24	2	0	10	17	16	0	155	720

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	12	88	200	0	40	84	32	0	12	64	8	0	96	88	60	0	784
Heavy Trucks	0	0	4		4	0	0		0	0	0		4	0	0		12
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments: WB does not have a stop sign

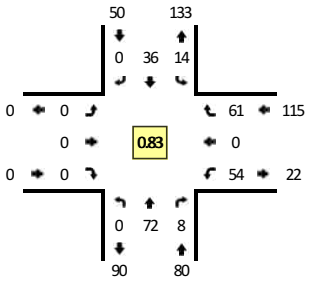
Report generated on 11/20/2025 8:34 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

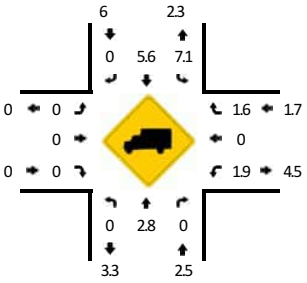
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

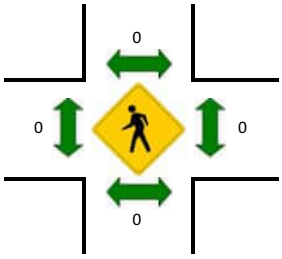
LOCATION: Internal N-S Dwy -- Walmart Dwy
CITY/STATE: Hernando, FL

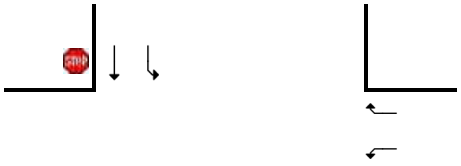
QC JOB #: 17330315
DATE: Thu, Nov 13 2025

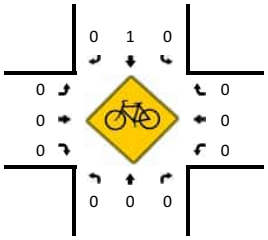
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:45 AM -- 9:00 AM

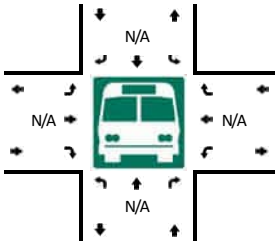


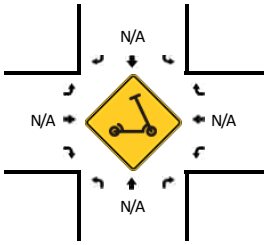












15-Min Count Period Beginning At	Internal N-S Dwy (Northbound)				Internal N-S Dwy (Southbound)				Walmart Dwy (Eastbound)				Walmart Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	13	3	0	3	2	0	0	0	0	0	0	6	0	5	0	32	
7:15 AM	0	11	1	0	1	7	0	0	0	0	0	0	4	0	12	0	36	
7:30 AM	0	20	4	0	2	6	0	0	0	0	0	0	9	0	9	0	50	
7:45 AM	0	18	3	0	2	9	0	0	0	0	0	0	11	0	15	0	58	176
8:00 AM	0	14	2	0	2	7	0	0	0	0	0	0	9	0	15	0	49	193
8:15 AM	0	15	1	0	4	9	0	0	0	0	0	0	10	0	20	0	59	216
8:30 AM	0	23	2	0	4	7	0	0	0	0	0	0	19	0	8	0	63	229
8:45 AM	0	20	3	0	4	13	0	0	0	0	0	0	16	0	18	0	74	245

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	80	12	0	16	52	0	0	0	0	0	0	64	0	72	0	296
Heavy Trucks	0	0	0		0	0	0		0	0	0		4	0	0		4
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

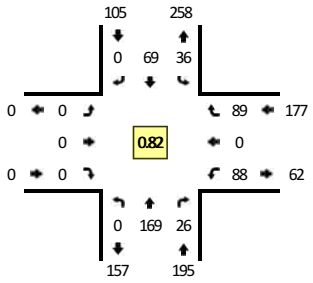
Report generated on 11/20/2025 8:34 AM

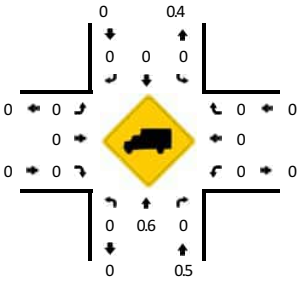
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

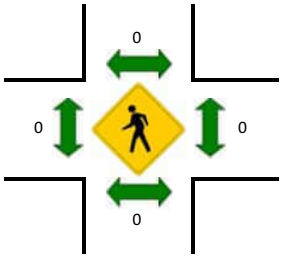
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

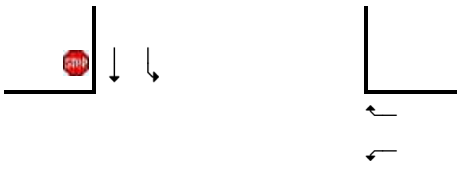
LOCATION: Internal N-S Dwy -- Walmart Dwy | **QC JOB #:** 17330316
CITY/STATE: Hernando, FL | **DATE:** Thu, Nov 13 2025

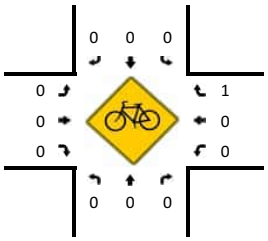
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

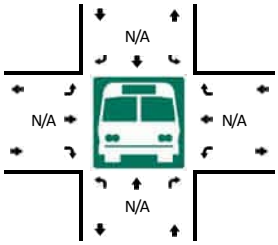


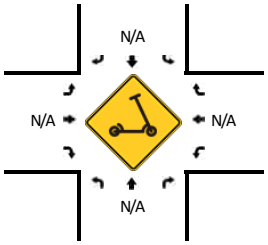












15-Min Count Period Beginning At	Internal N-S Dwy (Northbound)				Internal N-S Dwy (Southbound)				Walmart Dwy (Eastbound)				Walmart Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	58	8	0	12	20	0	0	0	0	0	0	24	0	24	0	146	
4:15 PM	0	41	5	0	9	16	0	0	0	0	0	0	15	0	21	0	107	
4:30 PM	0	32	1	0	11	24	0	0	0	0	0	0	27	0	17	0	112	
4:45 PM	0	38	12	0	4	9	0	0	0	0	0	0	22	0	27	0	112	477
5:00 PM	0	40	6	0	6	12	0	0	0	0	0	0	25	0	20	0	109	440
5:15 PM	0	59	6	0	11	15	0	0	0	0	0	0	19	0	19	0	129	462
5:30 PM	0	42	10	0	10	8	0	0	0	0	0	0	29	0	22	0	121	471
5:45 PM	0	38	5	0	6	15	0	0	0	0	0	0	13	0	24	0	101	460

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	232	32	0	48	80	0	0	0	0	0	0	96	0	96	0	584
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	4		4
Scooters																	

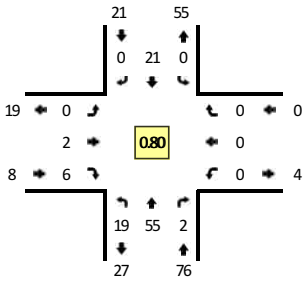
Comments:

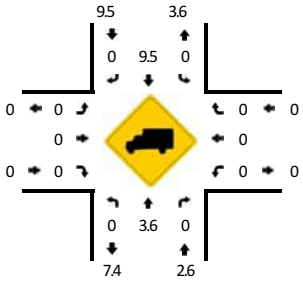
Report generated on 11/20/2025 8:34 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

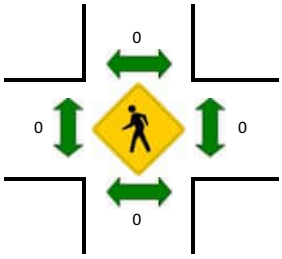
LOCATION: Internal N-S Dwy -- Northern Internal Dwy / AT | **QC JOB #:** 17330313
CITY/STATE: Hernando, FL | **DATE:** Thu, Nov 13 2025

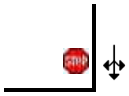
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:45 AM -- 9:00 AM

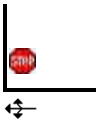


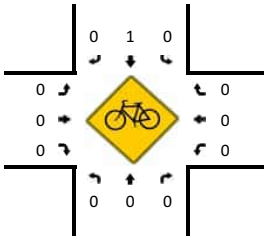


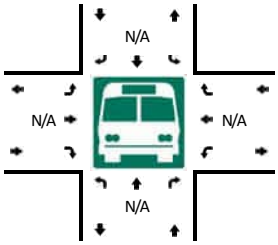
TRUE DATA TO IMPROVE MOBILITY

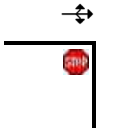


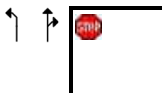


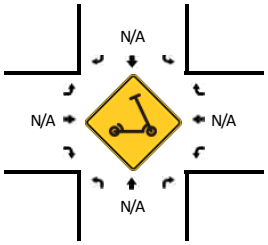












15-Min Count Period Beginning At	Internal N-S Dwy (Northbound)				Internal N-S Dwy (Southbound)				Northern Internal Dwy / AT (Eastbound)				Northern Internal Dwy / AT (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	4	12	0	0	0	1	0	0	0	0	0	0	0	0	0	0	17	
7:15 AM	3	12	0	0	0	6	0	0	0	0	2	0	0	0	0	0	23	
7:30 AM	2	19	0	0	0	6	0	0	0	0	0	0	0	0	0	0	27	
7:45 AM	7	8	0	0	0	6	0	0	0	0	1	0	0	0	0	0	22	89
8:00 AM	6	14	0	0	0	8	0	0	0	0	0	0	0	0	0	0	28	100
8:15 AM	3	12	0	0	0	2	0	0	0	1	2	0	0	0	0	0	20	97
8:30 AM	6	14	0	0	0	2	0	0	0	1	1	0	0	0	0	0	24	94
8:45 AM	4	15	2	0	0	9	0	0	0	0	3	0	0	0	0	0	33	105

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	16	60	8	0	0	36	0	0	0	0	12	0	0	0	0	0	132
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

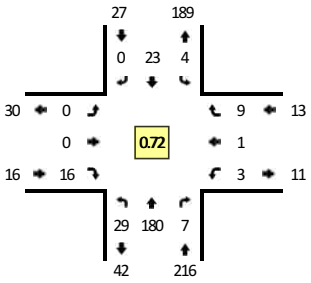
Comments:

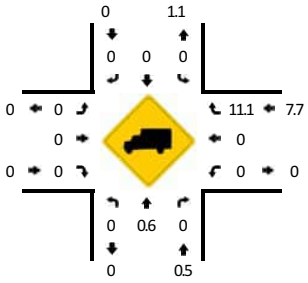
Report generated on 11/20/2025 8:34 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

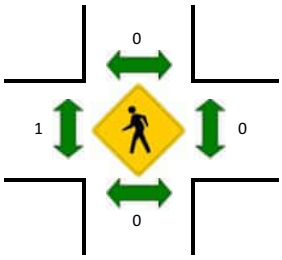
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

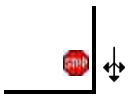
LOCATION: Internal N-S Dwy -- Northern Internal Dwy / AT | **QC JOB #:** 17330314
CITY/STATE: Hernando, FL | **DATE:** Thu, Nov 13 2025

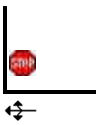
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

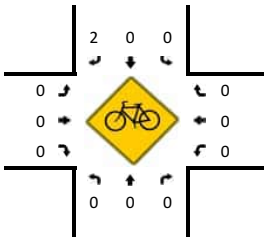


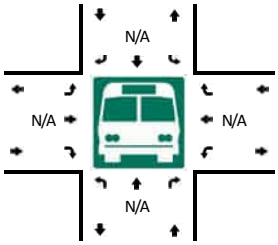


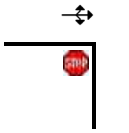


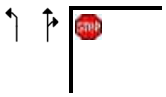


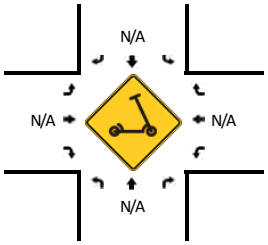












15-Min Count Period Beginning At	Internal N-S Dwy (Northbound)				Internal N-S Dwy (Southbound)				Northern Internal Dwy / AT (Eastbound)				Northern Internal Dwy / AT (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	17	56	3	0	3	9	0	0	0	0	4	0	1	0	1	0	94	
4:15 PM	2	43	1	0	1	4	0	0	0	0	4	0	1	0	2	0	58	
4:30 PM	5	41	2	0	0	6	0	0	0	0	7	0	1	1	5	0	68	
4:45 PM	5	40	1	0	0	4	0	0	0	0	1	0	0	0	1	0	52	272
5:00 PM	8	37	2	0	0	3	0	0	0	2	2	0	1	0	4	0	59	237
5:15 PM	12	54	0	0	0	6	0	0	0	0	2	0	1	0	2	0	77	256
5:30 PM	9	50	0	0	0	2	0	0	0	0	2	0	0	0	1	0	64	252
5:45 PM	6	35	0	0	1	6	0	0	0	0	2	0	0	0	0	0	50	250

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	68	224	12	0	12	36	0	0	0	0	16	0	4	0	4	0	376
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	8		0	0	0		0	0	0		8
Scooters																	

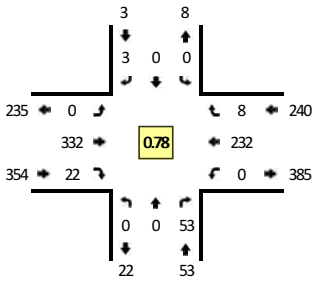
Comments:

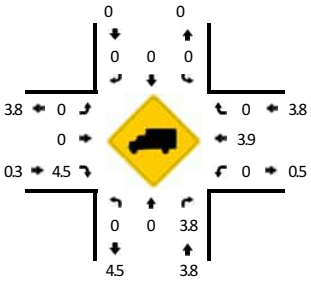
Report generated on 11/20/2025 8:34 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

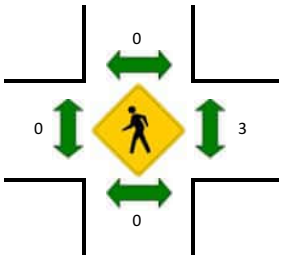
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

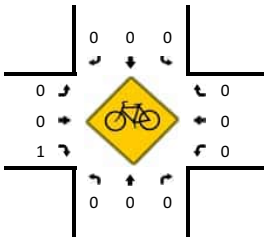
LOCATION: Internal N-S Dwy / CVS Access (1) -- Osowaw Blvd | **QC JOB #:** 17330309
CITY/STATE: Spring Hill, FL | **DATE:** Thu, Nov 13 2025

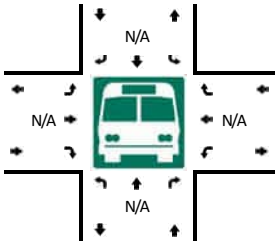
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

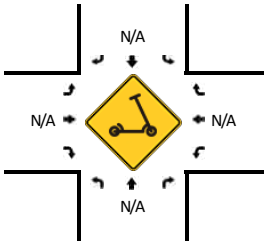












15-Min Count Period Beginning At	Internal N-S Dwy / CVS Access (1) (Northbound)				Internal N-S Dwy / CVS Access (1) (Southbound)				Osowaw Blvd (Eastbound)				Osowaw Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	12	0	0	0	0	0	0	45	1	0	0	23	0	0	81	
7:15 AM	0	0	13	0	0	0	0	0	0	38	6	0	0	34	0	0	91	
7:30 AM	0	0	16	0	0	0	0	0	0	41	7	0	0	48	0	0	112	
7:45 AM	0	0	9	0	0	0	0	0	0	47	5	0	0	53	1	0	115	399
8:00 AM	0	0	13	0	0	0	0	0	0	113	8	0	0	72	3	0	209	527
8:15 AM	0	0	12	0	0	0	2	0	0	91	2	0	0	48	1	0	156	592
8:30 AM	0	0	14	0	0	0	1	0	0	68	2	0	0	43	2	0	130	610
8:45 AM	0	0	14	0	0	0	0	0	0	60	10	0	0	69	2	0	155	650

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	52	0	0	0	0	0	0	452	32	0	0	288	12	0	836
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	12	0		12
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	4		0	0	0		4
Scooters																	

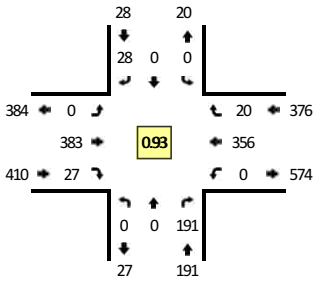
Comments:

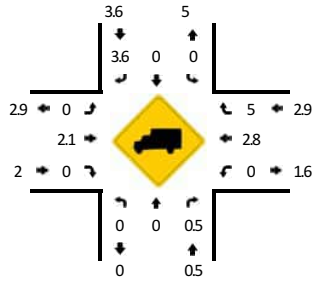
Report generated on 11/20/2025 8:34 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

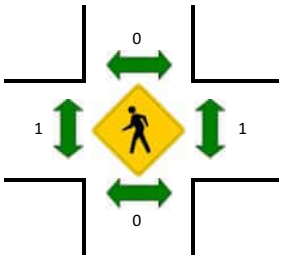
LOCATION: Internal N-S Dwy / CVS Access (1) -- Osowaw Blvd | **QC JOB #:** 17330310
CITY/STATE: Spring Hill, FL | **DATE:** Thu, Nov 13 2025

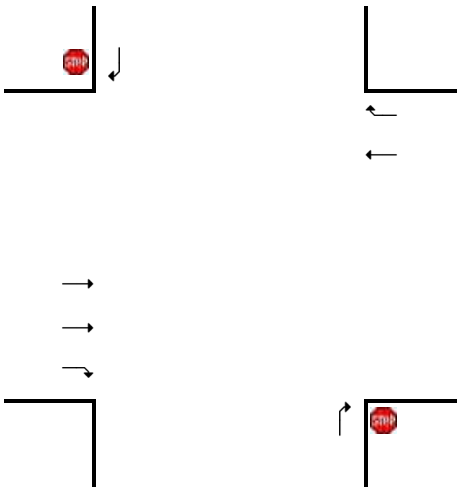
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

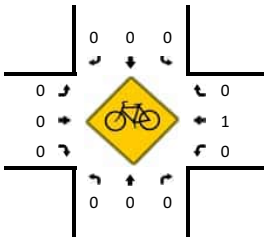


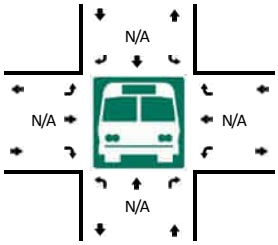


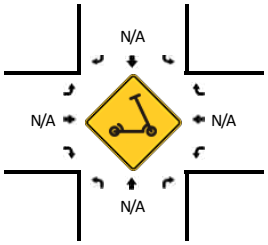
TRUE DATA TO IMPROVE MOBILITY











15-Min Count Period Beginning At	Internal N-S Dwy / CVS Access (1) (Northbound)				Internal N-S Dwy / CVS Access (1) (Southbound)				Osowaw Blvd (Eastbound)				Osowaw Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	57	0	0	0	5	0	0	97	12	0	0	93	6	0	270	
4:15 PM	0	0	47	0	0	0	8	0	0	96	5	0	0	93	4	0	253	
4:30 PM	0	0	45	0	0	0	9	0	0	99	6	0	0	84	8	0	251	
4:45 PM	0	0	42	0	0	0	6	0	0	91	4	0	0	86	2	0	231	1005
5:00 PM	0	0	38	0	0	0	4	0	0	118	3	0	0	103	3	0	269	1004
5:15 PM	0	0	58	0	0	0	4	0	0	94	6	0	0	74	6	0	242	993
5:30 PM	0	0	52	0	0	0	5	0	0	81	2	0	0	87	4	0	231	973
5:45 PM	0	0	35	0	0	0	8	0	0	90	7	0	0	79	5	0	224	966

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	228	0	0	0	20	0	0	388	48	0	0	372	24	0	1080
Heavy Trucks	0	0	0		0	0	0		0	20	0		0	12	0		32
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

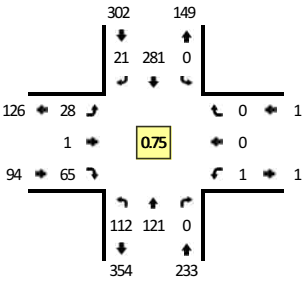
Comments:

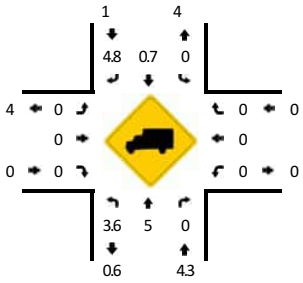
Report generated on 11/20/2025 8:34 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

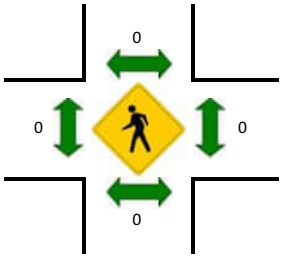
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

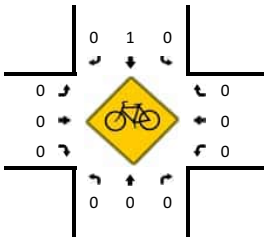
LOCATION: Osowaw Blvd -- Walmart Access Dwy / CVS Access (2) | **QC JOB #:** 17330311
CITY/STATE: Spring Hill, FL | **DATE:** Thu, Nov 13 2025

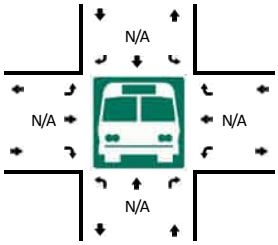
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

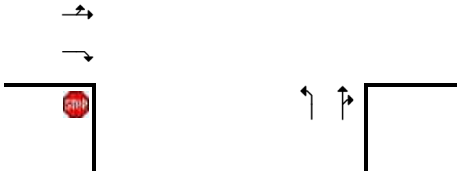


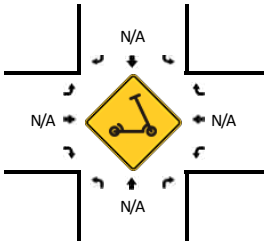












15-Min Count Period Beginning At	Osowaw Blvd (Northbound)				Osowaw Blvd (Southbound)				Walmart Access Dwy / CVS Access (2) (Eastbound)				Walmart Access Dwy / CVS Access (2) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	9	14	0	0	0	28	1	0	4	0	17	0	0	0	0	0	73	
7:15 AM	13	22	0	0	0	39	0	0	2	0	5	0	0	0	0	0	81	
7:30 AM	18	29	0	1	0	41	2	0	5	0	5	0	1	0	0	0	102	
7:45 AM	16	36	0	1	0	39	2	0	9	0	11	0	1	0	1	0	116	372
8:00 AM	20	53	0	0	0	108	5	0	8	0	15	0	0	0	0	0	209	508
8:15 AM	23	25	0	2	0	75	9	0	3	1	14	0	0	0	0	0	152	579
8:30 AM	31	9	0	4	0	48	6	0	9	0	21	0	0	0	0	0	128	605
8:45 AM	31	34	0	1	0	50	1	0	8	0	15	0	1	0	0	0	141	630

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	80	212	0	0	0	432	20	0	32	0	60	0	0	0	0	0	836
Heavy Trucks	4	8	0		0	0	0		0	0	0		0	0	0		12
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	4	0		0	0	0		0	0	0		4
Scooters																	

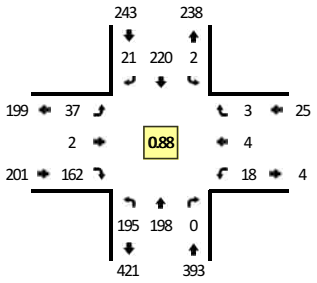
Comments:

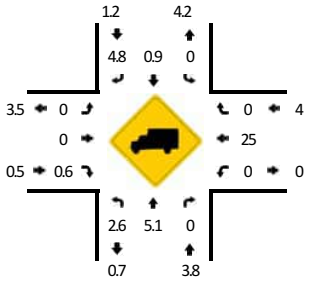
Report generated on 11/20/2025 8:34 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

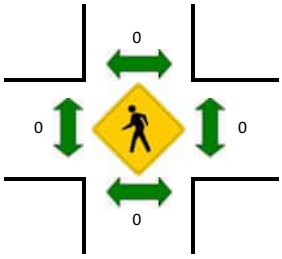
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

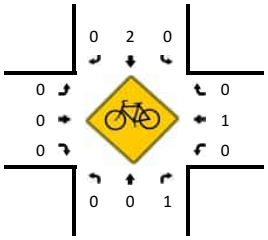
LOCATION: Osowaw Blvd -- Walmart Access Dwy / CVS Access (2) | **QC JOB #:** 17330312
CITY/STATE: Spring Hill, FL | **DATE:** Thu, Nov 13 2025

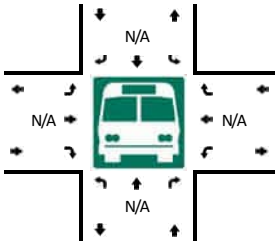
Peak-Hour: 4:15 PM -- 5:15 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

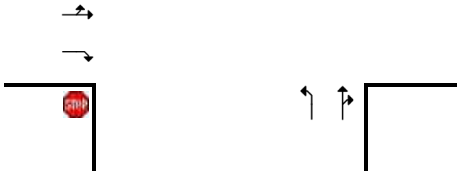


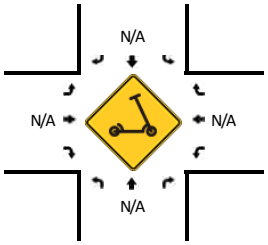












15-Min Count Period Beginning At	Osowaw Blvd (Northbound)				Osowaw Blvd (Southbound)				Walmart Access Dwy / CVS Access (2) (Eastbound)				Walmart Access Dwy / CVS Access (2) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	51	44	0	4	0	58	3	0	29	1	42	0	5	1	5	0	243	
4:15 PM	48	45	0	9	1	57	3	0	6	0	33	0	3	1	0	0	206	
4:30 PM	43	44	0	6	0	49	8	0	8	0	45	0	4	1	0	0	208	
4:45 PM	43	48	0	1	0	56	6	0	8	2	32	0	6	0	1	0	203	860
5:00 PM	40	61	0	5	1	58	4	0	15	0	52	0	5	2	2	0	245	862
5:15 PM	31	42	0	4	1	52	5	0	14	2	43	0	3	0	0	0	197	853
5:30 PM	40	47	1	5	1	50	7	0	12	0	26	0	2	1	2	0	194	839
5:45 PM	46	37	0	4	1	56	8	0	7	1	32	0	3	0	0	0	195	831

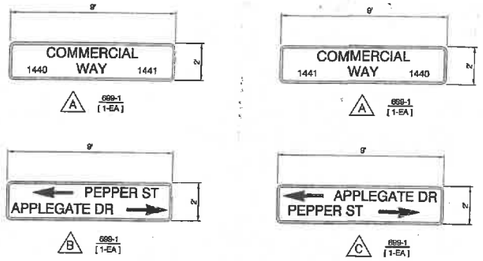
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	160	244	0	20	4	232	16	0	60	0	208	0	20	8	8	0	980
Heavy Trucks	4	28	0		0	4	0		0	0	0		0	4	0		40
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	8	0		0	0	0		0	4	0		12
Scooters																	

Comments:

Report generated on 11/20/2025 8:34 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

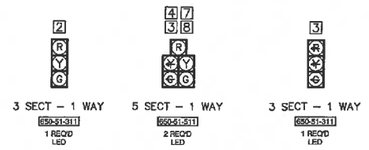
APPENDIX C

SIGNAL PLANS



SINGLE FACE INTERNALLY ILLUMINATED SIGNS ⚠

(SIGNS TO BE LOCATED ON EXISTING STRAIN POLES)



DETAIL OF SIGNAL FACES

GENERAL NOTES

1. THE CONTRACTOR SHALL MEET THE CRITERIA OUTLINED IN "THE MINIMUM SPECIFICATIONS FOR TRAFFIC CONTROL SIGNALS AND DEVICES".

2. THE LOCATIONS OF UTILITES SHOWN ON THE PLANS ARE APPROXIMATE. PRIOR TO DIGGING, THE CONTRACTORR SHALL DETERMINE THE EXACT LOCATIONS OF ALL UTILITIES.

3. ONE WEEK PRIOR TO THE TRAFFIC SIGNAL INSTALLATION, PLEASE CONTACT:
   A.) MR. JIM ROSA, FDOT DISTRICT SEVEN TRAFFIC OPERATIONS
   CONSTRUCTION LIASON FDOT
   11201 NORTH MCKINLEY DRIVE
   TAMPA, FLORIDA 33612
   PHONE: (813) 975-6268

   B.) MR. RANDELL CLARK
   SIGNAL SYSTEM SPECIALIST
   HERNANDO COUNTY TRAFFIC OPERATIONS DIVISION
   1525 E. JEFFERSON STREET
   BROOKSVILLE, FLORIDA 34701
   PHONE: (352) 754-4475, EX 17004

4. STATE OF FLORIDA STATUTE 556 (1999) REQUIRES THAT BEFORE EXCAVATING, NOTICE BE GIVEN TO THE UTILITY OWNER NOT LESS THAN TWO (2) FULL BUSINESS DAYS AND NO MORE THAN FIVE (5) FULL BUSINESS DAYS. NOT ALL UTILITY COMPANIES ARE MEMBERS OF "SUNSHINE" 1-800-432-4770.

5. ALL FIELD WIRING, INCLUDING SIGNAL HEAD WIRING AND LEAD-INS, SHALL BE IDENTIFIED BY CLEARLY MARKED WEATHER PROOF TAGS. THE PROPOSED TAGGING SYSTEM SHALL BE IN ACCORDANCE WITH THE CITY OF ST. PETERSBURG AND FDOT STANDARD SPECIFICATIONS.

6. WHEN A CONTRACTOR IS WORKING ON A SIGNAL IN AN INTERSECTION INSTALLING CONDUIT IN THE STREET, INSTALLING NEW SIGNAL EQUIPMENT, AND INSTALLING LOOPS AND RUNS, AND TURNING ON-OFF NEW SIGNAL WHERE A LANE IS CLOSED, A UNIFORMED LAW ENFORCEMENT OFFICER WITH MARKED VEHICLE SHALL BE UTILIZED TO DIRECT TRAFFIC. THE PAYMENT FOR A TRAFFIC CONTROL OFFICER SHALL BE PAID FOR UNDER ITEM NO. 102-14. ⚠

7. ALL NEW SIGNAL HEADS SHALL HAVE TUNNEL VISORS.

8. 699-1:
   INCLUDES ALL PIPES, BRACKETS, CLAMPS, NUTS, SOLTS, WIRE CONNECTIONS IN THE SIGNAL CABINET AND MISCELLANEOUS HARDWARE FOR THE CONTRACTOR TO FURNISH AND INSTALL THE INTERNALLY ILLUMINATED STREET NAME SIGNS TO BE MOUNTED ON THE STRAIN POLE AS SHOWN IN THE PLANS.

9. PRIOR TO ALL TRAFFIC SIGNAL CHANGES (I.E. MAINTENANCE OF TRAFFIC CHANGES, NEW SIGNAL INSTALLATIONS, DIFFERENT PAVEMENT CONFIGURATIONS, ETC.) CONTACT JILL WEHLE AT (813) 975-6241 FOR IMPLEMENTATION OF APPROPRIATE SIGNAL TIMINGS.

10. THE CONTRACTOR SHALL CONTACT THE LOCAL POWER COMPANY FOR THEIR ASSISTANCE IN PERFORMING ALL NECESSARY WORK UNDER POWER LINES. SUCH WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE INSTALLATION OF SPAN WIRE, SIGNAL CABLE, IBERGLASS INSULATORS, AND / OR SIGNAL POLES.

11. THE CONTRACTOR SHALL SUBMIT THE ASBUILT PLANS TO THE ENGINEER FOR APPROVAL PRIOR TO FINAL ACCEPTANCE. UPON FINAL ACCEPTANCE, THE ENGINEER SHALL PROVIDE AT LEAST ONE COPY OF THE FINAL AS-BUILT PLANS TO HERNANDO COUNTY AND ONE COPY TO FDOT DISTRICT TRAFFIC OPERATIONS. THE CONTRACTOR SHALL THEN TRANSFER THE SIGNAL TO HERNANDO COUNTY FOR MAINTENANCE.

12. 632-7-1: EACH PHASE / MOVEMENT SHALL BE WIRED FROM THE SIGNAL DISPLAY TO THE CONTROLLER AS A SEPARATE PHASE / MOVEMENT. THIS INCLUDES THE LEFT TURN MOVEMENTS WHICH SHALL HAVE CONDUCTORS AVAILABLE FOR EITHER PROTECTED OR PERMISSIVE MOVEMENTS. THE CONTRACTOR SHALL VERIFY COLOR CODES FOR SIGNAL CABLE AND INTERCONNECT CABLE WITH THE HERNANDO COUNTY SIGNAL SHOP BEFORE ORDERING AND WIRE THE SIGNAL IN ACCORDANCE WITH THAT COLOR CODE AND F.D.O.T. SPECIFICATIONS. THERE SHALL BE ONE NEUTRAL PER APPROACH. ⚠

13. ALL FIELD WIRES IN CABINET SHALL BE IDENTIFIED WITH PANDUIT #PLFM-C MARKER TIES OR EQUIVALENT.

14. ALL SIGNAL CABLE ON SPAN WIRES SHALL BE ATTACHED TO THE MESSENGER BY USE OF LASING ROD IN PLACE OF TIE WRAPS.

15. 650-51-511 AND 650-51-311; ALL TRAFFIC SIGNAL HEAD INDICATIONS SHALL BE LED.

16. ALL GROUND ROD CONNECTIONS SHALL BE MADE USING EXOTHERMIC WELD GROUND CONNECTORS.

    ALL UNUSED REDS SHALL BE HARD WIRED TO 120V AC; NO PLUG IN JUMPERS SHALL BE USED.

    CABLE CONDUIT BETWEEN THE CONTROLLER BASE AND ALL OF THE POLES SHALL BE A MINIMUM OF 2" PVC.

17. MAIN STREET IS U.S. HIGHWAY 19 (MOVEMENTS 2 AND 6), MINOR STREET IS PEPPER STREET / APPLEGATE DRIVE (MOVEMENTS 4 AND 8).

18. CONTROLLER CABINET AND OVERHEAD WIRING SHALL BE CAPABLE OF SOP 10 WITH ALL NECESSARY COMPONENTS AND OVERHEAD WIRING FURNISHED AND INSTALLED TO SUPPORT SOP 10. ⚠

19. THIS SIGNAL SHALL BE DESIGNED IN ACCORDANCE WITH FDOT DISTRICT 7 TRAFFIC DESIGN GUIDELINGES INDEXES 212, 214, AND 221.

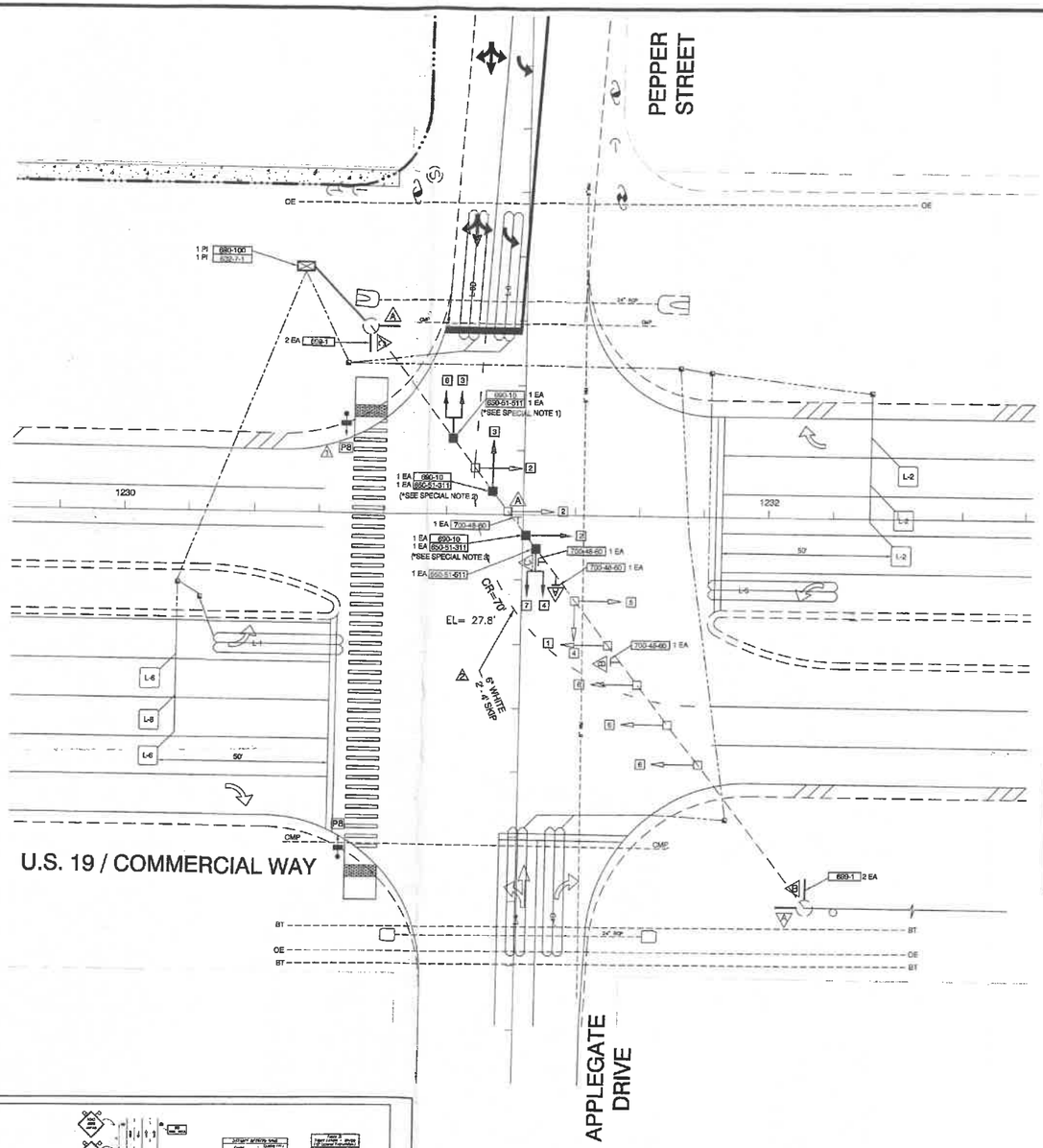
20. SIGNS SHALL BE CANTILEVERED, SINGLE FACED, ILLUMINATED.

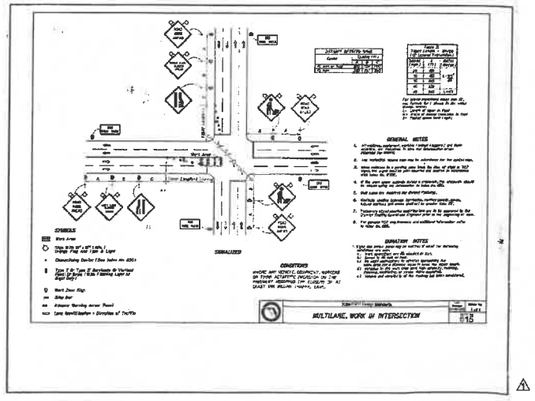
21. IDENTIFY THE FONTS ON THE SIGNS AS FOLLOWS:
   A) FOR STREET NAME, USE 8" EMOD, WITH CAPITAL FIRST LETTER AND REMAINING LETTERS IN LOWER CASE
   B) FOR BLOCK NUMBERS AND SUFFIX, USE 6"D, ALL CAPITALS ⚠
   C) ALL SIGNS TO HAVE WHITE LEGEND AND BORDER ON GREEN BACKGROUND.

22. THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE ONLY; THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION.

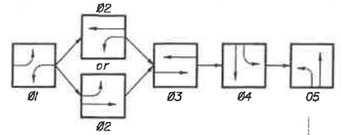
23. M.O.T. IN ACCORDANCE WITH FDOT STANDARD INDEX 615, SHEET 1 OF 1 ⚠

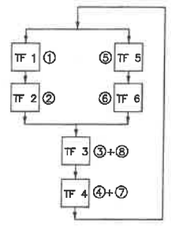
24. ALL REMOVED EQUIPMENT SHALL BE DELIVERED TO:
   HERNANDO COUNTY DEPARTMENT OF PUBLIC WORKS ⚠
   1525 EAST JEFFERSON STREET
   BROOKSVILLE, FLORIDA 34601
   ATTN: DAVID BLAND





SIGNAL OPERATING PLAN NO. 9





SOP #9

SIGNAL TIMING CHART ⚠

TIMING FUNCTIONS	TIMING FUNCTION	1	2	3	4	5	6
	MOVEMENT NO.	1	2	3,8	4,7	5	6
	MIN. GREEN (INITIAL)	5	20	5	5	5	20
	EXT. (PASS)	3	4	3	3	3	4
	MAXIMUM GREEN 1	25	50	30	30	25	50
	MAXIMUM GREEN II	–	–	–	–	–	–
	YELLOW CLEARANCE	3.5	5.0	3.5	3.5	3.5	5.0
	ALL RED CLEARANCE	1.0	2.0	1.0	1.0	1.0	2.0
	PEDESTRIAN WALK	–	–	5.0	5.0	–	–
	PEDESTRIAN CLEARANCE	–	–	37.0	37.0	–	–
	RECALL	–	MIN	–	–	–	MIN

SIGNAL TIMINGS ARE INITIAL AND MAY NEED ADJUSTMENT BY HERNANDO COUNTY.

CONTROLLER OPERATION

1. MAJOR STREET IS U.S. 19 AND MINOR STREET IS APPLEGATE DRIVE.

2. CONTROLLER TO BE 8 PHASE, ACTUATED, SOLID STATE, WITH STANDARD SIGNAL OPERATING PLAN NO. 9.

SPECIAL NOTES

1. REMOVE EXISTING 3-SECTION HEAD.
   INSTALL 5 SECTION HEAD. LOCATION TO REMAIN SAME. EXISTING DISCONNECT TO BE USED.

2. REMOVE EXISTING 3-SECTION HEAD. INSTALL 3-SECTION HEAD WITH ARROWS. LOCATION TO REMAIN SAME. EXISTING DISCONNECT TO BE USED.

3. EXISTING 2 WAY 3-SECTION HEAD TO BE REPLACED BY A ONE WAY 3-SECTION HEAD. EXISTING DISCONNECT TO BE USED.

TABLE OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNITS	QNTY
632-7-1	SIGNALS CABLE (FURNISH & INSTALL)	PI	1
650-51-311	TRAFFIC SIGNAL (FURNISH & INSTALL) (3 SECTION), (STANDARD) (LED)	AS	2
650-51-511	TRAFFIC SIGNAL (FURNISH & INSTALL) (5 SECTION), (STANDARD) (LED)	AS	2
659-106	SIGNAL HEAD AUXILIARIES (FURNISH & INSTALL) (TUNNEL VISOR)	EA	16
699-1	INTERNALLY ILLUMINATED SIGN (FURNISH & INSTALL)	EA	4

ITEMS TO BE REMOVED

PAY ITEM NUMBER	DESCRIPTION	UNIT	QTY
690-100	SIGNAL EQUIPMENT, MISCELLANEOUS	PI	1
700-48-60	SIGN PANEL (REMOVE)	EA	4
690-10	TRAFFIC SIGNAL HEAD ASSEMBLY, (REMOVE)	EA	3

NO.	DATE	DESCRIPTION	BY
6	5.02.08	AS PER COUNTY COMMENTS 1ST SUBMIT.	PBB
5	3.04.08	AS PER THE COUNTY COMMENTS DATED 2/28/08.	PBB

SCALE: AS SHOWN
DRAWN BY: RDK
PROJ. MANAGER: J Caldera
PROJ. #: 2432.003
DATE: 01.24.2008

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5/21/08
Jane A. Caldera
P.E. LIC. NO. 65116
THIS ITEM HAS BEEN DIGITALLY SIGNED BY A REGISTERED PROFESSIONAL
NOT VALID WITHOUT A SIGNATURE AND ORIGINAL SEAL
CERTIFICATE OF AUTHORIZATION No. 8199

ISSUED FOR: ☐ PRELIMINARY ☐ PERMITTING ☐ FINAL ■ CONSTRUCTION ☐ RECORD DWG

CIVIL ENGINEERING
LAND PLANNING
TRAFFIC/TRANSPORTATION
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL SERVICES
SURVEYING
GIS
2300 CURLEW ROAD, STE 107
PALM HARBOR, FLORIDA
34683
PHONE (727) 789-8500
FAX (727) 787-9555
AVIDGROUP.COM

US 19 AT APPLEGATE DRIVE
HERNANDO COUNTY, FLORIDA
SIGNAL MODIFICATION PLAN

SHEET NO. T-1.0

K:\PROJECTS\2432\003\Traffic\SIGNALMODIFICATION PLAN (PDF converted to DWG)\S1 T-1 sht\plotsh T-1 - PROPOSED SignalMod.dwg, 6/20/2008 9:05:08 AM, jcrow

Time of Day Plan

Designed By:	*AHB*
Date:	*03/31/23*
Checked By:	*ZCP*
Date:	*03/31/23*

Arterial: SR 55 (US 19)
Section: 08020000
From: Applegate Dr/Pepper St
To: Northcliffe Blvd/Frontage Rd

ALL SEASON PLAN

Day	Time	Pattern	Cycle Length
Monday Thru Friday	0000 - 0600	99	FREE
	0545 - 0900	1	140
	0900 - 1500	2	150
	1500 - 1830	3	160
	1830 - 2100	4	140
	2100 - 2400	99	FREE
Saturday & Sunday	0000 - 0900	99	FREE
	0900 - 2100	5	150
	2100 - 2400	99	FREE

Designed By:	*AHB*
Date:	*03/31/23*
Checked By:	*ZCP*
Date:	*03/31/23*

Location Details			
Section:	*08020000*	Mile Post:	*1.926*
Major Street:	*SR 55 (US 19)*	Orientation:	*North-South*
Minor Street:	*Spring Hill Dr/Osowaw Blvd*	Orientation:	*East-West*
Sig ID:	*6-2*	System ID:	*08020*

Controller Timings (seconds)

Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes
Direction	*NBL*	*SB*	*EBL*	*WB*	*SBL*	*NB*	*WBL*	*EB*	
Turn Type	*Prot*	*Prot*	*Prot*	*Prot*	*Prot*	*Prot*	*Prot*	*Prot*	
Min Green	*5*	*20*	*5*	*10*	*5*	*20*	*5*	*10*	
Ext	*3.0*	*4.0*	*4.0*	*3.0*	*3.5*	*4.0*	*4.0*	*3.0*	
Yellow	*5.6*	*5.6*	*4.1*	*4.5*	*5.6*	*5.6*	*4.5*	*4.1*	
All Red	*2.4*	*2.6*	*3.6*	*3.3*	*2.6*	*2.4*	*3.3*	*3.6*	
Max I	*35*	*60*	*15*	*35*	*35*	*35*	*15*	*35*	
Max II	*15*	*50*	*15*	*20*	*15*	*50*	*15*	*20*	
Walk		*7*		*7*					
Flashing Don't Walk		*50*		*35*					
Detector Memory									
Det. Cross Switch.									
Dual Entry		*ON*		*ON*		*ON*		*ON*	
Vehicle Recall		*MIN*				*MIN*			
CNA		*ON*				*ON*			
Rest in Walk									

Coordination Timings (seconds)

Pattern	C/O/S	Cycle Length	Splits								Offset	Sequence	Coord Ø
1	-	*140*	*20*	*66*	*20*	*34*	*30*	*56*	*29*	*25*	*50*	*2*	*2 & 6*
2	-	*150*	*25*	*65*	*30*	*30*	*45*	*45*	*30*	*30*	*0*	*2*	*2 & 6*
3	-	*160*	*35*	*70*	*25*	*30*	*45*	*60*	*30*	*25*	*2*	*2*	*2 & 6*
4	-	*140*	*20*	*65*	*20*	*35*	*30*	*55*	*30*	*25*	*49*	*2*	*2 & 6*
5	-	*150*	*20*	*65*	*30*	*35*	*40*	*45*	*35*	*30*	*135*	*2*	*2 & 6*

Offset Reference Point
Lead

Notes:
1) Use 'Inhibit Max' during coordination.
2) Use Floating Force Offs.
3) Max recall Ø2 and Ø6 during coordination.
4) Mainline left turns must not come up togeter due to lane restrictions
5) Controller Brand: Econolite ASC/3-2100
6) Use ped time: Off
7) Transition Mode : Smooth (12%)

SOP 10 (Sequence 1)

Ring - 1	2	1	3	4
Ring - 2	5	6	7	8

SOP 10 (Sequence 2)

Ring - 1	2	1	3	4
Ring - 2	5	6	7	8

Time of Day Plan

Designed By:	***AHB***
Date:	***03/31/23***
Checked By:	***ZCP***
Date:	***03/31/23***

Arterial: SR 55 (US 19)
Section: 08020000
From: Applegate Dr/Pepper St
To: Northcliffe Blvd/Frontage Rd

ALL SEASON PLAN

Day	Time	Pattern	Cycle Length
Monday Thru Friday	0000 - 0600	99	FREE
	0545 - 0900	1	140
	0900 - 1500	2	150
	1500 - 1830	3	160
	1830 - 2100	4	140
	2100 - 2400	99	FREE
Saturday & Sunday	0000 - 0900	99	FREE
	0900 - 2100	5	150
	2100 - 2400	99	FREE

Designed By:	*AHB*
Date:	*03/31/23*
Checked By:	*ZCP*
Date:	*03/31/23*

Location Details			
Section:	*08020000*	Mile Post:	*1.583*
Major Street:	*SR 55 (US 19)*	Orientation:	*North-South*
Minor Street:	*Applegate Dr/Pepper St*	Orientation:	*East-West*
Sig ID:	*6-1*	System ID:	*08020*

Controller Timings (seconds)

Movement # (Controller Phase Ø)	1	2		4	5	6		8	Notes
Direction	*NBL*	*SB*		*WB*	*SBL*	*NB*		*EB*	
Turn Type	*Prot*	*Prot*		*Prot*	*Prot*	*Prot*		*Prot*	
Min Green	*10*	*20*		*5*	*10*	*20*		*5*	
Ext	*3.0*	*4.0*		*3.0*	*3.0*	*4.0*		*3.0*	
Yellow	*5.6*	*5.5*		*3.7*	*5.5*	*5.6*		*3.4*	
All Red	*2.0*	*2.0*		*3.7*	*2.0*	*2.0*		*5.0*	
Max I	*35*	*60*		*35*	*35*	*60*		*35*	
Max II	*10*	*50*		*20*	*10*	*50*		*20*	
Walk		*7*						*7*	
Flashing Don't Walk		*19*						*40*	
Detector Memory									
Det. Cross Switch.									
Dual Entry		*ON*				*ON*			
Vehicle Recall		*MIN*				*MIN*			
CNA		*ON*				*ON*			
Rest in Walk									

Coordination Timings (seconds)

Pattern	C/O/S	Cycle Length	Splits								Offset	Sequence	Coord Ø
1	-	*140*	*25*	*60*		*27*	*25*	*60*		*28*	*51*	*4*	*2 & 6*
2	-	*150*	*25*	*65*		*25*	*25*	*65*		*35*	*12*	*4*	*2 & 6*
3	-	*160*	*25*	*54*		*25*	*25*	*54*		*56*	*18*	*4*	*2 & 6*
4	-	*140*	*22*	*37*		*25*	*22*	*37*		*56*	*63*	*4*	*2 & 6*
5	-	*150*	*25*	*44*		*25*	*25*	*44*		*56*	*145*	*4*	*2 & 6*

Offset Reference Point
Lead

Notes:
1) Use 'Inhibit Max' during coordination.
2) Use Floating Force Offs.
3) Max recall Ø2 and Ø6 during coordination.
4) Controller Brand: Econolite ASC/3-2100
5) Use ped time: Off
6) Transition Mode : Smooth (12%)

SOP 9 (Sequence 1)

Ring - 1	1	2	8	4
Ring - 2	5	6		

SOP 9 (Sequence 4)

Ring - 1	1	2	8	4
Ring - 2	6	5		

CONTRACT PLANS COMPONENTS

ROADWAY PLANS

STATE OF FLORIDA

DEPARTMENT OF TRANSPORTATION

CONTRACT PLANS

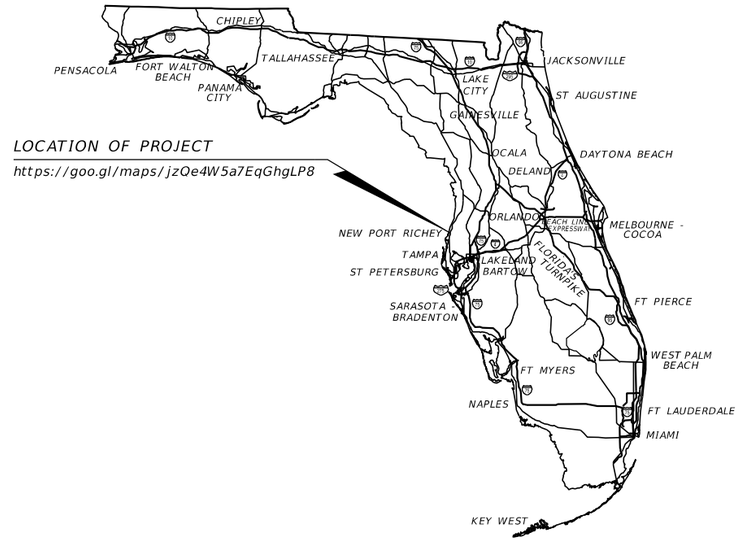
FINANCIAL PROJECT ID 254677-2-52-93

(FEDERAL FUNDS)

HERNANDO COUNTY (08020)

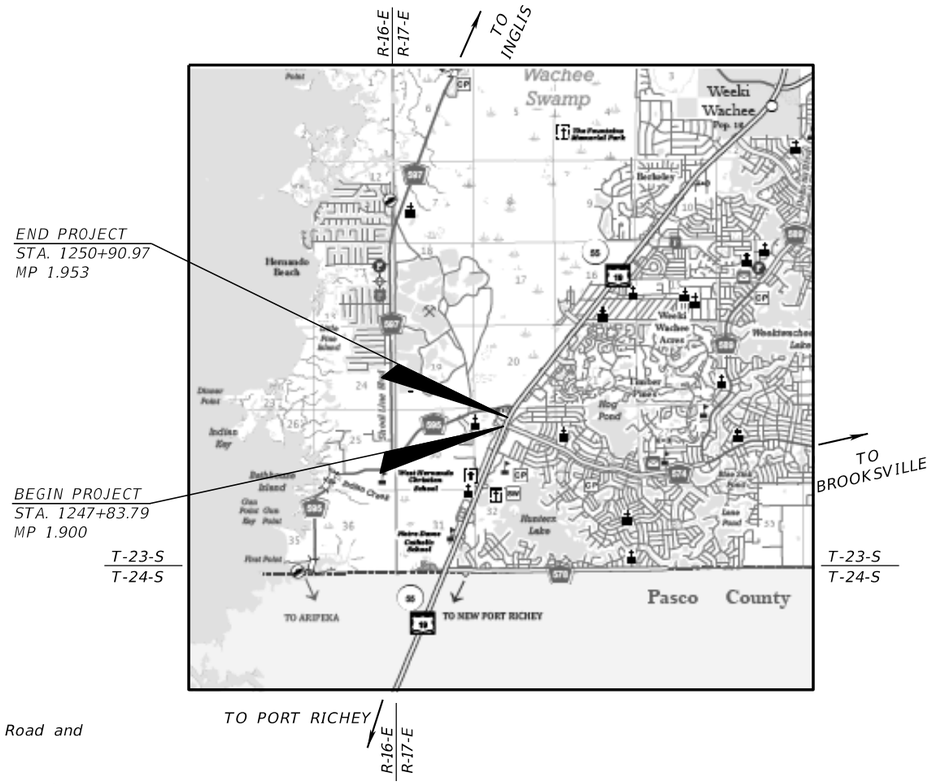
STATE ROAD NO. 55 (US 19)

TASK WORK ORDER #36



LOCATION OF PROJECT

https://goo.gl/maps/jzQe4W5a7EqGhgLP8



END PROJECT
STA. 1250+90.97
MP 1.953

BEGIN PROJECT
STA. 1247+83.79
MP 1.900

INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2	SIGNATURE SHEET
3 - 4	SUMMARY OF PAY ITEMS
5 - 7	TYPICAL SECTION
8	GENERAL NOTES
9	ROADWAY PLAN
10 - 11	TEMPORARY TRAFFIC CONTROL PLAN
12	SUMMARY OF VERIFIED UTILITIES
13	SIGNING AND PAVEMENT MARKING PLAN
14	SIGNALIZATION PLAN
15	LIGHTING PLAN
16	LIGHTING SERVICE POINT DETAILS
SQ-1	SUMMARY OF QUANTITIES

wsp

SUBMITTAL RFC
QC CHECKING PROCESS

	Signature	Date	Discipline
ORIGINATOR (Ready for Checking)	K. Pritchard	1/9/23	RDWY
CHECKER Correct: Yellow Highlight Incorrect: Red Markups Comments: Black Cloud			
BACKCHECKER (Originator) Agree: Green Checks Disagree: Green Strike Through			
CORRECTOR Blue Circle			
VERIFIER Correct: Green Circle Incorrect: Red on clean print & return To Backchecker New Comment: Black Cloud			
QC Process Approved By:			

GOVERNING STANDARD PLANS:

Florida Department of Transportation, FY 2020-21 Standard Plans for Road and Bridge Construction and applicable Interim Revisions (IRs).

Standard Plans for Road Construction and associated IRs are available at the following website: http://www.fdot.gov/design/standardplans

APPLICABLE IRs: IR102-600

GOVERNING STANDARD SPECIFICATIONS:

Florida Department of Transportation, January 2021 Standard Specifications for Road and Bridge Construction at the following website: http://www.fdot.gov/programmanagement/Implemented/SpecBooks

ROADWAY PLANS ENGINEER OF RECORD:

DANIEL A. CARNLEY, P.E. NO. 75529
WSP USA, INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607
(813) 520-4444
CONTRACT NO.: C-E7R27
VENDOR NO.: 111531569

FDOT PROJECT MANAGER:

MEGAN ARASTEH, P.E.

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
E7R27	22	1

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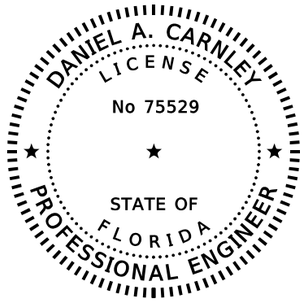

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WSP USA, INC.
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TAMPA, FLORIDA 33607
DANIEL A. CARNLEY, P.E. NO. 75529

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

ROADWAY PLANS

SHEET NUMBER	SHEET DESCRIPTION
1	KEY SHEET
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3 - 4	SUMMARY OF PAY ITEMS
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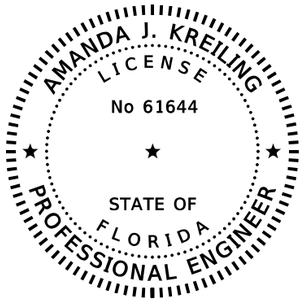

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WSP USA, INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FLORIDA 33607
CAITLIN E. CARNLEY, P.E. NO. 86250

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

ROADWAY PLANS

SHEET NUMBER	SHEET DESCRIPTION
2	SIGNATURE SHEET
12	SIGNING AND PAVEMENT MARKING PLAN
13	SIGNALIZATION PLAN
14	LIGHTING PLAN
15	LIGHTING SERVICE POINT DETAILS

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

DANIEL A. CARNLEY
P.E. NO.: 75529
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

SIGNATURE SHEET

SHEET NO. 2

SUMMARY OF PAY ITEMS

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY TOTAL	
			PLAN	FINAL
101-1	MOBILIZATION	LS	1	
102-1	MAINTENANCE OF TRAFFIC	LS	1	
102-14	TRAFFIC CONTROL OFFICER	HR	160	
102-4	PEDESTRIAN SPECIAL DETOUR	LS	2	
102-60	WORK ZONE SIGN	ED	3106	
102-74-1	CHANNELIZING DEVICE- TYPES I, II, D1, VP, DRUM, OR VLCD	ED	3012	
102-74-8	CHANNELIZING DEVICE- PEDESTRIAN LCD (LONGITUDINAL CHANNELIZING DEVICE)	FD	1600	
102- 76	ARROW BOARD / ADVANCE WARNING ARROW PANEL	ED	136	
102-99	PORTABLE CHANGEABLE MESSAGE SIGN, TEMPORARY	ED	230	
102-104	TEMPORARY SIGNALIZATION AND MAINTENANCE OF INTERSECTION	ED	115	
102-107-1	TEMPORARY TRAFFIC DETECTION AND MAINTENANCE OF INTERSECTION	ED	115	
102-115	CHANNELIZING DEVICE (TEMPORARY)(TYPE III) (6')	ED	160	
102-150-1	PORTABLE REGULATORY SIGN	ED	160	
102-150-2	RADAR SPEED DISPLAY UNIT	ED	160	
104-18	INLET PROTECTION SYSTEM	EA	1	
110-2-1	CLEARING & GRUBBING (PUSH BUTTON CONTRACT)	AC	0.09	
110-4-10	REMOVAL OF EXISTING CONCRETE PAVEMENT	SY	83	
120-1	REGULAR EXCAVATION	CY	57.0	
120-6	EMBANKMENT	CY	28.5	
160-4	TYPE B STABILIZATION	SY	38	
285-715	OPTIONAL BASE, BASE GROUP 15, ASPHALT	SY	47	
327-70-19	MILLING EXIST ASPH PAVT, 3/4" AVG DEPTH	SY	2292	
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC C, 1-199 TONS	TN	10.3	
337-7-25	ASPHALT CONCRETE FRICTION COURSE (FC-5, PG 76-22), 1-199 TONS	TN	92.2	
425-6	ADJUSTING VALVE BOXES	EA	1	
520-1-7	CONCRETE CURB & GUTTER, TYPE E	LF	35	
520-2-2	CONCRETE CURB, TYPE B	LF	33	
520-5-11	TRAFFIC SEPARATOR CONCRETE - TYPE I, 4' WIDE	LF	7	
522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6" THICK	SY	122	
527-2	DETECTABLE WARNINGS	SF	157	
570-1-2	PERFORMANCE TURF, SOD	SY	232	

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

DANIEL A. CARNLEY
P.E. NO.: 75529
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

SUMMARY OF PAY ITEMS (1)

SHEET NO.
3

SUMMARY OF PAY ITEMS

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY TOTAL	
			PLAN	FINAL
630-2-11	CONDUIT (F&I) (OPEN TRENCH)	LF	705	
630-2-12	CONDUIT (F&I) (DIRECTIONAL BORE)	LF	620	
632-7-1	SIGNAL CABLE (NEW OR RECONSTRUCTED INTERSECTION - FURNISH & INSTALL)	PI	1	
632-7-6	SIGNAL CABLE (REMOVE) (WITHIN INTERSECTION)	PI	1	
635-2-11	PULL & SPLICE BOX (F&I) (13" X 24" COVER SIZE)	EA	24	
635-2-14	PULL & SPLICE BOX (F&I) (17" X 30" COVER SIZE)	EA	2	
646-1-11	ALUMINUM SIGNALS POLE (F&I) (PEDESTAL)	EA	8	
646-1-60	ALUMINUM SIGNALS POLE (REMOVE)	EA	2	
653-1-11	PEDESTRIAN SIGNAL (F&I) (LED COUNTDOWN) (1 WAY)	AS	8	
660-2-106	LOOP ASSEMBLY (F&I) (TYPE F)	AS	13	
665-1-11	PEDESTRIAN DETECTOR (F&I) (STANDARD)	EA	8	
670-5-400	TRAFFIC CONTROLLER ASSEMBLY (MODIFY)	AS	1	
676-1-500	TRAFFIC SIGNAL CONTROLLER CABINET (ADJUST / MODIFY)	EA	1	
678-1-102	CONTROLLER ACCESSORIES (F&I) (TYPE 6 CONFLICT MONITOR)	EA	2	
700-1-11	SINGLE POST SIGN (F&I) (GROUND MOUNT) (UP TO 12 SF)	AS	2	
700-1-50	SINGLE POST SIGN (RELOCATE)	AS	3	
700-1-60	SINGLE POST SIGN (REMOVE)	AS	3	
705-10-1	OBJECT MARKER (TYPE 1)	EA	2	
705-11-3	DELINEATOR (FLEXIBLE HIGH VISIBLITY MEDIAN)	EA	2	
706-1-1	RAISED PAVEMENT MARKER, TYPE B WITHOUT FINAL SURFACE MARKINGS	EA	53	
*	WHITE/RED (W/R)		33	
	MONO DIRECTIONAL YELLOW (MD/Y)		20	
710-11-101	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (SOLID) (6")	GM	0.116	
710-11-102*	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (SOLID FOR INTERCHANGE AND URBAN ISLAND)(8")	GM	0.036	
710-11-123	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (SOLID) (12")	LF	910	
710-11-124*	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (SOLID) (18")	LF	23	
710-11-125	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (SOLID) (24")	LF	375	
710-11-141	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, 2-4 DOTTED GUIDELINE/ 6-10 DOTTED EXTENSION, 6"	GM	0.020	
710-11-170	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (ARROWS)	EA	7	
710-11-201	PAINTED PAVEMENT MARKINGS (STANDARD) (YELLOW) (SOLID) (6")	GM	0.034	
710-11-290	PAINTED PAVEMENT MARKINGS (STANDARD) (YELLOW) (ISLAND NOSE)	SF	18	
711-11-123	THERMOPLASTIC (STANDARD) (WHITE) (SOLID) (12")	LF	767	
711-11-124	THERMOPLASTIC (STANDARD) (WHITE) (SOLID) (18")	LF	23	
711-11-125	THERMOPLASTIC (STANDARD) (WHITE) (SOLID) (24")	LF	189	
711-11-141	THERMOPLASTIC, STANDARD, WHITE, 2-4 DOTTED GUIDELINE/ 6-10 GAP EXTENSION, 6"	GM	0.020	
711-11-170	THERMOPLASTIC (STANDARD) (WHITE) (ARROW)	EA	7	
711-14-125	THERMOPLASTIC (PREFORMED) (WHITE) (SOLID) (24")	LF	671	
711-14-160	THERMOPLASTIC (PREFORMED) (WHITE) (MESSAGE)	EA	2	
711-14-170	THERMOPLASTIC (PREFORMED) (WHITE) (ARROWS)	EA	2	
711-15-101	THERMOPLASTIC (STANDARD - OPEN GRADED ASPHALT) (WHITE) (SOLID) (6")	GM	0.116	
711-15-102	THERMOPLASTIC (STANDARD - OPEN GRADED ASPHALT) (WHITE) (SOLID) (8")	GM	0.036	
711-15-201	THERMOPLASTIC (STANDARD - OPEN GRADED ASPHALT) (YELLOW) (SOLID) (6")	GM	0.034	
711-17	THERMOPLASTIC (REMOVE EXISTING)	SF	1334	
715-1-12	LIGHTING CONDUCTORS (F&I) (INSULATED) (NO. 8 TO NO. 6)	LF	2850	
715-4-14	LIGHT POLE COMPLETE (F&I) (STANDARD) STANDARD FOUNDATION (45' MOUNTING HEIGHT)	EA	3	
715-4-60	LIGHT POLE COMPLETE (RELOCATE)	EA	1	
715-4-70	LIGHT POLE COMPLETE (REMOVE POLE AND FOUNDATION)	EA	1	
715-7-11	LOAD CENTER (F&I) (SECONDARY VOLTAGE)	EA	1	
715-500-1	POLE CABLE DISTRIBUTION SYSTEM (CONVENTIONAL)	EA	3	

*710-11-123, 710-11-125, AND 711-17 INCLUDE THE COST TO CONSTRUCT A TEMPORARY CROSSWALK IN PHASE I OF THE TEMPORARY TRAFFIC CONTROL PLAN.

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

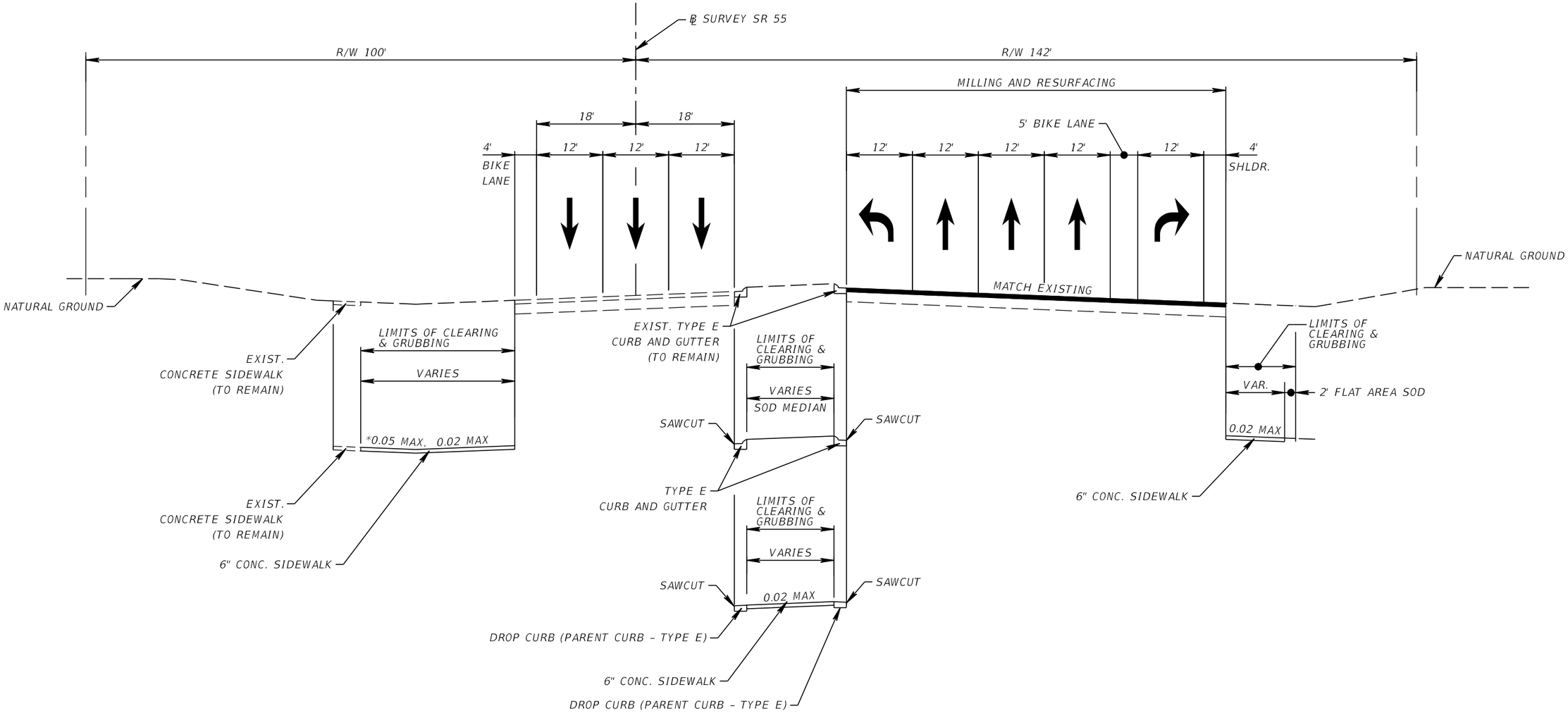
DANIEL A. CARNLEY
P.E. NO.: 75529
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

SUMMARY OF PAY ITEMS (2)

SHEET NO. 4



*0.05 MAX. IS LIMITED TO THE LONGITUDINAL PROFILE.
USE 0.02 MAX. FOR PERPENDICULAR CROSS SLOPE

SR 55 (US 19)
(SOUTH LEG - SEE PLANS FOR LIMITS)

TRAFFIC DATA

CURRENT YEAR = 2022 AADT = 45000
ESTIMATED OPENING YEAR = N/A AADT = N/A
ESTIMATED DESIGN YEAR = N/A AADT = N/A
K = 9 % D = 54% T = 5 % (24 HOUR)
DESIGN HOUR T = 2%
DESIGN SPEED = 65 MPH

MILLING AND RESURFACING

MILL EXISTING ASPHALT PAVEMENT FOR DEPTH (3/4")
RESURFACE WITH FRICTION COURSE FC-5 (3/4") (PG 76-22)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

DANIEL A. CARNLEY
P.E. NO.: 75529
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

TYPICAL SECTION (1)

SHEET NO. 5

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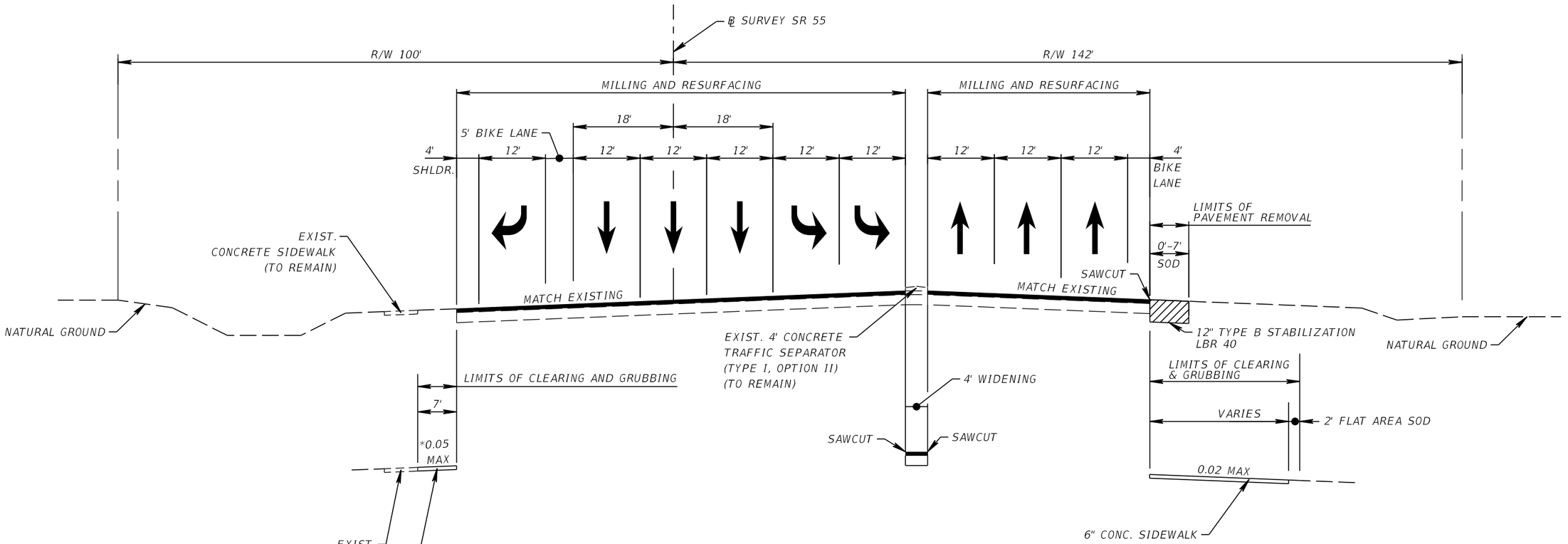

*0.05 MAX. IS LIMITED TO THE LONGITUDINAL PROFILE.
USE 0.02 MAX. FOR PERPENDICULAR CROSS SLOPE

SR 55 (US 19)
(NORTH LEG - SEE PLANS FOR LIMITS)

MILLING AND RESURFACING

MILL EXISTING ASPHALT PAVEMENT FOR DEPTH (3/4")
RESURFACE WITH FRICTION COURSE FC-5 (3/4") (PG 76-22)

WIDENING

OPTIONAL BASE GROUP 15 (TYPE B-12.5 ONLY)
TYPE SP STRUCTURAL COURSE (TRAFFIC C) (4")
WITH FRICTION COURSE FC-5 (3/4") (PG 76-22)

TRAFFIC DATA

CURRENT YEAR = 2022 AADT = 45000
ESTIMATED OPENING YEAR = N/A AADT = N/A
ESTIMATED DESIGN YEAR = N/A AADT = N/A
K = 9 % D = 54% T = 5 % (24 HOUR)
DESIGN HOUR T = 2%
DESIGN SPEED = 65 MPH

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

DANIEL A. CARNLEY
P.E. NO.: 75529
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

TYPICAL SECTION (2)

SHEET NO. 6

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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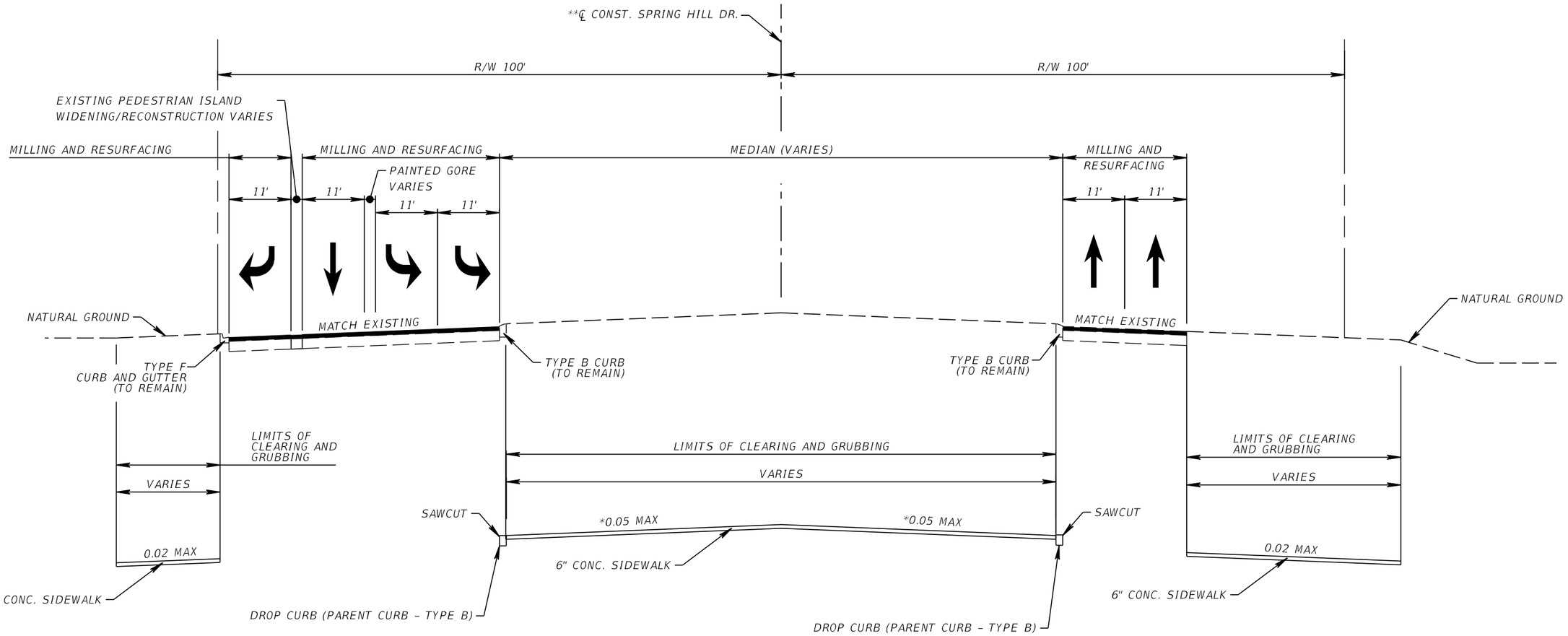

*0.05 MAX. IS LIMITED TO THE LONGITUDINAL PROFILE.
USE 0.02 MAX. FOR PERPENDICULAR CROSS SLOPE

**CONSTRUCTION STAKING TO BE BASED ON THE BASELINE OF SURVEY OF SR 55

TRAFFIC DATA

CURRENT YEAR = 2022 AADT = 45000
ESTIMATED OPENING YEAR = N/A AADT = N/A
ESTIMATED DESIGN YEAR = N/A AADT = N/A
K = 9 % D = 54% T = 6% (24 HOUR)
DESIGN HOUR T = 3%
DESIGN SPEED = 40 MPH

SPRING HILL DR. (EAST LEG)
(SEE PLANS FOR LIMITS)

MILLING AND RESURFACING

MILL EXISTING ASPHALT PAVEMENT FOR DEPTH (3/4")
RESURFACE WITH FRICTION COURSE FC-5 (3/4") (PG 76-22)

WIDENING

OPTIONAL BASE GROUP 15 (TYPE B-12.5 ONLY)
TYPE SP STRUCTURAL COURSE (TRAFFIC C) (4")
WITH FRICTION COURSE FC-5 (3/4") (PG 76-22)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

DANIEL A. CARNLEY
P.E. NO.: 75529
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

TYPICAL SECTION (3)

SHEET NO. 7

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

GENERAL NOTES

1. PROJECT RIGHT-OF-WAY, SURVEY CONTROL AND ALIGNMENTS WERE ESTABLISHED FROM FPID:427152-1-52-01

2. THE LOCATION(S) OF THE UTILITIES SHOWN IN THE PLANS (INCLUDING THOSE DESIGNATED Vv, Vh, AND Vvh) ARE BASED ON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE CONSIDERED APPROXIMATE ONLY. THE VERIFIED LOCATIONS/ELEVATIONS APPLY ONLY AT THE POINTS SHOWN. INTERPOLATIONS BETWEEN THESE POINTS HAVE NOT BEEN VERIFIED.

3. UTILITY/AGENCY OWNERS:

COMPANY	CONTACT	TELEPHONE NUMBERS
AT&T DISTRIBUTION	RICK MARINO	352-238-1882
CENTURYLINK/LUMEN	MARK (WOODY) CALDWELL	321-287-9942
HERNANDO COUNTY	JARED WARING	352-754-4759
SPECTRUM	WAYNE MICHAELS	352-302-6615
TECO PEOPLES GAS	JENNA JACKSON	813-917-9446
WITHLACOOCHEE RIVER ELECTRIC COMPANY	DON TAULBEE	352-596-4000 X3138
ZAYO GROUP/FORMERLY LIGHTWAVE, LLC	BRUCE HERRINGTON	252-207-2400

4. SPECIAL EVENT DAYS FOR THIS PROJECT INCLUDE:
EVENTS IN HOMOSASSA WITH AN ANTICIPATED CROWD OF 20K OR HIGHER
EVENTS IN SPRING HILL WITH AN ANTICIPATED CROWD OF 20K OR HIGHER

SIGNALIZATION NOTES

1. MAINTAINING AGENCY: HERNANDO COUNTY.

2. CONTACT THE FOLLOWING PERSONNEL ONE WEEK PRIOR TO THE TRAFFIC SIGNAL CONSTRUCTION:

A) CURTIS DEMPSEY, FDOT DISTRICT SEVEN TRAFFIC OPERATIONS
CONSTRUCTION LIAISON
FLORIDA DEPARTMENT OF TRANSPORTATION
11201 NORTH McKINLEY DRIVE
TAMPA, FLORIDA 33612
PHONE: (813) 975 – 6226
EMAIL: curtis.dempsey@dot.state.fl.us

B) HERNANDO COUNTY DEPARTMENT OF PUBLIC WORKS
1525 EAST JEFFERSON STREET
BROOKSVILLE, FLORIDA 34601
PHONE: (352) 754 – 4060

3. PRIOR TO INSTALLATION OF NEW TRAFFIC SIGNAL, CONTACT HERNANDO COUNTY DEPARTMENT OF PUBLIC WORKS AT (352) 754–4060 AT LEAST 48 HOURS IN ADVANCE FOR IMPLEMENTATION OF APPROPRIATE SIGNAL TIMINGS.

4. MEET THE FOLLOWING REQUIREMENTS WHEN USING THE EQUIPMENT TO INSTALL THE MAST ARM POLE FOUNDATIONS:

A) MAINTAIN OVERHEAD LINE LOCATIONS BOTH VERTICALLY AND HORIZONTALLY.

5. USE A NINE CONDUCTOR SIGNAL CABLE FOR EACH TURNING MOVEMENT SIGNAL HEAD. USE A SEVEN CONDUCTOR SIGNAL CABLE FOR EACH THROUGH MOVEMENT SIGNAL INDICATION. USE A FIVE CONDUCTOR SIGNAL CABLE FOR EACH PEDESTRIAN MOVEMENT SIGNAL INDICATION. USE A TWO CONDUCTOR SHIELDED CABLE FOR EACH PEDESTRIAN BUTTON. USE A FIVE CONDUCTOR CABLE FOR EACH ILLUMINATED LED STREET NAME SIGN. CONTACT HERNANDO COUNTY DEPARTMENT OF PUBLIC WORKS TRAFFIC AT (352)754–4060 FOR UPDATES.

PAY ITEM NOTES

630–2–11:
TWO SEPARATE UNDERGROUND CONDUIT RUNS LOCATED 180 DEGREES APART ARE REQUIRED FOR ALL SIGNAL MAST ARMS. THERE SHALL BE A MINIMUM OF TWO RUNS OF 2" CONDUIT BETWEEN THE LAST LOW VOLTAGE PULL BOX LOCATED NEAR THE CONTROLLER CABINET.

630–2–12:
CONDUITS INSTALLED WITH THE DIRECTIONAL BORE METHOD SHALL BE HDPE WITH A MINIMUM SIZE OF 2" UNLESS OTHERWISE NOTED IN THE PLANS.

632–7–1:
WIRE EACH PHASE/MOVEMENT FROM THE SIGNAL DISPLAY TO THE CONTROLLER AS A SEPARATE PHASE/MOVEMENT, COORDINATE APPROVED SPLICE KITS WITH HERNANDO COUNTY AND INSTALL IN THE BASE OF THE SIGNAL POLE. THIS INCLUDES THE LEFT TURN MOVEMENT THAT HAS CONDUCTORS AVAILABLE FOR EITHER PROTECTED OR PERMISSIVE MOVEMENTS. VERIFY COLOR CODES FOR SIGNAL CABLE WITH THE HERNANDO COUNTY TRAFFIC SIGNAL SUPERVISOR BEFORE ORDERING. WIRE THE SIGNAL IN ACCORDANCE WITH THAT COLOR CODE. INCLUDE ONE NEUTRAL PER APPROACH. WIRE ALL PEDESTRIAN DETECTORS USING SEPARATE CABLE, UTILIZING LOW VOLTAGE CONDUIT AND PULL BOXES. REFER TO THE MAST ARM TABULATION SHEET FOR MORE INFORMATION.

635–2–11 / 635–2–14:
THE SIGNAL CABLE PULL BOXES ADJACENT TO THE CONTROLLER CABINET SHALL BE 17"X30". ALL PULL BOX LIDS FOR PULL BOXES USED SIGNALIZATION SHALL DISPLAY THE TEXT, "TRAFFIC SIGNAL" IN STAMPED EMBOSSED LETTERS.

665–1–11:
PUSH BUTTON SHALL HAVE A VISUAL INDICATION OF ACTUATION AND SHALL REMAIN ILLUMINATED UNTIL THE PEDESTRIAN WALK INDICATION IS DISPLAYED.

670–5–400:

NOTIFY THE HERNANDO COUNTY SIGNAL SHOP AND FDOT DISTRICT SEVEN TRAFFIC OPERATIONS VIA PHONE AT (352)754–4060 AT LEAST 48 HOURS IN ADVANCE OF TURNING ON A NEW OR MODIFIED CONTROLLER CABINET ASSEMBLY.

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

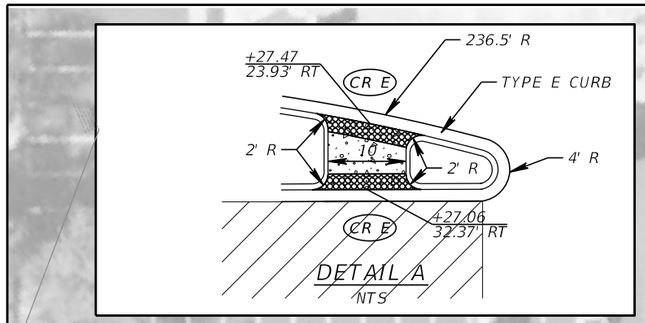
DANIEL A. CARNLEY
P.E. NO.: 75529
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

GENERAL NOTES

SHEET NO. 8



OSOWAW BLVD.

R/W LINE

WREC 25 KV DISTRIBUTION & 115 KV TRANSMISSION

1248+35.75
100.00' LT

VVH101
VVH106
TH
TH
+29.56
47.57' LT
EX. EL. 18.70

VVH107

+23.56
54.20' LT
EX. EL. 18.96

CONST. 6' CONC. SWK.

+23.56
39.37' LT
EL. 18.31

+23.56
24.37' LT
EX. EL. 18.61

+29.56
39.37' LT
EL. 18.37

+29.56
27.02' LT
EX. EL. 18.56

1247 1248 1249 1250 1251 1252

N 23° 35' 59" E

SR 55 (US 19)

BEGIN TYPE E C&G
STA. 1248+16.22
20.41' RT

+42.51
25.95' RT

DETAIL A

+83.79
33.94' RT

+41.86
33.83' RT

+41.86
82.38' RT

BEGIN PROJECT
BEGIN CONSTRUCTION
STA. 1247+83.79
N = 1500198.23
E = 454515.95

END TYPE E C&G
STA. 1248+16.22
33.91' RT

+83.40
99.08' RT

+24.06
103.28' RT
EX. EL. 18.34

CONST. 6' SIDEWALK

+24.06
118.36' RT
EL. 18.11

ADJUST WATER VALVE

R/W LINE

+49.31
118.36' RT
EX. EL. 18.31

1248+36.12
142.00' RT

+53.34
122.86' RT

R/W LINE

SPRING HILL DR.

℄ SURVEY SR 55

+03.33
113.91' RT

CR E

+99.23
122.86' RT

+64.28
115.12' RT

CR E

CONST. 6' SIDEWALK

+80.50
171.19' RT

+26.30
171.19' RT

R/W LINE

+45.12
45.67' LT
EX. EL. 19.67

+27.28
45.37' LT

+24.59
43.57' LT

+19.64
45.62' LT

+18.74
42.36' LT

+12.41
41.31' LT

+24.61
41.86' LT

+24.63
39.61' LT

+45.12
41.11' LT
EX. EL. 19.89

1250+35.75
100.00' LT

R/W LINE

CONST. 6' CONC. SWK.

+51.12
45.81' LT
EX. EL. 19.68

+51.12
40.89' LT
EX. EL. 19.94

VVH105
TH
TH

VVH109

+91.81
51.38' LT
EX. EL. 19.79

CONST. 6' CONC. SWK.

+91.82
46.57' LT
EX. EL. 19.88

VVH104

+90.97
39.85' LT

+51.12
40.89' LT
EX. EL. 19.61

+78.37
46.43' LT
EX. EL. 19.77

END PROJECT
END CONSTRUCTION
STA. 1250+90.97
N = 1500479.71
E = 454638.93

SR 55 (US 19)

CONST. TYPE I TRAFFIC SEPARATOR

+55.96
41.94' RT

+60.62
41.94' RT

2' R

PC STA. 1250+80.00

+90.97
41.96' RT

+60.62
45.98' RT

+55.96
45.99' RT

+55.62
45.99' RT

45' R

+12.41
82.38' RT

+79.82
86.06' RT

+12.39
86.23' RT

+55.62
90.60' RT

+51.12
93.18' RT
EL. 17.75

+30.70
130.97' RT

+28.58
130.52' RT

CONST. 6' SIDEWALK

+51.12
118.36' RT
EL. 17.84

+32.47
118.36' RT
EX. EL. 18.22

1250+36.16
132.00' RT

VVH110
VVH108
VVH103
VVH102

R/W LINE

0 10 40
Feet

LEGEND

- WIDENING
- PAVEMENT REMOVAL
- MILL EXISTING ASPHALT PAVEMENT FOR DEPTH (¾")
- CONCRETE SIDEWALK
- DETECTABLE WARNINGS

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

DANIEL A. CARNLEY
P.E. NO.: 75529
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

ROADWAY PLAN

SHEET NO. 9

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TEMPORARY TRAFFIC CONTROL PLAN (TTCP) PHASING NOTES:

PHASE I:

THE INTENT OF THIS PHASE IS TO CONSTRUCT THE PROPOSED PAVEMENT WIDENING, SIDEWALK AND CURB WORK, SIGNALIZATION/LIGHTING CONDUIT, PULL BOXES, AND LIGHTING/SIGNAL FOUNDATION WORK IN SUCH A WAY THAT AT LEAST ONE CROSSWALK SPANNING SR 55 (US 19) IS PROVIDED AT ALL TIMES.

1. INSTALL ADVANCE WARNING SIGNS AS SHOWN IN THE ADVANCE WARNING SIGN DETAILS.

2. CONSTRUCT PROPOSED MEDIAN WORK ON THE SOUTH SIDE OF SR 55 (US 19) BY CLOSING THE INSIDE SOUTHBOUND TRAVEL LANE AND THE NORTHBOUND LEFT TURN LANE USING INDEX 102-613,102-615 AND 102-670. UTILIZE THE NORTHBOUND INSIDE TRAVEL LANE TO MAINTAIN THE NORTHBOUND LEFT MOVEMENT. MAINTAIN ALL TURNING MOVEMENTS THROUGH THE INTERSECTION WITH A TRAFFIC CONTROL OFFICER.

3. CONSTRUCT SIDEWALK AND CURB WORK, SIGNALIZATION/LIGHTING CONDUIT, PULL BOXES, AND LIGHTING/SIGNAL FOUNDATION WORK ON THE SOUTHEAST AND SOUTHWEST QUADRANTS OF THE INTERSECTION USING INDEX 102-613, 102-616, 102-660 AND 102-670. REMOVE EXISTING STRIPING AND PLACE TEMPORARY STRIPING TO ALLOW FOR A TEMPORARY CROSSWALK SPANNING SR 55 (US 19) AT THE SOUTH LEG OF THE INTERSECTION AT THE LOCATION SHOWN IN THE SIGNING AND PAVEMENT MARKING PLAN.

4. CONSTRUCT PROPOSED MEDIAN WORK ON THE NORTH SIDE OF SR 55 (US 19) BY CLOSING THE INSIDE NORTHBOUND TRAVEL LANE, THE INSIDE SOUTHBOUND LEFT TURN LANE, AND THE INSIDE EASTBOUND LEFT TURN LANE USING INDEX 102-613, 102-615 AND 102-670. UTILIZE THE SOUTHBOUND OUTSIDE TURN LANE TO MAINTAIN THE SOUTHBOUND LEFT MOVEMENT AND THE OUTSIDE EASTBOUND TURN LANE TO MAINTAIN THE EASTBOUND LEFT MOVEMENT. MAINTAIN ALL TURNING MOVEMENTS THROUGH THE INTERSECTION WITH A TRAFFIC CONTROL OFFICER. CLOSE THE EXISTING CROSSWALK AT THE NORTH LEG OF THE INTERSECTION AND MAINTAIN PEDESTRIAN ROUTES USING THE SOUTH LEG CROSSING.

5. CONSTRUCT THE PROPOSED PAVEMENT WIDENING ON SPRING HILL DRIVE BY CLOSING THE WESTBOUND RIGHT TURN LANE UTILIZING INDEX 102-613 AND 102-616. ADDITIONALLY, PLACE CHANNELIZING DEVICES ALONG THE SOUTH EDGE OF THE STRIPED GORE TO THE NORTH OF THE WESTBOUND TRAVEL LANE. MAINTAIN THE WESTBOUND RIGHT TURN MOVEMENT UTILIZING THE WESTBOUND THROUGH LANE AND A TRAFFIC CONTROL OFFICER.

6. CONSTRUCT PROPOSED MEDIAN WORK ON SPRING HILL DRIVE BY CLOSING THE INSIDE WESTBOUND TURN LANE UTILIZING INDEX 102-613, 102-615, AND 102-616. MAINTAIN THE EASTBOUND TRAVEL LANES WITH A MINIMUM 10-FT TRAVEL LANE.

7. CONSTRUCT SIDEWALK AND CURB WORK, SIGNALIZATION/LIGHTING CONDUIT, PULL BOXES, AND LIGHTING/SIGNAL FOUNDATION WORK ON THE NORTHEAST AND NORTHWEST QUADRANTS OF THE INTERSECTION USING INDEX 102-613, 102-616, 102-660 AND 102-670. PRIOR TO THE PAVEMENT REMOVAL WORK ON THE NORTHEAST QUADRANT OF THE INTERSECTION, PLEASE ASSURE THE EXISTING PEDESTRIAN ISLAND HAS BEEN REMOVED AND WIDENED PER PLANS TO PROVIDE A RIDEABLE PAVEMENT SURFACE ALONG WITH A TEMPORARY STRIPING THAT ALLOWS FOR A MINIMUM 11-FT WESTBOUND RIGHT TURN LANE.

PHASE II:

THE INTENT OF THIS PHASE IS TO MILL AND RESURFACE THE ROADWAY AND TO INSTALL FINAL SIGNAL AND LIGHTING COMPONENTS.

1. MAINTAIN ADVANCE WARNING SIGN DETAILS.

2. INSTALL THE PROPOSED LIGHTING AND PEDESTRIAN SIGNAL ON THE FOUNDATIONS CONSTRUCTED IN PHASE I UTILIZING INDEX 102-613, 102-615, AND 102-670.

3. MILL AND RESURFACE THE ROADWAY AND PLACE FINAL PAVEMENT MARKINGS (PAINT) UTILIZING INDEX 102-613, 102-615, 102-616, 102-617, 102-623 AND 102-670. ALSO, INCLUDE ANY TRAFFIC SIGNAL LOOPS PER THE PLANS. DUE TO COMPLEXITY AND SIZE OF THE INTERSECTION UTILIZE UP TO TWO (2) TRAFFIC CONTROL OFFICERS TO ASSIST IN MAINTAINING TURNING MOVEMENTS AT THE INTERSECTION.

PHASE III:

THE INTENT OF THIS PHASE IS TO PLACE THE FINAL PAVEMENT MARKINGS (THERMOS) AFTER THE 14 DAY PAVEMENT CURE PERIOD UTILIZING INDEX 102-613, 102-615, 102-616, 102-617, 102-623 AND 102-670.

TEMPORARY TRAFFIC CONTROL PLAN (TTCP) GENERAL NOTES:

1. THE EXISTING POSTED SPEED LIMIT OF 55 MPH FOR SR 55 (US 19) SHALL BE MAINTAINED. THE EXISTING POSTED SPEED LIMIT OF 40 MPH FOR SPRING HILL DRIVE SHALL BE MAINTAINED. THE EXISTING POSTED SPEED LIMIT OF 40 MPH FOR OSOWAW BOULEVARD SHALL BE MAINTAINED.

2. CONSULT FDOT STANDARD PLAN INDICES 102-600 SERIES AS APPLICABLE FOR MAINTENANCE OF TRAFFIC.

3. NO SINGLE LANE CLOSURES ARE PERMITTED FOR SR 55 (US 19) BETWEEN 7 AM TO 8 PM AND NO DOUBLE LANE CLOSURES ARE PERMITTED FOR SR 55 (US 19) BETWEEN 6 AM TO 10 PM.

4. UTILIZE TRAFFIC CONTROL OFFICER AND/OR CERTIFIED FLAGGER TO MAINTAIN BICYCLE TRAFFIC THROUGH THE WORK ZONE DURING CONSTRUCTION OPERATIONS.

5. THE BIKE LANE WILL REMAIN OPEN AND FREE OF OBSTRUCTIONS WHEN FLAGGERS OR TRAFFIC CONTROL OFFICERS ARE NOT PROVIDED AND WILL REMAIN CONNECTED TO THE EXISTING FACILITY WHEN CONSTRUCTION IS NOT ACTIVELY TAKING PLACE.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

DANIEL A. CARNLEY
P.E. NO.: 75529
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

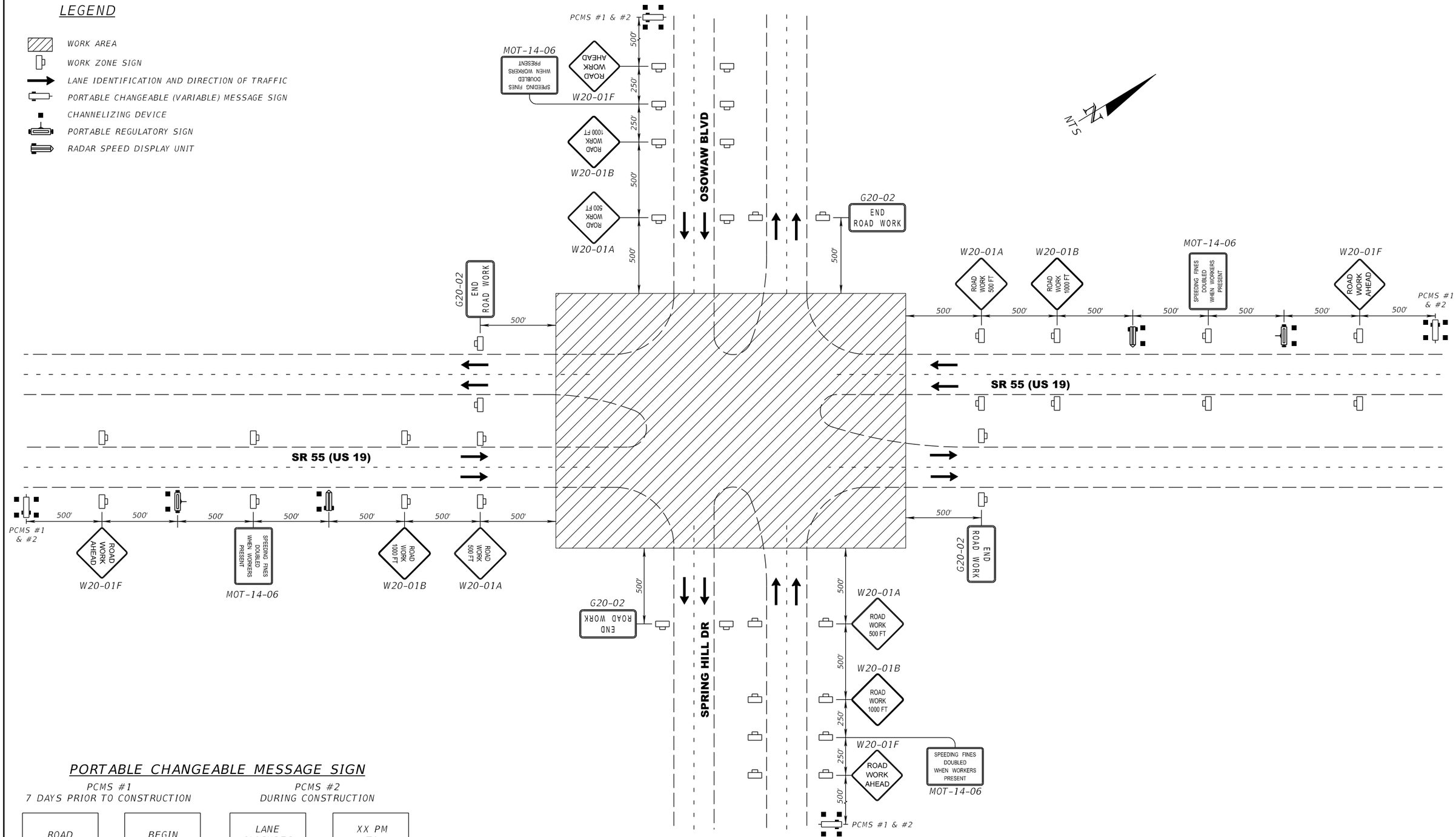
TEMPORARY TRAFFIC CONTROL PLAN (01)

SHEET NO. 10

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

LEGEND

- WORK AREA
- WORK ZONE SIGN
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC
- PORTABLE CHANGEABLE (VARIABLE) MESSAGE SIGN
- CHANNELIZING DEVICE
- PORTABLE REGULATORY SIGN
- RADAR SPEED DISPLAY UNIT



PORTABLE CHANGEABLE MESSAGE SIGN

PCMS #1 7 DAYS PRIOR TO CONSTRUCTION		PCMS #2 DURING CONSTRUCTION	
ROAD WORK	BEGIN XX/XX	LANE CLOSURES AHEAD	XX PM TO XX AM

ADVANCE WARNING SIGNS

NTS

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

DANIEL A. CARNLEY
P.E. NO.: 75529
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

TEMPORARY TRAFFIC CONTROL PLAN (02)

SHEET NO. 11

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

SUMMARY OF VERIFIED UTILITIES

Vvh #	UTILITY DESCRIPTION (Owner, type)	SIZE	MATERIALS	℄ and/or ℄			EXISTING GROUND ELEVATION	TOP ELEVATION	COMMENTS
				STATION	OFFSET	LT/RT			
101	HERNANDO COUNTY, WATER	8"	PVC	1248+41.85	77.21'	LT	18.55	13.00	UTILITY VERIFIED
102	FRONTIER, TELEPHONE	2"	DBC	1250+29.47	152.39'	RT	19.40	17.16	POSSIBLE OOS TELEPHONE
103	HERNANDO COUNTY, FOC	2 @ 2"	PE	1250+31.58	152.34'	RT	19.29	13.61	UTILITY VERIFIED
104	N/A	N/A	N/A	1250+84.91	49.48'	LT	19.74	9.74	TRENCHED TO 4'; CLEARED TO 10'
105	N/A	N/A	N/A	1250+84.94	53.11'	LT	19.68	9.68	TRENCHED TO 4'; CLEARED TO 10'
106	N/A	N/A	N/A	1248+38.66	75.81'	LT	19.15	9.15	TRENCHED TO 4'; CLEARED TO 10'
107	LUMEN, FO	UNKNOWN	PE	1248+43.85	73.16'	LT	19.21	9.77	UNABLE TO VISUALIZE DUE TO CAVE IN
108	FRONTIER, BT	0.5"	DBC	1250+32.20	151.33'	RT	19.27	16.27	UTILITY VERIFIED
109	HERNANDO COUNTY, FM	POSSIBLE 12"	DIP	1250+86.22	56.36'	LT	19.26	11.62	UTILITY VERIFIED
110	N/A	N/A	N/A	1250+34.56	151.64'	RT	19.60	9.60	TRENCHED TO 4'; CLEARED TO 10'

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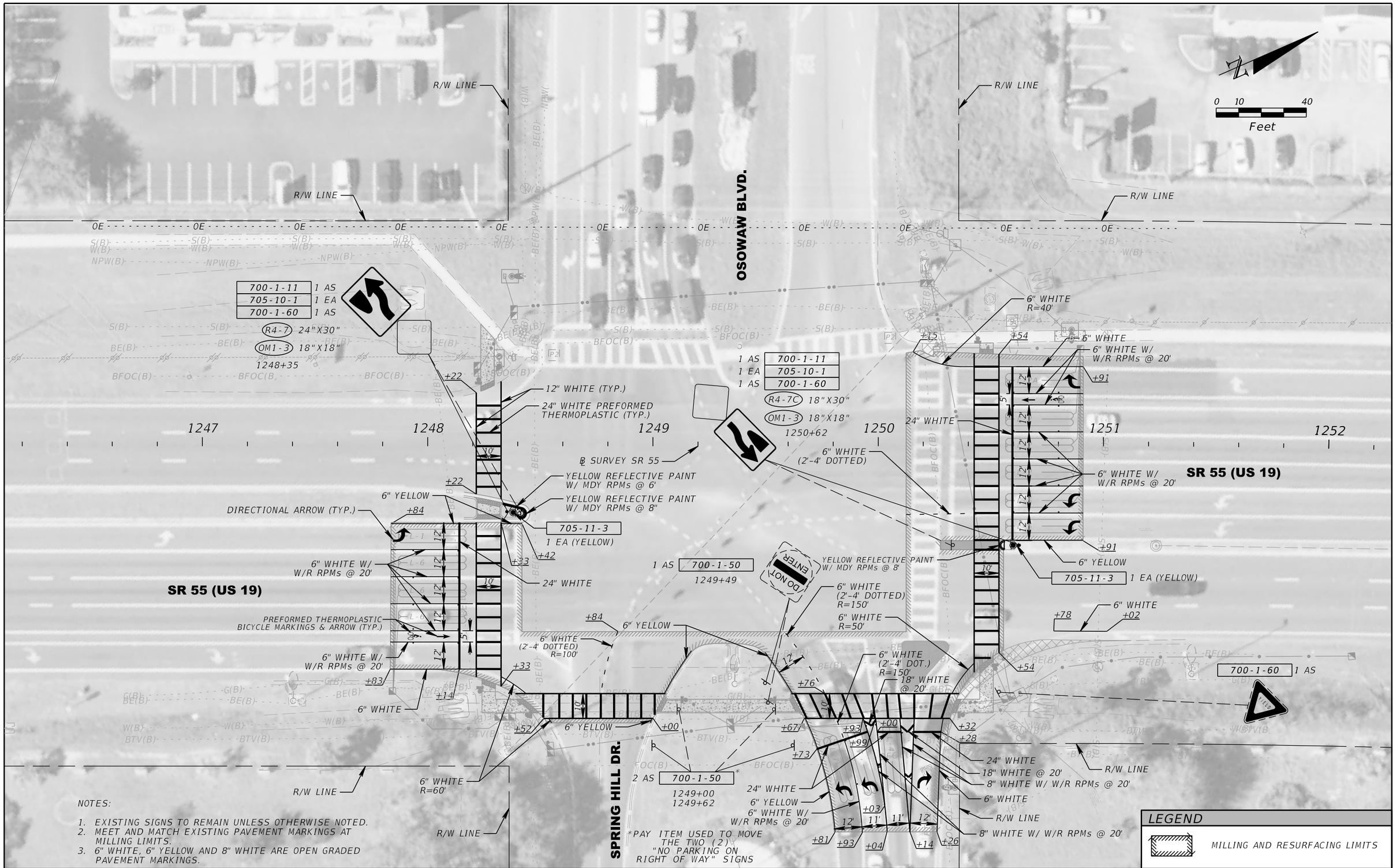
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

SUMMARY OF VERIFIED UTILITIES

SHEET NO. 12



NOTES:

1. EXISTING SIGNS TO REMAIN UNLESS OTHERWISE NOTED.
2. MEET AND MATCH EXISTING PAVEMENT MARKINGS AT MILLING LIMITS.
3. 6" WHITE, 6" YELLOW AND 8" WHITE ARE OPEN GRADED PAVEMENT MARKINGS.

LEGEND

MILLING AND RESURFACING LIMITS

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

AMANDA J. KREILING
P.E. NO.: 61644
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

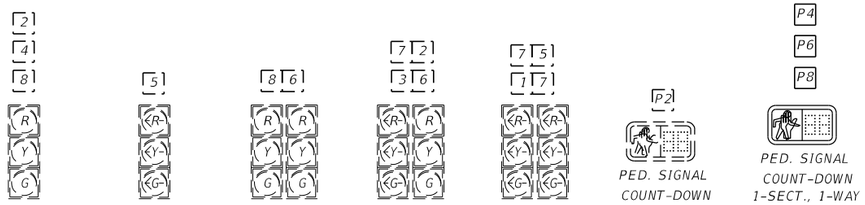
SIGNING AND PAVEMENT MARKING PLAN

SHEET NO. 13

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

USKP670346 1/9/2023 11:11:43 AM Default T:\Sys\Projects\25467725293_TWO_36\signing\PLANSP01.dgn

SIGNAL HEAD DETAILS:



NOTES:

1. SR 55 (US 19) IS THE MAJOR STREET, POSTED SPEED = 60 MPH. OSOWAW BLVD. IS THE MINOR STREET, POSTED SPEED = 35 MPH. SPRING HILL DR. IS THE MINOR STREET, POSTED SPEED = 30 MPH.
2. WHEN THE SIGNAL IS IN FLASHING MODE, MOVEMENTS 2 AND 6 SHALL FLASH YELLOW, AND ALL OTHER MOVEMENTS SHALL FLASH RED.
3. SIGNAL TIMINGS ARE INITIAL AND MAY REQUIRE FIELD ADJUSTING AS DIRECTED BY THE ENGINEER.
4. SEE LIGHTING PLAN FOR LIGHTING CONDUCTOR DETAILS.
5. MOVEMENT P6 SHALL OPERATE AS A SINGLE STAGE CROSSING, BUT SHALL BE WIRED FOR A 2-STAGE CROSSING.
6. EXISTING VEHICULAR SIGNAL HEAD LOCATIONS ARE APPROXIMATE.

630-2-11	2 RUNS @ 10 LF
632-7-1	1 PI
632-7-6	1 PI
635-2-14	2 EA
670-5-400	1 AS
676-1-500	1 EA
678-1-102	2 EA

UTILIZE EXIST. CONDUIT FOR NEW PED. MOVEMENTS, IF AVAILABLE OR CORE DRILL EXISTING CABINET BASE. ADJUST SIGNAL TIMINGS AND CONNECT NEW PEDESTRIAN MOVEMENTS. PAY ITEM 678-1-102 SHALL BE USED FOR NEW REQUIRED LOAD SWITCHES.

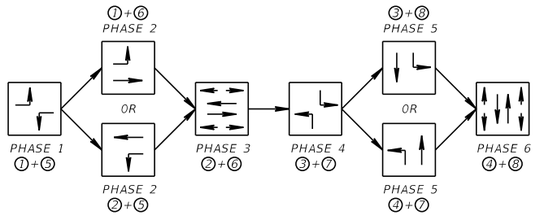
0 10 50
Feet

DETECTORS FOR LOOPS

LOOP	NO. OF NEW LOOPS	NO. OF NEW DETECT.	DELAY TIME (SEC.)
L-1	1	-	-
L-2	3	-	-
L-2A	1	-	15
L-3	**	**	**
L-4	1	-	-
L-5	2	-	-
L-6	3	-	-
L-7	2	-	-
L-8	**	**	**
L-8A	**	**	**

** EXISTING TO REMAIN

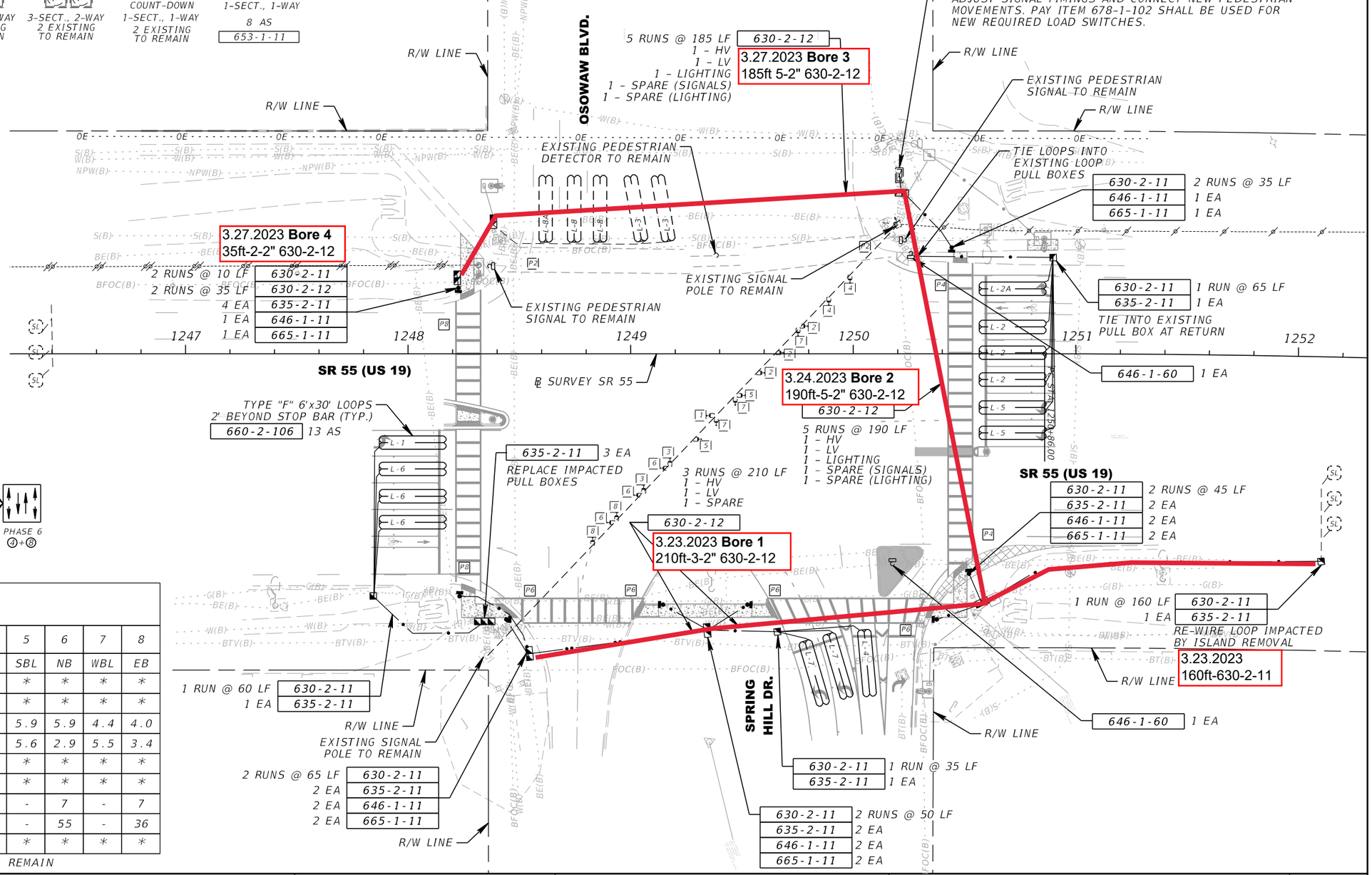
PROPOSED S.O.P.:



CONTROLLER TIMINGS

CONTROLLER PHASE, MOVEMENT NUMBER	1	2	3	4	5	6	7	8
DIRECTION	NBL	SB	EBL	WB	SBL	NB	WBL	EB
MINIMUM GREEN	*	*	*	*	*	*	*	*
EXTENSION	*	*	*	*	*	*	*	*
YELLOW CLEARANCE	5.9	5.9	4.0	4.4	5.9	5.9	4.4	4.0
ALL RED	5.6	2.9	5.5	3.4	5.6	2.9	5.5	3.4
MAXIMUM GREEN 1	*	*	*	*	*	*	*	*
MAXIMUM GREEN 2	*	*	*	*	*	*	*	*
PEDESTRIAN WALK	-	7	-	7	-	7	-	7
PED. CLEARANCE	-	49	-	39	-	55	-	36
RECALL	*	*	*	*	*	*	*	*

* EXISTING TIMINGS TO REMAIN



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

AMANDA J. KREILING
P.E. NO.: 61644
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

SIGNALIZATION PLAN

SHEET NO. 14

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LIGHTING LEGEND

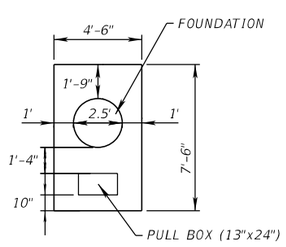
LABEL	SYMBOL	DESCRIPTION
A		MANUFACTURER: GE LIGHTING SOLUTIONS, MODEL: EVOLVE ERL2 SERIES LED FIXTURE, PHOTOMETRIC CURVE NUMBER: ERL2 30D340.IES. LUMINAIRE IS HORIZONTAL, POLE TOP MOUNTED, AT 45 FEET MOUNTING HEIGHT, ATTACHED TO SHOULDER MOUNTED CONVENTIONAL LIGHT POLE, WIRED FOR 120V OPERATION. SYMBOL INCLUDES LUMINAIRE, ARM, POLE, TRANSFORMER BREAKAWAY BASE, POLE CABLE DISTRIBUTION SYSTEM (PCDS), FOUNDATION AND CONCRETE SLAB. PULL BOX AND PCDS PAID FOR SEPARATELY.
B		MANUFACTURER: GE LIGHTING SOLUTIONS, MODEL: EVOLVE ERL2 SERIES LED FIXTURE, PHOTOMETRIC CURVE NUMBER: ERL2 27D340.IES. LUMINAIRE IS HORIZONTAL, POLE TOP MOUNTED, AT 45 FEET MOUNTING HEIGHT, ATTACHED TO SHOULDER MOUNTED CONVENTIONAL LIGHT POLE, WIRED FOR 120V OPERATION. SYMBOL INCLUDES LUMINAIRE, ARM, POLE, TRANSFORMER BREAKAWAY BASE, POLE CABLE DISTRIBUTION SYSTEM (PCDS), FOUNDATION AND CONCRETE SLAB. PULL BOX AND PCDS PAID FOR SEPARATELY.
		PROPOSED LIGHTING PULL BOX. PAY ITEM 635-2-11
		INITIAL AND FINAL LOCATION OF RELOCATED LIGHT POLE IMPACTED BY SIDEWALK AND GRADING WORK. ADJUST LIGHT POLE ELEVATION TO MEET FINISHED GRADE.

LIGHTING NOTES

1. MAINTAINING AGENCY: HERNANDO COUNTY
2. THE LOCATION OF LIGHT POLES, PULL BOXES AND SERVICE DISCONNECT ARE DIAGRAMMATIC ONLY AND MAY BE SHIFTED UPON APPROVAL OF THE ENGINEER TO ACCOMMODATE LOCAL CONDITIONS AND EXISTING UTILITY LOCATIONS.
3. NOTIFY HERNANDO COUNTY 7 DAYS BEFORE FINAL ACCEPTANCE FOR INSPECTION.
4. SEE SIGNALIZATION PLAN FOR ADDITIONAL DIRECTIONAL BORE PAY ITEM DETAILS.
5. LUMINAIRE ATTACHMENT SHOP DRAWING SUBMITTAL REQUIRED.
6. CONCRETE SLAB FOR POLE T-1-3 SHALL BE INCORPORATED INTO ADJACENT PROPOSED SIDEWALK.

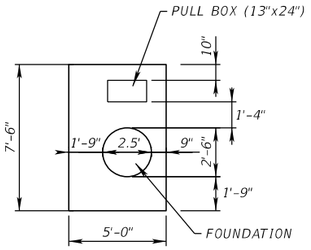
POLE A-1-2 SLAB DETAIL

N.T.S.



POLE T-1-2 SLAB DETAIL

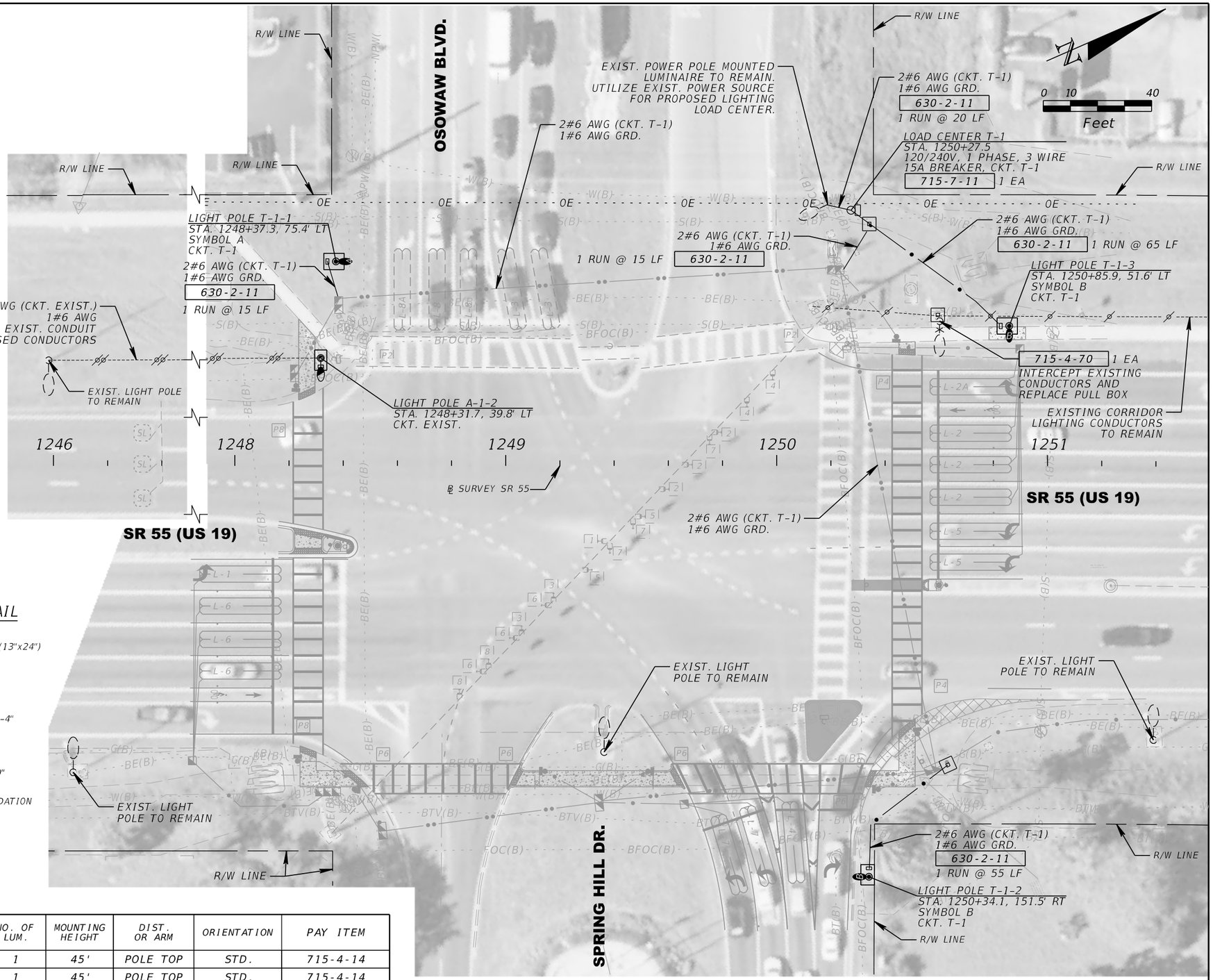
N.T.S.



LIGHTING DATA TABLE

POLE NO.	LUM. LABEL	WATTAGE	CIRCUIT	STATION	OFFSET	NO. OF LUM.	MOUNTING HEIGHT	DIST. OR ARM	ORIENTATION	PAY ITEM
T-1-1	A	278	T-1	1248+37.3	75.4' LT.	1	45'	POLE TOP	STD.	715-4-14
T-1-2	B	237	T-1	1250+34.1	151.5' RT.	1	45'	POLE TOP	STD.	715-4-14
T-1-3	B	237	T-1	1250+85.9	51.6' LT.	1	45'	POLE TOP	STD.	715-4-14
A-1-2	N/A	EXIST.	EXIST.	1248+31.7	39.8' LT.	EXIST.	EXIST.	EXIST.	STD.	715-4-60

STD. ORIENTATION = PERPENDICULAR TO ADJACENT ROADWAY



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

AMANDA J. KREILING
P.E. NO.: 61644
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

LIGHTING PLAN

SHEET NO. 15

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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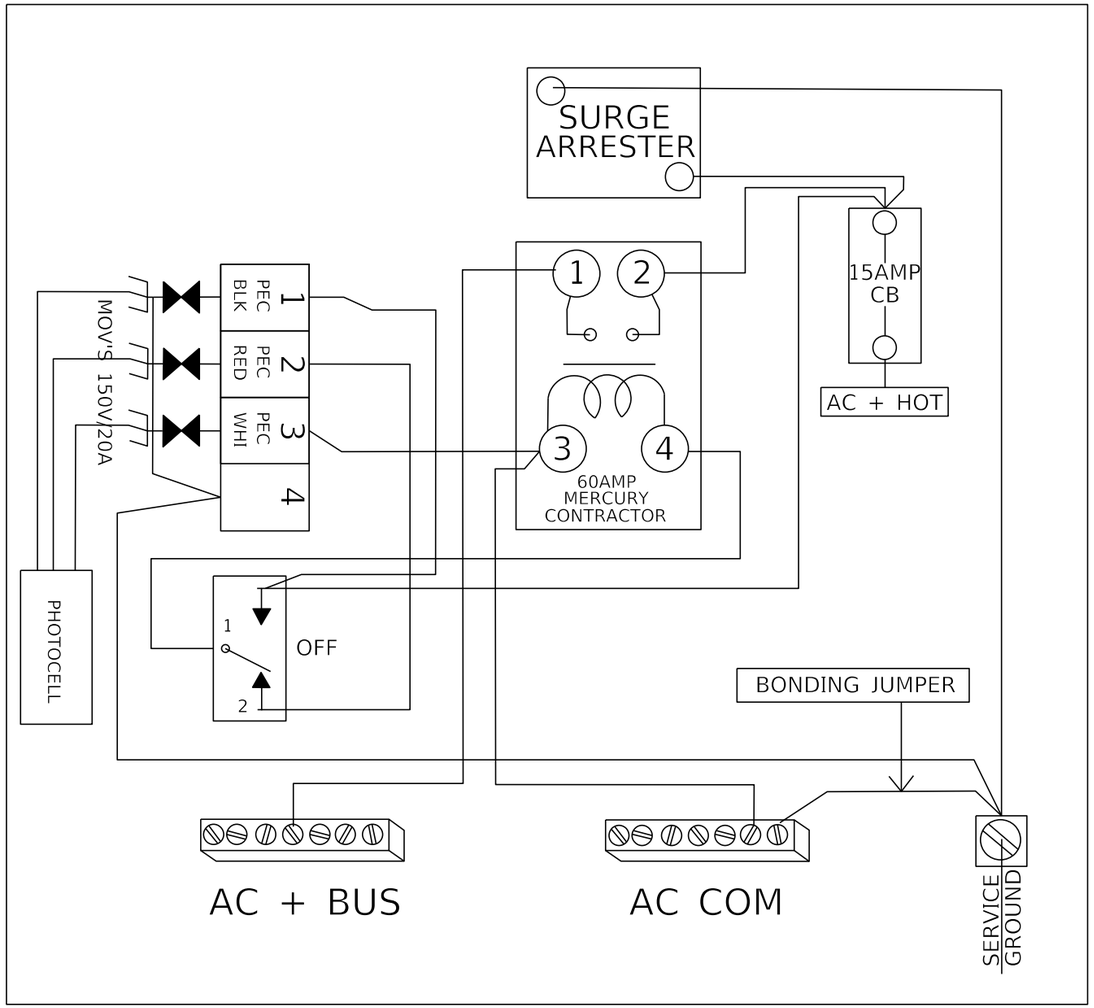
NEMA TYPE I ENCLOSURE



* THE SWITCH ABOVE IS SHOWN IN THE AUTO POSITION.

NOTE:

1. THE MINIMUM CABINET DIMENSIONS ARE 13" X 10" X 11".

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

AMANDA J. KREILING
P.E. NO.: 61644
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

LIGHTING SERVICE POINT DETAILS

SHEET NO. 16

460

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

SUMMARY OF PAVEMENT

PAY ITEM NO.	PAY ITEM DESCRIPTION	LOCATION STA. TO STA.	SIDE	AREA ID	UNIT	QUANTITY P	QUANTITY F	TOTAL P	TOTAL F	DESIGN NOTES	CONSTRUCTION REMARKS
285715	OPTIONAL BASE, BASE GROUP 15	1250+10.27 to 1250+30.76	RT	22502	SY	34.9		47			
		1250+27.62 to 1250+55.96	RT	22509		11.9					
0327 70 19	MILLING EXIST ASPH PAVT, 3/4" AVG DEPTH	1247+83.79 to 1250+90.97	LT/RT	47540	SY	2292.2		2292			
0334 1 14	SUPERPAVE ASPHALTIC CONC, TRAFFIC C, 1-199 TONS	1250+10.27 to 1250+30.76	RT	43453	TN	7.70		10.3			
		1250+27.62 to 1250+55.96	RT	43448		2.63					
0337 7 25	ASPHALT CONCRETE FRICTION COURSE (FC-5, PG 76-22), 1-199 TONS	1247+83.79 to 1250+90.97	LT/RT	47588	TN	91.69		92.2			
		1250+27.62 to 1250+55.96	RT	31953		0.50					

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION

DANIEL A. CARNLEY
P.E. NO.: 75529
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

SUMMARY OF QUANTITIES

SHEET NO.
SQ-1

Submittal Report

Financial Project:	254677-2-52-93	Submittal Type:	PLANS
Submittal Phase:	FINAL	Submittal Staff Type:	CONSULTANT
Received Date:	12/13/2022	Response Due Date:	1/12/2023
Grace Period:	0	District:	SEVENTH
Status:	OPEN	Create Date:	12/13/2022
Create User Id:	KNJACHD	Last Update:	12/13/2022
		Last Update User Id:	KNJACHD

Description:

TWO #36 DBPB V - Commercial Way (US 19) at Spring Hill Drive Pedestrian and Lighting Crosswalk Improvements. Reviewers, please send David Hernandez an e-mail (david.hernandez2@dot.state.fl.us) with final sign off if you have no further comments and previous phase submittal comments were addressed. Thank you.

Threads:

Name	Assignment	Due Date	Status	Comments
Abdul Waris	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
ALLEN TURNER	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Allison Conner	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Anthony Celani	LEAD REVIEWER	12/29/2022	ACTIVE	1

No	Status	Current Holder	Reference	Categories
10	COMMENT SUBMITTED FOR RESPONSE	DANIEL CARNLEY		DRAINAGE

Created By	Created On	
Anthony Celani	12/27/2022	-

Provided via Exhibit to the reviewer

Demonstrate that the added sidewalk at the corners of the intersection will not block or impede flow into the ditch system.

Name	Assignment	Due Date	Status	Comments
Blake Stallworth	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Brian McDermott	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
CAITLIN CARNLEY	LEAD DESIGNER	1/12/2023	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Calvin Mason	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
CARLENE RIECSS	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Catie Neal	REVIEWER	12/29/2022	ACTIVE	1

No	Status	Current Holder	Reference	Categories
2	COMMENT AGREED WITH			ENVIRONMENTAL MANAGEMENT OFF.

Created By	Created On	Version	Delegate For
Catie Neal	12/19/2022	1	

A natural resource review of the Final Plans has been completed on behalf of the District Seven Environmental Management Office (DEMO). Based on the project plans and location, there are no impacts to farmlands, Section 4(f) resources, floodplains, wetlands, surface waters, protected species, or habitat anticipated. DEMO will review any future submittals as necessary to confirm that this determination remains valid in accordance with federal and state regulations.

DANIEL CARNLEY	1/4/2023	1	

Comment Agreed & Closed

Name	Assignment	Due Date	Status	Comments
Chad Stewart	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Charles Manganaro	LEAD REVIEWER	12/29/2022	ACTIVE	1

No	Status	Current Holder	Reference	Categories
3	COMMENT AGREED WITH			CONSTRUCTION

Created By	Created On	Version	Delegate For
Charles Manganaro	12/21/2022	1	

Sheet 3- a pay item should be added for inlet protection

DANIEL CARNLEY	1/4/2023	1	

Comment Agreed & Closed

Name	Assignment	Due Date	Status	Comments
Cristina Suarez	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
DANIEL CARNLEY	CONSULTANT PROJECT MANAGER	1/12/2023	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
DANIEL HUNTER	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Daniel Lauricello	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
DAVID GORDINIER	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
David Grillo	LEAD REVIEWER	12/29/2022	ACTIVE	1

No	Status	Current Holder	Reference	Categories
1	COMMENT AGREED WITH			RAILROAD

Created By	Created On	Version	Delegate For
David Grillo	12/13/2022	1	

No Comment

DANIEL CARNLEY	1/4/2023	1	

Comment Agreed & Closed

Name	Assignment	Due Date	Status	Comments
David Guttenplan	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments

David Hernandez Jr	IN-HOUSE PROJECT MANAGER AST.	12/29/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
David Skrelunas	REVIEWER	12/29/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Demetrio Arencibia	LEAD REVIEWER	12/29/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Donald Marco	LEAD REVIEWER	12/29/2022	ACTIVE	0*
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Edward Cronyn	LEAD REVIEWER	12/29/2022	ACTIVE	0*
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Elizabeth (Jill) Wehle	LEAD REVIEWER	12/29/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Emilio Dominguez	LEAD REVIEWER	12/29/2022	ACTIVE	0*
Name	**Assignment**	**Due Date**	**Status**	**Comments**
FRED LAPIANA	LEAD REVIEWER	12/29/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Gautom Dey	LEAD REVIEWER	12/29/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
George Boyle	LEAD REVIEWER	12/29/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
HOSSEIN AMIRI	REVIEWER	12/29/2022	ACTIVE	5

No	**Status**	**Current Holder**	**Reference**	**Categories**
4	RESPONSE SUBMITTED	HOSSEIN AMIRI	10 - Phase 1 N2	TRAFFIC ANALYSIS,TRAFFIC CONTROL,SAFETY

Created By	**Created On**	**Version**	**Delegate For**
HOSSEIN AMIRI	12/23/2022	1	

Consider providing temporary dotted guideline striping to provide guidance for the temporary turn lane changes.

DANIEL CARNLEY	1/4/2023	1	

Disagree this only happens during night operations and complex movements are to be handled with a traffic control officer.

No	**Status**	**Current Holder**	**Reference**	**Categories**
5	RESPONSE SUBMITTED	HOSSEIN AMIRI	10 - Phase 1 N2	TRAFFIC ANALYSIS,TRAFFIC CONTROL,SAFETY

Created By	**Created On**	**Version**	**Delegate For**
HOSSEIN AMIRI	12/23/2022	1	

Please provide a note stating traffic signal head adjustments are needed and are to be coordinated with the traffic operations office prior to implementation.

DANIEL CARNLEY	1/4/2023	1	

Disagree this only happens during night operations and complex movements are to be handled with a traffic control officer.

No	Status	Current Holder	Reference	Categories
6	RESPONSE SUBMITTED	HOSSEIN AMIRI	10 - Phase 1 N4	TRAFFIC ANALYSIS,TRAFFIC CONTROL,SAFETY

Created By	Created On	Version	Delegate For
HOSSEIN AMIRI	12/23/2022	1	

Note 4 calls for maintaining the southbound left turns from the inside travel lane. Given the dual left configuration of the southbound approach, are double lane closure required to accommodate this work? If not, consider revising the note to call for maintaining the outside left turn lane which would leave the southbound through movement undisrupted.
Since the northbound inside lane needs to be closed for this work, consider the closure of the eastbound inside left turn movement from Osowaw Blvd or providing no turn on red signs for the westbound traffic on Spring Hill Dr turning right toward northbound SR 55 (US 19).

DANIEL CARNLEY	1/4/2023	1	

Agree, the outside SB turn lane will be maintained, and the inside EB left turn will be closed.

No	Status	Current Holder	Reference	Categories
7	RESPONSE SUBMITTED	HOSSEIN AMIRI	10 - Phase 1 N6	TRAFFIC ANALYSIS,TRAFFIC CONTROL,SAFETY

Created By	Created On	Version	Delegate For
HOSSEIN AMIRI	12/23/2022	1	

Is the closure of the eastbound inside lane adjacent to the median required for accommodating median work on Spring Hill Dr? It seems provisions of closing the inside lane have been removed from this final submittal.

DANIEL CARNLEY	1/4/2023	1	

Yes this was discussed with FDOT Roadway Design and the contractor where they feel they can complete this work without the additional closure and associated traffic impacts.

No	Status	Current Holder	Reference	Categories
8	COMMENT AGREED WITH		10 - TTCP General Notes	TRAFFIC ANALYSIS,TRAFFIC CONTROL,SAFETY

Created By	Created On	Version	Delegate For
HOSSEIN AMIRI	12/23/2022	1	

Please revise the title of the notes on the bottom part of the sheet to state TTCP General notes instead of Phasing notes.

DANIEL CARNLEY	1/4/2023	1	

Comment Agreed & Closed

Name	Assignment	Due Date	Status	Comments
Jacqueline Beebe	LEAD REVIEWER	12/29/2022	ACTIVE	0
James Ledbetter	LEAD REVIEWER	12/29/2022	ACTIVE	0
Joel Johnson	LEAD REVIEWER	12/29/2022	ACTIVE	0
Joel Provenzano	LEAD REVIEWER	12/29/2022	ACTIVE	0
John Escobio	LEAD REVIEWER	12/29/2022	ACTIVE	0
JON SANCHEZ	LEAD REVIEWER	12/29/2022	ACTIVE	0
Joseph Feaster	LEAD REVIEWER	12/29/2022	ACTIVE	0*
Julie Scanlon	LEAD REVIEWER	12/29/2022	ACTIVE	0*
Katina Kavouklis	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
KEITH A LARSON	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Kirk Bogen	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Kisan Patel	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Larry Hagen	LEAD REVIEWER	12/29/2022	ACTIVE	1

No	Status	Current Holder	Reference	Categories
9	COMMENT SUBMITTED FOR RESPONSE	CAITLIN CARNLEY	Sheet 14	SIGNALIZATION

Created By	Created On	Version	Delegate For
Larry Hagen	12/27/2022	1	

For US 19, the posted speed is 60 mph according to note 1. The yellow time for 60 mph per the TEM is 5.9 seconds. Plans show 5.5 seconds for those movements.

Name	Assignment	Due Date	Status	Comments
LILLIAN HOYT	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Lynn Decker	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Madhu Madaram	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Marcel Goss	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Mark Chianese	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
MARK MORGAN	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Marlene Hebert	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Megan Arasteh	IN-HOUSE PROJECT MANAGER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Megan Miller	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Michael R. Brown	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Omar Chehab	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Peter (Ping) Hsu	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Randall Aebersold	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
REBECCA SPAIN SCHWARZ	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Reebie Simms	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Robert F. Grimsley	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Robin Rhinesmith	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Rohan Abraham	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
RON PATEL	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Sarah Guagnini	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Sarah Guagnini	REVIEWER	12/29/2022	ACTIVE	1

No	Status	Current Holder	Reference	Categories
14	COMMENT AGREED WITH			CULTURAL RESOURCES,ENVIRONMENTAL MANAGEMENT OFF.

Created By	Created On	Version	Delegate For
Sarah Guagnini	12/29/2022	1	

A cultural resource review of the Final plans (dated December 2022) has been completed on behalf of Robin Rhinesmith. These plans were compared to the Phase III plans (dated October 2022). There are no changes to the scope of work. Based on a desktop review, there are no cultural resource concerns. This project qualifies as a minor project under the FDOT/Federal Highway Administration (FHWA) Programmatic Agreement (PA) (Stipulation VI). Therefore, a Minor Project Notification Form was submitted to the State Historic Preservation Officer (SHPO) on December 7, 2022, to notify them of this finding. No further cultural resource coordination is needed unless there are changes to the scope of work and/or right of way requirements.

DANIEL CARNLEY	1/4/2023	1	

Comment Agreed & Closed

Name	Assignment	Due Date	Status	Comments
SCOTT HERRING	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Skipper Pomicter	REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
STEPHEN STACK	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
STEVE DIEZ	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Taylor Smith	REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
TODD CROSBY	LEAD REVIEWER	12/29/2022	ACTIVE	3

No	Status	Current Holder	Reference	Categories
11	COMMENT SUBMITTED FOR RESPONSE	CAITLIN CARNLEY		SIGNING AND MARKING

Created By	Created On	Version	Delegate For
TODD CROSBY	12/28/2022	1	

1. Will signage be installed at Crosswalk on Springhill Drive "No Stopping in Crosswalk"

No	Status	Current Holder	Reference	Categories
12	COMMENT SUBMITTED FOR RESPONSE	CAITLIN CARNLEY		SIGNING AND MARKING

Created By	Created On	Version	Delegate For
TODD CROSBY	12/28/2022	1	

On Springhill Drive will areas between lanes be gorged as in the existing condition

No	Status	Current Holder	Reference	Categories
13	COMMENT SUBMITTED FOR RESPONSE	CAITLIN CARNLEY		SIGNING AND MARKING

Created By	Created On	Version	Delegate For
TODD CROSBY	12/28/2022	1	

Include a note that the No Parking signs with in the fountain area need to remain. they can be relocated but need to remain in the median area.

RE: Task 36 RFC Comments

EJ

Escobio, John <John.Escobio@dot.state.fl.us>
To Pritchard, Kyle A.
Cc Carnley, Danny; Hernandez Jr., David

Reply | Reply All | Forward | ...
Mon 1/9/2023 9:39 AM

Kyle,
On TTCP Plan Sht. 10, note 6 should be expanded to include median work adjacent to the EB inside lane of Spring Hill Dr. I spoke to Danny C. about this some time ago and we agreed that it could be done by placing barrels offset about 5' from the inside edge (no lane closure required).
JE

APPENDIX D

CAPACITY ANALYSIS CALCULATIONS

2025 EXISTING

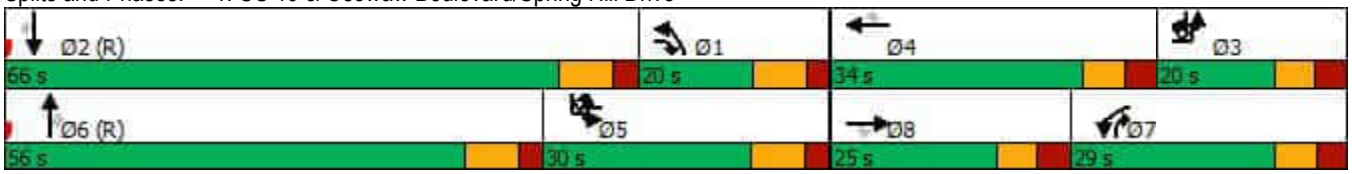
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	2	122	135	84	382	118	214	63	921	159	2	152
Future Volume (vph)	2	122	135	84	382	118	214	63	921	159	2	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		175	0		175	475		525		275
Storage Lanes		2		2	2		2	1		1		2
Taper Length (ft)		100			100			100				100
Lane Util. Factor	0.95	0.97	0.95	1.00	0.97	1.00	1.00	1.00	0.91	1.00	0.91	0.97
Frt				0.850			0.850			0.850		
Flt Protected		0.950			0.950			0.950				0.950
Satd. Flow (prot)	0	3433	3539	1583	3433	1863	1583	1770	5085	1583	0	3433
Flt Permitted		0.950			0.950			0.950				0.950
Satd. Flow (perm)	0	3433	3539	1583	3433	1863	1583	1770	5085	1583	0	3433
Right Turn on Red				No			No			No		
Satd. Flow (RTOR)												
Link Speed (mph)			40			40			55			
Link Distance (ft)			352			1085			891			
Travel Time (s)			6.0			18.5			11.0			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	136	150	93	424	131	238	70	1023	177	2	169
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	138	150	93	424	131	238	70	1023	177	0	171
Turn Type	Prot	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	Prot
Protected Phases	3!	3	8	1	7	4	5!	1	6	7	5!	5
Permitted Phases				8			4			6		
Detector Phase	3	3	8	1	7	4	5	1	6	7	5	5
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0	20.0	5.0	5.0	5.0
Minimum Split (s)	12.7	12.7	17.7	13.0	12.8	17.8	13.2	13.0	28.0	12.8	13.2	13.2
Total Split (s)	20.0	20.0	25.0	20.0	29.0	34.0	30.0	20.0	56.0	29.0	30.0	30.0
Total Split (%)	14.3%	14.3%	17.9%	14.3%	20.7%	24.3%	21.4%	14.3%	40.0%	20.7%	21.4%	21.4%
Maximum Green (s)	12.3	12.3	17.3	12.0	21.2	26.2	21.8	12.0	48.0	21.2	21.8	21.8
Yellow Time (s)	4.1	4.1	4.1	5.6	4.5	4.5	5.6	5.6	5.6	4.5	5.6	5.6
All-Red Time (s)	3.6	3.6	3.6	2.4	3.3	3.3	2.6	2.4	2.4	3.3	2.6	2.6
Lost Time Adjust (s)		-2.7	-2.7	-3.0	-2.8	-2.8	-3.2	-3.0	-3.0	-2.8		-3.2
Total Lost Time (s)		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0
Lead/Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	3.0	4.0	3.0	3.5	3.0	4.0	4.0	3.5	3.5
Recall Mode	None	None	None	None	None	None	None	None	C-Max	None	None	None
Act Effct Green (s)		21.8	14.3	33.1	25.5	18.0	46.8	13.8	56.4	86.9		23.8
Actuated g/C Ratio		0.16	0.10	0.24	0.18	0.13	0.33	0.10	0.40	0.62		0.17
v/c Ratio		0.26	0.41	0.25	0.68	0.55	0.45	0.40	0.50	0.18		0.29
Control Delay		53.4	62.1	44.3	59.2	65.2	38.6	54.0	19.2	8.6		51.9
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay		53.4	62.1	44.3	59.2	65.2	38.6	54.0	19.2	8.6		51.9
LOS		D	E	D	E	E	D	D	B	A		D
Approach Delay			54.6			54.0			19.6			
Approach LOS			D			D			B			

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1151	41
Future Volume (vph)	1151	41
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		525
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.91	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	5085	1583
Flt Permitted		
Satd. Flow (perm)	5085	1583
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)	55	
Link Distance (ft)	1088	
Travel Time (s)	13.5	
Peak Hour Factor	0.90	0.90
Adj. Flow (vph)	1279	46
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1279	46
Turn Type	NA	pm+ov
Protected Phases	2	3!
Permitted Phases		2
Detector Phase	2	3
Switch Phase		
Minimum Initial (s)	20.0	5.0
Minimum Split (s)	28.2	12.7
Total Split (s)	66.0	20.0
Total Split (%)	47.1%	14.3%
Maximum Green (s)	57.8	12.3
Yellow Time (s)	5.6	4.1
All-Red Time (s)	2.6	3.6
Lost Time Adjust (s)	-3.2	-2.7
Total Lost Time (s)	5.0	5.0
Lead/Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	4.0	4.0
Recall Mode	C-Max	None
Act Effct Green (s)	66.4	93.2
Actuated g/C Ratio	0.47	0.67
v/c Ratio	0.53	0.04
Control Delay	27.6	9.5
Queue Delay	0.0	0.0
Total Delay	27.6	9.5
LOS	C	A
Approach Delay	29.8	
Approach LOS	C	

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Queue Length 50th (ft)		57	68	69	185	114	167	62	113	37		70
Queue Length 95th (ft)		91	103	117	243	175	233	116	127	54		106
Internal Link Dist (ft)			272			1005			811			
Turn Bay Length (ft)				175			175	475		525		275
Base Capacity (vph)		534	505	365	640	385	520	189	2049	967		613
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0		0
Spillback Cap Reductn		0	0	0	0	0	0	0	0	0		0
Storage Cap Reductn		0	0	0	0	0	0	0	0	0		0
Reduced v/c Ratio		0.26	0.30	0.25	0.66	0.34	0.46	0.37	0.50	0.18		0.28

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 50 (36%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 33.8		Intersection LOS: C	
Intersection Capacity Utilization 62.3%		ICU Level of Service B	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

Splits and Phases: 1: US 19 & Osowaw Boulevard/Spring Hill Drive



Lane Group	SBT	SBR
Queue Length 50th (ft)	304	14
Queue Length 95th (ft)	365	33
Internal Link Dist (ft)	1008	
Turn Bay Length (ft)		525
Base Capacity (vph)	2412	1053
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.53	0.04

Intersection Summary

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	1	246	252	91	1	330	160	296	1	114	1474	333
Future Volume (vph)	1	246	252	91	1	330	160	296	1	114	1474	333
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		175		0		175		475		525
Storage Lanes		2		2		2		2		1		1
Taper Length (ft)		100				100				100		
Lane Util. Factor	0.95	0.97	0.95	1.00	1.00	0.97	1.00	1.00	0.91	1.00	0.91	1.00
Frt				0.850				0.850				0.850
Flt Protected		0.950				0.950				0.950		
Satd. Flow (prot)	0	3433	3539	1583	0	3433	1863	1583	0	1770	5085	1583
Flt Permitted		0.950				0.950				0.950		
Satd. Flow (perm)	0	3433	3539	1583	0	3433	1863	1583	0	1770	5085	1583
Right Turn on Red				No				No				No
Satd. Flow (RTOR)												
Link Speed (mph)			40				40				55	
Link Distance (ft)			352				1085				891	
Travel Time (s)			6.0				18.5				11.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1	273	280	101	1	367	178	329	1	127	1638	370
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	274	280	101	0	368	178	329	0	128	1638	370
Turn Type	Prot	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov
Protected Phases	3!	3	8	1!	7!	7	4	5!	1!	1	6	7!
Permitted Phases				8				4				6
Detector Phase	3	3	8	1	7	7	4	5	1	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	5.0	10.0	5.0	5.0	5.0	20.0	5.0
Minimum Split (s)	12.7	12.7	17.7	13.0	12.8	12.8	17.8	13.2	13.0	13.0	28.0	12.8
Total Split (s)	25.0	25.0	25.0	35.0	30.0	30.0	30.0	45.0	35.0	35.0	60.0	30.0
Total Split (%)	15.6%	15.6%	15.6%	21.9%	18.8%	18.8%	18.8%	28.1%	21.9%	21.9%	37.5%	18.8%
Maximum Green (s)	17.3	17.3	17.3	27.0	22.2	22.2	22.2	36.8	27.0	27.0	52.0	22.2
Yellow Time (s)	4.1	4.1	4.1	5.6	4.5	4.5	4.5	5.6	5.6	5.6	5.6	4.5
All-Red Time (s)	3.6	3.6	3.6	2.4	3.3	3.3	3.3	2.6	2.4	2.4	2.4	3.3
Lost Time Adjust (s)		-2.7	-2.7	-3.0		-2.8	-2.8	-3.2		-3.0	-3.0	-2.8
Total Lost Time (s)		5.0	5.0	5.0		5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	3.0	4.0	4.0	3.0	3.5	3.0	3.0	4.0	4.0
Recall Mode	None	None	None	None	None	None	None	None	None	None	C-Max	None
Act Effct Green (s)		22.4	19.4	49.3		25.3	22.3	62.1		24.8	60.5	90.7
Actuated g/C Ratio		0.14	0.12	0.31		0.16	0.14	0.39		0.16	0.38	0.57
v/c Ratio		0.57	0.65	0.21		0.68	0.69	0.54		0.47	0.85	0.41
Control Delay		69.1	75.5	41.6		70.5	79.2	40.4		44.4	36.8	20.7
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
Total Delay		69.1	75.5	41.6		70.5	79.2	40.4		44.4	36.8	20.7
LOS		E	E	D		E	E	D		D	D	C
Approach Delay			67.6				60.9				34.5	
Approach LOS			E				E				C	

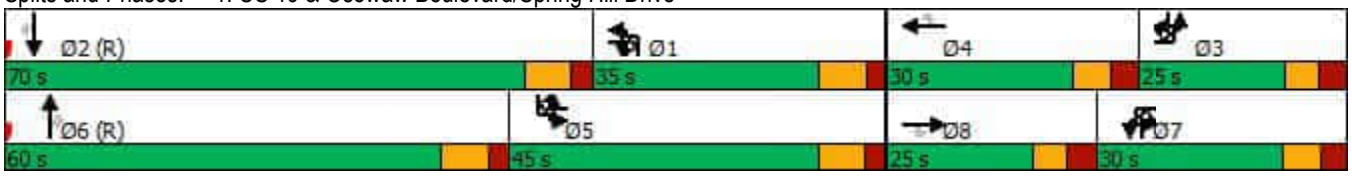
Lane Group	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Volume (vph)	2	302	1171	95
Future Volume (vph)	2	302	1171	95
Ideal Flow (vphpl)	1900	1900	1900	1900
Storage Length (ft)		275		525
Storage Lanes		2		1
Taper Length (ft)		100		
Lane Util. Factor	0.91	0.97	0.91	1.00
Frt				0.850
Flt Protected		0.950		
Satd. Flow (prot)	0	3433	5085	1583
Flt Permitted		0.950		
Satd. Flow (perm)	0	3433	5085	1583
Right Turn on Red				No
Satd. Flow (RTOR)				
Link Speed (mph)			55	
Link Distance (ft)			1088	
Travel Time (s)			13.5	
Peak Hour Factor	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	336	1301	106
Shared Lane Traffic (%)				
Lane Group Flow (vph)	0	338	1301	106
Turn Type	Prot	Prot	NA	pm+ov
Protected Phases	5!	5	2	3!
Permitted Phases				2
Detector Phase	5	5	2	3
Switch Phase				
Minimum Initial (s)	5.0	5.0	20.0	5.0
Minimum Split (s)	13.2	13.2	28.2	12.7
Total Split (s)	45.0	45.0	70.0	25.0
Total Split (%)	28.1%	28.1%	43.8%	15.6%
Maximum Green (s)	36.8	36.8	61.8	17.3
Yellow Time (s)	5.6	5.6	5.6	4.1
All-Red Time (s)	2.6	2.6	2.6	3.6
Lost Time Adjust (s)		-3.2	-3.2	-2.7
Total Lost Time (s)		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	3.5	4.0	4.0
Recall Mode	None	None	C-Max	None
Act Effct Green (s)		34.8	70.5	97.9
Actuated g/C Ratio		0.22	0.44	0.61
v/c Ratio		0.45	0.58	0.11
Control Delay		55.7	36.0	14.8
Queue Delay		0.0	0.0	0.0
Total Delay		55.7	36.0	14.8
LOS		E	D	B
Approach Delay			38.5	
Approach LOS			D	

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Queue Length 50th (ft)		136	148	77		185	179	259		131	347	118
Queue Length 95th (ft)		195	202	124		248	264	338		m159	#572	249
Internal Link Dist (ft)			272				1005				811	
Turn Bay Length (ft)				175				175		475		525
Base Capacity (vph)		481	453	479		560	293	605		331	1921	896
Starvation Cap Reductn		0	0	0		0	0	0		0	0	0
Spillback Cap Reductn		0	0	0		0	0	0		0	0	0
Storage Cap Reductn		0	0	0		0	0	0		0	0	0
Reduced v/c Ratio		0.57	0.62	0.21		0.66	0.61	0.54		0.39	0.85	0.41

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 2 (1%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 44.1		Intersection LOS: D	
Intersection Capacity Utilization 79.2%		ICU Level of Service D	
Analysis Period (min) 15			

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.
! Phase conflict between lane groups.

Splits and Phases: 1: US 19 & Osowaw Boulevard/Spring Hill Drive



Lane Group	SBU	SBL	SBT	SBR
Queue Length 50th (ft)		158	395	46
Queue Length 95th (ft)		202	447	83
Internal Link Dist (ft)			1008	
Turn Bay Length (ft)		275		525
Base Capacity (vph)		858	2239	968
Starvation Cap Reductn		0	0	0
Spillback Cap Reductn		0	0	0
Storage Cap Reductn		0	0	0
Reduced v/c Ratio		0.39	0.58	0.11

Intersection Summary

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	31	1090	1673	51
Future Vol, veh/h	0	16	31	1090	1673	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	475	-	-	350
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	34	1211	1859	57

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	930	1916	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	0	231	138	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	231	138	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.9	1.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	138	-	231	-	-
HCM Lane V/C Ratio	0.25	-	0.077	-	-
HCM Control Delay (s)	39.6	-	21.9	-	-
HCM Lane LOS	E	-	C	-	-
HCM 95th %tile Q(veh)	0.9	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	0	57	3	49	1986	1470	130
Future Vol, veh/h	0	57	3	49	1986	1470	130
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	Stop	-	-	None	-	None
Storage Length	-	0	-	475	-	-	350
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	63	3	54	2207	1633	144

Major/Minor	Minor2		Major1			Major2	
Conflicting Flow All	-	817	1192	1777	0	-	0
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.64	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	2.32	3.12	-	-	-
Pot Cap-1 Maneuver	0	274	344	162	-	-	-
Stage 1	0	-	-	-	-	-	-
Stage 2	0	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	-	274	166	166	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22	1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	166	-	274	-	-
HCM Lane V/C Ratio	0.348	-	0.231	-	-
HCM Control Delay (s)	37.9	-	22	-	-
HCM Lane LOS	E	-	C	-	-
HCM 95th %tile Q(veh)	1.4	-	0.9	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	93	18	12	68	17	42	7	19	984	75	2	53
Future Volume (vph)	93	18	12	68	17	42	7	19	984	75	2	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		200		300		325		300
Storage Lanes	1		0	0		1		1		1		1
Taper Length (ft)	100			100				100				100
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.91	1.00	0.91	1.00	0.91	1.00
Frt		0.971				0.850				0.850		
Flt Protected	0.950	0.975			0.962			0.950				0.950
Satd. Flow (prot)	1681	1675	0	0	1792	1583	0	1770	5085	1583	0	1770
Flt Permitted	0.950	0.975			0.962			0.950				0.950
Satd. Flow (perm)	1681	1675	0	0	1792	1583	0	1770	5085	1583	0	1770
Right Turn on Red			No			No				No		
Satd. Flow (RTOR)												
Link Speed (mph)		25			30				55			
Link Distance (ft)		455			1096				1049			
Travel Time (s)		12.4			24.9				13.0			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	103	20	13	76	19	47	8	21	1093	83	2	59
Shared Lane Traffic (%)	34%											
Lane Group Flow (vph)	68	68	0	0	95	47	0	29	1093	83	0	61
Turn Type	Split	NA		Split	NA	pm+ov	Prot	Prot	NA	pm+ov	Prot	Prot
Protected Phases	8	8		4	4	5!	1	1	6	4	5!	5
Permitted Phases						4				6		
Detector Phase	8	8		4	4	5	1	1	6	4	5	5
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	10.0	20.0	5.0	10.0	10.0
Minimum Split (s)	13.4	13.4		12.4	12.4	17.5	17.6	17.6	27.6	12.4	17.5	17.5
Total Split (s)	28.0	28.0		27.0	27.0	25.0	25.0	25.0	60.0	27.0	25.0	25.0
Total Split (%)	20.0%	20.0%		19.3%	19.3%	17.9%	17.9%	17.9%	42.9%	19.3%	17.9%	17.9%
Maximum Green (s)	19.6	19.6		19.6	19.6	17.5	17.4	17.4	52.4	19.6	17.5	17.5
Yellow Time (s)	3.4	3.4		3.7	3.7	5.5	5.6	5.6	5.6	3.7	5.5	5.5
All-Red Time (s)	5.0	5.0		3.7	3.7	2.0	2.0	2.0	2.0	3.7	2.0	2.0
Lost Time Adjust (s)	-3.4	-3.4			-2.4	-2.5		-2.6	-2.6	-2.4		-2.5
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0		5.0
Lead/Lag						Lag	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	None	C-Max	None	None	None
Act Effct Green (s)	14.4	14.4			15.1	30.8		13.8	80.2	96.4		13.7
Actuated g/C Ratio	0.10	0.10			0.11	0.22		0.10	0.57	0.69		0.10
v/c Ratio	0.39	0.40			0.49	0.14		0.17	0.38	0.08		0.35
Control Delay	64.5	64.6			66.8	40.5		59.5	18.7	4.9		48.7
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0	0.0		0.0
Total Delay	64.5	64.6			66.8	40.5		59.5	18.7	4.9		48.7
LOS	E	E			E	D		E	B	A		D
Approach Delay		64.5			58.1				18.7			
Approach LOS		E			E				B			

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1546	86
Future Volume (vph)	1546	86
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		475
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.91	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	5085	1583
Flt Permitted		
Satd. Flow (perm)	5085	1583
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)	55	
Link Distance (ft)	939	
Travel Time (s)	11.6	
Peak Hour Factor	0.90	0.90
Adj. Flow (vph)	1718	96
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1718	96
Turn Type	NA	pm+ov
Protected Phases	2	8
Permitted Phases		2
Detector Phase	2	8
Switch Phase		
Minimum Initial (s)	20.0	5.0
Minimum Split (s)	27.5	13.4
Total Split (s)	60.0	28.0
Total Split (%)	42.9%	20.0%
Maximum Green (s)	52.5	19.6
Yellow Time (s)	5.5	3.4
All-Red Time (s)	2.0	5.0
Lost Time Adjust (s)	-2.5	-3.4
Total Lost Time (s)	5.0	5.0
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	4.0	3.0
Recall Mode	C-Max	None
Act Effct Green (s)	83.7	103.2
Actuated g/C Ratio	0.60	0.74
v/c Ratio	0.56	0.08
Control Delay	9.5	4.9
Queue Delay	0.0	0.0
Total Delay	9.5	4.9
LOS	A	A
Approach Delay	10.6	
Approach LOS	B	

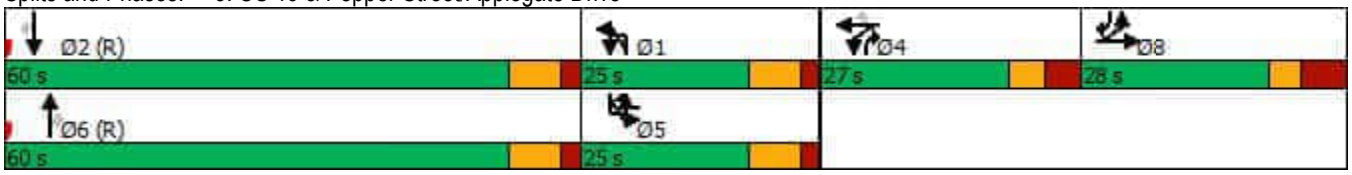
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Queue Length 50th (ft)	62	62			83	34		25	199	11		55
Queue Length 95th (ft)	111	111			137	64		57	287	25		m97
Internal Link Dist (ft)		375			1016				969			
Turn Bay Length (ft)						200		300		325		300
Base Capacity (vph)	276	275			281	361		252	2914	1167		252
Starvation Cap Reductn	0	0			0	0		0	0	0		0
Spillback Cap Reductn	0	0			0	0		0	0	0		0
Storage Cap Reductn	0	0			0	0		0	0	0		0
Reduced v/c Ratio	0.25	0.25			0.34	0.13		0.12	0.38	0.07		0.24

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 51 (36%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 17.7		Intersection LOS: B	
Intersection Capacity Utilization 62.0%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

! Phase conflict between lane groups.

Splits and Phases: 3: US 19 & Pepper Street/Applegate Drive



Lane Group	SBT	SBR
Queue Length 50th (ft)	130	17
Queue Length 95th (ft)	226	m30
Internal Link Dist (ft)	859	
Turn Bay Length (ft)		475
Base Capacity (vph)	3041	1164
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.56	0.08

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	181	64	28	147	36	115	6	61	1734	181	8	60
Future Volume (vph)	181	64	28	147	36	115	6	61	1734	181	8	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		200		300		325		300
Storage Lanes	1		0	0		1		1		1		1
Taper Length (ft)	100			100				100				100
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.91	1.00	0.91	1.00	0.91	1.00
Frt		0.969				0.850				0.850		
Flt Protected	0.950	0.984			0.961			0.950				0.950
Satd. Flow (prot)	1681	1687	0	0	1790	1583	0	1770	5085	1583	0	1770
Flt Permitted	0.950	0.984			0.961			0.950				0.950
Satd. Flow (perm)	1681	1687	0	0	1790	1583	0	1770	5085	1583	0	1770
Right Turn on Red			No			No				No		
Satd. Flow (RTOR)												
Link Speed (mph)		25			30				55			
Link Distance (ft)		455			1096				1049			
Travel Time (s)		12.4			24.9				13.0			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	201	71	31	163	40	128	7	68	1927	201	9	67
Shared Lane Traffic (%)	25%											
Lane Group Flow (vph)	151	152	0	0	203	128	0	75	1927	201	0	76
Turn Type	Split	NA		Split	NA	pm+ov	Prot	Prot	NA	pm+ov	Prot	Prot
Protected Phases	8	8		4	4	5!	1	1	6	4	5!	5
Permitted Phases						4				6		
Detector Phase	8	8		4	4	5	1	1	6	4	5	5
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	10.0	20.0	5.0	10.0	10.0
Minimum Split (s)	13.4	13.4		12.4	12.4	17.5	17.6	17.6	27.6	12.4	17.5	17.5
Total Split (s)	56.0	56.0		25.0	25.0	25.0	25.0	25.0	54.0	25.0	25.0	25.0
Total Split (%)	35.0%	35.0%		15.6%	15.6%	15.6%	15.6%	15.6%	33.8%	15.6%	15.6%	15.6%
Maximum Green (s)	47.6	47.6		17.6	17.6	17.5	17.4	17.4	46.4	17.6	17.5	17.5
Yellow Time (s)	3.4	3.4		3.7	3.7	5.5	5.6	5.6	5.6	3.7	5.5	5.5
All-Red Time (s)	5.0	5.0		3.7	3.7	2.0	2.0	2.0	2.0	3.7	2.0	2.0
Lost Time Adjust (s)	-3.4	-3.4			-2.4	-2.5		-2.6	-2.6	-2.4		-2.5
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0		5.0
Lead/Lag						Lag	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	None	C-Max	None	None	None
Act Effct Green (s)	23.5	23.5			21.4	43.7		17.3	77.8	99.2		17.3
Actuated g/C Ratio	0.15	0.15			0.13	0.27		0.11	0.49	0.62		0.11
v/c Ratio	0.61	0.62			0.85	0.30		0.39	0.78	0.20		0.40
Control Delay	74.0	74.1			96.6	47.7		71.9	37.9	7.9		51.8
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0	0.0		0.0
Total Delay	74.0	74.1			96.6	47.7		71.9	37.9	7.9		51.8
LOS	E	E			F	D		E	D	A		D
Approach Delay		74.0			77.7				36.3			
Approach LOS		E			E				D			

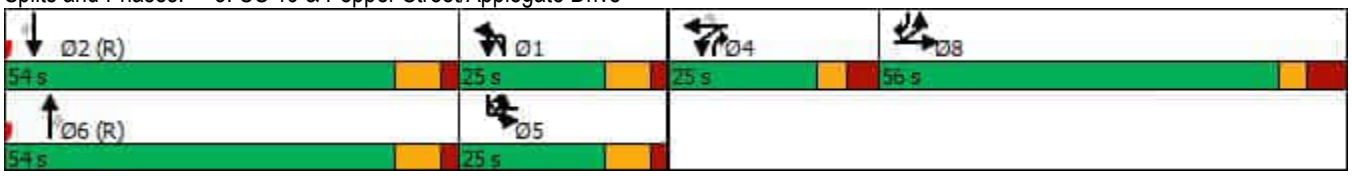
Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1262	162
Future Volume (vph)	1262	162
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		475
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.91	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	5085	1583
Flt Permitted		
Satd. Flow (perm)	5085	1583
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)	55	
Link Distance (ft)	939	
Travel Time (s)	11.6	
Peak Hour Factor	0.90	0.90
Adj. Flow (vph)	1402	180
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1402	180
Turn Type	NA	pm+ov
Protected Phases	2	8
Permitted Phases		2
Detector Phase	2	8
Switch Phase		
Minimum Initial (s)	20.0	5.0
Minimum Split (s)	27.5	13.4
Total Split (s)	54.0	56.0
Total Split (%)	33.8%	35.0%
Maximum Green (s)	46.5	47.6
Yellow Time (s)	5.5	3.4
All-Red Time (s)	2.0	5.0
Lost Time Adjust (s)	-2.5	-3.4
Total Lost Time (s)	5.0	5.0
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	4.0	3.0
Recall Mode	C-Max	None
Act Effct Green (s)	77.8	106.3
Actuated g/C Ratio	0.49	0.66
v/c Ratio	0.57	0.17
Control Delay	12.9	6.2
Queue Delay	0.0	0.0
Total Delay	12.9	6.2
LOS	B	A
Approach Delay	13.9	
Approach LOS	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Queue Length 50th (ft)	158	160			210	105		74	610	44		77
Queue Length 95th (ft)	229	230			#371	167		130	741	84		m132
Internal Link Dist (ft)		375			1016				969			
Turn Bay Length (ft)						200		300		325		300
Base Capacity (vph)	535	537			239	424		221	2473	981		221
Starvation Cap Reductn	0	0			0	0		0	0	0		0
Spillback Cap Reductn	0	0			0	0		0	0	0		0
Storage Cap Reductn	0	0			0	0		0	0	0		0
Reduced v/c Ratio	0.28	0.28			0.85	0.30		0.34	0.78	0.20		0.34

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 18 (11%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 33.6		Intersection LOS: C	
Intersection Capacity Utilization 74.4%		ICU Level of Service D	
Analysis Period (min) 15			

\# 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.
! Phase conflict between lane groups.

Splits and Phases: 3: US 19 & Pepper Street/Applegate Drive



Lane Group	SBT	SBR
Queue Length 50th (ft)	116	32
Queue Length 95th (ft)	172	45
Internal Link Dist (ft)	859	
Turn Bay Length (ft)		475
Base Capacity (vph)	2473	1051
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.57	0.17

Intersection Summary

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	4	1	62	15	25	3	42	90	18	33	2
Future Vol, veh/h	4	4	1	62	15	25	3	42	90	18	33	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	4	1	69	17	28	3	47	100	20	37	2
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	7.6	8.1	8.1	8
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	44%	61%	100%	0%
Vol Thru, %	0%	32%	44%	15%	0%	94%
Vol Right, %	0%	68%	11%	25%	0%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	132	9	102	18	35
LT Vol	3	0	4	62	18	0
Through Vol	0	42	4	15	0	33
RT Vol	0	90	1	25	0	2
Lane Flow Rate	3	147	10	113	20	39
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.005	0.18	0.013	0.139	0.03	0.053
Departure Headway (Hd)	5.39	4.409	4.573	4.407	5.439	4.897
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	668	818	785	816	660	733
Service Time	3.09	2.109	2.589	2.419	3.155	2.613
HCM Lane V/C Ratio	0.004	0.18	0.013	0.138	0.03	0.053
HCM Control Delay	8.1	8.1	7.6	8.1	8.3	7.9
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0	0.7	0	0.5	0.1	0.2

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	68	7	103	79	64	9	87	160	36	83	24
Future Vol, veh/h	8	68	7	103	79	64	9	87	160	36	83	24
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	76	8	114	88	71	10	97	178	40	92	27
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	9.5	11.6	11.5	9.8
HCM LOS	A	B	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	10%	42%	100%	0%
Vol Thru, %	0%	35%	82%	32%	0%	78%
Vol Right, %	0%	65%	8%	26%	0%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	247	83	246	36	107
LT Vol	9	0	8	103	36	0
Through Vol	0	87	68	79	0	83
RT Vol	0	160	7	64	0	24
Lane Flow Rate	10	274	92	273	40	119
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.017	0.405	0.142	0.396	0.072	0.19
Departure Headway (Hd)	6.285	5.319	5.562	5.214	6.435	5.768
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	570	678	645	692	557	623
Service Time	4.013	3.047	3.598	3.242	4.166	3.499
HCM Lane V/C Ratio	0.018	0.404	0.143	0.395	0.072	0.191
HCM Control Delay	9.1	11.6	9.5	11.6	9.7	9.9
HCM Lane LOS	A	B	A	B	A	A
HCM 95th-tile Q	0.1	2	0.5	1.9	0.2	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	54	61	72	8	14	36
Future Volume (Veh/h)	54	61	72	8	14	36
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	60	68	80	9	16	40
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)				4		
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		120	0	160	120
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		120	0	160	120
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)						
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	96		89	99	98	95
cM capacity (veh/h)	1623		742	1085	713	742

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	60	68	89	16	40
Volume Left	60	0	0	16	0
Volume Right	0	68	9	0	0
cSH	1623	1700	825	713	742
Volume to Capacity	0.04	0.04	0.11	0.02	0.05
Queue Length 95th (ft)	3	0	9	2	4
Control Delay (s)	7.3	0.0	10.2	10.2	10.1
Lane LOS	A		B	B	B
Approach Delay (s)	3.4		10.2	10.1	
Approach LOS			B	B	

Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	17.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	88	89	169	26	36	69
Future Volume (Veh/h)	88	89	169	26	36	69
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	98	99	188	29	40	77
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)				4		
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		196	0	290	196
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		196	0	290	196
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)						
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	94		71	97	92	88
cM capacity (veh/h)	1623		657	1085	480	657

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	98	99	217	40	77
Volume Left	98	0	0	40	0
Volume Right	0	99	29	0	0
cSH	1623	1700	759	480	657
Volume to Capacity	0.06	0.06	0.29	0.08	0.12
Queue Length 95th (ft)	5	0	30	7	10
Control Delay (s)	7.4	0.0	12.1	13.2	11.2
Lane LOS	A		B	B	B
Approach Delay (s)	3.7		12.1	11.9	
Approach LOS			B	B	

Intersection Summary			
Average Delay	8.9		
Intersection Capacity Utilization	27.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	2	6	0	0	0	19	55	2	0	21	0
Future Vol, veh/h	0	2	6	0	0	0	19	55	2	0	21	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	7	0	0	0	21	61	2	0	23	0
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	6.8	0	7.7	7.3
HCM LOS	A	-	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	0%	0%
Vol Thru, %	0%	96%	25%	100%	100%
Vol Right, %	0%	4%	75%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	57	8	0	21
LT Vol	19	0	0	0	0
Through Vol	0	55	2	0	21
RT Vol	0	2	6	0	0
Lane Flow Rate	21	63	9	0	23
Geometry Grp	5	5	2	2	4a
Degree of Util (X)	0.03	0.08	0.009	0	0.027
Departure Headway (Hd)	5.061	4.537	3.666	4.124	4.111
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	711	794	962	0	870
Service Time	2.767	2.242	1.741	2.201	2.141
HCM Lane V/C Ratio	0.03	0.079	0.009	0	0.026
HCM Control Delay	7.9	7.6	6.8	7.2	7.3
HCM Lane LOS	A	A	A	N	A
HCM 95th-tile Q	0.1	0.3	0	0	0.1

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	16	3	1	9	29	180	7	4	23	0
Future Vol, veh/h	0	0	16	3	1	9	29	180	7	4	23	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	18	3	1	10	32	200	8	4	26	0
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	7.1	7.3	8.8	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	23%	15%
Vol Thru, %	0%	96%	0%	8%	85%
Vol Right, %	0%	4%	100%	69%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	187	16	13	27
LT Vol	29	0	0	3	4
Through Vol	0	180	0	1	23
RT Vol	0	7	16	9	0
Lane Flow Rate	32	208	18	14	30
Geometry Grp	5	5	2	2	4a
Degree of Util (X)	0.046	0.264	0.02	0.017	0.036
Departure Headway (Hd)	5.106	4.58	3.986	4.221	4.295
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	702	785	903	853	821
Service Time	2.828	2.301	1.987	2.222	2.386
HCM Lane V/C Ratio	0.046	0.265	0.02	0.016	0.037
HCM Control Delay	8.1	8.9	7.1	7.3	7.5
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	1.1	0.1	0.1	0.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	332	22	0	232	8	0	0	53	0	0	3
Future Vol, veh/h	0	332	22	0	232	8	0	0	53	0	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	23	-	-	12	-	125	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	369	24	0	258	9	0	0	59	0	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	197	-	-	129
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	7.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.92	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	-	0	0	0	690	0	0	897
Stage 1	0	-	-	0	-	0	0	0	-	0	0	-
Stage 2	0	-	-	0	-	0	0	0	-	0	0	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	690	-	-	897
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	10.7	9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	690	-	-	-	897
HCM Lane V/C Ratio	0.085	-	-	-	0.004
HCM Control Delay (s)	10.7	-	-	-	9
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	-	0

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	383	27	0	356	20	0	0	191	0	0	28
Future Vol, veh/h	0	383	27	0	356	20	0	0	191	0	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	23	-	-	12	-	125	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	426	30	0	396	22	0	0	212	0	0	31

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	228	-	-	198
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	7.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.92	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	-	0	0	0	660	0	0	810
Stage 1	0	-	-	0	-	0	0	0	-	0	0	-
Stage 2	0	-	-	0	-	0	0	0	-	0	0	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	660	-	-	810
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	13	9.6
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	660	-	-	-	810
HCM Lane V/C Ratio	0.322	-	-	-	0.038
HCM Control Delay (s)	13	-	-	-	9.6
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	1.4	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	28	1	65	1	0	0	7	105	121	0	0	281	21
Future Vol, veh/h	28	1	65	1	0	0	7	105	121	0	0	281	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	225	-	-	-	-	0	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	1	72	1	0	0	8	117	134	0	0	312	23

Major/Minor	Minor2			Minor1				Major1			Major2		
Conflicting Flow All	692	708	324	692	719	134	-	335	0	0	134	0	0
Stage 1	324	324	-	368	384	-	-	-	-	-	-	-	-
Stage 2	368	384	-	324	335	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	358	360	717	358	354	915	-	1224	-	-	1451	-	-
Stage 1	688	650	-	652	611	-	-	-	-	-	-	-	-
Stage 2	652	611	-	688	643	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	358	360	717	321	354	915	~ -16	~ -16	-	-	1451	-	-
Mov Cap-2 Maneuver	358	360	-	321	354	-	-	-	-	-	-	-	-
Stage 1	688	650	-	652	611	-	-	-	-	-	-	-	-
Stage 2	652	611	-	618	643	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.3	16.3		0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	358	717	321	1451	-	-
HCM Lane V/C Ratio	-	-	-	0.09	0.101	0.003	-	-	-
HCM Control Delay (s)	-	-	-	16	10.6	16.3	0	-	-
HCM Lane LOS	-	-	-	C	B	C	A	-	-
HCM 95th %tile Q(veh)	-	-	-	0.3	0.3	0	0	-	-

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

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	37	2	162	18	4	3	21	174	198	0	2	220	21
Future Vol, veh/h	37	2	162	18	4	3	21	174	198	0	2	220	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	225	-	-	-	-	0	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	2	180	20	4	3	23	193	220	0	2	244	23

Major/Minor	Minor2			Minor1				Major1			Major2		
Conflicting Flow All	870	912	256	867	923	220	-	267	0	0	220	0	0
Stage 1	260	260	-	606	652	-	-	-	-	-	-	-	-
Stage 2	610	652	-	261	271	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	272	274	783	273	270	820	-	1297	-	-	1349	-	-
Stage 1	745	693	-	484	464	-	-	-	-	-	-	-	-
Stage 2	482	464	-	744	685	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	267	274	783	209	270	820	~ -9	~ -9	-	-	1349	-	-
Mov Cap-2 Maneuver	267	274	-	209	270	-	-	-	-	-	-	-	-
Stage 1	745	692	-	484	464	-	-	-	-	-	-	-	-
Stage 2	475	464	-	570	684	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13	22		0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	267	783	239	1349	-	-
HCM Lane V/C Ratio	-	-	-	0.162	0.23	0.116	0.002	-	-
HCM Control Delay (s)	-	-	-	21.1	11	22	7.7	-	-
HCM Lane LOS	-	-	-	C	B	C	A	-	-
HCM 95th %tile Q(veh)	-	-	-	0.6	0.9	0.4	0	-	-

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

APPENDIX E

CAPACITY ANALYSIS CALCULATIONS

2027 NO-BUILD

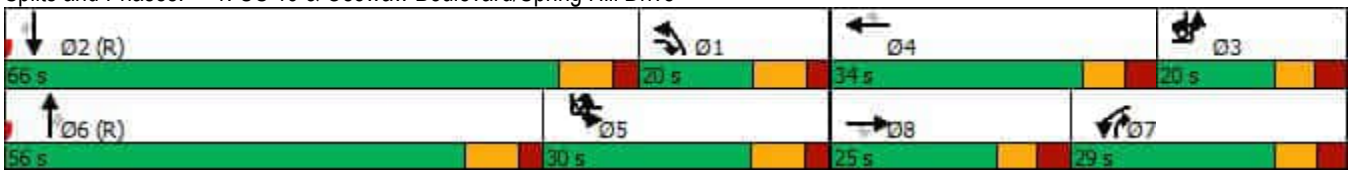
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	2	126	139	87	394	122	220	65	949	164	2	157
Future Volume (vph)	2	126	139	87	394	122	220	65	949	164	2	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		175	0		175	475		525		275
Storage Lanes		2		2	2		2	1		1		2
Taper Length (ft)		100			100			100				100
Lane Util. Factor	0.95	0.97	0.95	1.00	0.97	1.00	1.00	1.00	0.91	1.00	0.91	0.97
Frt				0.850			0.850			0.850		
Flt Protected		0.950			0.950			0.950				0.950
Satd. Flow (prot)	0	3433	3539	1583	3433	1863	1583	1770	5085	1583	0	3433
Flt Permitted		0.950			0.950			0.950				0.950
Satd. Flow (perm)	0	3433	3539	1583	3433	1863	1583	1770	5085	1583	0	3433
Right Turn on Red				No			No			No		
Satd. Flow (RTOR)												
Link Speed (mph)			40			40			55			
Link Distance (ft)			352			1085			891			
Travel Time (s)			6.0			18.5			11.0			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	140	154	97	438	136	244	72	1054	182	2	174
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	142	154	97	438	136	244	72	1054	182	0	176
Turn Type	Prot	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	Prot
Protected Phases	3!	3	8	1	7	4	5!	1	6	7	5!	5
Permitted Phases				8			4			6		
Detector Phase	3	3	8	1	7	4	5	1	6	7	5	5
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0	20.0	5.0	5.0	5.0
Minimum Split (s)	12.7	12.7	17.7	13.0	12.8	17.8	13.2	13.0	28.0	12.8	13.2	13.2
Total Split (s)	20.0	20.0	25.0	20.0	29.0	34.0	30.0	20.0	56.0	29.0	30.0	30.0
Total Split (%)	14.3%	14.3%	17.9%	14.3%	20.7%	24.3%	21.4%	14.3%	40.0%	20.7%	21.4%	21.4%
Maximum Green (s)	12.3	12.3	17.3	12.0	21.2	26.2	21.8	12.0	48.0	21.2	21.8	21.8
Yellow Time (s)	4.1	4.1	4.1	5.6	4.5	4.5	5.6	5.6	5.6	4.5	5.6	5.6
All-Red Time (s)	3.6	3.6	3.6	2.4	3.3	3.3	2.6	2.4	2.4	3.3	2.6	2.6
Lost Time Adjust (s)		-2.7	-2.7	-3.0	-2.8	-2.8	-3.2	-3.0	-3.0	-2.8		-3.2
Total Lost Time (s)		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0
Lead/Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	3.0	4.0	3.0	3.5	3.0	4.0	4.0	3.5	3.5
Recall Mode	None	None	None	None	None	None	None	None	C-Max	None	None	None
Act Effct Green (s)		21.8	14.5	33.3	25.7	18.3	47.2	13.9	56.0	86.7		23.9
Actuated g/C Ratio		0.16	0.10	0.24	0.18	0.13	0.34	0.10	0.40	0.62		0.17
v/c Ratio		0.27	0.42	0.26	0.70	0.56	0.46	0.41	0.52	0.19		0.30
Control Delay		53.6	62.2	44.4	59.7	65.3	38.5	53.7	19.4	8.7		52.0
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay		53.6	62.2	44.4	59.7	65.3	38.5	53.7	19.4	8.7		52.0
LOS		D	E	D	E	E	D	D	B	A		D
Approach Delay			54.7			54.3			19.8			
Approach LOS			D			D			B			

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1186	42
Future Volume (vph)	1186	42
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		525
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.91	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	5085	1583
Flt Permitted		
Satd. Flow (perm)	5085	1583
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)	55	
Link Distance (ft)	1088	
Travel Time (s)	13.5	
Peak Hour Factor	0.90	0.90
Adj. Flow (vph)	1318	47
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1318	47
Turn Type	NA	pm+ov
Protected Phases	2	3!
Permitted Phases		2
Detector Phase	2	3
Switch Phase		
Minimum Initial (s)	20.0	5.0
Minimum Split (s)	28.2	12.7
Total Split (s)	66.0	20.0
Total Split (%)	47.1%	14.3%
Maximum Green (s)	57.8	12.3
Yellow Time (s)	5.6	4.1
All-Red Time (s)	2.6	3.6
Lost Time Adjust (s)	-3.2	-2.7
Total Lost Time (s)	5.0	5.0
Lead/Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	4.0	4.0
Recall Mode	C-Max	None
Act Effct Green (s)	66.0	92.8
Actuated g/C Ratio	0.47	0.66
v/c Ratio	0.55	0.04
Control Delay	28.2	9.7
Queue Delay	0.0	0.0
Total Delay	28.2	9.7
LOS	C	A
Approach Delay	30.4	
Approach LOS	C	

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Queue Length 50th (ft)		58	70	72	191	118	172	64	116	38		72
Queue Length 95th (ft)		94	105	120	252	181	238	118	131	56		108
Internal Link Dist (ft)			272			1005			811			
Turn Bay Length (ft)				175			175	475		525		275
Base Capacity (vph)		534	505	367	642	385	523	189	2034	974		613
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0		0
Spillback Cap Reductn		0	0	0	0	0	0	0	0	0		0
Storage Cap Reductn		0	0	0	0	0	0	0	0	0		0
Reduced v/c Ratio		0.27	0.30	0.26	0.68	0.35	0.47	0.38	0.52	0.19		0.29

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 50 (36%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 34.1		Intersection LOS: C	
Intersection Capacity Utilization 63.3%		ICU Level of Service B	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

Splits and Phases: 1: US 19 & Osowaw Boulevard/Spring Hill Drive



Lane Group	SBT	SBR
Queue Length 50th (ft)	319	14
Queue Length 95th (ft)	379	33
Internal Link Dist (ft)	1008	
Turn Bay Length (ft)		525
Base Capacity (vph)	2397	1049
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.55	0.04

Intersection Summary

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	1	253	260	94	1	340	165	305	1	117	1519	343
Future Volume (vph)	1	253	260	94	1	340	165	305	1	117	1519	343
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		175		0		175		475		525
Storage Lanes		2		2		2		2		1		1
Taper Length (ft)		100				100				100		
Lane Util. Factor	0.95	0.97	0.95	1.00	1.00	0.97	1.00	1.00	0.91	1.00	0.91	1.00
Frt				0.850				0.850				0.850
Flt Protected		0.950				0.950				0.950		
Satd. Flow (prot)	0	3433	3539	1583	0	3433	1863	1583	0	1770	5085	1583
Flt Permitted		0.950				0.950				0.950		
Satd. Flow (perm)	0	3433	3539	1583	0	3433	1863	1583	0	1770	5085	1583
Right Turn on Red				No				No				No
Satd. Flow (RTOR)												
Link Speed (mph)			40				40				55	
Link Distance (ft)			352				1085				891	
Travel Time (s)			6.0				18.5				11.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1	281	289	104	1	378	183	339	1	130	1688	381
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	282	289	104	0	379	183	339	0	131	1688	381
Turn Type	Prot	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov
Protected Phases	3!	3	8	1!	7!	7	4	5!	1!	1	6	7!
Permitted Phases				8				4				6
Detector Phase	3	3	8	1	7	7	4	5	1	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	5.0	10.0	5.0	5.0	5.0	20.0	5.0
Minimum Split (s)	12.7	12.7	17.7	13.0	12.8	12.8	17.8	13.2	13.0	13.0	28.0	12.8
Total Split (s)	25.0	25.0	25.0	35.0	30.0	30.0	30.0	45.0	35.0	35.0	60.0	30.0
Total Split (%)	15.6%	15.6%	15.6%	21.9%	18.8%	18.8%	18.8%	28.1%	21.9%	21.9%	37.5%	18.8%
Maximum Green (s)	17.3	17.3	17.3	27.0	22.2	22.2	22.2	36.8	27.0	27.0	52.0	22.2
Yellow Time (s)	4.1	4.1	4.1	5.6	4.5	4.5	4.5	5.6	5.6	5.6	5.6	4.5
All-Red Time (s)	3.6	3.6	3.6	2.4	3.3	3.3	3.3	2.6	2.4	2.4	2.4	3.3
Lost Time Adjust (s)		-2.7	-2.7	-3.0		-2.8	-2.8	-3.2		-3.0	-3.0	-2.8
Total Lost Time (s)		5.0	5.0	5.0		5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	3.0	4.0	4.0	3.0	3.5	3.0	3.0	4.0	4.0
Recall Mode	None	None	None	None	None	None	None	None	None	None	C-Max	None
Act Effct Green (s)		22.4	19.5	50.0		25.4	22.4	63.0		25.5	59.6	90.0
Actuated g/C Ratio		0.14	0.12	0.31		0.16	0.14	0.39		0.16	0.37	0.56
v/c Ratio		0.59	0.67	0.21		0.70	0.70	0.54		0.46	0.89	0.43
Control Delay		69.6	76.3	41.3		71.1	80.0	40.1		43.1	39.8	21.8
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
Total Delay		69.6	76.3	41.3		71.1	80.0	40.1		43.1	39.8	21.8
LOS		E	E	D		E	F	D		D	D	C
Approach Delay			68.1				61.3				36.9	
Approach LOS			E				E				D	

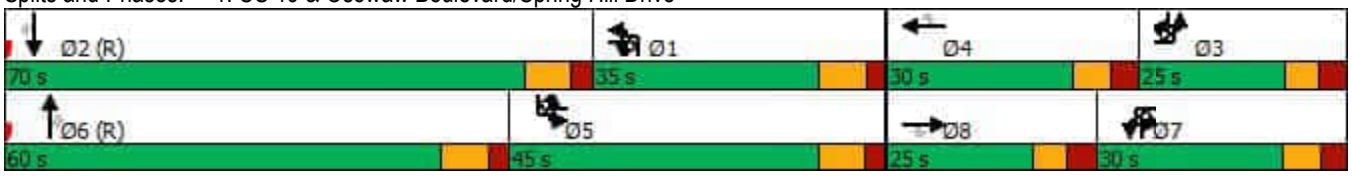
Lane Group	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Volume (vph)	2	311	1206	98
Future Volume (vph)	2	311	1206	98
Ideal Flow (vphpl)	1900	1900	1900	1900
Storage Length (ft)		275		525
Storage Lanes		2		1
Taper Length (ft)		100		
Lane Util. Factor	0.91	0.97	0.91	1.00
Frt				0.850
Flt Protected		0.950		
Satd. Flow (prot)	0	3433	5085	1583
Flt Permitted		0.950		
Satd. Flow (perm)	0	3433	5085	1583
Right Turn on Red				No
Satd. Flow (RTOR)				
Link Speed (mph)			55	
Link Distance (ft)			1088	
Travel Time (s)			13.5	
Peak Hour Factor	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	346	1340	109
Shared Lane Traffic (%)				
Lane Group Flow (vph)	0	348	1340	109
Turn Type	Prot	Prot	NA	pm+ov
Protected Phases	5!	5	2	3!
Permitted Phases				2
Detector Phase	5	5	2	3
Switch Phase				
Minimum Initial (s)	5.0	5.0	20.0	5.0
Minimum Split (s)	13.2	13.2	28.2	12.7
Total Split (s)	45.0	45.0	70.0	25.0
Total Split (%)	28.1%	28.1%	43.8%	15.6%
Maximum Green (s)	36.8	36.8	61.8	17.3
Yellow Time (s)	5.6	5.6	5.6	4.1
All-Red Time (s)	2.6	2.6	2.6	3.6
Lost Time Adjust (s)		-3.2	-3.2	-2.7
Total Lost Time (s)		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	3.5	4.0	4.0
Recall Mode	None	None	C-Max	None
Act Effct Green (s)		35.5	69.6	97.0
Actuated g/C Ratio		0.22	0.44	0.61
v/c Ratio		0.46	0.61	0.11
Control Delay		55.3	37.0	15.1
Queue Delay		0.0	0.0	0.0
Total Delay		55.3	37.0	15.1
LOS		E	D	B
Approach Delay			39.2	
Approach LOS			D	

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Queue Length 50th (ft)		142	153	79		192	184	266		134	421	133
Queue Length 95th (ft)		200	208	128		256	271	350		m157	#725	m254
Internal Link Dist (ft)			272				1005				811	
Turn Bay Length (ft)				175				175		475		525
Base Capacity (vph)		481	450	483		561	293	611		331	1893	887
Starvation Cap Reductn		0	0	0		0	0	0		0	0	0
Spillback Cap Reductn		0	0	0		0	0	0		0	0	0
Storage Cap Reductn		0	0	0		0	0	0		0	0	0
Reduced v/c Ratio		0.59	0.64	0.22		0.68	0.62	0.55		0.40	0.89	0.43

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 2 (1%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 45.4		Intersection LOS: D	
Intersection Capacity Utilization 81.1%		ICU Level of Service D	
Analysis Period (min) 15			

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.
! Phase conflict between lane groups.

Splits and Phases: 1: US 19 & Osowaw Boulevard/Spring Hill Drive



Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	32	1123	1724	53
Future Vol, veh/h	0	16	32	1123	1724	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	475	-	-	350
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	36	1248	1916	59

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	958	1975	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	0	221	129	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	221	129	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.7	1.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	129	-	221	-	-
HCM Lane V/C Ratio	0.276	-	0.08	-	-
HCM Control Delay (s)	43.2	-	22.7	-	-
HCM Lane LOS	E	-	C	-	-
HCM 95th %tile Q(veh)	1	-	0.3	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	0	59	3	50	2046	1514	134
Future Vol, veh/h	0	59	3	50	2046	1514	134
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	Stop	-	-	None	-	None
Storage Length	-	0	-	475	-	-	350
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	66	3	56	2273	1682	149

Major/Minor	Minor2		Major1			Major2	
Conflicting Flow All	-	841	1228	1831	0	-	0
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.64	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	2.32	3.12	-	-	-
Pot Cap-1 Maneuver	0	264	328	152	-	-	-
Stage 1	0	-	-	-	-	-	-
Stage 2	0	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	-	264	156	156	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.1	1.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	156	-	264	-	-
HCM Lane V/C Ratio	0.377	-	0.248	-	-
HCM Control Delay (s)	41.6	-	23.1	-	-
HCM Lane LOS	E	-	C	-	-
HCM 95th %tile Q(veh)	1.6	-	1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	96	19	12	70	18	43	7	20	1014	77	2	55
Future Volume (vph)	96	19	12	70	18	43	7	20	1014	77	2	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		200		300		325		300
Storage Lanes	1		0	0		1		1		1		1
Taper Length (ft)	100			100				100				100
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.91	1.00	0.91	1.00	0.91	1.00
Frt		0.972				0.850				0.850		
Flt Protected	0.950	0.975			0.962			0.950				0.950
Satd. Flow (prot)	1681	1677	0	0	1792	1583	0	1770	5085	1583	0	1770
Flt Permitted	0.950	0.975			0.962			0.950				0.950
Satd. Flow (perm)	1681	1677	0	0	1792	1583	0	1770	5085	1583	0	1770
Right Turn on Red			No			No				No		
Satd. Flow (RTOR)												
Link Speed (mph)		25			30				55			
Link Distance (ft)		455			1096				1049			
Travel Time (s)		12.4			24.9				13.0			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	107	21	13	78	20	48	8	22	1127	86	2	61
Shared Lane Traffic (%)	34%											
Lane Group Flow (vph)	71	70	0	0	98	48	0	30	1127	86	0	63
Turn Type	Split	NA		Split	NA	pm+ov	Prot	Prot	NA	pm+ov	Prot	Prot
Protected Phases	8	8		4	4	5!	1	1	6	4	5!	5
Permitted Phases						4				6		
Detector Phase	8	8		4	4	5	1	1	6	4	5	5
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	10.0	20.0	5.0	10.0	10.0
Minimum Split (s)	13.4	13.4		12.4	12.4	17.5	17.6	17.6	27.6	12.4	17.5	17.5
Total Split (s)	28.0	28.0		27.0	27.0	25.0	25.0	25.0	60.0	27.0	25.0	25.0
Total Split (%)	20.0%	20.0%		19.3%	19.3%	17.9%	17.9%	17.9%	42.9%	19.3%	17.9%	17.9%
Maximum Green (s)	19.6	19.6		19.6	19.6	17.5	17.4	17.4	52.4	19.6	17.5	17.5
Yellow Time (s)	3.4	3.4		3.7	3.7	5.5	5.6	5.6	5.6	3.7	5.5	5.5
All-Red Time (s)	5.0	5.0		3.7	3.7	2.0	2.0	2.0	2.0	3.7	2.0	2.0
Lost Time Adjust (s)	-3.4	-3.4			-2.4	-2.5		-2.6	-2.6	-2.4		-2.5
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0		5.0
Lead/Lag						Lag	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	None	C-Max	None	None	None
Act Effct Green (s)	14.7	14.7			15.4	31.1		13.9	79.6	96.0		13.8
Actuated g/C Ratio	0.10	0.10			0.11	0.22		0.10	0.57	0.69		0.10
v/c Ratio	0.40	0.40			0.50	0.14		0.17	0.39	0.08		0.36
Control Delay	64.5	64.4			66.7	40.3		59.4	19.3	5.0		48.5
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0	0.0		0.0
Total Delay	64.5	64.4			66.7	40.3		59.4	19.3	5.0		48.5
LOS	E	E			E	D		E	B	A		D
Approach Delay		64.5			58.0				19.2			
Approach LOS		E			E				B			

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1593	89
Future Volume (vph)	1593	89
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		475
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.91	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	5085	1583
Flt Permitted		
Satd. Flow (perm)	5085	1583
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)	55	
Link Distance (ft)	939	
Travel Time (s)	11.6	
Peak Hour Factor	0.90	0.90
Adj. Flow (vph)	1770	99
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1770	99
Turn Type	NA	pm+ov
Protected Phases	2	8
Permitted Phases		2
Detector Phase	2	8
Switch Phase		
Minimum Initial (s)	20.0	5.0
Minimum Split (s)	27.5	13.4
Total Split (s)	60.0	28.0
Total Split (%)	42.9%	20.0%
Maximum Green (s)	52.5	19.6
Yellow Time (s)	5.5	3.4
All-Red Time (s)	2.0	5.0
Lost Time Adjust (s)	-2.5	-3.4
Total Lost Time (s)	5.0	5.0
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	4.0	3.0
Recall Mode	C-Max	None
Act Effct Green (s)	83.1	102.8
Actuated g/C Ratio	0.59	0.73
v/c Ratio	0.59	0.09
Control Delay	10.1	5.2
Queue Delay	0.0	0.0
Total Delay	10.1	5.2
LOS	B	A
Approach Delay	11.1	
Approach LOS	B	

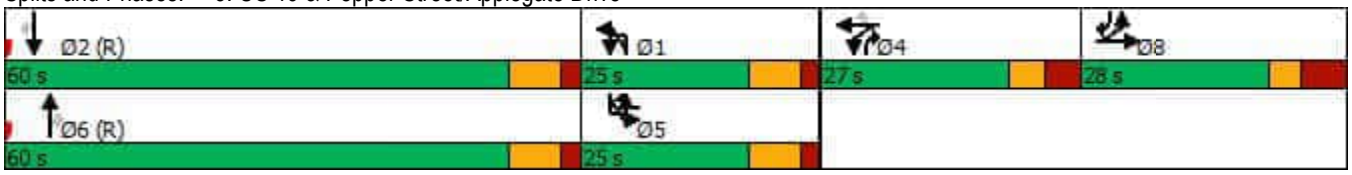
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Queue Length 50th (ft)	64	64			85	35		26	209	12		56
Queue Length 95th (ft)	115	114			142	64		58	301	26		m99
Internal Link Dist (ft)		375			1016				969			
Turn Bay Length (ft)						200		300		325		300
Base Capacity (vph)	276	275			281	364		252	2890	1159		252
Starvation Cap Reductn	0	0			0	0		0	0	0		0
Spillback Cap Reductn	0	0			0	0		0	0	0		0
Storage Cap Reductn	0	0			0	0		0	0	0		0
Reduced v/c Ratio	0.26	0.25			0.35	0.13		0.12	0.39	0.07		0.25

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 51 (36%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 63.1%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

! Phase conflict between lane groups.

Splits and Phases: 3: US 19 & Pepper Street/Applegate Drive



Lane Group	SBT	SBR
Queue Length 50th (ft)	134	18
Queue Length 95th (ft)	264	m33
Internal Link Dist (ft)	859	
Turn Bay Length (ft)		475
Base Capacity (vph)	3017	1159
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.59	0.09

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	186	66	29	151	37	118	6	63	1786	186	8	62
Future Volume (vph)	186	66	29	151	37	118	6	63	1786	186	8	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		200		300		325		300
Storage Lanes	1		0	0		1		1		1		1
Taper Length (ft)	100			100				100				100
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.91	1.00	0.91	1.00	0.91	1.00
Frt		0.969				0.850				0.850		
Flt Protected	0.950	0.984			0.961			0.950				0.950
Satd. Flow (prot)	1681	1687	0	0	1790	1583	0	1770	5085	1583	0	1770
Flt Permitted	0.950	0.984			0.961			0.950				0.950
Satd. Flow (perm)	1681	1687	0	0	1790	1583	0	1770	5085	1583	0	1770
Right Turn on Red			No			No				No		
Satd. Flow (RTOR)												
Link Speed (mph)		25			30				55			
Link Distance (ft)		455			1096				1049			
Travel Time (s)		12.4			24.9				13.0			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	207	73	32	168	41	131	7	70	1984	207	9	69
Shared Lane Traffic (%)	25%											
Lane Group Flow (vph)	155	157	0	0	209	131	0	77	1984	207	0	78
Turn Type	Split	NA		Split	NA	pm+ov	Prot	Prot	NA	pm+ov	Prot	Prot
Protected Phases	8	8		4	4	5!	1	1	6	4	5!	5
Permitted Phases						4				6		
Detector Phase	8	8		4	4	5	1	1	6	4	5	5
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	10.0	20.0	5.0	10.0	10.0
Minimum Split (s)	13.4	13.4		12.4	12.4	17.5	17.6	17.6	27.6	12.4	17.5	17.5
Total Split (s)	56.0	56.0		25.0	25.0	25.0	25.0	25.0	54.0	25.0	25.0	25.0
Total Split (%)	35.0%	35.0%		15.6%	15.6%	15.6%	15.6%	15.6%	33.8%	15.6%	15.6%	15.6%
Maximum Green (s)	47.6	47.6		17.6	17.6	17.5	17.4	17.4	46.4	17.6	17.5	17.5
Yellow Time (s)	3.4	3.4		3.7	3.7	5.5	5.6	5.6	5.6	3.7	5.5	5.5
All-Red Time (s)	5.0	5.0		3.7	3.7	2.0	2.0	2.0	2.0	3.7	2.0	2.0
Lost Time Adjust (s)	-3.4	-3.4			-2.4	-2.5		-2.6	-2.6	-2.4		-2.5
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0		5.0
Lead/Lag						Lag	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	None	C-Max	None	None	None
Act Effct Green (s)	23.9	23.9			21.6	44.0		17.4	77.1	98.7		17.4
Actuated g/C Ratio	0.15	0.15			0.14	0.28		0.11	0.48	0.62		0.11
v/c Ratio	0.62	0.62			0.87	0.30		0.40	0.81	0.21		0.41
Control Delay	73.7	74.0			98.8	47.8		72.1	39.5	8.1		51.0
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0	0.0		0.0
Total Delay	73.7	74.0			98.8	47.8		72.1	39.5	8.1		51.0
LOS	E	E			F	D		E	D	A		D
Approach Delay		73.8			79.1				37.7			
Approach LOS		E			E				D			

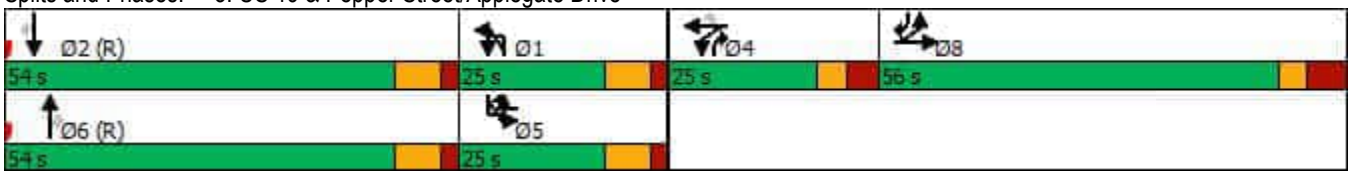
Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1300	167
Future Volume (vph)	1300	167
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		475
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.91	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	5085	1583
Flt Permitted		
Satd. Flow (perm)	5085	1583
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)	55	
Link Distance (ft)	939	
Travel Time (s)	11.6	
Peak Hour Factor	0.90	0.90
Adj. Flow (vph)	1444	186
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1444	186
Turn Type	NA	pm+ov
Protected Phases	2	8
Permitted Phases		2
Detector Phase	2	8
Switch Phase		
Minimum Initial (s)	20.0	5.0
Minimum Split (s)	27.5	13.4
Total Split (s)	54.0	56.0
Total Split (%)	33.8%	35.0%
Maximum Green (s)	46.5	47.6
Yellow Time (s)	5.5	3.4
All-Red Time (s)	2.0	5.0
Lost Time Adjust (s)	-2.5	-3.4
Total Lost Time (s)	5.0	5.0
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	4.0	3.0
Recall Mode	C-Max	None
Act Effct Green (s)	77.1	106.0
Actuated g/C Ratio	0.48	0.66
v/c Ratio	0.59	0.18
Control Delay	13.1	6.2
Queue Delay	0.0	0.0
Total Delay	13.1	6.2
LOS	B	A
Approach Delay	14.1	
Approach LOS	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Queue Length 50th (ft)	162	165			217	108		76	644	46		79
Queue Length 95th (ft)	234	237			#386	171		132	781	87		m133
Internal Link Dist (ft)		375			1016				969			
Turn Bay Length (ft)						200		300		325		300
Base Capacity (vph)	535	537			241	426		221	2449	976		221
Starvation Cap Reductn	0	0			0	0		0	0	0		0
Spillback Cap Reductn	0	0			0	0		0	0	0		0
Storage Cap Reductn	0	0			0	0		0	0	0		0
Reduced v/c Ratio	0.29	0.29			0.87	0.31		0.35	0.81	0.21		0.35

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 18 (11%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 34.5		Intersection LOS: C	
Intersection Capacity Utilization 75.6%		ICU Level of Service D	
Analysis Period (min) 15			

\# 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.
! Phase conflict between lane groups.

Splits and Phases: 3: US 19 & Pepper Street/Applegate Drive



Lane Group	SBT	SBR
Queue Length 50th (ft)	116	33
Queue Length 95th (ft)	184	47
Internal Link Dist (ft)	859	
Turn Bay Length (ft)		475
Base Capacity (vph)	2449	1048
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.59	0.18

Intersection Summary

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	4	1	64	15	26	3	43	93	19	34	2
Future Vol, veh/h	4	4	1	64	15	26	3	43	93	19	34	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	4	1	71	17	29	3	48	103	21	38	2
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	7.7	8.2	8.1	8
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	44%	61%	100%	0%
Vol Thru, %	0%	32%	44%	14%	0%	94%
Vol Right, %	0%	68%	11%	25%	0%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	136	9	105	19	36
LT Vol	3	0	4	64	19	0
Through Vol	0	43	4	15	0	34
RT Vol	0	93	1	26	0	2
Lane Flow Rate	3	151	10	117	21	40
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.005	0.185	0.013	0.143	0.032	0.055
Departure Headway (Hd)	5.401	4.419	4.593	4.421	5.454	4.913
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	667	818	781	813	659	732
Service Time	3.101	2.119	2.61	2.434	3.167	2.626
HCM Lane V/C Ratio	0.004	0.185	0.013	0.144	0.032	0.055
HCM Control Delay	8.1	8.1	7.7	8.2	8.3	7.9
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0	0.7	0	0.5	0.1	0.2

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	70	7	106	81	66	9	90	165	37	86	25
Future Vol, veh/h	8	70	7	106	81	66	9	90	165	37	86	25
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	78	8	118	90	73	10	100	183	41	96	28
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	9.7	12	11.9	10
HCM LOS	A	B	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	9%	42%	100%	0%
Vol Thru, %	0%	35%	82%	32%	0%	77%
Vol Right, %	0%	65%	8%	26%	0%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	255	85	253	37	111
LT Vol	9	0	8	106	37	0
Through Vol	0	90	70	81	0	86
RT Vol	0	165	7	66	0	25
Lane Flow Rate	10	283	94	281	41	123
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.018	0.423	0.148	0.411	0.074	0.2
Departure Headway (Hd)	6.337	5.371	5.634	5.268	6.493	5.825
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	566	672	636	683	552	617
Service Time	4.067	3.101	3.677	3.302	4.23	3.561
HCM Lane V/C Ratio	0.018	0.421	0.148	0.411	0.074	0.199
HCM Control Delay	9.2	12	9.7	12	9.8	10
HCM Lane LOS	A	B	A	B	A	A
HCM 95th-tile Q	0.1	2.1	0.5	2	0.2	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	56	63	74	8	14	37
Future Volume (Veh/h)	56	63	74	8	14	37
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	62	70	82	9	16	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)				4		
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		124	0	165	124
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		124	0	165	124
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)						
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	96		89	99	98	94
cM capacity (veh/h)	1623		737	1085	705	737

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	62	70	91	16	41
Volume Left	62	0	0	16	0
Volume Right	0	70	9	0	0
cSH	1623	1700	818	705	737
Volume to Capacity	0.04	0.04	0.11	0.02	0.06
Queue Length 95th (ft)	3	0	9	2	4
Control Delay (s)	7.3	0.0	10.3	10.2	10.2
Lane LOS	A		B	B	B
Approach Delay (s)	3.4		10.3	10.2	
Approach LOS			B	B	

Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	17.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	91	92	174	27	37	71
Future Volume (Veh/h)	91	92	174	27	37	71
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	101	102	193	30	41	79
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)				4		
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		202	0	298	202
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		202	0	298	202
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)						
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	94		70	97	91	88
cM capacity (veh/h)	1623		651	1085	468	651

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	101	102	223	41	79
Volume Left	101	0	0	41	0
Volume Right	0	102	30	0	0
cSH	1623	1700	752	468	651
Volume to Capacity	0.06	0.06	0.30	0.09	0.12
Queue Length 95th (ft)	5	0	31	7	10
Control Delay (s)	7.4	0.0	12.2	13.4	11.3
Lane LOS	A		B	B	B
Approach Delay (s)	3.7		12.2	12.0	
Approach LOS			B	B	

Intersection Summary			
Average Delay	9.0		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	2	6	0	0	0	20	57	2	0	22	0
Future Vol, veh/h	0	2	6	0	0	0	20	57	2	0	22	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	7	0	0	0	22	63	2	0	24	0
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	6.8	0	7.8	7.3
HCM LOS	A	-	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	0%	0%
Vol Thru, %	0%	97%	25%	100%	100%
Vol Right, %	0%	3%	75%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	59	8	0	22
LT Vol	20	0	0	0	0
Through Vol	0	57	2	0	22
RT Vol	0	2	6	0	0
Lane Flow Rate	22	66	9	0	24
Geometry Grp	5	5	2	2	4a
Degree of Util (X)	0.031	0.083	0.009	0	0.028
Departure Headway (Hd)	5.062	4.538	3.673	4.131	4.113
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	711	793	960	0	869
Service Time	2.767	2.243	1.75	2.21	2.144
HCM Lane V/C Ratio	0.031	0.083	0.009	0	0.028
HCM Control Delay	7.9	7.7	6.8	7.2	7.3
HCM Lane LOS	A	A	A	N	A
HCM 95th-tile Q	0.1	0.3	0	0	0.1

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	16	3	1	9	30	185	7	4	24	0
Future Vol, veh/h	0	0	16	3	1	9	30	185	7	4	24	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	18	3	1	10	33	206	8	4	27	0
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	7.1	7.3	8.9	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	23%	14%
Vol Thru, %	0%	96%	0%	8%	86%
Vol Right, %	0%	4%	100%	69%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	192	16	13	28
LT Vol	30	0	0	3	4
Through Vol	0	185	0	1	24
RT Vol	0	7	16	9	0
Lane Flow Rate	33	213	18	14	31
Geometry Grp	5	5	2	2	4a
Degree of Util (X)	0.047	0.271	0.02	0.017	0.037
Departure Headway (Hd)	5.107	4.581	4.002	4.237	4.298
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	703	785	900	850	820
Service Time	2.828	2.302	2.003	2.238	2.391
HCM Lane V/C Ratio	0.047	0.271	0.02	0.016	0.038
HCM Control Delay	8.1	9	7.1	7.3	7.6
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	1.1	0.1	0.1	0.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	342	23	0	239	8	0	0	55	0	0	3
Future Vol, veh/h	0	342	23	0	239	8	0	0	55	0	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	23	-	-	12	-	125	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	380	26	0	266	9	0	0	61	0	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	203	-	-	133
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	7.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.92	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	-	0	0	0	684	0	0	892
Stage 1	0	-	-	0	-	0	0	0	-	0	0	-
Stage 2	0	-	-	0	-	0	0	0	-	0	0	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	684	-	-	892
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	10.8	9.1
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	684	-	-	-	892
HCM Lane V/C Ratio	0.089	-	-	-	0.004
HCM Control Delay (s)	10.8	-	-	-	9.1
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	-	0

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	395	28	0	367	21	0	0	197	0	0	29
Future Vol, veh/h	0	395	28	0	367	21	0	0	197	0	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	23	-	-	12	-	125	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	439	31	0	408	23	0	0	219	0	0	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	235	-	-	204
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	7.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.92	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	-	0	0	0	653	0	0	803
Stage 1	0	-	-	0	-	0	0	0	-	0	0	-
Stage 2	0	-	-	0	-	0	0	0	-	0	0	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	653	-	-	803
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	13.3	9.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	653	-	-	-	803
HCM Lane V/C Ratio	0.335	-	-	-	0.04
HCM Control Delay (s)	13.3	-	-	-	9.7
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	1.5	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	29	1	67	1	0	0	7	108	125	0	0	289	22
Future Vol, veh/h	29	1	67	1	0	0	7	108	125	0	0	289	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	225	-	-	-	-	0	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	1	74	1	0	0	8	120	139	0	0	321	24

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	712	728	333	713	740	139	-	345	0	0	139	0	0
Stage 1	333	333	-	379	395	-	-	-	-	-	-	-	-
Stage 2	379	395	-	334	345	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	347	350	709	347	345	909	-	1214	-	-	1445	-	-
Stage 1	681	644	-	643	605	-	-	-	-	-	-	-	-
Stage 2	643	605	-	680	636	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	347	350	709	310	345	909	~ -17	~ -17	-	-	1445	-	-
Mov Cap-2 Maneuver	347	350	-	310	345	-	-	-	-	-	-	-	-
Stage 1	681	644	-	643	605	-	-	-	-	-	-	-	-
Stage 2	643	605	-	608	636	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.5	16.7		0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	347	709	310	1445	-	-
HCM Lane V/C Ratio	-	-	-	0.096	0.105	0.004	-	-	-
HCM Control Delay (s)	-	-	-	16.5	10.7	16.7	0	-	-
HCM Lane LOS	-	-	-	C	B	C	A	-	-
HCM 95th %tile Q(veh)	-	-	-	0.3	0.3	0	0	-	-

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

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	38	2	167	19	4	3	22	179	204	0	2	227	22
Future Vol, veh/h	38	2	167	19	4	3	22	179	204	0	2	227	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	225	-	-	-	-	0	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	2	186	21	4	3	24	199	227	0	2	252	24

Major/Minor	Minor2			Minor1				Major1			Major2		
Conflicting Flow All	897	941	264	894	953	227	-	276	0	0	227	0	0
Stage 1	268	268	-	625	673	-	-	-	-	-	-	-	-
Stage 2	629	673	-	269	280	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	261	263	775	262	259	812	-	1287	-	-	1341	-	-
Stage 1	738	687	-	473	454	-	-	-	-	-	-	-	-
Stage 2	470	454	-	737	679	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	256	263	775	198	259	812	~ -9	~ -9	-	-	1341	-	-
Mov Cap-2 Maneuver	256	263	-	198	259	-	-	-	-	-	-	-	-
Stage 1	738	686	-	473	454	-	-	-	-	-	-	-	-
Stage 2	463	454	-	558	678	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.2	23.3		0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	256	775	226	1341	-	-
HCM Lane V/C Ratio	-	-	-	0.174	0.239	0.128	0.002	-	-
HCM Control Delay (s)	-	-	-	22	11.1	23.3	7.7	-	-
HCM Lane LOS	-	-	-	C	B	C	A	-	-
HCM 95th %tile Q(veh)	-	-	-	0.6	0.9	0.4	0	-	-

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

APPENDIX F

CAPACITY ANALYSIS CALCULATIONS

2027 BUILD

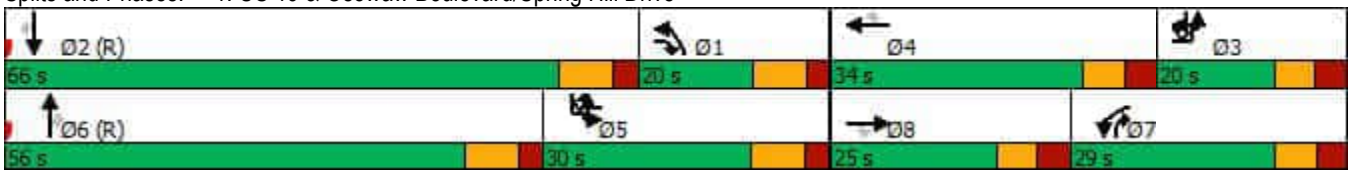
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	2	146	146	98	401	124	220	66	938	165	2	157
Future Volume (vph)	2	146	146	98	401	124	220	66	938	165	2	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		175	0		175	475		525		275
Storage Lanes		2		2	2		2	1		1		2
Taper Length (ft)		100			100			100				100
Lane Util. Factor	0.95	0.97	0.95	1.00	0.97	1.00	1.00	1.00	0.91	1.00	0.91	0.97
Frt				0.850			0.850			0.850		
Flt Protected		0.950			0.950			0.950				0.950
Satd. Flow (prot)	0	3433	3539	1583	3433	1863	1583	1770	5085	1583	0	3433
Flt Permitted		0.950			0.950			0.950				0.950
Satd. Flow (perm)	0	3433	3539	1583	3433	1863	1583	1770	5085	1583	0	3433
Right Turn on Red				No			No			No		
Satd. Flow (RTOR)												
Link Speed (mph)			40			40			55			
Link Distance (ft)			352			1085			891			
Travel Time (s)			6.0			18.5			11.0			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	162	162	109	446	138	244	73	1042	183	2	174
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	164	162	109	446	138	244	73	1042	183	0	176
Turn Type	Prot	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	Prot
Protected Phases	3!	3	8	1	7	4	5!	1	6	7	5!	5
Permitted Phases				8			4			6		
Detector Phase	3	3	8	1	7	4	5	1	6	7	5	5
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0	20.0	5.0	5.0	5.0
Minimum Split (s)	12.7	12.7	17.7	13.0	12.8	17.8	13.2	13.0	28.0	12.8	13.2	13.2
Total Split (s)	20.0	20.0	25.0	20.0	29.0	34.0	30.0	20.0	56.0	29.0	30.0	30.0
Total Split (%)	14.3%	14.3%	17.9%	14.3%	20.7%	24.3%	21.4%	14.3%	40.0%	20.7%	21.4%	21.4%
Maximum Green (s)	12.3	12.3	17.3	12.0	21.2	26.2	21.8	12.0	48.0	21.2	21.8	21.8
Yellow Time (s)	4.1	4.1	4.1	5.6	4.5	4.5	5.6	5.6	5.6	4.5	5.6	5.6
All-Red Time (s)	3.6	3.6	3.6	2.4	3.3	3.3	2.6	2.4	2.4	3.3	2.6	2.6
Lost Time Adjust (s)		-2.7	-2.7	-3.0	-2.8	-2.8	-3.2	-3.0	-3.0	-2.8		-3.2
Total Lost Time (s)		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0
Lead/Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	3.0	4.0	3.0	3.5	3.0	4.0	4.0	3.5	3.5
Recall Mode	None	None	None	None	None	None	None	None	C-Max	None	None	None
Act Effct Green (s)		22.1	14.7	33.9	25.9	18.5	47.6	14.1	55.3	86.1		24.1
Actuated g/C Ratio		0.16	0.10	0.24	0.18	0.13	0.34	0.10	0.40	0.62		0.17
v/c Ratio		0.30	0.44	0.29	0.70	0.56	0.45	0.41	0.52	0.19		0.30
Control Delay		54.0	62.2	44.6	59.9	65.2	38.2	53.2	19.6	8.8		51.8
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay		54.0	62.2	44.6	59.9	65.2	38.2	53.2	19.6	8.8		51.8
LOS		D	E	D	E	E	D	D	B	A		D
Approach Delay			54.7			54.4			20.0			
Approach LOS			D			D			B			

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1194	44
Future Volume (vph)	1194	44
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		525
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.91	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	5085	1583
Flt Permitted		
Satd. Flow (perm)	5085	1583
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)	55	
Link Distance (ft)	1088	
Travel Time (s)	13.5	
Peak Hour Factor	0.90	0.90
Adj. Flow (vph)	1327	49
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1327	49
Turn Type	NA	pm+ov
Protected Phases	2	3!
Permitted Phases		2
Detector Phase	2	3
Switch Phase		
Minimum Initial (s)	20.0	5.0
Minimum Split (s)	28.2	12.7
Total Split (s)	66.0	20.0
Total Split (%)	47.1%	14.3%
Maximum Green (s)	57.8	12.3
Yellow Time (s)	5.6	4.1
All-Red Time (s)	2.6	3.6
Lost Time Adjust (s)	-3.2	-2.7
Total Lost Time (s)	5.0	5.0
Lead/Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	4.0	4.0
Recall Mode	C-Max	None
Act Effct Green (s)	65.3	92.4
Actuated g/C Ratio	0.47	0.66
v/c Ratio	0.56	0.05
Control Delay	28.8	9.8
Queue Delay	0.0	0.0
Total Delay	28.8	9.8
LOS	C	A
Approach Delay	30.8	
Approach LOS	C	

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Queue Length 50th (ft)		68	74	81	194	120	171	65	116	39		72
Queue Length 95th (ft)		107	110	133	257	182	238	119	130	56		108
Internal Link Dist (ft)			272			1005			811			
Turn Bay Length (ft)				175			175	475		525		275
Base Capacity (vph)		542	505	369	646	385	525	189	2007	968		613
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0		0
Spillback Cap Reductn		0	0	0	0	0	0	0	0	0		0
Storage Cap Reductn		0	0	0	0	0	0	0	0	0		0
Reduced v/c Ratio		0.30	0.32	0.30	0.69	0.36	0.46	0.39	0.52	0.19		0.29

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 50 (36%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 34.7		Intersection LOS: C	
Intersection Capacity Utilization 63.7%		ICU Level of Service B	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

Splits and Phases: 1: US 19 & Osowaw Boulevard/Spring Hill Drive



Lane Group	SBT	SBR
Queue Length 50th (ft)	324	15
Queue Length 95th (ft)	383	34
Internal Link Dist (ft)	1008	
Turn Bay Length (ft)		525
Base Capacity (vph)	2370	1044
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.56	0.05

Intersection Summary

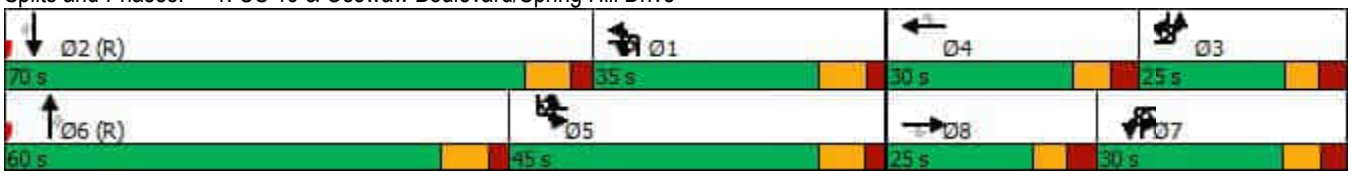
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	1	283	273	101	1	353	167	305	1	120	1506	347
Future Volume (vph)	1	283	273	101	1	353	167	305	1	120	1506	347
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		175		0		175		475		525
Storage Lanes		2		2		2		2		1		1
Taper Length (ft)		100				100				100		
Lane Util. Factor	0.95	0.97	0.95	1.00	1.00	0.97	1.00	1.00	0.91	1.00	0.91	1.00
Frt				0.850				0.850				0.850
Flt Protected		0.950				0.950				0.950		
Satd. Flow (prot)	0	3433	3539	1583	0	3433	1863	1583	0	1770	5085	1583
Flt Permitted		0.950				0.950				0.950		
Satd. Flow (perm)	0	3433	3539	1583	0	3433	1863	1583	0	1770	5085	1583
Right Turn on Red				No				No				No
Satd. Flow (RTOR)												
Link Speed (mph)			40				40				55	
Link Distance (ft)			352				1085				891	
Travel Time (s)			6.0				18.5				11.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1	314	303	112	1	392	186	339	1	133	1673	386
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	315	303	112	0	393	186	339	0	134	1673	386
Turn Type	Prot	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov
Protected Phases	3!	3	8	1!	7!	7	4	5!	1!	1	6	7!
Permitted Phases				8				4				6
Detector Phase	3	3	8	1	7	7	4	5	1	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	5.0	10.0	5.0	5.0	5.0	20.0	5.0
Minimum Split (s)	12.7	12.7	17.7	13.0	12.8	12.8	17.8	13.2	13.0	13.0	28.0	12.8
Total Split (s)	25.0	25.0	25.0	35.0	30.0	30.0	30.0	45.0	35.0	35.0	60.0	30.0
Total Split (%)	15.6%	15.6%	15.6%	21.9%	18.8%	18.8%	18.8%	28.1%	21.9%	21.9%	37.5%	18.8%
Maximum Green (s)	17.3	17.3	17.3	27.0	22.2	22.2	22.2	36.8	27.0	27.0	52.0	22.2
Yellow Time (s)	4.1	4.1	4.1	5.6	4.5	4.5	4.5	5.6	5.6	5.6	5.6	4.5
All-Red Time (s)	3.6	3.6	3.6	2.4	3.3	3.3	3.3	2.6	2.4	2.4	2.4	3.3
Lost Time Adjust (s)		-2.7	-2.7	-3.0		-2.8	-2.8	-3.2		-3.0	-3.0	-2.8
Total Lost Time (s)		5.0	5.0	5.0		5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	3.0	4.0	4.0	3.0	3.5	3.0	3.0	4.0	4.0
Recall Mode	None	None	None	None	None	None	None	None	None	None	C-Max	None
Act Effct Green (s)		22.9	19.8	50.3		25.7	22.6	63.1		25.5	59.0	89.7
Actuated g/C Ratio		0.14	0.12	0.31		0.16	0.14	0.39		0.16	0.37	0.56
v/c Ratio		0.64	0.69	0.23		0.71	0.71	0.54		0.48	0.89	0.44
Control Delay		71.2	76.9	41.4		71.8	80.4	40.1		42.7	41.2	22.9
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
Total Delay		71.2	76.9	41.4		71.8	80.4	40.1		42.7	41.2	22.9
LOS		E	E	D		E	F	D		D	D	C
Approach Delay			69.0				61.8				38.1	
Approach LOS			E				E				D	

Lane Group	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Volume (vph)	2	311	1219	101
Future Volume (vph)	2	311	1219	101
Ideal Flow (vphpl)	1900	1900	1900	1900
Storage Length (ft)		275		525
Storage Lanes		2		1
Taper Length (ft)		100		
Lane Util. Factor	0.91	0.97	0.91	1.00
Frt				0.850
Flt Protected		0.950		
Satd. Flow (prot)	0	3433	5085	1583
Flt Permitted		0.950		
Satd. Flow (perm)	0	3433	5085	1583
Right Turn on Red				No
Satd. Flow (RTOR)				
Link Speed (mph)			55	
Link Distance (ft)			1088	
Travel Time (s)			13.5	
Peak Hour Factor	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	346	1354	112
Shared Lane Traffic (%)				
Lane Group Flow (vph)	0	348	1354	112
Turn Type	Prot	Prot	NA	pm+ov
Protected Phases	5!	5	2	3!
Permitted Phases				2
Detector Phase	5	5	2	3
Switch Phase				
Minimum Initial (s)	5.0	5.0	20.0	5.0
Minimum Split (s)	13.2	13.2	28.2	12.7
Total Split (s)	45.0	45.0	70.0	25.0
Total Split (%)	28.1%	28.1%	43.8%	15.6%
Maximum Green (s)	36.8	36.8	61.8	17.3
Yellow Time (s)	5.6	5.6	5.6	4.1
All-Red Time (s)	2.6	2.6	2.6	3.6
Lost Time Adjust (s)		-3.2	-3.2	-2.7
Total Lost Time (s)		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	3.5	4.0	4.0
Recall Mode	None	None	C-Max	None
Act Effct Green (s)		35.5	69.0	96.9
Actuated g/C Ratio		0.22	0.43	0.61
v/c Ratio		0.46	0.62	0.12
Control Delay		55.4	37.6	15.2
Queue Delay		0.0	0.0	0.0
Total Delay		55.4	37.6	15.2
LOS		E	D	B
Approach Delay			39.6	
Approach LOS			D	

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Queue Length 50th (ft)		160	160	85		201	187	266		138	412	141
Queue Length 95th (ft)		221	218	137		265	274	350		m159	#713	m259
Internal Link Dist (ft)			272				1005				811	
Turn Bay Length (ft)				175				175		475		525
Base Capacity (vph)		491	453	486		560	293	613		331	1875	881
Starvation Cap Reductn		0	0	0		0	0	0		0	0	0
Spillback Cap Reductn		0	0	0		0	0	0		0	0	0
Storage Cap Reductn		0	0	0		0	0	0		0	0	0
Reduced v/c Ratio		0.64	0.67	0.23		0.70	0.63	0.55		0.40	0.89	0.44

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 2 (1%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 46.4		Intersection LOS: D	
Intersection Capacity Utilization 81.7%		ICU Level of Service D	
Analysis Period (min) 15			
# 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.			
! Phase conflict between lane groups.			

Splits and Phases: 1: US 19 & Osowaw Boulevard/Spring Hill Drive



Lane Group	SBU	SBL	SBT	SBR
Queue Length 50th (ft)		162	417	50
Queue Length 95th (ft)		208	471	88
Internal Link Dist (ft)			1008	
Turn Bay Length (ft)		275		525
Base Capacity (vph)		858	2193	958
Starvation Cap Reductn		0	0	0
Spillback Cap Reductn		0	0	0
Storage Cap Reductn		0	0	0
Reduced v/c Ratio		0.41	0.62	0.12

Intersection Summary

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	30	46	1114	1712	91
Future Vol, veh/h	0	30	46	1114	1712	91
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	475	-	-	350
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	33	51	1238	1902	101

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	951	2003	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	0	224	125	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	224	125	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.9	2.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	125	-	224	-	-
HCM Lane V/C Ratio	0.409	-	0.149	-	-
HCM Control Delay (s)	52.4	-	23.9	-	-
HCM Lane LOS	F	-	C	-	-
HCM 95th %tile Q(veh)	1.7	-	0.5	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	0	75	3	73	2037	1506	175
Future Vol, veh/h	0	75	3	73	2037	1506	175
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	Stop	-	-	None	-	None
Storage Length	-	0	-	475	-	-	350
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	83	3	81	2263	1673	194

Major/Minor	Minor2		Major1			Major2	
Conflicting Flow All	-	837	1222	1867	0	-	0
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.64	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	2.32	3.12	-	-	-
Pot Cap-1 Maneuver	0	266	331	146	-	-	-
Stage 1	0	-	-	-	-	-	-
Stage 2	0	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	-	266	148	148	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.6	2.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	148	-	266	-	-
HCM Lane V/C Ratio	0.571	-	0.313	-	-
HCM Control Delay (s)	57.3	-	24.6	-	-
HCM Lane LOS	F	-	C	-	-
HCM 95th %tile Q(veh)	2.9	-	1.3	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	100	19	21	70	18	44	7	29	1014	77	2	57
Future Volume (vph)	100	19	21	70	18	44	7	29	1014	77	2	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		200		300		325		300
Storage Lanes	1		0	0		1		1		1		1
Taper Length (ft)	100			100				100				100
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.91	1.00	0.91	1.00	0.91	1.00
Frt		0.955				0.850				0.850		
Flt Protected	0.950	0.979			0.962			0.950				0.950
Satd. Flow (prot)	1681	1654	0	0	1792	1583	0	1770	5085	1583	0	1770
Flt Permitted	0.950	0.979			0.962			0.950				0.950
Satd. Flow (perm)	1681	1654	0	0	1792	1583	0	1770	5085	1583	0	1770
Right Turn on Red			No			No				No		
Satd. Flow (RTOR)												
Link Speed (mph)		25			30				55			
Link Distance (ft)		455			1096				1049			
Travel Time (s)		12.4			24.9				13.0			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	111	21	23	78	20	49	8	32	1127	86	2	63
Shared Lane Traffic (%)	29%											
Lane Group Flow (vph)	79	76	0	0	98	49	0	40	1127	86	0	65
Turn Type	Split	NA		Split	NA	pm+ov	Prot	Prot	NA	pm+ov	Prot	Prot
Protected Phases	8	8		4	4	5!	1	1	6	4	5!	5
Permitted Phases						4				6		
Detector Phase	8	8		4	4	5	1	1	6	4	5	5
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	10.0	20.0	5.0	10.0	10.0
Minimum Split (s)	13.4	13.4		12.4	12.4	17.5	17.6	17.6	27.6	12.4	17.5	17.5
Total Split (s)	28.0	28.0		27.0	27.0	25.0	25.0	25.0	60.0	27.0	25.0	25.0
Total Split (%)	20.0%	20.0%		19.3%	19.3%	17.9%	17.9%	17.9%	42.9%	19.3%	17.9%	17.9%
Maximum Green (s)	19.6	19.6		19.6	19.6	17.5	17.4	17.4	52.4	19.6	17.5	17.5
Yellow Time (s)	3.4	3.4		3.7	3.7	5.5	5.6	5.6	5.6	3.7	5.5	5.5
All-Red Time (s)	5.0	5.0		3.7	3.7	2.0	2.0	2.0	2.0	3.7	2.0	2.0
Lost Time Adjust (s)	-3.4	-3.4			-2.4	-2.5		-2.6	-2.6	-2.4		-2.5
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0		5.0
Lead/Lag						Lag	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	None	C-Max	None	None	None
Act Effct Green (s)	15.3	15.3			15.4	31.2		14.0	78.9	95.3		13.9
Actuated g/C Ratio	0.11	0.11			0.11	0.22		0.10	0.56	0.68		0.10
v/c Ratio	0.43	0.42			0.50	0.14		0.23	0.39	0.08		0.37
Control Delay	64.7	64.5			66.7	40.2		60.7	19.7	5.2		48.9
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0	0.0		0.0
Total Delay	64.7	64.5			66.7	40.2		60.7	19.7	5.2		48.9
LOS	E	E			E	D		E	B	A		D
Approach Delay		64.6			57.9				20.0			
Approach LOS		E			E				C			

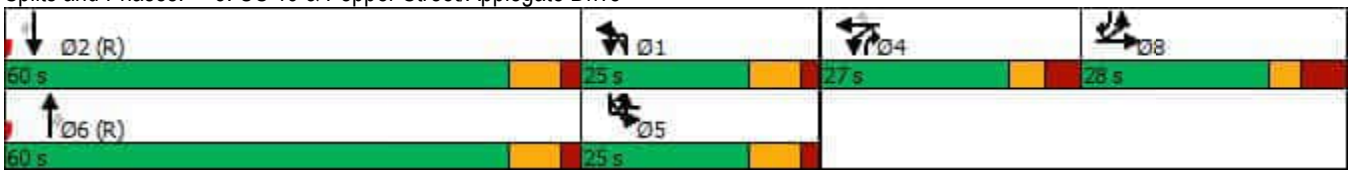
Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1593	89
Future Volume (vph)	1593	89
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		475
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.91	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	5085	1583
Flt Permitted		
Satd. Flow (perm)	5085	1583
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)	55	
Link Distance (ft)	939	
Travel Time (s)	11.6	
Peak Hour Factor	0.90	0.90
Adj. Flow (vph)	1770	99
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1770	99
Turn Type	NA	pm+ov
Protected Phases	2	8
Permitted Phases		2
Detector Phase	2	8
Switch Phase		
Minimum Initial (s)	20.0	5.0
Minimum Split (s)	27.5	13.4
Total Split (s)	60.0	28.0
Total Split (%)	42.9%	20.0%
Maximum Green (s)	52.5	19.6
Yellow Time (s)	5.5	3.4
All-Red Time (s)	2.0	5.0
Lost Time Adjust (s)	-2.5	-3.4
Total Lost Time (s)	5.0	5.0
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	4.0	3.0
Recall Mode	C-Max	None
Act Effct Green (s)	78.9	99.2
Actuated g/C Ratio	0.56	0.71
v/c Ratio	0.62	0.09
Control Delay	11.7	5.7
Queue Delay	0.0	0.0
Total Delay	11.7	5.7
LOS	B	A
Approach Delay	12.7	
Approach LOS	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Queue Length 50th (ft)	71	69			85	35		34	212	12		59
Queue Length 95th (ft)	125	121			142	65		72	305	27		m101
Internal Link Dist (ft)		375			1016				969			
Turn Bay Length (ft)						200		300		325		300
Base Capacity (vph)	276	271			281	365		252	2864	1151		252
Starvation Cap Reductn	0	0			0	0		0	0	0		0
Spillback Cap Reductn	0	0			0	0		0	0	0		0
Storage Cap Reductn	0	0			0	0		0	0	0		0
Reduced v/c Ratio	0.29	0.28			0.35	0.13		0.16	0.39	0.07		0.26

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 51 (36%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 19.5		Intersection LOS: B	
Intersection Capacity Utilization 63.1%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

! Phase conflict between lane groups.

Splits and Phases: 3: US 19 & Pepper Street/Applegate Drive



Lane Group	SBT	SBR
Queue Length 50th (ft)	138	18
Queue Length 95th (ft)	283	m34
Internal Link Dist (ft)	859	
Turn Bay Length (ft)		475
Base Capacity (vph)	2864	1116
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.62	0.09

Intersection Summary

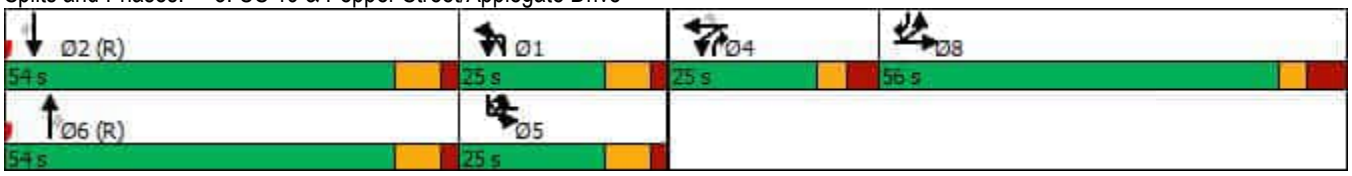
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	193	66	40	151	37	121	6	75	1790	186	8	65
Future Volume (vph)	193	66	40	151	37	121	6	75	1790	186	8	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		200		300		325		300
Storage Lanes	1		0	0		1		1		1		1
Taper Length (ft)	100			100				100				100
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.91	1.00	0.91	1.00	0.91	1.00
Frt		0.960				0.850				0.850		
Flt Protected	0.950	0.986			0.961			0.950				0.950
Satd. Flow (prot)	1681	1675	0	0	1790	1583	0	1770	5085	1583	0	1770
Flt Permitted	0.950	0.986			0.961			0.950				0.950
Satd. Flow (perm)	1681	1675	0	0	1790	1583	0	1770	5085	1583	0	1770
Right Turn on Red			No			No				No		
Satd. Flow (RTOR)												
Link Speed (mph)		25			30				55			
Link Distance (ft)		455			1096				1049			
Travel Time (s)		12.4			24.9				13.0			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	214	73	44	168	41	134	7	83	1989	207	9	72
Shared Lane Traffic (%)	22%											
Lane Group Flow (vph)	167	164	0	0	209	134	0	90	1989	207	0	81
Turn Type	Split	NA		Split	NA	pm+ov	Prot	Prot	NA	pm+ov	Prot	Prot
Protected Phases	8	8		4	4	5!	1	1	6	4	5!	5
Permitted Phases						4				6		
Detector Phase	8	8		4	4	5	1	1	6	4	5	5
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	10.0	20.0	5.0	10.0	10.0
Minimum Split (s)	13.4	13.4		12.4	12.4	17.5	17.6	17.6	27.6	12.4	17.5	17.5
Total Split (s)	56.0	56.0		25.0	25.0	25.0	25.0	25.0	54.0	25.0	25.0	25.0
Total Split (%)	35.0%	35.0%		15.6%	15.6%	15.6%	15.6%	15.6%	33.8%	15.6%	15.6%	15.6%
Maximum Green (s)	47.6	47.6		17.6	17.6	17.5	17.4	17.4	46.4	17.6	17.5	17.5
Yellow Time (s)	3.4	3.4		3.7	3.7	5.5	5.6	5.6	5.6	3.7	5.5	5.5
All-Red Time (s)	5.0	5.0		3.7	3.7	2.0	2.0	2.0	2.0	3.7	2.0	2.0
Lost Time Adjust (s)	-3.4	-3.4			-2.4	-2.5		-2.6	-2.6	-2.4		-2.5
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0		5.0
Lead/Lag						Lag	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	None	C-Max	None	None	None
Act Effct Green (s)	25.1	25.1			21.5	44.0		17.5	75.9	97.3		17.5
Actuated g/C Ratio	0.16	0.16			0.13	0.28		0.11	0.47	0.61		0.11
v/c Ratio	0.63	0.62			0.87	0.31		0.46	0.83	0.21		0.42
Control Delay	73.3	72.8			99.5	47.9		74.3	40.9	8.5		51.8
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0	0.0		0.0
Total Delay	73.3	72.8			99.5	47.9		74.3	40.9	8.5		51.8
LOS	E	E			F	D		E	D	A		D
Approach Delay		73.0			79.4				39.3			
Approach LOS		E			E				D			

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1305	167
Future Volume (vph)	1305	167
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		475
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.91	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	5085	1583
Flt Permitted		
Satd. Flow (perm)	5085	1583
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)	55	
Link Distance (ft)	939	
Travel Time (s)	11.6	
Peak Hour Factor	0.90	0.90
Adj. Flow (vph)	1450	186
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1450	186
Turn Type	NA	pm+ov
Protected Phases	2	8
Permitted Phases		2
Detector Phase	2	8
Switch Phase		
Minimum Initial (s)	20.0	5.0
Minimum Split (s)	27.5	13.4
Total Split (s)	54.0	56.0
Total Split (%)	33.8%	35.0%
Maximum Green (s)	46.5	47.6
Yellow Time (s)	5.5	3.4
All-Red Time (s)	2.0	5.0
Lost Time Adjust (s)	-2.5	-3.4
Total Lost Time (s)	5.0	5.0
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	4.0	3.0
Recall Mode	C-Max	None
Act Effct Green (s)	75.9	106.0
Actuated g/C Ratio	0.47	0.66
v/c Ratio	0.60	0.18
Control Delay	13.9	6.3
Queue Delay	0.0	0.0
Total Delay	13.9	6.3
LOS	B	A
Approach Delay	14.9	
Approach LOS	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Queue Length 50th (ft)	174	171			218	111		89	654	48		83
Queue Length 95th (ft)	248	245			#386	175		150	795	91		m135
Internal Link Dist (ft)		375			1016				969			
Turn Bay Length (ft)						200		300		325		300
Base Capacity (vph)	535	533			240	426		221	2410	963		221
Starvation Cap Reductn	0	0			0	0		0	0	0		0
Spillback Cap Reductn	0	0			0	0		0	0	0		0
Storage Cap Reductn	0	0			0	0		0	0	0		0
Reduced v/c Ratio	0.31	0.31			0.87	0.31		0.41	0.83	0.21		0.37

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 18 (11%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 35.6		Intersection LOS: D	
Intersection Capacity Utilization 76.2%		ICU Level of Service D	
Analysis Period (min) 15			
# 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.			
! Phase conflict between lane groups.			

Splits and Phases: 3: US 19 & Pepper Street/Applegate Drive



Lane Group	SBT	SBR
Queue Length 50th (ft)	130	34
Queue Length 95th (ft)	206	48
Internal Link Dist (ft)	859	
Turn Bay Length (ft)		475
Base Capacity (vph)	2410	1048
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.60	0.18

Intersection Summary

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	4	1	64	15	35	3	43	93	32	34	2
Future Vol, veh/h	4	4	1	64	15	35	3	43	93	32	34	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	4	1	71	17	39	3	48	103	36	38	2
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	7.7	8.2	8.2	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	44%	56%	100%	0%
Vol Thru, %	0%	32%	44%	13%	0%	94%
Vol Right, %	0%	68%	11%	31%	0%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	136	9	114	32	36
LT Vol	3	0	4	64	32	0
Through Vol	0	43	4	15	0	34
RT Vol	0	93	1	35	0	2
Lane Flow Rate	3	151	10	127	36	40
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.005	0.187	0.013	0.155	0.054	0.055
Departure Headway (Hd)	5.427	4.444	4.647	4.416	5.478	4.937
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	662	810	772	814	656	728
Service Time	3.14	2.158	2.665	2.43	3.194	2.652
HCM Lane V/C Ratio	0.005	0.186	0.013	0.156	0.055	0.055
HCM Control Delay	8.2	8.2	7.7	8.2	8.5	7.9
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0	0.7	0	0.5	0.2	0.2

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	70	7	106	81	78	9	90	165	55	86	25
Future Vol, veh/h	8	70	7	106	81	78	9	90	165	55	86	25
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	78	8	118	90	87	10	100	183	61	96	28
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	9.8	12.4	12.1	10.1
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	9%	40%	100%	0%
Vol Thru, %	0%	35%	82%	31%	0%	77%
Vol Right, %	0%	65%	8%	29%	0%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	255	85	265	55	111
LT Vol	9	0	8	106	55	0
Through Vol	0	90	70	81	0	86
RT Vol	0	165	7	78	0	25
Lane Flow Rate	10	283	94	294	61	123
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.018	0.429	0.15	0.434	0.111	0.201
Departure Headway (Hd)	6.418	5.452	5.731	5.309	6.549	5.88
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	558	660	624	677	547	609
Service Time	4.154	3.186	3.779	3.346	4.291	3.622
HCM Lane V/C Ratio	0.018	0.429	0.151	0.434	0.112	0.202
HCM Control Delay	9.3	12.2	9.8	12.4	10.1	10.1
HCM Lane LOS	A	B	A	B	B	B
HCM 95th-tile Q	0.1	2.2	0.5	2.2	0.4	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	56	115	83	8	28	50
Future Volume (Veh/h)	56	115	83	8	28	50
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	62	128	92	9	31	56
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)				4		
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		124	0	170	124
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		124	0	170	124
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)						
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	96		88	99	96	92
cM capacity (veh/h)	1623		737	1085	691	737

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	62	128	101	31	56
Volume Left	62	0	0	31	0
Volume Right	0	128	9	0	0
cSH	1623	1700	809	691	737
Volume to Capacity	0.04	0.08	0.12	0.04	0.08
Queue Length 95th (ft)	3	0	11	4	6
Control Delay (s)	7.3	0.0	10.4	10.5	10.3
Lane LOS	A		B	B	B
Approach Delay (s)	2.4		10.4	10.3	
Approach LOS			B	B	

Intersection Summary			
Average Delay	6.4		
Intersection Capacity Utilization	18.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	91	156	186	27	53	89
Future Volume (Veh/h)	91	156	186	27	53	89
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	101	173	207	30	59	99
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)				4		
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		202	0	306	202
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		202	0	306	202
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)						
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	94		68	97	87	85
cM capacity (veh/h)	1623		651	1085	453	651

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	101	173	237	59	99
Volume Left	101	0	0	59	0
Volume Right	0	173	30	0	0
cSH	1623	1700	745	453	651
Volume to Capacity	0.06	0.10	0.32	0.13	0.15
Queue Length 95th (ft)	5	0	34	11	13
Control Delay (s)	7.4	0.0	12.5	14.1	11.5
Lane LOS	A		B	B	B
Approach Delay (s)	2.7		12.5	12.5	
Approach LOS			B	B	

Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	2	11	0	0	0	22	99	2	0	27	0
Future Vol, veh/h	0	2	11	0	0	0	22	99	2	0	27	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	12	0	0	0	24	110	2	0	30	0
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	6.9	0	8	7.4
HCM LOS	A	-	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	0%	0%
Vol Thru, %	0%	98%	15%	100%	100%
Vol Right, %	0%	2%	85%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	101	13	0	27
LT Vol	22	0	0	0	0
Through Vol	0	99	2	0	27
RT Vol	0	2	11	0	0
Lane Flow Rate	24	112	14	0	30
Geometry Grp	5	5	2	2	4a
Degree of Util (X)	0.034	0.142	0.015	0	0.035
Departure Headway (Hd)	5.075	4.561	3.819	4.343	4.159
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	709	790	943	0	856
Service Time	2.783	2.269	1.819	2.343	2.205
HCM Lane V/C Ratio	0.034	0.142	0.015	0	0.035
HCM Control Delay	8	8	6.9	7.3	7.4
HCM Lane LOS	A	A	A	N	A
HCM 95th-tile Q	0.1	0.5	0	0	0.1

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	24	3	1	9	33	239	7	4	31	0
Future Vol, veh/h	0	0	24	3	1	9	33	239	7	4	31	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	27	3	1	10	37	266	8	4	34	0
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	7.3	7.5	9.6	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	23%	11%
Vol Thru, %	0%	97%	0%	8%	89%
Vol Right, %	0%	3%	100%	69%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	33	246	24	13	35
LT Vol	33	0	0	3	4
Through Vol	0	239	0	1	31
RT Vol	0	7	24	9	0
Lane Flow Rate	37	273	27	14	39
Geometry Grp	5	5	2	2	4a
Degree of Util (X)	0.052	0.35	0.031	0.018	0.048
Departure Headway (Hd)	5.127	4.607	4.17	4.415	4.47
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	699	779	863	815	805
Service Time	2.858	2.338	2.173	2.419	2.477
HCM Lane V/C Ratio	0.053	0.35	0.031	0.017	0.048
HCM Control Delay	8.1	9.8	7.3	7.5	7.7
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.2	1.6	0.1	0.1	0.2

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	338	28	0	244	8	0	0	97	0	0	3
Future Vol, veh/h	0	338	28	0	244	8	0	0	97	0	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	23	-	-	12	-	125	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	376	31	0	271	9	0	0	108	0	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	204	-	-	136
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	7.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.92	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	-	0	0	0	683	0	0	888
Stage 1	0	-	-	0	-	0	0	0	-	0	0	-
Stage 2	0	-	-	0	-	0	0	0	-	0	0	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	683	-	-	888
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	11.3	9.1
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	683	-	-	-	888
HCM Lane V/C Ratio	0.158	-	-	-	0.004
HCM Control Delay (s)	11.3	-	-	-	9.1
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	0.6	-	-	-	0

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	391	35	0	375	21	0	0	251	0	0	29
Future Vol, veh/h	0	391	35	0	375	21	0	0	251	0	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	23	-	-	12	-	125	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	434	39	0	417	23	0	0	279	0	0	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	237	-	-	209
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	7.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.92	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	-	0	0	0	651	0	0	797
Stage 1	0	-	-	0	-	0	0	0	-	0	0	-
Stage 2	0	-	-	0	-	0	0	0	-	0	0	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	651	-	-	797
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	14.6	9.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	651	-	-	-	797
HCM Lane V/C Ratio	0.428	-	-	-	0.04
HCM Control Delay (s)	14.6	-	-	-	9.7
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	2.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	31	1	67	1	0	0	7	113	125	0	0	290	22
Future Vol, veh/h	31	1	67	1	0	0	7	113	125	0	0	290	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	225	-	-	-	-	0	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	1	74	1	0	0	8	126	139	0	0	322	24

Major/Minor	Minor2			Minor1				Major1			Major2		
Conflicting Flow All	725	741	334	726	753	139	-	346	0	0	139	0	0
Stage 1	334	334	-	391	407	-	-	-	-	-	-	-	-
Stage 2	391	407	-	335	346	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	340	344	708	340	339	909	-	1213	-	-	1445	-	-
Stage 1	680	643	-	633	597	-	-	-	-	-	-	-	-
Stage 2	633	597	-	679	635	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	340	344	708	304	339	909	~ -17	~ -17	-	-	1445	-	-
Mov Cap-2 Maneuver	340	344	-	304	339	-	-	-	-	-	-	-	-
Stage 1	680	643	-	633	597	-	-	-	-	-	-	-	-
Stage 2	633	597	-	607	635	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.7	16.9		0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	340	708	304	1445	-	-
HCM Lane V/C Ratio	-	-	-	0.105	0.105	0.004	-	-	-
HCM Control Delay (s)	-	-	-	16.8	10.7	16.9	0	-	-
HCM Lane LOS	-	-	-	C	B	C	A	-	-
HCM 95th %tile Q(veh)	-	-	-	0.3	0.4	0	0	-	-

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

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	41	2	167	19	4	3	22	187	204	0	2	230	22
Future Vol, veh/h	41	2	167	19	4	3	22	187	204	0	2	230	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	225	-	-	-	-	0	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	2	186	21	4	3	24	208	227	0	2	256	24

Major/Minor	Minor2			Minor1				Major1			Major2		
Conflicting Flow All	919	963	268	916	975	227	-	280	0	0	227	0	0
Stage 1	272	272	-	643	691	-	-	-	-	-	-	-	-
Stage 2	647	691	-	273	284	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	252	256	771	253	251	812	-	1283	-	-	1341	-	-
Stage 1	734	685	-	462	446	-	-	-	-	-	-	-	-
Stage 2	460	446	-	733	676	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	247	256	771	191	251	812	~ -10	~ -10	-	-	1341	-	-
Mov Cap-2 Maneuver	247	256	-	191	251	-	-	-	-	-	-	-	-
Stage 1	734	684	-	462	446	-	-	-	-	-	-	-	-
Stage 2	454	446	-	554	675	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.5	24		0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	247	771	218	1341	-	-
HCM Lane V/C Ratio	-	-	-	0.193	0.241	0.133	0.002	-	-
HCM Control Delay (s)	-	-	-	23	11.1	24	7.7	-	-
HCM Lane LOS	-	-	-	C	B	C	A	-	-
HCM 95th %tile Q(veh)	-	-	-	0.7	0.9	0.5	0	-	-

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

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	33	90	13	7	31
Future Vol, veh/h	7	33	90	13	7	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	25	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	37	100	14	8	34

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	157	107	0	0	114	0
Stage 1	107	-	-	-	-	-
Stage 2	50	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	834	947	-	-	1475	-
Stage 1	917	-	-	-	-	-
Stage 2	972	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	830	947	-	-	1475	-
Mov Cap-2 Maneuver	806	-	-	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	967	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	1.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	919	1475	-
HCM Lane V/C Ratio	-	-	0.048	0.005	-
HCM Control Delay (s)	-	-	9.1	7.5	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	43	236	16	10	48
Future Vol, veh/h	7	43	236	16	10	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	25	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	48	262	18	11	53

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	346	271	0	0	280	0
Stage 1	271	-	-	-	-	-
Stage 2	75	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	651	768	-	-	1283	-
Stage 1	775	-	-	-	-	-
Stage 2	948	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	645	768	-	-	1283	-
Mov Cap-2 Maneuver	671	-	-	-	-	-
Stage 1	775	-	-	-	-	-
Stage 2	939	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	1.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	753	1283	-
HCM Lane V/C Ratio	-	-	0.074	0.009	-
HCM Control Delay (s)	-	-	10.2	7.8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	11	92	48	3	35
Future Vol, veh/h	20	11	92	48	3	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	25	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	12	102	53	3	39

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	174	129	0	0	155	0
Stage 1	129	-	-	-	-	-
Stage 2	45	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	816	921	-	-	1425	-
Stage 1	897	-	-	-	-	-
Stage 2	977	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	814	921	-	-	1425	-
Mov Cap-2 Maneuver	793	-	-	-	-	-
Stage 1	897	-	-	-	-	-
Stage 2	975	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	834	1425	-
HCM Lane V/C Ratio	-	-	0.041	0.002	-
HCM Control Delay (s)	-	-	9.5	7.5	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	14	238	60	5	50
Future Vol, veh/h	27	14	238	60	5	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	25	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	16	264	67	6	56

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	366	298	0	0	331	0
Stage 1	298	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	634	741	-	-	1228	-
Stage 1	753	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	631	741	-	-	1228	-
Mov Cap-2 Maneuver	657	-	-	-	-	-
Stage 1	753	-	-	-	-	-
Stage 2	950	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	683	1228	-
HCM Lane V/C Ratio	-	-	0.067	0.005	-
HCM Control Delay (s)	-	-	10.6	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

APPENDIX G

CAPACITY ANALYSIS CALCULATIONS

SIMTRAFFIC QUEUING ANALYSIS

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	UL	L	T	T	R	L	L	T	R	L	T	T
Maximum Queue (ft)	106	131	133	118	132	302	358	274	224	136	156	145
Average Queue (ft)	45	73	72	48	64	185	175	139	138	46	93	83
95th Queue (ft)	95	124	118	103	121	260	282	254	227	102	140	134
Link Distance (ft)	246	246	246			1009	1009				778	778
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				175	175			175	175	475		
Storage Blk Time (%)							5	3	5			
Queuing Penalty (veh)							19	7	11			

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	R	UL	L	T	T	T	R
Maximum Queue (ft)	140	99	153	267	339	321	253	64
Average Queue (ft)	66	26	42	104	242	216	164	15
95th Queue (ft)	124	72	109	194	324	295	245	45
Link Distance (ft)	778				1031	1031	1031	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		525	275	275				525
Storage Blk Time (%)				0	3			
Queuing Penalty (veh)				0	5			

Intersection: 2: US 19 & Walmart Driveway

Movement	NB	SB
Directions Served	L	R
Maximum Queue (ft)	91	7
Average Queue (ft)	28	0
95th Queue (ft)	70	5
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	475	350
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	LT	R	UL	T	T	T	R	UL	T	T
Maximum Queue (ft)	111	126	168	92	86	307	261	237	57	143	244	271
Average Queue (ft)	36	65	73	29	27	185	145	100	20	47	119	128
95th Queue (ft)	81	113	133	68	69	273	238	192	53	106	228	244
Link Distance (ft)	350	350	1026			1015	1015	1015			870	870
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				200	300				325	300		
Storage Blk Time (%)			0			0					0	
Queuing Penalty (veh)			0			0					0	

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	272	73
Average Queue (ft)	132	17
95th Queue (ft)	249	53
Link Distance (ft)	870	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		475
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Wendy Court/Internal N-S Driveway & Southern Internal Driveway/Pepper Street

Movement	EB	NB	NB	SB	SB
Directions Served	LTR	L	TR	L	TR
Maximum Queue (ft)	36	29	78	33	49
Average Queue (ft)	8	2	41	11	23
95th Queue (ft)	31	13	66	35	49
Link Distance (ft)	994		1006		863
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		100		150	
Storage Blk Time (%)			0		
Queuing Penalty (veh)			0		

Intersection: 5: Internal N-S Driveway & Walmart Driveway

Movement	WB	NB	SB	SB
Directions Served	R	T	L	T
Maximum Queue (ft)	60	70	36	51
Average Queue (ft)	3	34	13	23
95th Queue (ft)	25	56	38	50
Link Distance (ft)	255	863		539
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			75	
Storage Blk Time (%)		0		0
Queuing Penalty (veh)		0		0

Intersection: 6: Internal N-S Driveway & Northern Internal Driveway/AT&T Driveway

Movement	EB	NB	NB	SB
Directions Served	LTR	L	TR	LTR
Maximum Queue (ft)	31	30	58	31
Average Queue (ft)	7	17	27	17
95th Queue (ft)	28	41	46	41
Link Distance (ft)	986		539	204
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Internal N-S Driveway/CVS Driveway 1 & Osowaw Boulevard

Movement	NB
Directions Served	R
Maximum Queue (ft)	22
Average Queue (ft)	1
95th Queue (ft)	11
Link Distance (ft)	204
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Osowaw Boulevard & Walmart Driveway/CVS Driveway 2

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	UL	TR
Maximum Queue (ft)	66	56	11	96	13
Average Queue (ft)	21	3	1	29	0
95th Queue (ft)	52	27	9	68	5
Link Distance (ft)	972		1006	197	1041
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		225			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 42

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	UL	L	T	T	R	UL	L	T	R	UL	T	T
Maximum Queue (ft)	214	236	275	227	182	567	739	275	225	312	548	575
Average Queue (ft)	113	138	135	117	74	211	309	226	193	89	377	400
95th Queue (ft)	193	207	226	194	147	400	602	330	255	251	546	568
Link Distance (ft)	246	246	246			1009	1009				778	778
Upstream Blk Time (%)	0	0	1	0			1					
Queuing Penalty (veh)	0	0	1	0			0					
Storage Bay Dist (ft)				175	175			175	175	475		
Storage Blk Time (%)			3	2	0		13	19	17		5	
Queuing Penalty (veh)			8	2	0		66	34	32		6	

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	R	UL	L	T	T	T	R
Maximum Queue (ft)	575	477	232	374	446	401	362	129
Average Queue (ft)	391	229	125	187	288	267	245	43
95th Queue (ft)	569	402	211	313	406	370	345	99
Link Distance (ft)	778				1031	1031	1031	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		525	275	275				525
Storage Blk Time (%)	4			0	9			
Queuing Penalty (veh)	15			0	29			

Intersection: 2: US 19 & Walmart Driveway

Movement	EB	NB	NB	NB	SB
Directions Served	R	UL	T	T	R
Maximum Queue (ft)	38	116	135	7	30
Average Queue (ft)	2	39	4	0	1
95th Queue (ft)	19	86	95	5	10
Link Distance (ft)	255		870	870	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		475			350
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	LT	R	UL	T	T	T	R	UL	T	T
Maximum Queue (ft)	206	266	466	278	400	635	628	547	425	279	315	322
Average Queue (ft)	104	150	253	133	135	441	398	351	107	111	130	156
95th Queue (ft)	176	230	458	290	365	598	566	494	319	250	247	264
Link Distance (ft)	350	350	1026			1015	1015	1015			870	870
Upstream Blk Time (%)		0										
Queuing Penalty (veh)		0										
Storage Bay Dist (ft)				200	300				325	300		
Storage Blk Time (%)			30	1	0	25		10		4	0	
Queuing Penalty (veh)			39	1	0	19		20		19	0	

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	291	153
Average Queue (ft)	159	56
95th Queue (ft)	261	121
Link Distance (ft)	870	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		475
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Wendy Court/Internal N-S Driveway & Southern Internal Driveway/Pepper Street

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	77	16	33	139	54	108
Average Queue (ft)	37	1	10	63	24	44
95th Queue (ft)	60	10	33	104	47	77
Link Distance (ft)	994	350		1006		863
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100		150	
Storage Blk Time (%)				1		0
Queuing Penalty (veh)				0		0

Intersection: 5: Internal N-S Driveway & Walmart Driveway

Movement	WB	NB	SB	SB
Directions Served	R	T	L	T
Maximum Queue (ft)	85	92	45	77
Average Queue (ft)	8	46	24	36
95th Queue (ft)	51	72	48	61
Link Distance (ft)	255	863		539
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			75	
Storage Blk Time (%)	0	0		0
Queuing Penalty (veh)	0	0		0

Intersection: 6: Internal N-S Driveway & Northern Internal Driveway/AT&T Driveway

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	LTR
Maximum Queue (ft)	40	36	48	70	53
Average Queue (ft)	15	12	19	38	23
95th Queue (ft)	41	38	45	60	49
Link Distance (ft)	986	1061		539	204
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			100		
Storage Blk Time (%)				0	
Queuing Penalty (veh)				0	

Intersection: 7: Internal N-S Driveway/CVS Driveway 1 & Osowaw Boulevard

Movement	EB	NB
Directions Served	TR	R
Maximum Queue (ft)	5	103
Average Queue (ft)	0	21
95th Queue (ft)	3	76
Link Distance (ft)	197	204
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 8: Osowaw Boulevard & Walmart Driveway/CVS Driveway 2

Movement	EB	EB	WB	NB	SB	SB
Directions Served	LT	R	LTR	UL	L	TR
Maximum Queue (ft)	73	99	49	110	6	8
Average Queue (ft)	29	25	15	38	0	0
95th Queue (ft)	63	80	42	83	4	4
Link Distance (ft)	972		1006	197		1041
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		225			125	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 294

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	UL	L	T	T	R	L	L	T	R	L	T	T
Maximum Queue (ft)	123	168	174	164	148	285	343	273	225	140	192	189
Average Queue (ft)	47	79	78	54	64	182	175	133	141	52	104	97
95th Queue (ft)	102	135	136	115	122	260	279	249	225	115	166	162
Link Distance (ft)	246	246	246			1009	1009				778	778
Upstream Blk Time (%)			0	0								
Queuing Penalty (veh)			0	0								
Storage Bay Dist (ft)				175	175			175	175	475		
Storage Blk Time (%)			0	0	0		7	3	5			
Queuing Penalty (veh)			0	0	0		26	7	12			

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	R	UL	L	T	T	T	R
Maximum Queue (ft)	169	112	138	289	373	339	271	74
Average Queue (ft)	77	32	47	116	254	228	172	12
95th Queue (ft)	145	86	114	210	345	315	253	43
Link Distance (ft)	778				1031	1031	1031	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		525	275	275				525
Storage Blk Time (%)				0	4			
Queuing Penalty (veh)				0	7			

Intersection: 2: US 19 & Walmart Driveway

Movement	NB
Directions Served	L
Maximum Queue (ft)	99
Average Queue (ft)	28
95th Queue (ft)	68
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	475
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	LT	R	UL	T	T	T	R	UL	T	T
Maximum Queue (ft)	113	143	162	88	93	297	268	198	78	122	276	283
Average Queue (ft)	37	66	79	28	30	197	152	91	23	44	145	154
95th Queue (ft)	83	118	139	67	70	293	251	179	58	93	262	274
Link Distance (ft)	350	350	1026			1015	1015	1015			870	870
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				200	300				325	300		
Storage Blk Time (%)						0					0	
Queuing Penalty (veh)						0					0	

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	283	86
Average Queue (ft)	154	17
95th Queue (ft)	276	52
Link Distance (ft)	870	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		475
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Wendy Court/Internal N-S Driveway & Southern Internal Driveway/Pepper Street

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	31	4	23	81	29	58
Average Queue (ft)	7	0	2	43	14	24
95th Queue (ft)	27	3	15	67	37	51
Link Distance (ft)	994	350		1006		863
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100		150	
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 5: Internal N-S Driveway & Walmart Driveway

Movement	WB	NB	SB	SB
Directions Served	R	T	L	T
Maximum Queue (ft)	11	59	36	45
Average Queue (ft)	1	33	12	24
95th Queue (ft)	11	53	37	48
Link Distance (ft)	255	863		539
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			75	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Internal N-S Driveway & Northern Internal Driveway/AT&T Driveway

Movement	EB	NB	NB	SB
Directions Served	LTR	L	TR	LTR
Maximum Queue (ft)	31	30	35	36
Average Queue (ft)	9	13	26	18
95th Queue (ft)	32	37	44	43
Link Distance (ft)	986		539	204
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Internal N-S Driveway/CVS Driveway 1 & Osowaw Boulevard

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: Osowaw Boulevard & Walmart Driveway/CVS Driveway 2

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	UL	TR
Maximum Queue (ft)	52	31	22	89	20
Average Queue (ft)	23	1	1	32	1
95th Queue (ft)	49	13	11	70	9
Link Distance (ft)	972		1006	197	1041
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		225			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 53

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	UL	L	T	T	R	UL	L	T	R	UL	T	T
Maximum Queue (ft)	196	226	300	232	167	752	957	275	225	413	680	693
Average Queue (ft)	108	136	153	130	71	239	342	218	182	120	454	466
95th Queue (ft)	182	205	249	207	143	487	724	333	270	371	723	730
Link Distance (ft)	246	246	246			1009	1009				778	778
Upstream Blk Time (%)		0	1	0			3				5	5
Queuing Penalty (veh)		0	2	0			0				38	36
Storage Bay Dist (ft)				175	175			175	175	475		
Storage Blk Time (%)			5	2	0		16	18	16	0	16	
Queuing Penalty (veh)			12	2	1		83	33	30	0	21	

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	R	UL	L	T	T	T	R
Maximum Queue (ft)	675	540	235	354	442	384	390	100
Average Queue (ft)	467	295	137	197	284	268	246	37
95th Queue (ft)	738	559	219	311	387	360	347	83
Link Distance (ft)	778				1031	1031	1031	
Upstream Blk Time (%)	5							
Queuing Penalty (veh)	39							
Storage Bay Dist (ft)		525	275	275				525
Storage Blk Time (%)	15	0	0	1	8			
Queuing Penalty (veh)	56	0	0	3	30			

Intersection: 2: US 19 & Walmart Driveway

Movement	EB	NB	NB	NB	NB	SB
Directions Served	R	UL	T	T	T	R
Maximum Queue (ft)	20	188	292	215	330	36
Average Queue (ft)	1	44	49	54	57	2
95th Queue (ft)	12	154	303	338	328	15
Link Distance (ft)	255		870	870	870	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		475				350
Storage Blk Time (%)			1			
Queuing Penalty (veh)			0			

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	LT	R	UL	T	T	T	R	UL	T	T
Maximum Queue (ft)	208	247	532	300	400	689	646	541	424	231	265	253
Average Queue (ft)	98	155	298	154	146	481	439	384	110	87	124	144
95th Queue (ft)	174	237	509	332	381	643	582	518	329	213	222	239
Link Distance (ft)	350	350	1026			1015	1015	1015			870	870
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				200	300				325	300		
Storage Blk Time (%)			45	1	0	30		14		1	0	
Queuing Penalty (veh)			58	2	0	23		30		2	0	

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	262	170
Average Queue (ft)	152	63
95th Queue (ft)	248	134
Link Distance (ft)	870	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		475
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Wendy Court/Internal N-S Driveway & Southern Internal Driveway/Pepper Street

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	70	10	29	132	56	79
Average Queue (ft)	39	0	7	62	21	40
95th Queue (ft)	63	6	27	98	48	67
Link Distance (ft)	994	350		1006		863
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100		150	
Storage Blk Time (%)				1		
Queuing Penalty (veh)				0		

Intersection: 5: Internal N-S Driveway & Walmart Driveway

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	T	L	T
Maximum Queue (ft)	4	72	90	40	64
Average Queue (ft)	0	11	43	22	32
95th Queue (ft)	3	49	69	46	52
Link Distance (ft)		255	863		539
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	125			75	
Storage Blk Time (%)			0		0
Queuing Penalty (veh)			0		0

Intersection: 6: Internal N-S Driveway & Northern Internal Driveway/AT&T Driveway

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	LTR
Maximum Queue (ft)	31	31	44	85	40
Average Queue (ft)	14	10	20	39	20
95th Queue (ft)	39	34	45	64	45
Link Distance (ft)	986	1061		539	204
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			100		
Storage Blk Time (%)				0	
Queuing Penalty (veh)				0	

Intersection: 7: Internal N-S Driveway/CVS Driveway 1 & Osowaw Boulevard

Movement	NB
Directions Served	R
Maximum Queue (ft)	116
Average Queue (ft)	19
95th Queue (ft)	76
Link Distance (ft)	204
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Osowaw Boulevard & Walmart Driveway/CVS Driveway 2

Movement	EB	EB	WB	NB	SB	SB
Directions Served	LT	R	LTR	UL	L	TR
Maximum Queue (ft)	69	91	45	110	11	14
Average Queue (ft)	30	23	19	39	0	0
95th Queue (ft)	60	77	43	81	5	6
Link Distance (ft)	972		1006	197		1041
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		225			125	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 502

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	UL	L	T	T	R	L	L	T	R	L	T	T
Maximum Queue (ft)	120	149	137	130	160	345	367	274	225	151	193	190
Average Queue (ft)	49	79	81	63	71	198	193	148	143	57	101	94
95th Queue (ft)	97	127	125	117	139	283	313	262	229	122	167	161
Link Distance (ft)	246	246	246			1009	1009				778	778
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				175	175			175	175	475		
Storage Blk Time (%)					0		7	4	6			
Queuing Penalty (veh)					0		25	9	13			

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	R	UL	L	T	T	T	R
Maximum Queue (ft)	184	169	170	278	370	353	312	66
Average Queue (ft)	77	40	54	126	262	241	194	15
95th Queue (ft)	158	112	131	235	354	331	285	45
Link Distance (ft)	778				1031	1031	1031	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		525	275	275				525
Storage Blk Time (%)				0	5			
Queuing Penalty (veh)				0	9			

Intersection: 2: US 19 & Walmart Driveway

Movement	NB	SB
Directions Served	L	R
Maximum Queue (ft)	112	15
Average Queue (ft)	40	0
95th Queue (ft)	86	6
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	475	350
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	LT	R	UL	T	T	T	R	UL	T	T
Maximum Queue (ft)	107	146	179	137	120	321	281	240	78	113	286	294
Average Queue (ft)	41	76	82	37	40	200	156	109	21	42	154	165
95th Queue (ft)	87	127	145	94	91	289	253	206	59	89	269	281
Link Distance (ft)	350	350	1026			1015	1015	1015			870	870
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				200	300				325	300		
Storage Blk Time (%)			0	0		1					0	
Queuing Penalty (veh)			0	0		0					0	

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	300	86
Average Queue (ft)	167	20
95th Queue (ft)	283	57
Link Distance (ft)	870	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		475
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Wendy Court/Internal N-S Driveway & Southern Internal Driveway/Pepper Street

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	31	4	28	69	52	64
Average Queue (ft)	7	0	2	42	21	26
95th Queue (ft)	29	3	14	64	46	52
Link Distance (ft)	994	350		1006		863
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100		150	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 5: Internal N-S Driveway & Walmart Driveway

Movement	WB	NB	SB	SB
Directions Served	R	T	L	T
Maximum Queue (ft)	68	62	54	71
Average Queue (ft)	6	33	23	31
95th Queue (ft)	37	56	49	58
Link Distance (ft)	255	863		247
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			75	
Storage Blk Time (%)	0		0	0
Queuing Penalty (veh)	0		0	0

Intersection: 6: Internal N-S Driveway & Northern Internal Driveway/AT&T Driveway

Movement	EB	NB	NB	SB
Directions Served	LTR	L	TR	LTR
Maximum Queue (ft)	36	23	57	56
Average Queue (ft)	14	10	32	21
95th Queue (ft)	39	28	44	48
Link Distance (ft)	987		23	204
Upstream Blk Time (%)		1	8	
Queuing Penalty (veh)		0	11	
Storage Bay Dist (ft)		100		
Storage Blk Time (%)		1	8	
Queuing Penalty (veh)		1	2	

Intersection: 7: Internal N-S Driveway/CVS Driveway 1 & Osowaw Boulevard

Movement	NB
Directions Served	R
Maximum Queue (ft)	22
Average Queue (ft)	1
95th Queue (ft)	11
Link Distance (ft)	204
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Osowaw Boulevard & Walmart Driveway/CVS Driveway 2

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	UL	TR
Maximum Queue (ft)	66	10	21	101	9
Average Queue (ft)	24	0	1	34	0
95th Queue (ft)	51	7	10	75	5
Link Distance (ft)	972		1006	197	1041
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		225			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 9: Internal N-S Driveway & Site Drive 1

Movement	WB	NB	SB
Directions Served	LR	TR	T
Maximum Queue (ft)	50	36	6
Average Queue (ft)	27	7	0
95th Queue (ft)	52	30	4
Link Distance (ft)	1066	157	23
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 10: Internal N-S Driveway & Site Drive 2

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	46	12
Average Queue (ft)	22	0
95th Queue (ft)	46	6
Link Distance (ft)	1092	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		25
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Network Summary

Network wide Queuing Penalty: 70

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	UL	L	T	T	R	UL	L	T	R	UL	T	T
Maximum Queue (ft)	222	240	327	240	198	386	590	275	225	329	612	629
Average Queue (ft)	118	153	183	143	85	215	304	224	191	97	417	440
95th Queue (ft)	196	225	313	230	172	335	528	330	256	261	579	607
Link Distance (ft)	246	246	246			1009	1009				778	778
Upstream Blk Time (%)	0	0	3	0							0	0
Queuing Penalty (veh)	0	0	6	0							0	0
Storage Bay Dist (ft)				175	175			175	175	475		
Storage Blk Time (%)			9	4	1		17	16	19		8	
Queuing Penalty (veh)			24	6	1		88	32	36		10	

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	R	UL	L	T	T	T	R
Maximum Queue (ft)	606	490	257	361	448	386	365	117
Average Queue (ft)	430	272	147	205	290	272	262	43
95th Queue (ft)	594	455	239	325	397	361	352	92
Link Distance (ft)	778				1031	1031	1031	
Upstream Blk Time (%)	0							
Queuing Penalty (veh)	0							
Storage Bay Dist (ft)		525	275	275				525
Storage Blk Time (%)	7		0	0	8			
Queuing Penalty (veh)	25		0	2	28			

Intersection: 2: US 19 & Walmart Driveway

Movement	EB	NB	NB	NB	NB	SB	SB
Directions Served	R	UL	T	T	T	T	R
Maximum Queue (ft)	54	168	16	204	201	4	31
Average Queue (ft)	4	54	1	7	13	0	3
95th Queue (ft)	29	118	12	131	184	3	18
Link Distance (ft)	255		870	870	870	778	
Upstream Blk Time (%)				0	0		
Queuing Penalty (veh)				0	0		
Storage Bay Dist (ft)		475				350	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	LT	R	UL	T	T	T	R	UL	T	T
Maximum Queue (ft)	231	274	511	300	400	829	805	710	425	224	273	296
Average Queue (ft)	115	167	282	151	168	564	522	447	171	82	137	163
95th Queue (ft)	193	250	479	318	429	800	752	655	439	181	233	259
Link Distance (ft)	350	350	1026			1015	1015	1015			870	870
Upstream Blk Time (%)							0					
Queuing Penalty (veh)							0					
Storage Bay Dist (ft)				200	300				325	300		
Storage Blk Time (%)			41	1		37		20		0	0	
Queuing Penalty (veh)			55	2		34		42		0	0	

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	316	164
Average Queue (ft)	168	67
95th Queue (ft)	263	139
Link Distance (ft)	870	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		475
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Wendy Court/Internal N-S Driveway & Southern Internal Driveway/Pepper Street

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	88	27	33	134	78	89
Average Queue (ft)	38	2	8	67	31	41
95th Queue (ft)	67	12	29	107	59	69
Link Distance (ft)	994	350		1006		863
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100		150	
Storage Blk Time (%)				1		
Queuing Penalty (veh)				0		

Intersection: 5: Internal N-S Driveway & Walmart Driveway

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	R	L	T
Maximum Queue (ft)	45	134	84	22	57	72
Average Queue (ft)	2	26	46	1	27	36
95th Queue (ft)	32	85	71	11	51	59
Link Distance (ft)		255	863			247
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	125			100	75	
Storage Blk Time (%)		0	0		0	0
Queuing Penalty (veh)		0	0		0	0

Intersection: 6: Internal N-S Driveway & Northern Internal Driveway/AT&T Driveway

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	LTR
Maximum Queue (ft)	44	30	23	65	53
Average Queue (ft)	16	11	15	35	25
95th Queue (ft)	43	35	32	49	49
Link Distance (ft)	987	1060		23	204
Upstream Blk Time (%)			1	20	
Queuing Penalty (veh)			0	63	
Storage Bay Dist (ft)			100		
Storage Blk Time (%)			1	20	
Queuing Penalty (veh)			4	8	

Intersection: 7: Internal N-S Driveway/CVS Driveway 1 & Osowaw Boulevard

Movement	EB	NB
Directions Served	TR	R
Maximum Queue (ft)	26	113
Average Queue (ft)	2	28
95th Queue (ft)	19	92
Link Distance (ft)	197	204
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	1	

Intersection: 8: Osowaw Boulevard & Walmart Driveway/CVS Driveway 2

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	UL	TR	L	TR
Maximum Queue (ft)	79	102	44	116	10	10	15
Average Queue (ft)	33	21	17	45	0	0	1
95th Queue (ft)	65	77	42	93	7	5	8
Link Distance (ft)	972		1006	197	197		1041
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		225				125	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 9: Internal N-S Driveway & Site Drive 1

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	88	128	18	25
Average Queue (ft)	38	38	1	1
95th Queue (ft)	75	86	9	12
Link Distance (ft)	1066	157		23
Upstream Blk Time (%)		0	0	0
Queuing Penalty (veh)		0	0	0
Storage Bay Dist (ft)			25	
Storage Blk Time (%)			0	0
Queuing Penalty (veh)			0	0

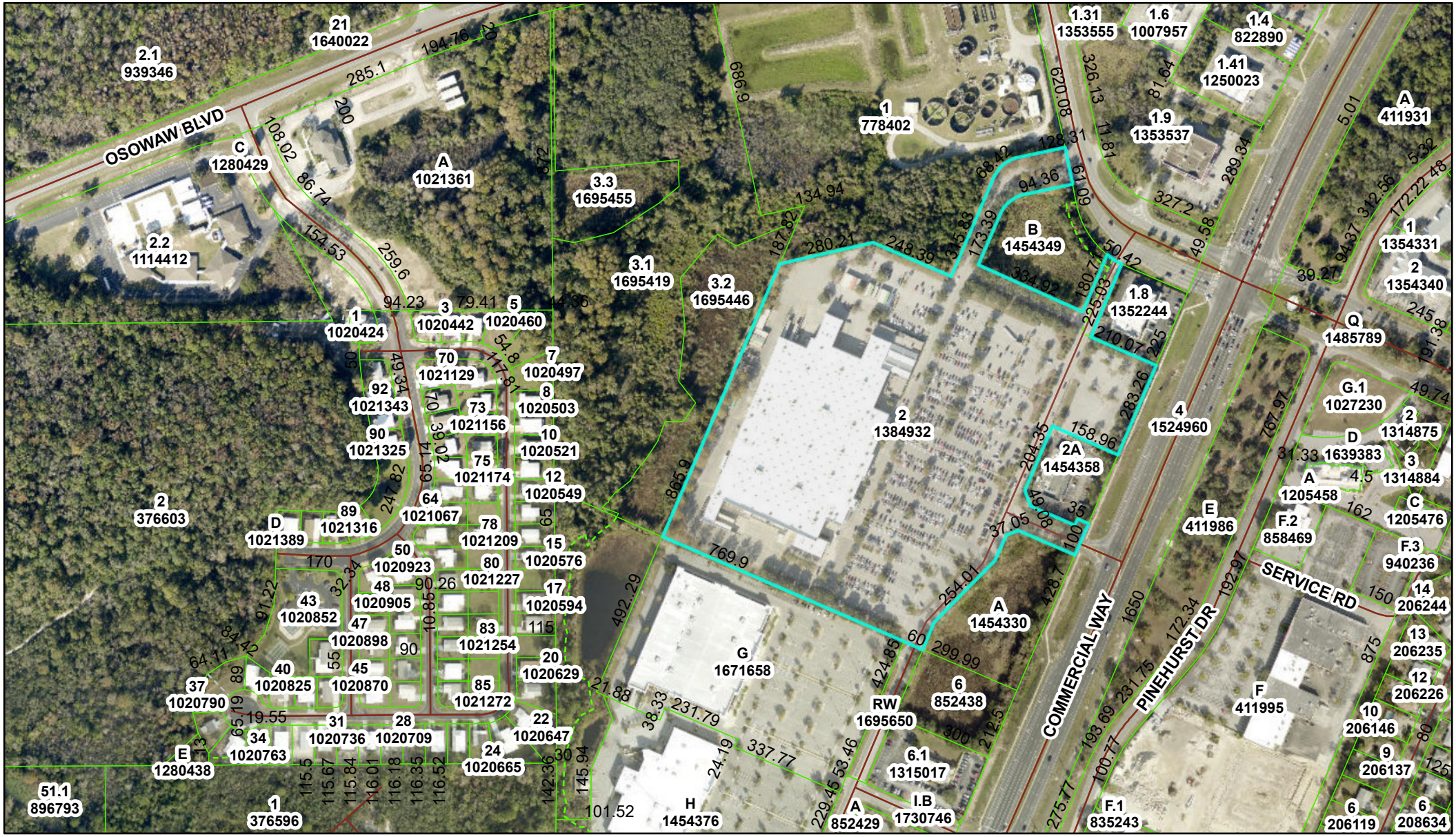
Intersection: 10: Internal N-S Driveway & Site Drive 2

Movement	WB	NB	SB
Directions Served	LR	TR	L
Maximum Queue (ft)	69	17	30
Average Queue (ft)	28	1	3
95th Queue (ft)	56	11	17
Link Distance (ft)	1092	247	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			25
Storage Blk Time (%)			1
Queuing Penalty (veh)			0

Network Summary

Network wide Queuing Penalty: 472

H-26-09 Aerial Map



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Parcels

Parcels (Labels)

Parcel Lines (Easement Historic)

Easement

Historic

Cross Streets

Streets

1:5,293

0 0.04 0.07 0.15 mi

0 0.05 0.1 0.2 km

State of Florida, Vantor

Hernando County Central GIS

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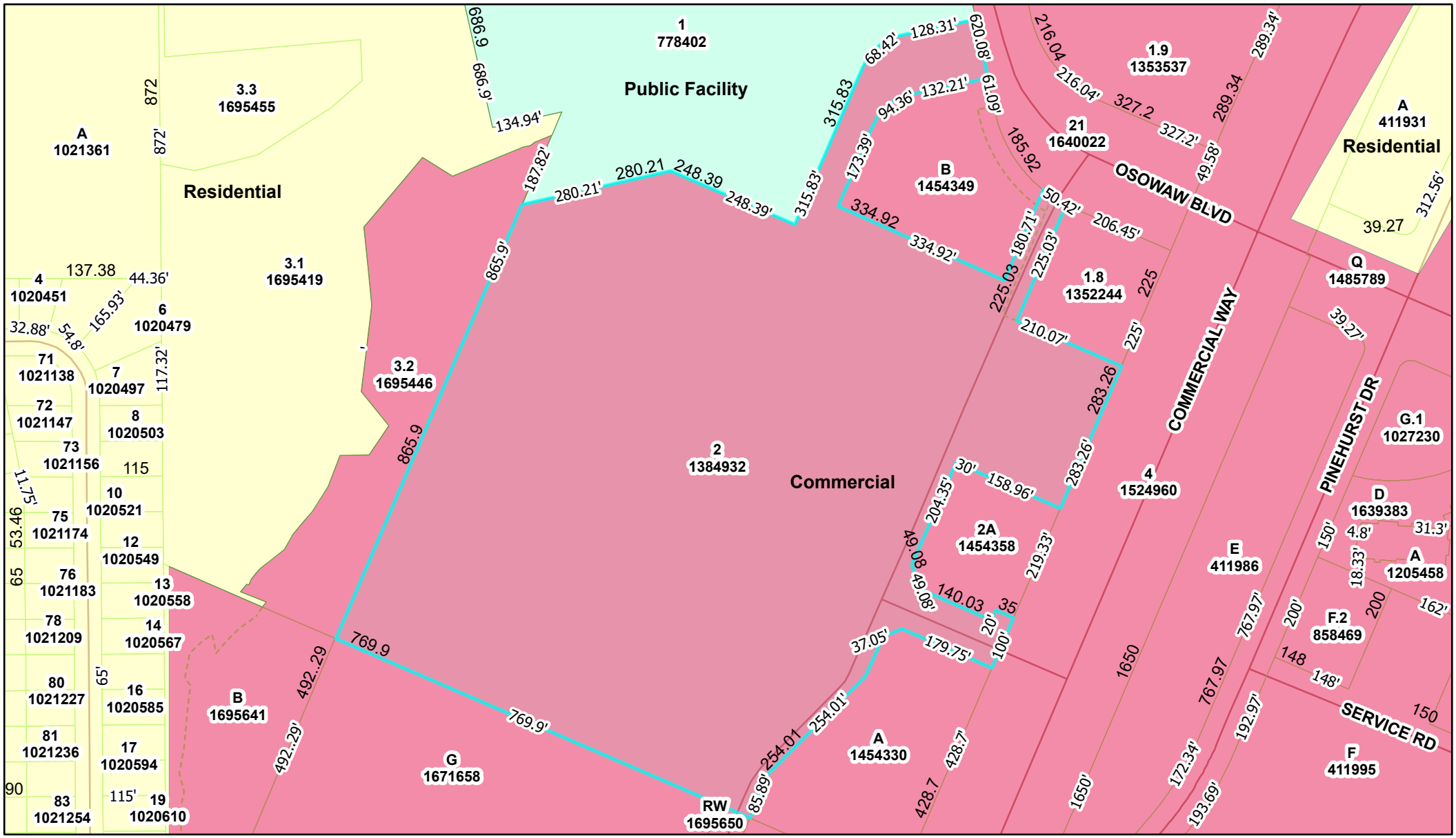
H-26-09 FLU Map



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All Future Landuse Categories

- COMMERCIAL
- PUBLIC FACILITY
- RESIDENTIAL

Parcels

Parcels (Labels)

Parcel Dimensions

Parcel Lines (Easement Historic)

Easement

Cross Streets

Streets

1:3,327

0 0.03 0.05 0.1 mi

0 0.04 0.07 0.15 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

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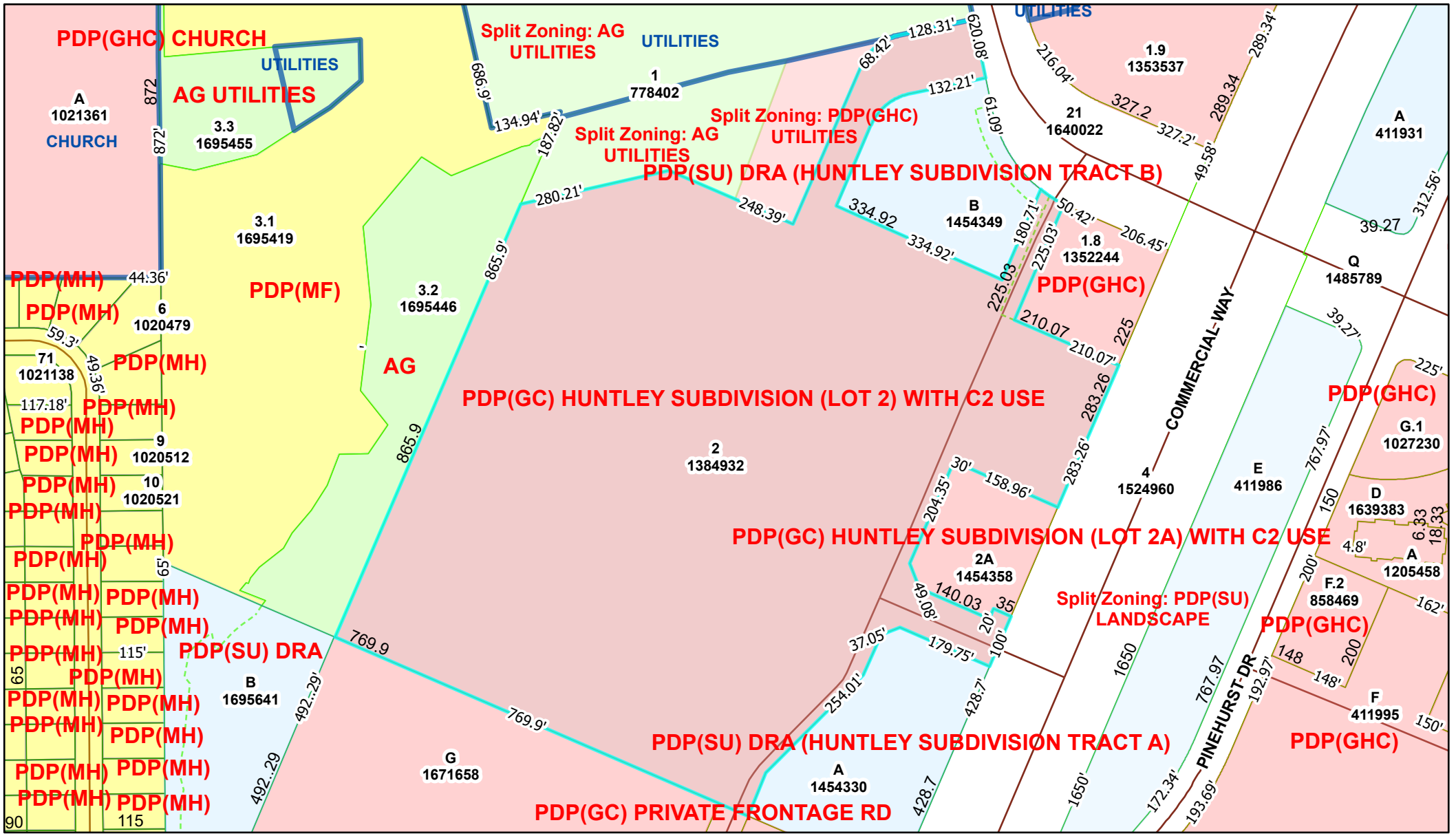
H-26-09 Zoning Map



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1:3,327

0 0.03 0.05 0.1 mi

0 0.04 0.07 0.15 km

Special Use Zoning

Split Zoning
- Agricultural
- Commercial
- Special Use

Zoning (Hernando Builders)
- Agricultural
- Commercial
- Residential
- Special Use

Parcels

Parcels (Labels)

Parcel Dimensions

Parcel Lines (Easement Historic)

Easement

Cross Streets

Streets

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

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DRMP

TRAFFIC IMPACT ANALYSIS

FOR

Walmart Fuel Station

LOCATED

IN

Spring Hill, FL

Prepared For:

CPH Consulting, LLC
500 W Fulton Street
Sanford, FL 32771

FEBRUARY 2026

DRMP Project No. 25325

Prepared By: MW

Reviewed By: GV

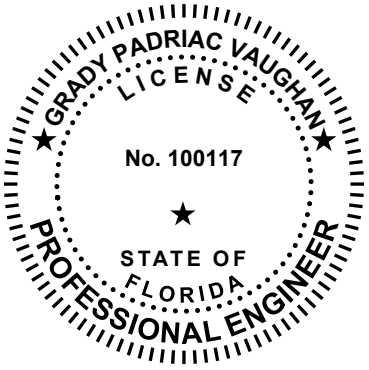
TRAFFIC IMPACT ANALYSIS

FOR

Walmart Fuel Station

LOCATED IN

Spring Hill, FL



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Prepared For:

CPH Consulting, LLC

500 W Fulton Street

Sanford, FL 32771

Prepared By:

DRMP, Inc.

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Walmart Fuel Station

Tampa, Florida

1. Introduction

The contents of this report present the findings of the Traffic Impact analysis (TIA) that was performed for the proposed Walmart Fuel Station development in accordance with the Florida Department of Transportation (FDOT) and Hernando County (County) Traffic Impact Analysis Guidelines. The proposed development is to be located at the existing Walmart Supercenter located at 1485 Commercial Way in Spring Hill, Florida. The purpose of this study is to determine the potential impacts to the surrounding transportation system created by traffic generated by the proposed development, as well as recommend improvements to mitigate the impacts.

The proposed development, anticipated to be completed by the year 2027, consists of a fuel station that includes twelve (12) vehicle fueling positions (VFP) and a 1,618 square-foot convenience store.

The study analyzes traffic conditions during the weekday AM and PM peak hours for the following scenarios:

- 2025 Existing
- 2027 No-Build
- 2027 Build

1.1. Study Area

The proposed development is to be located at the existing Walmart Supercenter located at 1485 Commercial Way in Spring Hill, Florida. Refer to Figure 1 for the site location map. Refer to Figure 2 for a copy of the preliminary site plan. The study area was determined during scope coordination with the FDOT and County using the methodology in the FDOT guidelines. The submitted scope can be found in Appendix A. Refer to Table 1 for a summary of the existing roadway inventory. Figure 3 illustrates the existing lane configurations at the study intersections.

The study area consists of the following roadway segments:

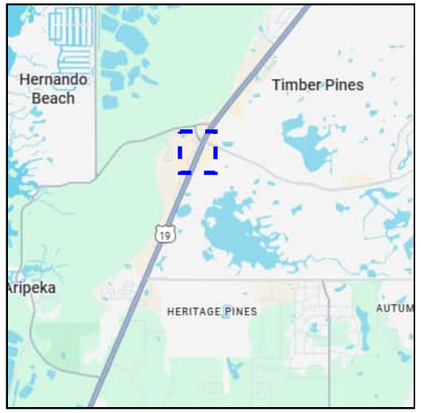
- US 19 (Commercial Way) from Hunters Lake Road to Forest Oaks Boulevard
- Spring Hill Drive from Commercial Way to Mariner Boulevard
- Osowaw Boulevard from Commercial Way to Osowaw Boulevard
- Applegate Drive from Commercial Way to Kenlake Avenue

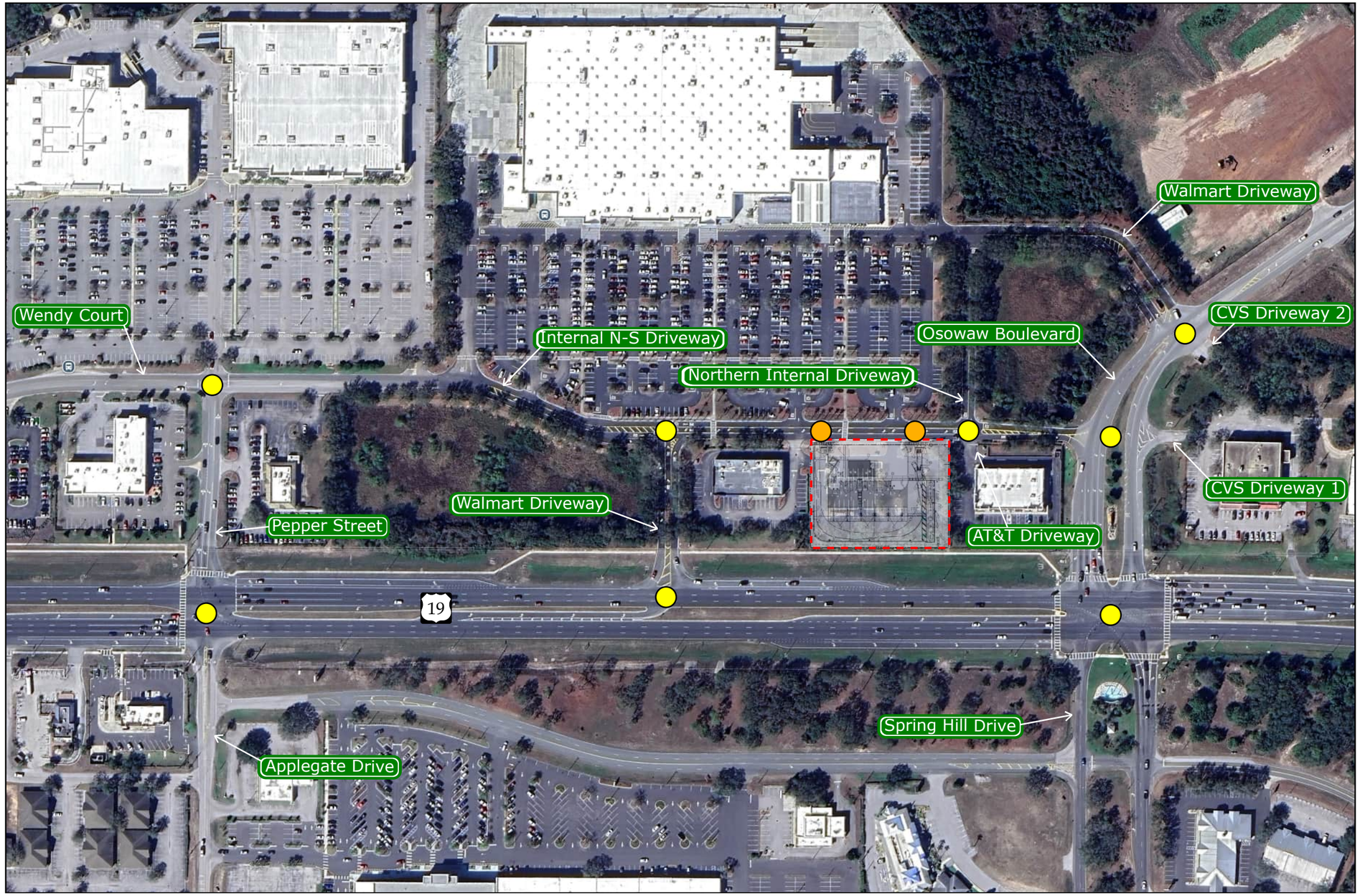
The study area consists of the following intersections:

- US 19 (Commercial Way) and Spring Hill Drive / Osowaw Boulevard (signalized)
- US 19 (Commercial Way) and Walmart Driveway (unsignalized)
- US 19 (Commercial Way) and Applegate Drive / Pepper Street (signalized)
- Pepper Street / Internal Walmart Driveway and Wendy Court / Internal N-S Driveway (unsignalized)
- Internal N-S Driveway and Walmart Driveway (unsignalized)
- Internal N-S Driveway and AT&T Driveway (unsignalized)
- Osowaw Boulevard and Internal N-S Driveway / CVS Driveway 1 (unsignalized)
- Osowaw Boulevard and Walmart Driveway / CVS Driveway 2 (unsignalized)
- Internal N-S Driveway and Proposed Site Drive 1 (unsignalized)
- Internal N-S Driveway and Proposed Site Drive 1 (unsignalized)

Table 1: Existing Roadway Inventory

Road Segment	From	To	2024 AADT (vpd)
US 19 (Commercial Way)	Hunters Lake Road	Forest Oaks Boulevard	43,000
Spring Hill Drive	Commercial Way	Mariner Boulevard	23,000
Osowaw Boulevard	Commercial Way	Osowaw Boulevard	1,200
Applegate Drive	Commercial Way	Kenlake Avenue	2,200





LEGEND

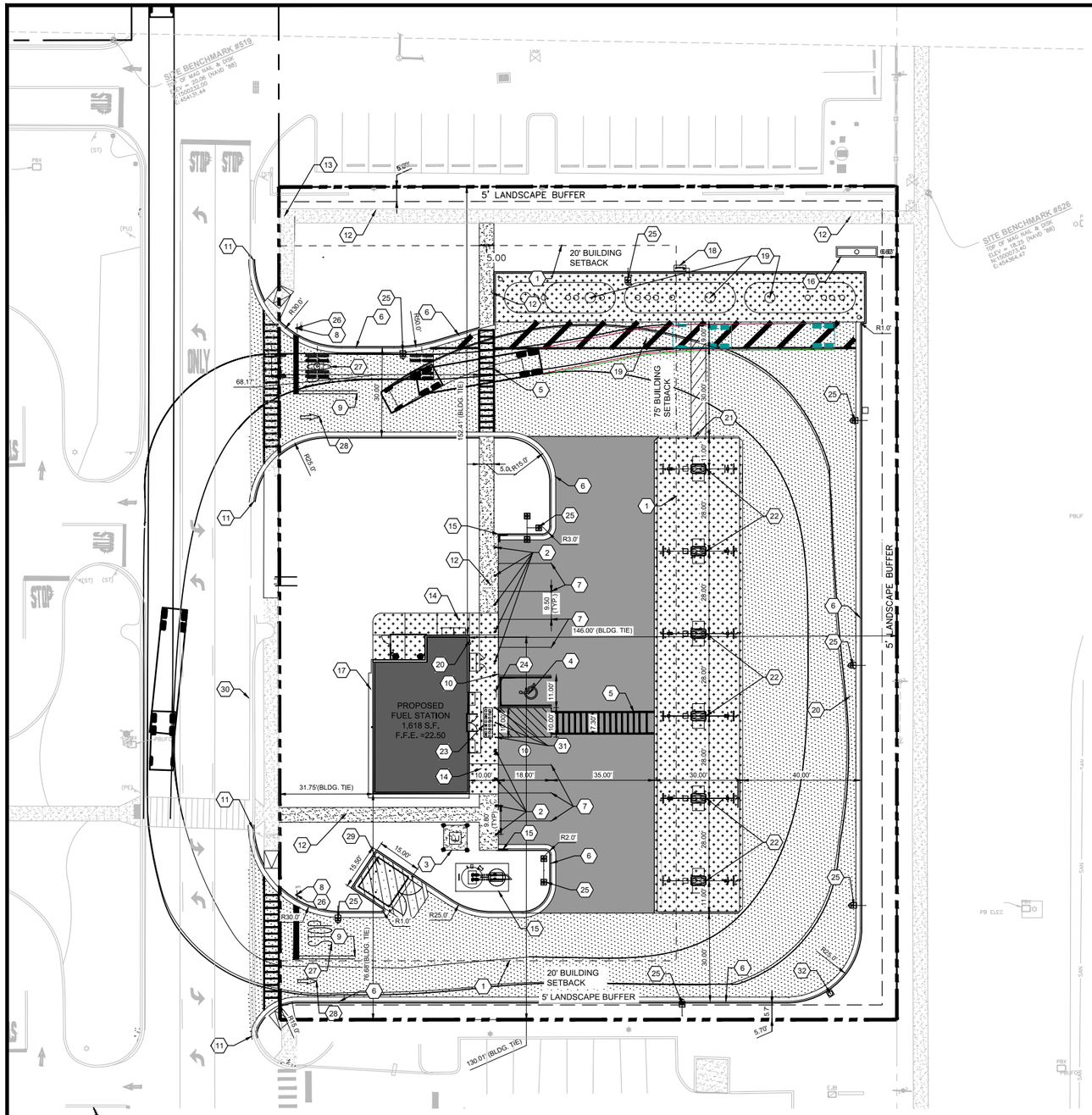
- Study Intersection
- Proposed Site Access
- Study Area

DRMP

Walmart Fuel Station
Spring Hill, FL

Site Location Map

Scale: Not to Scale | Figure 1



NOTE:
ITEMS SHOWN SCREENED REPRESENT EXISTING CONDITIONS. ITEMS SHOWN BOLD REPRESENT PROPOSED CONDITIONS.

Always call 811 two full business days before you dig
Sunshine811.com
www.sunshine811.com

SITE BENCHMARK

#519
TOP OF MAG NAIL & DISK
ELEV = 20.06 (NAVD '88)
N:1500232.00
E:454131.44

#526
TOP OF MAG NAIL & DISK
ELEV = 18.25 (NAVD '88)
N:1500073.50
E:454364.47

SITE LEGEND

1. BUILDING SETBACK LINE PER ZONING RESOLUTION.
2. PIPE BOLLARD, SEE DETAIL SHEET C5.1.
3. CONCRETE TRANSFORMER PAD. SEE DETAIL SHEET C5.7. CONTRACTOR TO COORDINATE INSPECTION WITH UTILITY PROVIDER.
4. ACCESSIBLE PARKING SPACE PER FDOT INDEX NO. 711-001 AND SIGNAGE PER FDOT INDEX NO. 700-102 TYPICAL. SEE DETAIL SHEET.
5. PEDESTRIAN CROSSWALK, SEE PLAN FOR WIDTH, REF. WALMART DETAILS, SHEET C5.4.
6. 24" STANDARD CURB & GUTTER. SEE DETAIL SHEET C5.2.
7. PROPOSED SWSL / 4".
8. NEW SIGN MOUNTING AND BASE WITH BREAK AWAY POST.
9. PROPOSED DYSL / 4", REF. WALMART DETAILS, SHEET C5.3 (LINES TO BE EXTENDED FROM THE CROSSWALK/ STOP BAR).
10. FLUSH PAVEMENT AND SIDEWALK AREA.
11. COORDINATE WITH DEVELOPER'S CONTRACTOR TO CONSTRUCT SMOOTH TRANSITION TO EXISTING CURB AND PAVEMENT.
12. PROPOSED CONCRETE SIDEWALK, 5% MAX. LONGITUDINAL SLOPE, 2% MAX. CROSS SLOPE.
13. PROPOSED ACCESSIBLE CURB RAMP 1:12 MAX. SLOPE WITH 2' DEEP DETECTABLE WARNINGS, PER FDOT INDEX 522-002.
14. CONCRETE SIDEWALK, SEE ARCH. PLAN FOR SPECIFICATION AND DETAILS.
15. PROPOSED LIFT STATION ENCLOSURE, SEE ARCH PLANS FOR DETAILS.
16. PROPOSED MONUMENT SIGN LOCATION, BY OTHERS.
17. PROPOSED CONCRETE RODENT BARRIER, SEE ARCH PLANS FOR DETAILS.
18. PROPOSED TANK VENT SYSTEM, REF. FUEL PLANS FOR DETAILS.
19. PROPOSED UNDERGROUND FUEL STORAGE TANKS, REF. FUEL PLANS FOR DETAILS.
20. PROPOSED E-STOP, REF. ARCH. PLANS FOR DETAILS.
21. PROPOSED GAS CANOPY, REF. ARCH. PLANS FOR DETAILS.
22. PROPOSED FUEL DISPENSER (TYP.), REF. FUEL PLANS FOR DETAILS.
23. PROPOSED TACTILE WARNING, REF. ARCH PLANS.
24. NEW SIGN MOUNTING AND BASE WITH BOLLARD, SEE DETAIL SHEET C5.1.
25. PROPOSED SITE LIGHTING POLE (TYP.), REF. PHOTOMETRIC PLANS.
26. PROPOSED "STOP" SIGN
27. PROPOSED STOP TEXT AND STOP BAR, REF. WALMART DETAILS, SHEET C5.3.
28. PROPOSED OPEN ARROW PAVEMENT MARKINGS, REF. WALMART DETAILS, SHEET C5.3.
29. PROPOSED DUMPSTER ENCLOSURE.REF. ARCH PLANS FOR DETAILS
30. PROPOSED 24" CONCRETE GUTTER. SEE DETAIL SHEET C5.2.
31. PROPOSED ARCHITECTURAL BOLLARDS, REF. ARCH PLANS FOR DETAILS.
32. PROPOSED AIR STATION, REF. ARCH PLANS FOR DETAILS

SITE NOTES:

1. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL CITY/COUNTY REGULATIONS AND CODES AND O.S.H.A. STANDARDS.
2. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULES, SLOPE PAVING, SIDEWALKS, EXIT PORCHES, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
3. ALL DISTURBED AREAS ARE THE RECEIVE FOUR INCHES OF TOPSOIL, SEED, MULCH AND WATER UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED.
4. ALL CURBED RADII ARE TO BE 10' UNLESS OTHERWISE NOTED. STRIPED RADII ARE TO BE 5'
5. ALL DIMENSIONS AND RADII ARE TO BE FACE OF CURB UNLESS OTHERWISE NOTED.
6. EXISTING STRUCTURES WITHIN CONSTRUCTION LIMITS ARE TO BE ABANDONED, REMOVED OR RELOCATED AS NECESSARY. ALL COST SHALL BE INCLUDED IN BASE BID.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, (UNLESS OTHERWISE NOTED ON PLANS) INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, TRAFFIC SIGNALS & POLES, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES REQUIREMENTS AND PROJECT SITE WORK SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COST SHALL BE INCLUDED IN BASE BID.
8. SITE BOUNDARY, TOPOGRAPHY, UTILITY AND ROAD INFORMATION TAKEN FROM A SURVEY PREPARED BY CPH, CORP.
9. TOTAL LAND AREA IS 1.36± ACRES.
10. THE SITE WORK FOR THIS PROJECT SHALL MEET OR EXCEED "THE SITE SPECIFIC SPECIFICATIONS".
11. PYLON SIGNS SHALL BE CONSTRUCTED BY OTHERS.
12. REFER TO ARCH. PLANS FOR SITE LIGHTING.
13. ALL WM GENERAL CONTRACTOR WORK TO BE COMPLETED (EARTHWORK, FINAL UTILITIES, AND FINAL GRADING) BY THE MILESTONE DATE IN PROJECT DOCUMENTS. OUTLOT AREA TO BE KEPT FREE OF JOB TRAILERS AND STORAGE AFTER THE CONTRACT MILESTONE DATE FOR THE OUTLET. WM GENERAL CONTRACTOR TO PROVIDE CLEAR ACCESS FOR OUTLOT CONTRACTOR TO THE SPECIFIC PARCEL AT ALL TIMES AFTER MILESTONE DATE. PURCHASER OF OUTLOT TO PROVIDE PERMIT DOCUMENTS AND SWPPP REQUIRED BY STATE/LOCAL REQUIREMENTS FOR SPECIFIC OUTLOT.

SIGN LEGEND

(HC)	ACCESSIBLE PARKING (FTP-21-06 & FTP-22-06)
(ST)	STOP (R1-1)
(PE)	STOP HERE FOR PEDESTRIANS (SEE DETAIL SHEET)

PROPOSED LEGEND

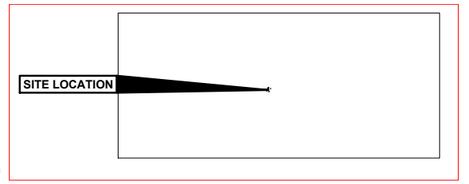
	PROPERTY LINE
	PROPOSED BUFFER LINE
	LANDSCAPE BUFFER LINE
	BUILDING SETBACK LINE

PAINTING STRIPING LEGEND

SWSL	SINGLE WHITE SOLID LINE
DYSL	DOUBLE YELLOW SOLID LINE

PROPOSED PAVEMENT LEGEND

	CONCRETE SIDEWALK: REF. DETAIL SHEET
	ARCHITECTURAL CONCRETE, SEE ARCH. PLANS
	STANDARD DUTY CONCRETE: REF DETAIL SHEET
	HEAVY DUTY CONCRETE: PER DETAIL SHEET
	STANDARD DUTY ASPHALT PAVEMENT: REF. DETAIL SHEET
	HEAVY DUTY ASPHALT PAVEMENT: REF. DETAIL SHEET
(10)	PARKING SPACE COUNT
	SITE LIGHTING, REF. PHOTOMETRIC PLANS
	TRANSFORMER



SITE DATA INFORMATION:

SITE PARCEL NUMBERS:

PARCEL NO. R29 223 17 2608 0000 0020 1867 COMMERCIAL WAY, 59,420 S.F.(1.36 AC.)

SECTION – 29 / TOWNSHIP – 23 S / RANGE – 17 E

ON–SITE LAND INFORMATION:

CURRENT LAND USE:	VACANT LAND
PROPOSED LAND USE:	FUEL STATION
CURRENT ZONING:	PDP(GC) WITH C2 USE– PLANNED DEVELOPMENT PROJECT
PROPOSED ZONING:	PDP(GC) WITH C2 USE– PLANNED DEVELOPMENT PROJECT
AREA OF PROPOSED IMPROVEMENTS:	59,420 S.F. (1.36 AC.)
DEVELOPMENT TYPE:	GENERAL COMMERCIAL

ADJACENT LAND INFORMATION:

	NORTH	EAST	SOUTH	WEST
EXISTING LAND USE	XXX	XXX	XXX	XXX
FUTURE LAND USE	XXX	XXX	XXX	XXX
EXISTING ZONING	XXX	XXX	XXX	XXX
PROPOSED ZONING	XXX	XXX	XXX	XXX

FLOOD ZONE INFORMATION:

HAVING CONSULTED THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP (FIRM) NUMBER 12053C0284E, COMMUNITY PANEL NO. 120110, HERNANDO COUNTY UNICORPORATED AREAS, EFFECTIVE DATE JANUARY 15, 2021, THE SUBJECT PROPERTY APPEARS TO LIE IN ZONE X, THE FLOOD ZONE "X"HAS A 0.2% ANNUAL CHANCE FLOOD HAZARD, AREAS WITH A 1% ANNUAL CHANCE FLOOD W/ AVERAGE DEPTH LESS THAN 1 FOOT – MINIMAL FLOOD HAZARD

BUILDING INFORMATION:

BUILDING AREA:	1,618± S.F.
BUILDING USE:	FUEL STATION + CONVENIENCE STORE
MAXIMUM BUILDING HEIGHT (COUNTY CODE):	35'
ACTUAL BUILDING HEIGHT (ONE STORY):	19'–0"
CANOPY HEIGHT	17'–8"
MAXIMUM FLOOR AREA RATIO (FAR) (COUNTY CODE):	0.75
MAXIMUM FLOOR AREA RATIO (FAR) PROVIDED:	2.72%

PERVIOUS / IMPERVIOUS AREAS:

PRE DEVELOPMENT:			
PERVIOUS AREA:	18,020 S.F.	(0.41 AC.)	(30.32%)
IMPERVIOUS AREA:	41,400 S.F.	(0.95 AC.)	(69.68%)
TOTAL SITE AREA:	59,420 S.F.	(1.36 AC.)	(100.00%)
POST DEVELOPMENT:			
PERVIOUS AREA:	21,810 S.F.	(0.50 AC.)	(36.70%)
IMPERVIOUS AREA:	37,610 S.F.	(0.86 AC.)	(63.30%)
TOTAL SITE AREA:	59,420 S.F.	(1.36 AC.)	(100.00%)

PARKING INFORMATION:

PARKING REQUIRED:

USE TYPE: GAS STATION + CONVENIENCE STORE
1 SPACES PER 4 PUMPS + 5/1,000 SF CONVENIENCE STORE AREA
(6 PUMPS / 4) + (5 x 1.618) = 10 SPACES REQUIRED.

PARKING SPACES PROVIDED = 10 (INC. 1 ADA SPACE AND 1 TRUCKING LOADING ZONE)

PARKING RATIO PROVIDED = 6 SPACES PER 1,000 SF

BLDG. SETBACKS AND LANDSCAPE BUFFERS:

PRINCIPLE BLDG. SETBACKS:	N	E	S	W
REQUIRED:	20'(MIN)	75'(MIN)	20'(MIN)	XX'(MIN)
PROVIDED :	152.41'	146.00'	76.68'	31.75'

ACCESSORY STRUCTURE (DUMPSTER) SETBACK:	N	E	S	W
REQUIRED:	X'	X'	X'	X'
PROVIDED :	225.3'	164.2'	36.6'	24.3'

SIGNAGE SETBACK:	N	E	S	W
REQUIRED:	X'	X'	X'	X'
PROVIDED :	XXX.XX'	XXX.XX'	XX.XX'	X.XX'

LANDSCAPE BUFFERS:	N	E	S	W
REQUIRED:	5'	5'	5'	XX'(MIN)
PROVIDED :	5.00'	6.63'	5.70'	X.XX'

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MATTHEW S. D'ANGELO LICENSE No. 91885 STATE OF FLORIDA PROFESSIONAL ENGINEER

Matthew D'Angelo, State of Florida, Professional Engineer, License No. 91885. This item has been digitally signed and sealed by 91885 on the date indicated here. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies

No.	Date	Revision
#	#	#
#	#	#

Designed: ##
Drawn: ##
Checked: ##
Job No.: UT-XXXX-XX
Date: 12/29/2025 © 2026

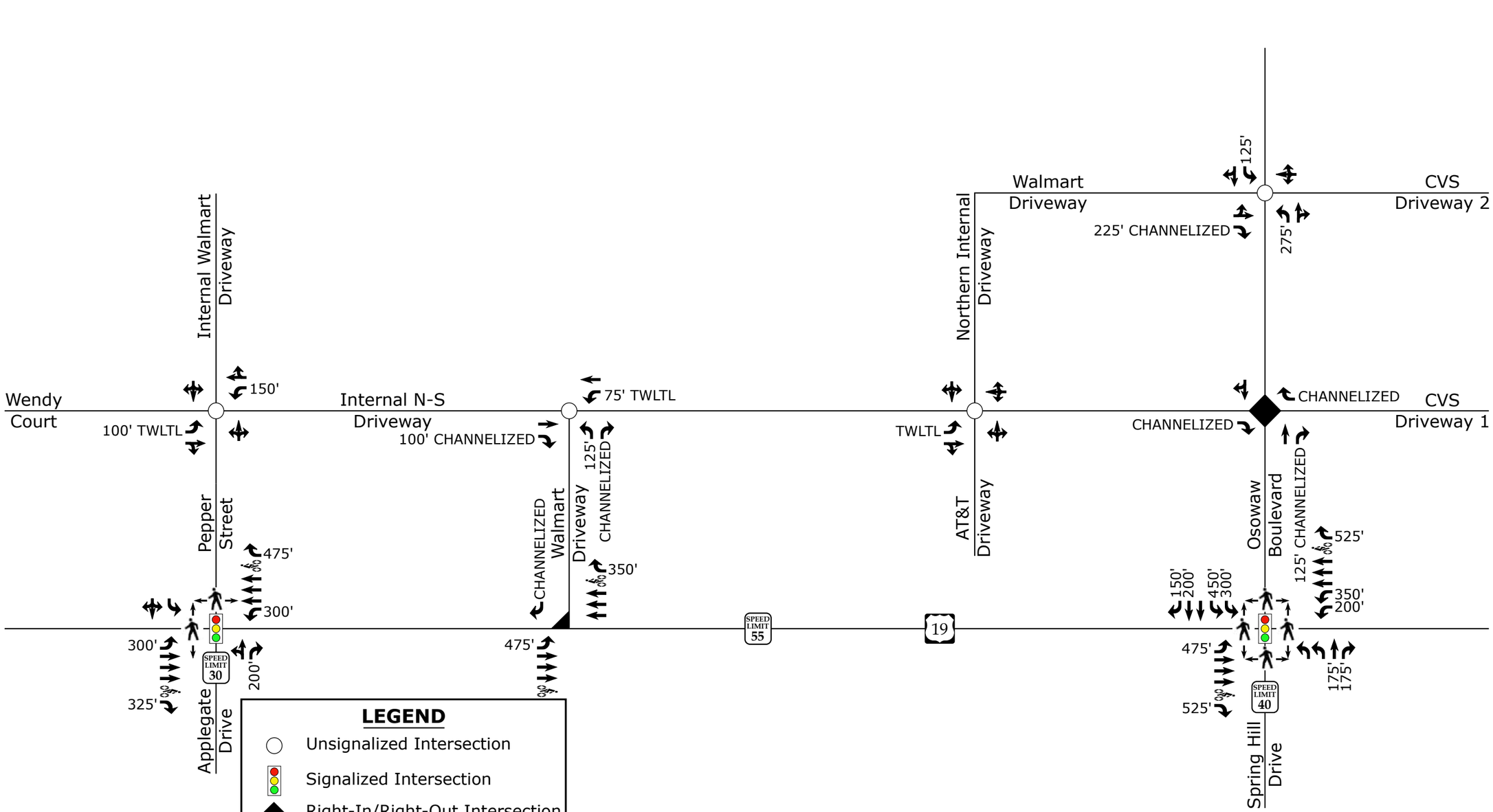
SITE DIMENSION PLAN

Walmart

STORE NO. 967-1011 FUEL STATION
HERNANDO COUNTY / FLORIDA 34606

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

Sheet No.
C1.2



DRMP

Walmart Fuel Station
Spring Hill, FL

2025 Existing Lane Configurations

Scale: Not to Scale | Figure 3

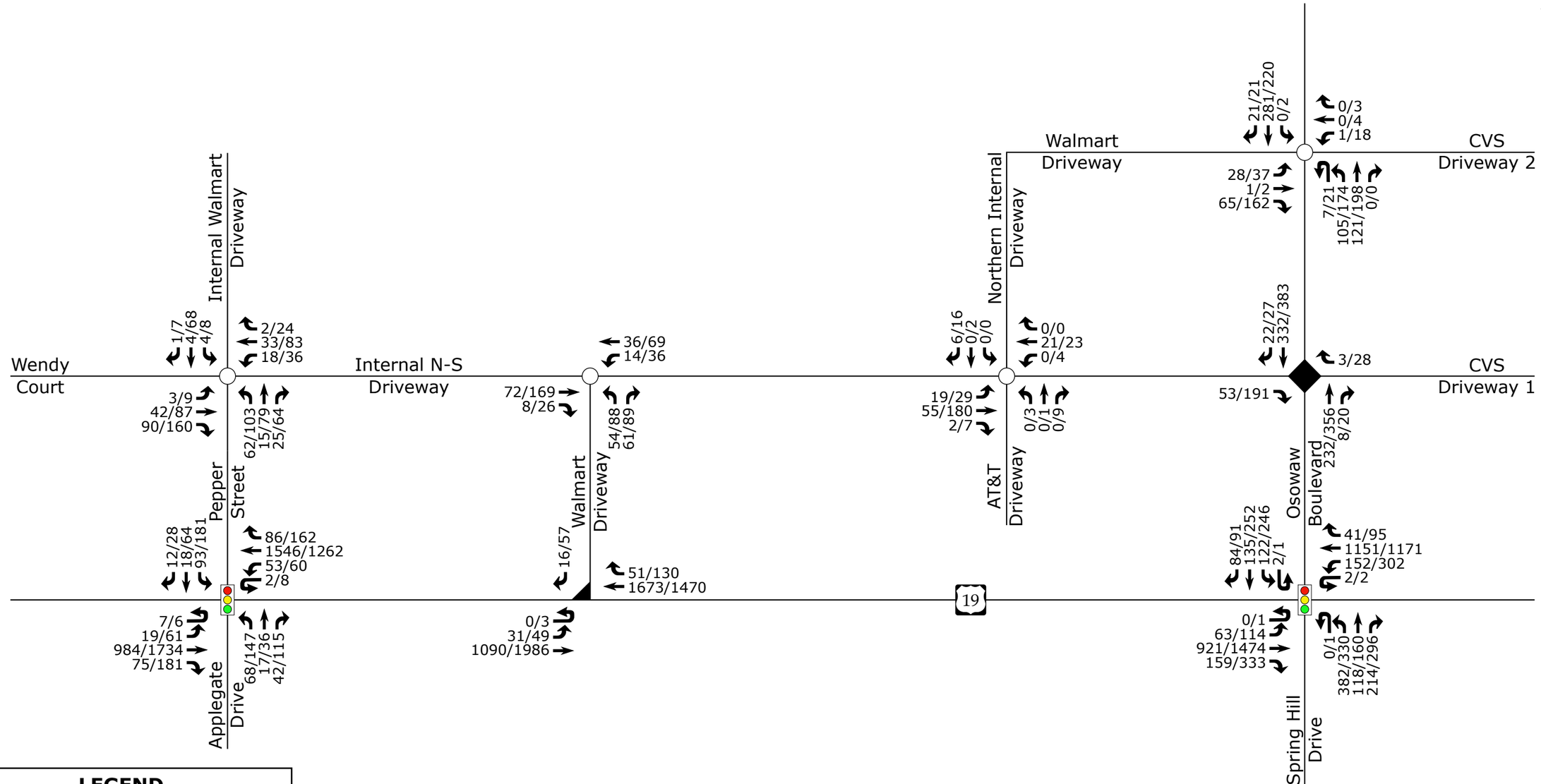
2. 2025 EXISTING PEAK HOUR CONDITIONS

2.1. 2025 Existing Peak Hour Traffic Volumes

Existing peak hour traffic volumes were determined based on traffic counts conducted at the study intersections November of 2025 during typical weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak periods. Weekday AM and PM traffic volumes were balanced between study intersections, where appropriate. Refer to Figure 4 for 2025 existing weekday AM and PM peak hour traffic volumes. A copy of the count data is located in Appendix B of this report.

2.2. 2025 Existing Peak Hour Traffic Analysis

The 2025 existing weekday AM and PM peak hour traffic volumes were analyzed to determine the current levels of service at the study intersections under existing roadway conditions. Signal information was obtained and is included in Appendix C. The results of the analysis are presented in Section 7 of this report.



LEGEND

- Unsignalized Intersection
- Signalized Intersection
- Right-In/Right-Out Intersection
- Left-Over Intersection
- X / Y → Weekday AM / PM Peak Hour Traffic

DRMP

Walmart Fuel Station
Spring Hill, FL

2025 Existing
Peak Hour Traffic

Scale: Not to Scale | Figure 4

3. 2027 NO-BUILD PEAK HOUR CONDITIONS

In order to account for growth of traffic and subsequent traffic conditions at a future year, no-build traffic projections are needed. No-build traffic is the component of traffic due to the growth of the community and surrounding area that is anticipated to occur regardless of whether or not the proposed development is constructed. No-build traffic is comprised of existing traffic growth within the study area and additional traffic created as a result of adjacent approved developments.

3.1. Ambient Traffic Growth

Through coordination with the FDOT and County, it was determined that an annual growth rate of 1.5% would be used to generate 2027 projected weekday AM and PM peak hour traffic volumes.

3.2. Adjacent Development Traffic

Based on coordination with the FDOT and County, it was determined there were no adjacent developments to consider with this study.

3.3. Future Roadway Improvements

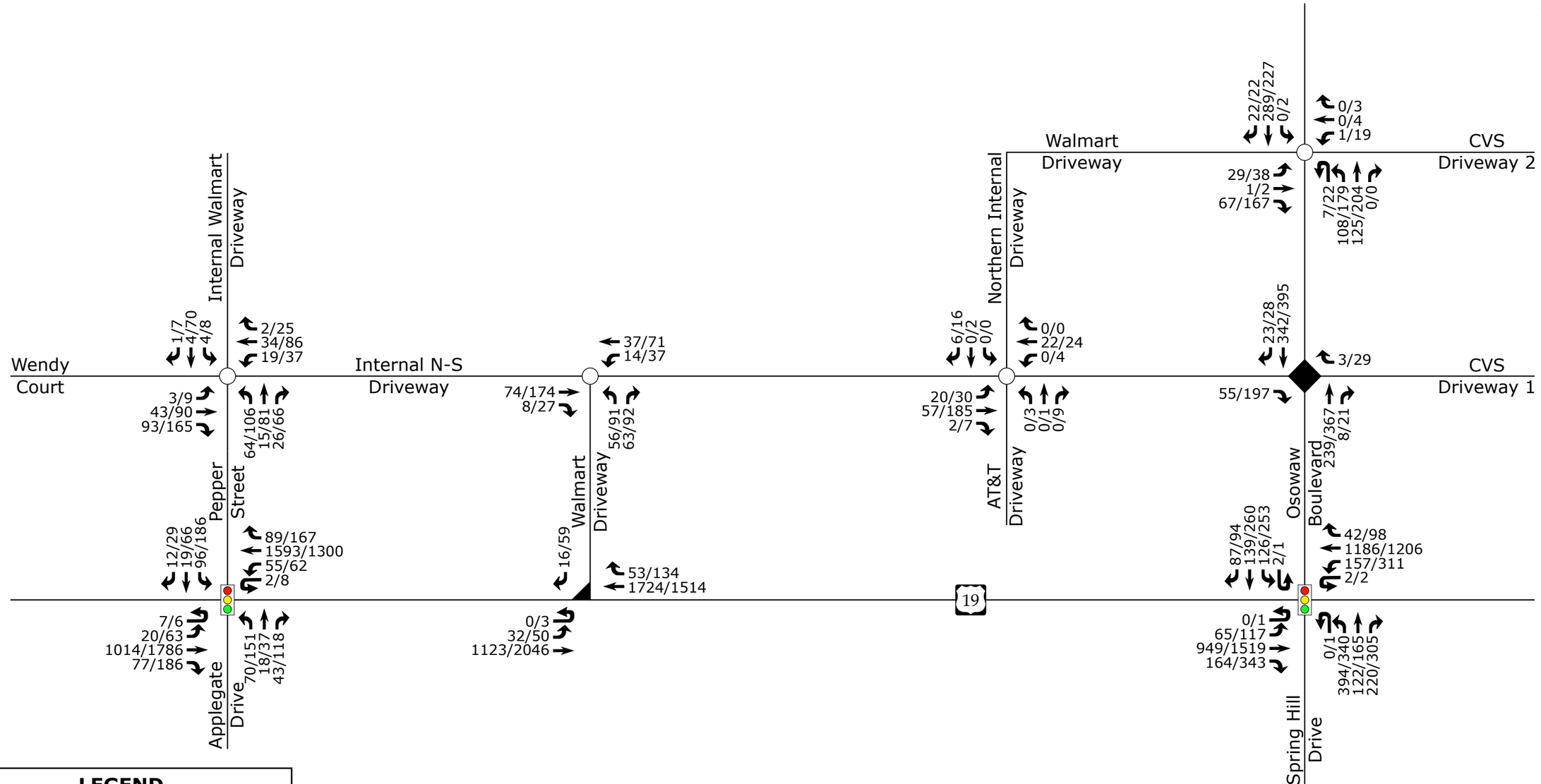
Through coordination with the FDOT and County, it was determined there were no future roadway improvements to consider with this study.

3.4. 2027 No-Build Peak Hour Traffic Volumes

The 2027 no-build traffic volumes were determined by projecting the 2025 existing peak hour traffic to the year 2027. Refer to Figure 5 for an illustration of the 2027 no-build peak hour traffic volumes at the study intersections.

3.5. 2027 No-Build Peak Hour Traffic Analysis

The 2027 no-build AM and PM peak hour traffic volumes at the study intersections were analyzed with no changes to the existing geometric roadway conditions. The analysis results are presented in Section 7 of this report.



LEGEND

- Unsignalized Intersection
- Signalized Intersection
- Right-In/Right-Out Intersection
- Left-Over Intersection
- X / Y → Weekday AM / PM Peak Hour Traffic

Note: Based on NCDOT Congestion Management guidelines, a volume of 4 vehicles per hour (vph) was analyzed for any movement with less than 4 vph.

DRMP

Walmart Fuel Station
Spring Hill, FL

2027 No-Build
Peak Hour Traffic

Scale: Not to Scale | Figure 5

4. SITE TRIP GENERATION AND DISTRIBUTION

4.1. Trip Generation

Trip estimates for the proposed fuel station were were estimated using methodology contained within the ITE Trip Generation Manual, 12th Edition. Additionally, pass-by trip reductions were applied based on ITE Land Use Code 944 (Gasoline/Service Station with Convenience Market). These pass-by percentages were used to account for vehicles already traveling along US 19 (Commercial Way) and Osowaw Boulevard that would briefly enter the site before continuing to their destination. Based on the location of the proposed gas station and the proximity to the existing Wal-Mart store, it is anticipated that some internal capture trips between the two uses will occur throughout the day. To be conservative, it was determined during scoping that internal capture trips would not be considered. The actual external trip generation of the proposed gas station may therefore be lower than analyzed in this study. Table 2 provides a summary of the trip generation potential for the site.

Table 2: Trip Generation Summary

Land Use	Intensity	Daily Traffic AADT (vpd)*	Weekday AM Peak Hour Trips (vph)			Weekday PM Peak Hour Trips (vph)		
			Enter	Exit	Total	Enter	Exit	Total
Fuel Station (944)	12 VFP	2,064	71	71	142	91	91	182
Pass-By Trips - From LUC 944 (58% AM, 42% PM)		*-1,072*	*-41*	*-41*	*-82*	*-38*	*-38*	*-76*
Total Primary Trips		**992**	**30**	**30**	**60**	**53**	**53**	**106**

4.2. Site Trip Distribution and Assignment

Site trips were distributed based on 2024 AADT data from the 2024 FDOT. Figure 8 illustrates the trip distribution percentages.

It is estimated that the site trips will be regionally distributed as follows:

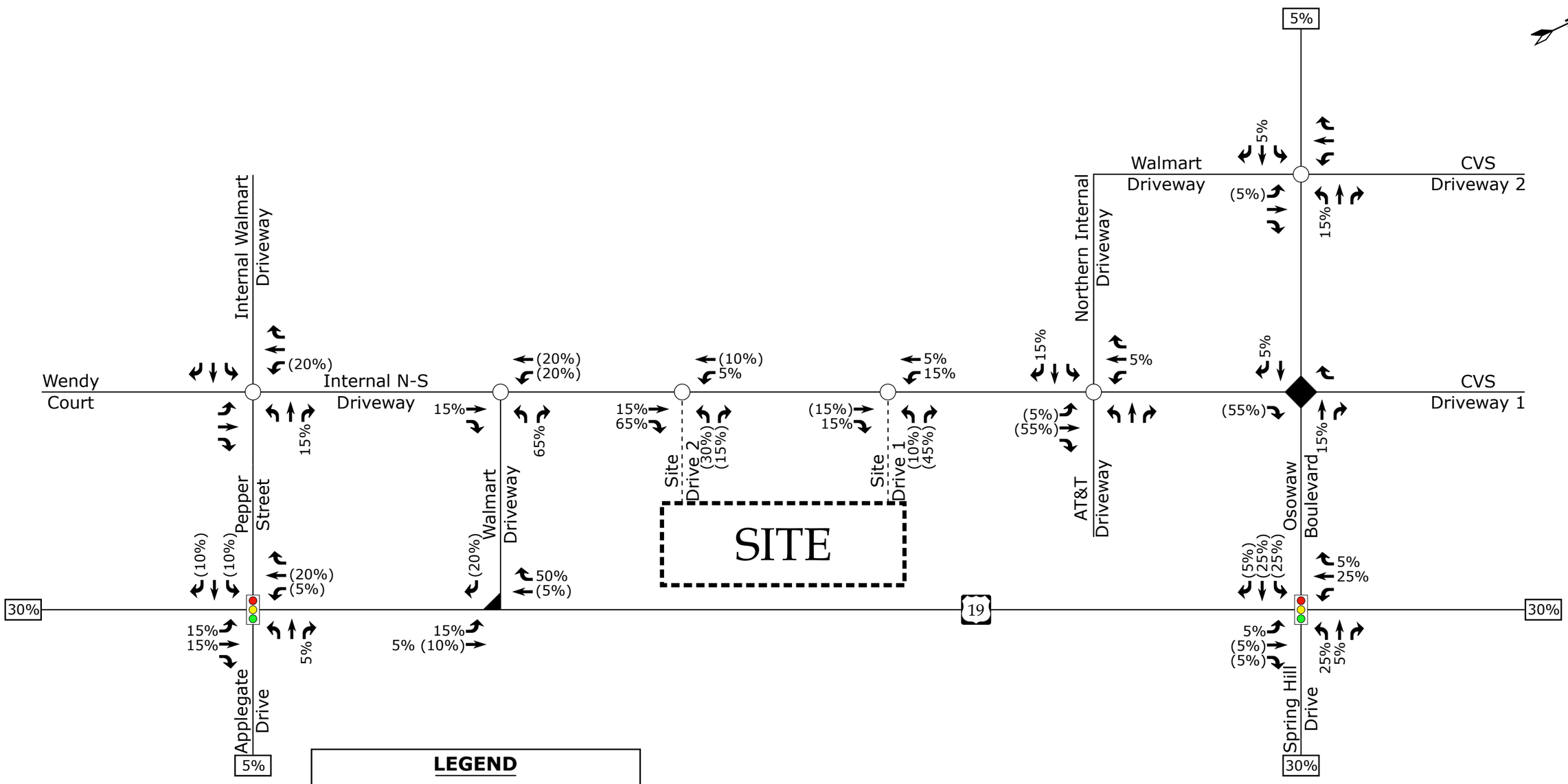
- 30% to/from the east via US 19
- 30% to/from the west via US 19
- 30% to/from the south via Spring Hill Drive

- 5% to/from the south via Applegate Drive
- 5% to/from the north via Osowaw Boulevard

The site trip distribution is shown in Figure 6. Refer to Figure 7 for the site trip assignment.

The pass-by site trips were distributed based on existing traffic patterns with consideration given to the proposed driveway access and site layout. Refer to Figure 8 for the pass-by site trip distribution. Pass-by site trips are shown in Figure 9.

The total site trips were determined by adding the primary site trips and the pass-by site trips. Refer to Figure 10 for the total peak hour site trips at the study intersections.



LEGEND

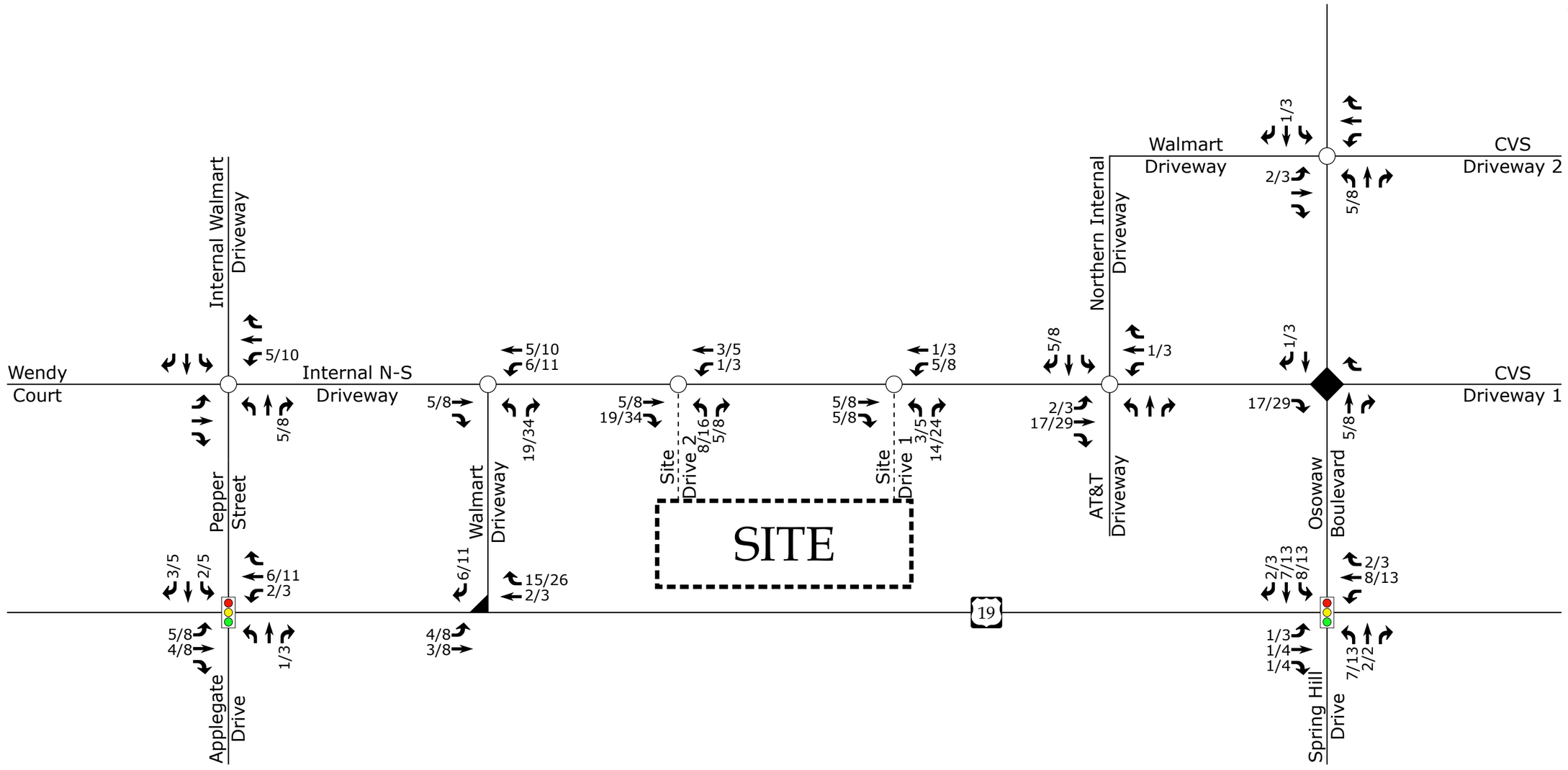
- Unsignalized Intersection
- Signalized Intersection
- Right-In/Right-Out Intersection
- Left-Over Intersection
- X% → Entering Trip Distribution
- (Y%) → Exiting Trip Distribution
- XX% Regional Trip Distribution

DRMP

Walmart Fuel Station
Spring Hill, FL

Site Trip Distribution

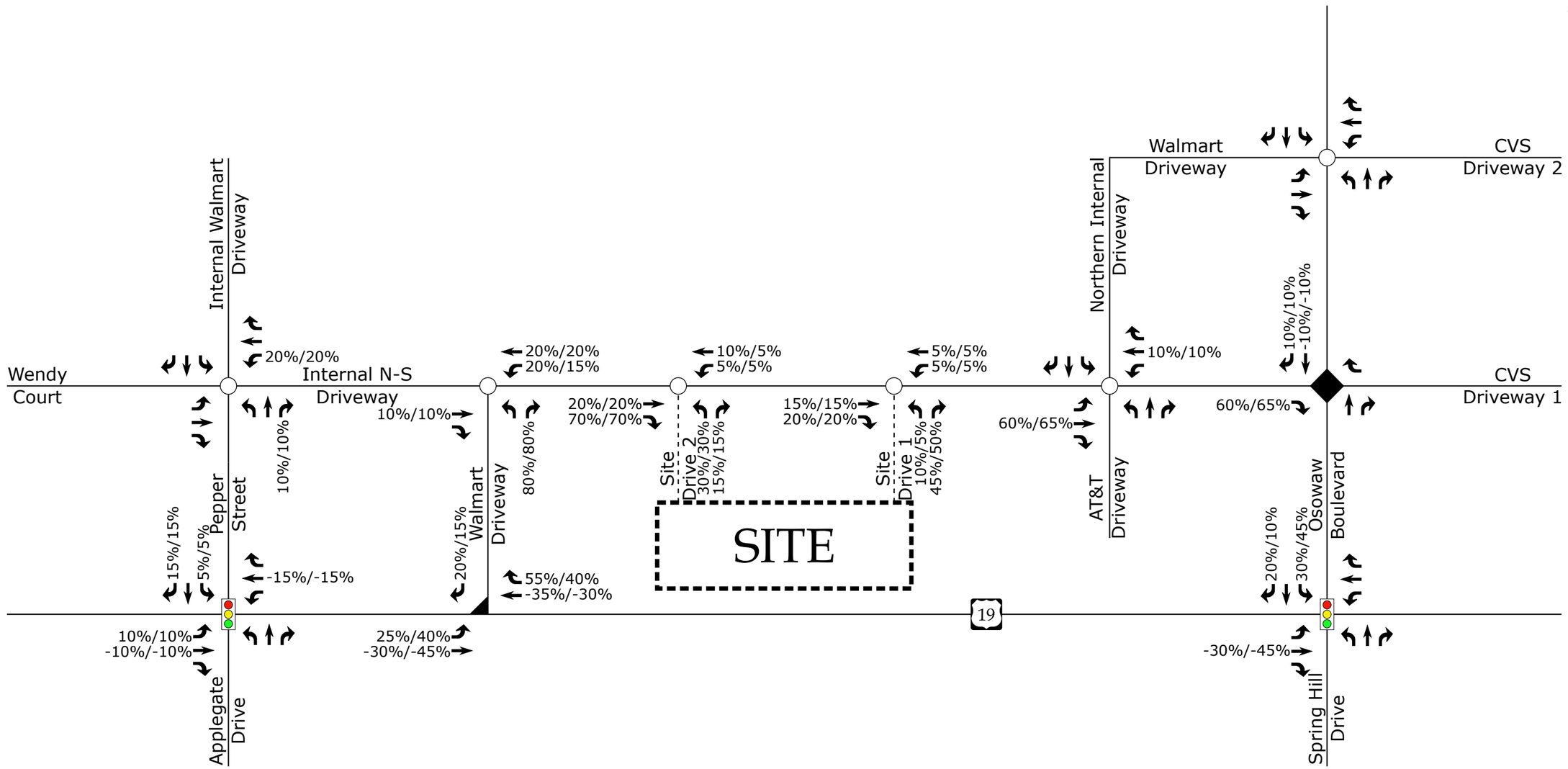
Scale: Not to Scale | Figure 6



LEGEND

- Unsignalized Intersection
- Signalized Intersection
- Right-In/Right-Out Intersection
- Left-Over Intersection
- X / Y → Weekday AM / PM Peak Hour Site Trips

DRMP	Walmart Fuel Station Spring Hill, FL	Site Trip Assignment Scale: Not to Scale | Figure 7



LEGEND

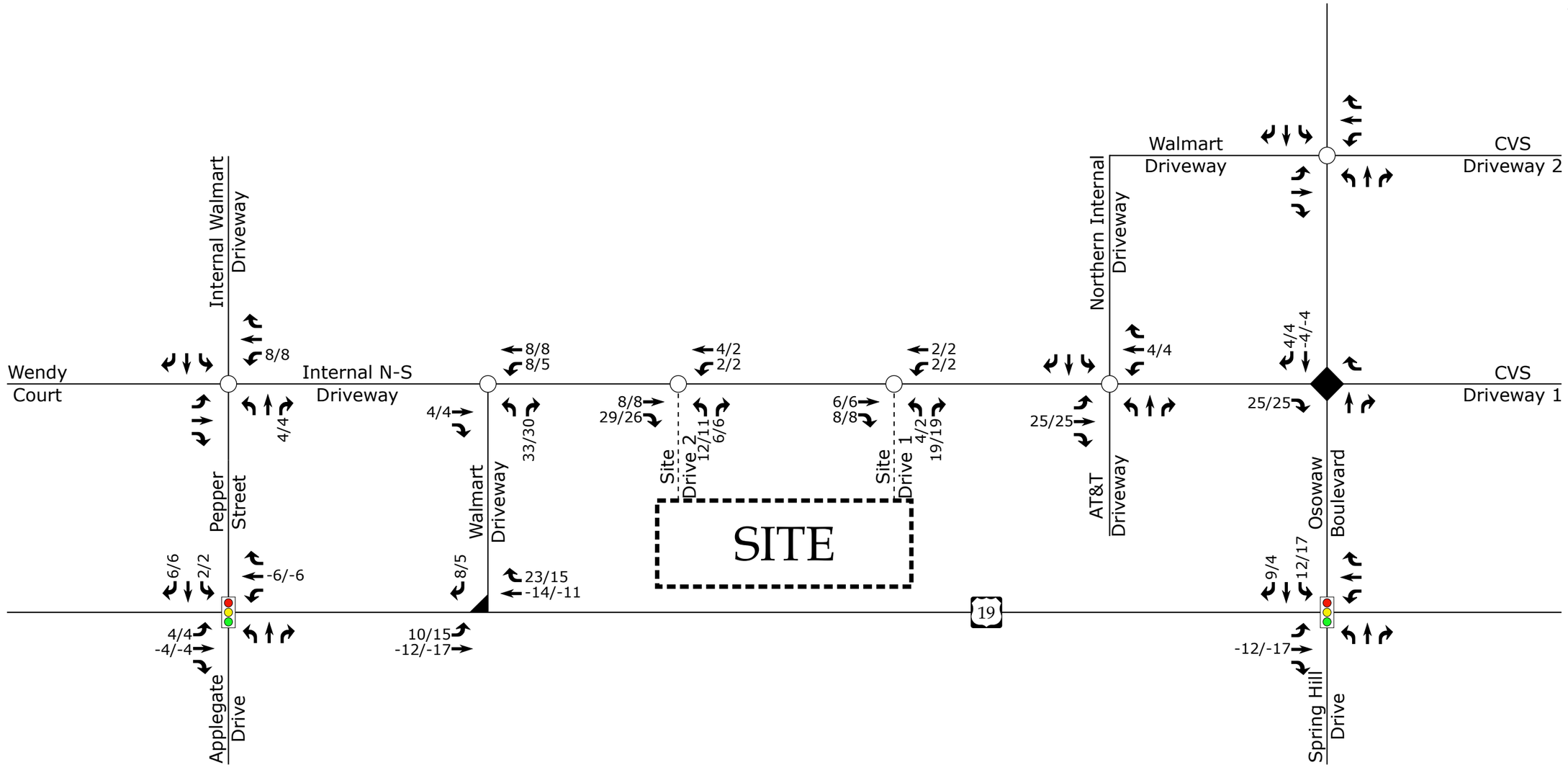
- Unsignalized Intersection
- Signalized Intersection
- Left-Over Intersection
- X% / Y% → Weekday AM / PM Pass-By Trip Distribution

DRMP

Walmart Fuel Station
Spring Hill, FL

Pass-By Site
Trip Distribution

Scale: Not to Scale | Figure 8



LEGEND

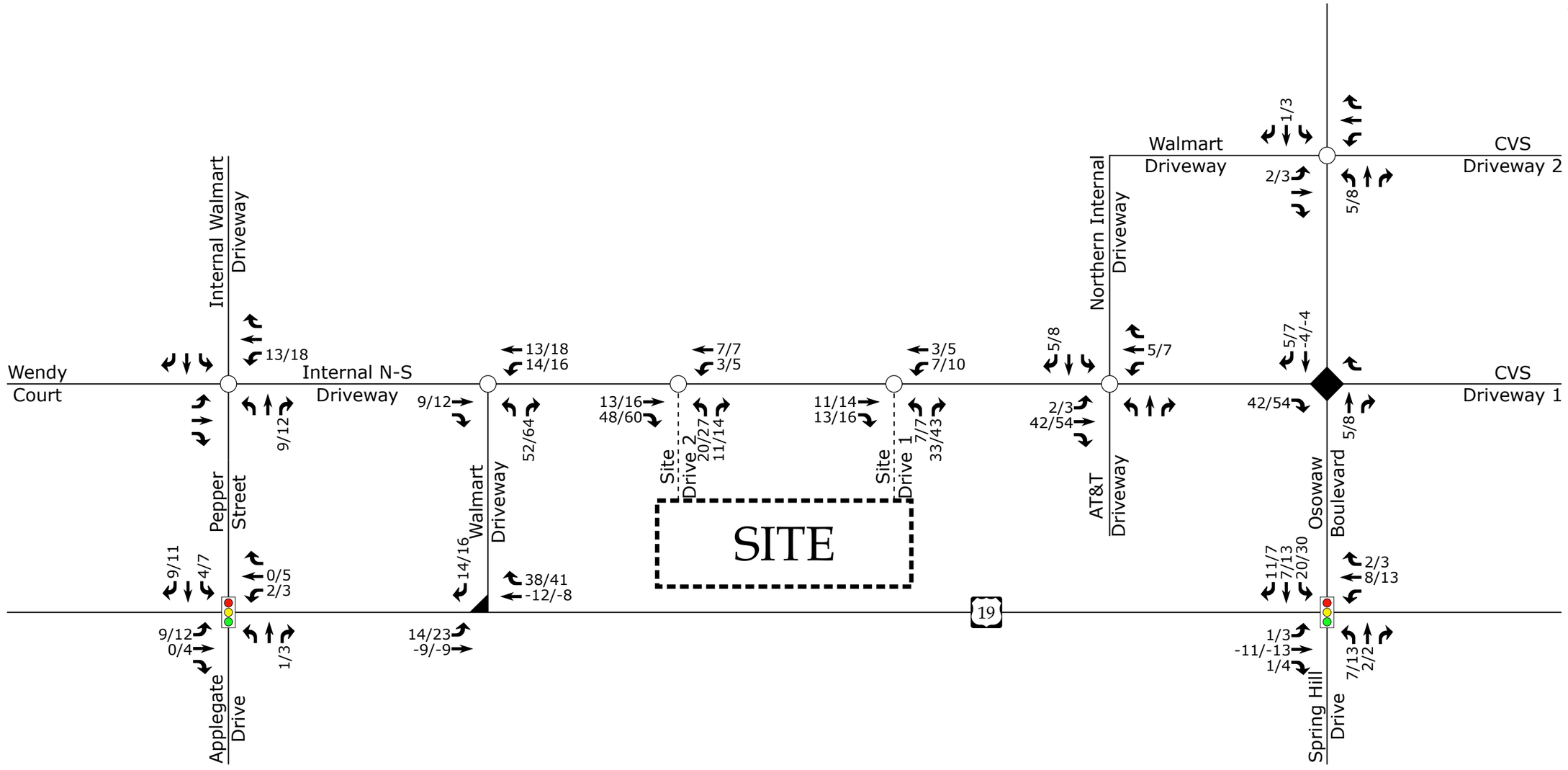
- Unsignalized Intersection
- Signalized Intersection
- Left-Over Intersection
- X / Y → Weekday AM / PM Peak Hour Site Pass-by Trips

DRMP

Walmart Fuel Station
Spring Hill, FL

Pass-By Site Trip Assignment

Scale: Not to Scale | Figure 9



LEGEND

- Unsignalized Intersection
- Signalized Intersection
- Right-In/Right-Out Intersection
- Left-Over Intersection
- X / Y → Weekday AM / PM Peak Hour Site Trips

DRMP

Walmart Fuel Station
Spring Hill, FL

Total Site Trip Assignment

Scale: Not to Scale | Figure 10

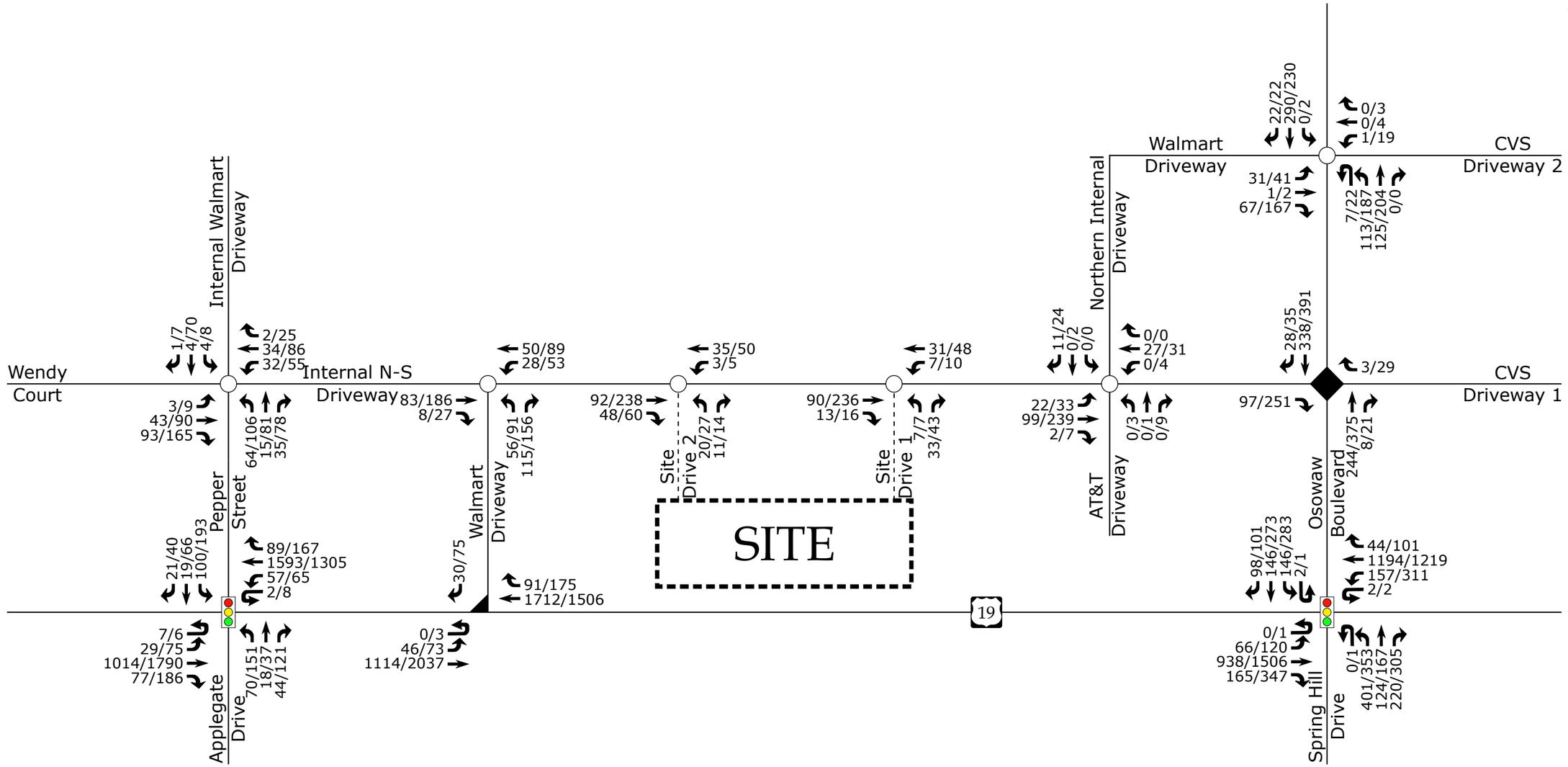
5. 2027 BUILD TRAFFIC CONDITIONS

5.1. 2027 Build Peak Hour Traffic Volumes

To estimate traffic conditions with the site fully built-out, the total site trips were added to the 2027 no-build traffic volumes to determine the 2027 build traffic volumes. Refer to Figure 11 for an illustration of the 2027 build peak hour traffic volumes with the proposed site fully developed.

5.2. 2027 Build Peak Hour Traffic Analysis

Study intersections were analyzed with the 2027 build traffic volumes using the same methodology previously discussed for existing and no-build traffic conditions. Intersections were analyzed with improvements necessary to accommodate future traffic volumes. The results of the capacity analysis for each intersection are presented in Section 7 of this report.



LEGEND

- Unsignalized Intersection
- Signalized Intersection
- Right-In/Right-Out Intersection
- Left-Over Intersection
- X / Y → Weekday AM / PM Peak Hour Traffic

Note: Based on NCDOT Congestion Management guidelines, a volume of 4 vehicles per hour (vph) was analyzed for any movement with less than 4 vph.

DRMP

Walmart Fuel Station
Spring Hill, FL

2027 Build
Peak Hour Traffic

Scale: Not to Scale | Figure 11

6. TRAFFIC ANALYSIS METHODOLOGY

Study intersections were analyzed using the methodology outlined in the *Highway Capacity Manual* (HCM), 6th Edition published by the Transportation Research Board. Capacity and level of service are the design criteria for this traffic study. A computer software package, Synchro (Version 11.1), was used to complete the analyses for the study area intersections. Please note that the unsignalized capacity analysis does not provide an overall level of service for an intersection; only delay for an approach with a conflicting movement.

The HCM defines capacity as "the maximum hourly rate at which persons or vehicles can reasonably be expected to traverse a point or uniform section of a lane or roadway during a given time period under prevailing roadway, traffic, and control conditions." Level of service (LOS) is a term used to represent different driving conditions and is defined as a "qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers." Level of service varies from Level "A" representing free flow, to Level "F" where breakdown conditions are evident. Refer to Table 3 for HCM levels of service and related average control delay per vehicle for both signalized and unsignalized intersections. Control delay as defined by the HCM includes "initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay". An average control delay of 50 seconds at a signalized intersection results in LOS "D" operation at the intersection.

Table 3: Highway Capacity Manual – Levels-of-Service and Delay

Unsignalized Intersection		Signalized Intersection	
Level of Service	**Average Control Delay Per Vehicle (Seconds)**	**Level of Service**	**Average Control Delay Per Vehicle (Seconds)**
A	0-10	A	0-10
B	10-15	B	10-20
C	15-25	C	20-35
D	25-35	D	35-55
E	35-50	E	55-80
F	>50	F	>80

7. 2025 EXISTING ANALYSIS

The 2025 Base Year No-Build scenario included the traffic characteristics that currently exist in the study area. Existing peak hour traffic volumes were determined based on traffic counts conducted at the study intersections in November 2025 during typical weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak periods (Figure 4). Refer to Appendix D for the Synchro reports. All SimTraffic reports can be found in Appendix G.

All unsignalized minor and major street approaches operate at LOS C or better, with the exception of the northbound left approach from US 19 of the intersection of US 19 and Walmart Driveway, which operates at LOS E during both AM and PM peak hours. Note that significant delays are not uncommon at two-way stop-controlled intersections.

All signalized intersections operate at an overall LOS D or better.

Table 4: 2025 Existing Intersection Analysis

Intersection Number	Intersection	Approach	Lane Group	Delay (sec/veh)		LOS		95th % Queue Length (ft)		Maximum Queue Length (ft)	
				AM	PM	AM	PM	AM	PM	AM	PM
1	US 19 (Commercial Way) and Osowaw Boulevard / Spring Hill Drive	Osowaw Boulevard Eastbound	LT (2)	54.6	67.6	D	E	91	195	131	236
			TH (2)					103	202	133	275
			RT					117	124	132	182
		Spring Hill Drive Westbound	LT (2)	54.0	60.9	D	E	243	248	358	739
			TH					175	264	274	275
			RT					233	338	224	225
		US 19 (Commercial Way) Northbound	LT	19.6	34.5	B	C	116	m159	136	312
			TH (3)					127	#572	156	575
			RT					54	249	99	477
		US 19 (Commercial Way) Southbound	LT (2)	29.8	38.5	C	D	106	202	267	374
			TH (3)					365	447	339	446
			RT					33	83	64	129
		Overall		**33.8**	**44.1**	**C**	**D**				
2	US 19 and Walmart Driveway	Walmart Driveway Eastbound	RT	21.9	22.0	C	C	5	23	--	38
		US 19 (Commercial Way) Northbound	LT	39.6	37.9	E	E	23	35	91	116
			TH (3)					--	--	--	135
		US 19 (Commercial Way) Southbound	TH (3)	0	0	--	--	--	--	--	--
			RT					--	--	7	30
		Overall		**--**	**--**	**--**	**--**				
3	US 19 (Commercial Way) and Pepper Street / Applegate Drive	Pepper Street Eastbound	LT	64.5	74.0	E	E	111	229	111	206
			LT-TH-RT					111	230	126	266
		Applegate Drive Westbound	LT-TH	58.1	77.7	E	E	137	#371	168	466
			RT					64	167	92	278
		US 19 (Commercial Way) Northbound	LT	18.7	36.3	B	D	57	130	86	400
			TH (3)					287	741	307	635
			RT					25	84	57	425
		US 19 (Commercial Way) Southbound	LT	10.6	13.9	B	B	m97	m132	143	279
			TH (3)					226	172	272	322
			RT					m30	45	73	153
		Overall		**17.7**	**33.6**	**B**	**C**				
4	Pepper Street / Internal Walmart Driveway and Wendy Court / Internal N-S Driveway	Internal Walmart Driveway Eastbound	LT-TH-RT	7.6	9.5	A	A	0	13	36	77
		Pepper Street Westbound	LT-TH-RT	8.1	11.6	A	B	13	48	--	16
		Wendy Court Northbound	LT	8.1	9.1	A	B	0	3	--	33
			TH-RT	8.1	11.6			18	50	78	139
		Internal N-S Driveway Southbound	LT	8.3	9.7	A	A	3	5	33	54
			TH-RT	7.9	9.9			5	18	49	108
		Overall		**8.1**	**11.0**	**A**	**B**				

Table 4: 2025 Existing Intersection Analysis *Continued*

Intersection Number	Intersection	Approach	Lane Group	Delay (sec/veh)		LOS		95th % Queue Length (ft)		Maximum Queue Length (ft)	
				AM	PM	AM	PM	AM	PM	AM	PM
5	Internal N-S Driveway and Walmart Driveway	Walmart Driveway Westbound	LT	7.3	7.4	A	A	3	5	--	--
			RT					0	0	60	85
		Internal N-S Driveway Northbound	TH	10.2	12.1	B	B	9	30	70	92
			RT					--	--	--	--
		Internal N-S Driveway Southbound	LT	10.1	11.9	B	B	2	7	36	45
			TH					4	10	51	77
		Overall		--	--	--	--				
6	Internal N-S Driveway and Northern Internal Driveway / AT&T Driveway	Northern Internal Driveway Eastbound	LT-TH-RT	6.8	7.1	A	A	0	3	31	40
		AT&T Driveway Westbound	LT-TH-RT	0	7.3	--	A	0	3	--	36
		Internal N-S Driveway Northbound	LT	7.7	8.8	A	A	3	3	30	48
			TH-RT					8	28	58	70
		Internal N-S Driveway Southbound	LT-TH-RT	7.3	7.5	A	A	3	3	31	53
		Overall		**7.6**	**8.5**	**A**	**A**				
7	Osowaw Boulevard and Internal N-S Driveway / CVS Driveway 1	Osowaw Boulevard Eastbound	TH (2)	0	0	--	--	--	--	--	--
			TH-RT					--	--	--	5
		Osowaw Boulevard Westbound	TH (2)	0	0	--	--	--	--	--	--
			RT					--	--	--	--
		Internal N-S Driveway Northbound	RT	10.7	13.0	B	B	8	35	22	103
		CVS Driveway 1 Southbound	RT	9.0	9.6	A	A	0	3	--	--
		Overall		--	--	--	--				
8	Osowaw Boulevard and Walmart Driveway / CVS Driveway 2	Walmart Driveway Eastbound	LT-TH	11.6	12.2	B	B	8	22	66	73
			RT					8	22	56	99
		CVS Driveway 2 Westbound	LT-TH-RT	14.3	18.3	B	C	0	7	11	49
		Osowaw Boulevard Northbound	LT	3.8	8.3	A	A	8	13	96	110
			TH-RT					0	0	--	--
		Osowaw Boulevard Southbound	LT	0	7.7	A	A	0	0	--	6
			TH-RT					0	0	13	8
		Overall		--	--	--	--				

Volume for the 95th percentile cycle exceeds capacity.
m Volume for the 95th percentile queue is metered by an upstream signal.

Table 5: 2025 Existing Left Turn Lane Analysis

Intersection	Turn Lane	Posted Speed Limit	Existing Lane Length	Required Deceleration Length	Number of Lanes	95th Percentile Queue Length (AM)	95th Percentile Queue Length (PM)	Required Turn Lane Length	Turn Lane Length Deficiency
US 19 (Commercial Way) and Osowaw Boulevard / Spring Hill Drive	EBL	40	375	145	2	91	195	340	-35
	WBL	40	FULL	145	2	243	248	393	N/A
	NBL	55	475	240	1	116	159	399	-76
	SBL	55	375	240	2	106	202	442	67
US 19 (Commercial Way) and Walmart Driveway	NBL	55	475	240	1	23	35	275	-200
US 19 (Commercial Way) and Pepper Street / Applegate Drive	NBL	55	300	240	1	57	130	370	70
	SBL	55	300	240	1	97	132	372	72

8. 2027 NO-BUILD ANALYSIS

The 2027 Future Year No-Build scenario includes the traffic characteristics that are expected to exist under future conditions, without the construction of the Walmart fuel station. Future Year peak hour traffic volumes were developed from growing the traffic at a 1.5% growth rate to the year 2027. No changes to the existing lane configurations were made. Table 7 summarizes the analysis results for this scenario. Refer to Appendix E for the Synchro reports. All SimTraffic reports can be found in Appendix H.

All intersections are expected to operate acceptably by the year 2027. The northbound left approach from US 19 at the intersection of US 19 and Walmart Driveway is expected to continue to operate at LOS E in the 2027 no-build scenario. Note that significant delays are not uncommon at two-way stop-controlled intersections.

Table 6: 2027 No-Build Roadway Segment Analysis

Roadway Segment	Current LOS	2024 Peak Hour Directional Service Volume (vph)	2024 AADT	2024 Peak Hour Directional Volume (vph)	2027 Peak Hour Directional Volume (vph)	2027 No-Build		
						Peak Hour Directional Volume (vph)	V/C	Exceeds Service Volume?
US 19/Commercial Way								
Hunters Lake Rd to Forest Oaks Blvd	D	2,810	43,000	2,129	2,226	2,226	0.79	No
Osowaw Blvd								
US 19/Commercial Way to Osowaw Blvd	D	870	1,200	59	62	62	0.07	No
Spring Hill Dr								
US 19/Commercial Way to FL 589	D	1,790	23,000	1,139	1,191	1,191	0.67	No
Applegate Dr								
US 19/Commercial Way to Kenlake Ave	C	970	2,200	109	114	114	0.12	No

Table 7: 2027 No-Build Intersection Analysis

Intersection Number	Intersection	Approach	Lane Group	Delay (sec/veh)		LOS		95th % Queue Length (ft)		Maximum Queue Length (ft)	
				AM	PM	AM	PM	AM	PM	AM	PM
1	US 19 and Spring Hill Drive/Osowaw Boulevard	Osowaw Boulevard Eastbound	LT (2)	54.7	68.1	D	E	94	200	168	226
			TH (2)					105	208	174	300
			RT					120	128	148	167
		Spring Hill Drive Westbound	LT (2)	54.3	61.3	D	E	252	256	343	957
			TH					181	271	273	275
			RT					238	350	225	225
		US 19 Northbound	LT	19.8	36.9	B	D	118	m157	140	413
			TH (3)					131	#725	192	693
			RT					56	m254	112	540
		US 19 Southbound	LT (2)	30.4	39.2	C	D	108	208	289	354
			TH (3)					379	464	373	442
			RT					33	85	74	100
		Overall		**34.1**	**45.4**	**C**	**D**				
2	US 19 and Walmart Driveway	Walmart Driveway Eastbound	RT	22.7	23.1	C	C	8	25	--	20
		US 19 Northbound	LT	43.2	41.6	E	E	25	40	99	188
			TH (3)					--	--	--	330
		US 19 Southbound	TH (3)	0	0	--	--	--	--	--	--
			RT					--	--	--	36
		Overall		**--**	**--**	**--**	**--**				
3	US 19 and Pepper Street/Applegate Drive	Pepper Street Eastbound	LT	64.5	73.8	E	E	115	234	113	208
			LT-TH-RT					114	237	143	247
		Applegate Drive Westbound	LT-TH	58	79.1	E	E	142	#386	162	532
			RT					64	171	88	300
		US 19 Northbound	LT	19.2	37.7	B	D	58	132	93	400
			TH (3)					301	781	297	689
			RT					26	87	78	424
		US 19 Southbound	LT	11.1	14.1	B	B	m99	m133	122	231
			TH (3)					264	184	283	265
			RT					m33	47	86	170
		Overall		**18.2**	**34.5**	**B**	**C**				
4	Wendy Court/Internal N-S Driveway and Southern Internal Driveway/Pepper Street	Southern Internal Driveway Eastbound	LT-TH-RT	7.7	9.7	A	A	0	13	31	70
		Pepper Street Westbound	LT-TH-RT	8.2	12	A	B	13	50	4	10
		Wendy Court Northbound	LT	8.1	9.2	A	B	0	3	23	29
			TH-RT	8.1	12			18	53	81	132
		Internal N-S Driveway Southbound	LT	8.3	9.8	A	A	3	5	29	56
			TH-RT	7.9	10			5	18	58	79
		Overall		**8.1**	**11.3**	**A**	**B**				
5	Internal N-S Driveway and Walmart Driveway	Walmart Driveway Westbound	LT	3.4	3.7	--	--	3	5	--	4
			RT					0	0	11	72
		Internal N-S Driveway Northbound	TH	10.3	12.2	B	B	9	31	59	90
			RT					--	--	--	--
		S Lois Ave Southbound	LT	10.2	12	B	B	2	7	36	40
			TH					4	10	45	64
		Overall		**7**	**9**	**A**	**A**				

Table 7: 2027 No-Build Intersection Analysis *Continued*

Intersection Number	Intersection	Approach	Lane Group	Delay (sec/veh)		LOS		95th % Queue Length (ft)		Maximum Queue Length (ft)	
				AM	PM	AM	PM	AM	PM	AM	PM
6	Internal N-S Driveway and Northern Internal Driveway/AT&T Driveway	Northern Internal Driveway Eastbound	LT-TH-RT	6.8	7.1	A	A	0	3	31	31
		AT&T Driveway Westbound	LT-TH-RT	7.2	7.3	--	A	0	3	--	31
		Internal N-S Driveway Northbound	LT	7.8	8.9	A	A	3	3	30	44
			TH-RT					8	28	35	85
		Internal N-S Driveway Southbound	LT-TH-RT	7.3	7.6	A	A	3	3	36	40
		Overall		**7.6**	**8.6**	**A**	**A**				
7	Internal N-S Driveway/CVS Driveway 1 and Osowaw Boulevard	Osowaw Boulevard Eastbound	TH (2)	--	--	--	--	--	--	--	--
			TH-RT					--	--	--	--
		Osowaw Boulevard Westbound	TH (2)	--	--	--	--	--	--	--	--
			RT					--	--	--	--
		Internal N-S Driveway Northbound	RT	10.8	13.3	B	B	8	38	--	116
		CVS Driveway 1 Southbound	RT	9.1	9.7	A	A	0	3	--	--
		Overall		**--**	**--**	**--**	**--**				
8	Osowaw Boulevard and Walmart Driveway/CVS Driveway 2	Walmart Driveway Eastbound	LT-TH	12.5	13.2	B	B	8	15	52	69
			RT					8	23	31	91
		CVS Driveway 2 Westbound	LT-TH-RT	16.7	23.3	C	C	0	10	22	45
		Osowaw Boulevard Northbound	LT	--	--	--	--	--	--	89	110
			TH-RT					--	--	--	--
		Osowaw Boulevard Southbound	LT	0	7.7	A	A	0	0	--	11
			TH-RT					--	--	20	14
		Overall									

Volume for the 95th percentile cycle exceeds capacity.
m Volume for the 95th percentile queue is metered by an upstream signal.

Table 8: 2027 No-Build Left Turn Lane Analysis

Intersection	Turn Lane	Posted Speed Limit	Existing Lane Length	Required Deceleration Length	Number of Lanes	95th Percentile Queue Length (AM)	95th Percentile Queue Length (PM)	Required Turn Lane Length	Turn Lane Length Deficiency
US 19 (Commercial Way) and Osowaw Boulevard / Spring Hill Drive	EBL	40	375	145	2	94	200	345	-30
	WBL	40	FULL	145	2	252	256	401	N/A
	NBL	55	475	240	1	118	157	397	-78
	SBL	55	375	240	2	108	208	448	73
US 19 (Commercial Way) and Walmart Driveway	NBL	55	475	240	1	25	40	280	-195
US 19 (Commercial Way) and Pepper Street / Applegate Drive	NBL	55	300	240	1	58	132	372	72
	SBL	55	300	240	1	99	133	373	73

9. 2027 BUILD ANALYSIS

The 2027 Future Year Build scenario includes the traffic characteristics that are expected to exist under future conditions with the construction of the Walmart Fuel Station. Peak hour traffic volumes were developed from adding the site trip assignment to the 2027 No-Build peak hour traffic volumes. No changes to the existing lane configurations were made. Table 10 summarizes the analysis results for this scenario. Refer to Appendix F for the Synchro reports. All SimTraffic reports can be found in Appendix H.

The intersection of US 19 and Walmart Driveway is expected to continue to operate with delays in the 2027 build scenario. The major-street northbound left approach of US 19 is expected to operate at LOS F. Note that significant delays are not uncommon at two-way stop-controlled intersections, and do not always require improvements to be made. As the eastbound approach exiting the site is designed to operate as a right-in/right-out intersection, and expected northbound left-turn queuing is significantly less than the storage offered by the existing northbound left-turn lane, improvements by the development are not recommended.

Table 9: 2027 Build Roadway Segment Analysis

Roadway Segment	Current LOS	2024 Peak Hour Directional Service Volume (vph)	2024 AADT	2024 Peak Hour Directional Volume (vph)	2027 No-Build Peak Hour Directional Volume (vph)	Site Trips		2027 Build		
						Trip Dist %	Trips	Peak Hour Directional Volume (vph)	V/C	Exceeds Service Volume?
US 19/Commercial Dr										
Hunters Lake Rd to Forest Oaks Blvd	D	2,810	43,000	2,129	2,226	30%	32	2,258	0.80	No
Osowaw Blvd										
US 19/Commercial Way to Osowaw Blvd	D	870	1,200	59	62	5%	5	67	0.08	No
Spring Hill Dr										
US 19/Commercial Way to FL 589	D	1,790	23,000	1,139	1,191	30%	32	1,222	0.68	No
Applegate Dr										
US 19/Commercial Way to Kenlake Ave	C	970	2,200	109	114	5%	5	119	0.12	No

Table 10: 2027 Build Intersection Analysis

Intersection Number	Intersection	Approach	Lane Group	Delay (sec/veh)		LOS		95th % Queue Length (ft)		Maximum Queue Length (ft)	
				AM	PM	AM	PM	AM	PM	AM	PM
1	US 19 and Spring Hill Drive/Osowaw Boulevard	Osowaw Boulevard Eastbound	LT (2)	54.7	69.0	D	E	107	221	149	240
			TH (2)					110	218	137	327
			RT					133	137	160	198
		Spring Hill Drive Westbound	LT (2)	54.4	61.8	D	E	257	265	367	590
			TH					182	274	274	275
			RT					238	350	225	225
		US 19 Northbound	LT	20.0	38.1	B	D	119	m159	151	329
			TH (3)					130	#713	193	629
			RT					56	m259	169	490
		US 19 Southbound	LT (2)	30.8	39.6	C	D	108	208	278	361
			TH (3)					383	471	370	448
			RT					34	88	66	117
		Overall		**34.7**	**46.4**	**C**	**D**				
2	US 19 and Walmart Driveway	Walmart Driveway Eastbound	RT	23.9	24.6	C	C	13	33	--	54
		US 19 Northbound	LT	52.4	57.3	F	F	43	73	112	168
			TH (3)					--	--	--	204
		US 19 Southbound	TH (3)	0	0	--	--	--	--	--	4
			RT					--	--	15	31
		Overall		**--**	**--**	**--**	**--**				
3	US 19 and Pepper Street/Applegate Drive	Pepper Street Eastbound	LT	64.6	73	E	E	125	248	107	231
			LT-TH-RT					121	245	146	274
		Applegate Drive Westbound	LT-TH	57.9	79.4	E	E	142	#386	179	511
			RT					65	175	137	300
		US 19 Northbound	LT	20.0	39.3	C	D	72	150	120	400
			TH (3)					305	795	321	829
			RT					27	91	78	425
		US 19 Southbound	LT	12.7	14.9	B	B	m101	m135	113	224
			TH (3)					283	206	300	316
			RT					m34	48	86	164
		Overall		**19.5**	**35.6**	**B**	**D**				
4	Wendy Court/Internal N-S Driveway and Southern Internal Driveway/Pepper Street	Southern Internal Driveway Eastbound	LT-TH-RT	7.7	9.8	A	A	0	13	31	88
		Pepper Street Westbound	LT-TH-RT	8.2	12.4	A	B	13	55	4	27
		Wendy Court Northbound	LT	8.2	12.1	A	B	0	3	28	33
			TH-RT					18	55	69	134
		Internal N-S Driveway Southbound	LT	8.2	10.1	A	B	5	10	52	78
			TH-RT					5	18	64	89
		Overall		**8.2**	**11.5**	**A**	**B**				
5	Internal N-S Driveway and Walmart Driveway	Walmart Driveway Westbound	LT	2.4	2.7	--	--	3	5	--	45
			RT					0	0	68	134
		Internal N-S Driveway Northbound	TH	10.4	12.5	B	B	11	34	62	84
			RT					--	--	--	22
		S Lois Ave Southbound	LT	10.3	12.5	B	B	4	11	54	57
			TH					6	13	71	72
		Overall		**6.4**	**8.5**	**A**	**A**				

Table 10: 2027 Build Intersection Analysis *Continued*

Intersection Number	Intersection	Approach	Lane Group	Delay (sec/veh)		LOS		95th % Queue Length (ft)		Maximum Queue Length (ft)	
				AM	PM	AM	PM	AM	PM	AM	PM
6	Internal N-S Driveway and Northern Internal Driveway/AT&T Driveway	Northern Internal Driveway Eastbound	LT-TH-RT	6.9	7.3	A	A	0	3	36	44
		AT&T Driveway Westbound	LT-TH-RT	0	7.5	--	A	0	3	--	30
		Internal N-S Driveway Northbound	LT	8	9.6	A	A	3	5	23	23
			TH-RT					13	40	57	65
		Internal N-S Driveway Southbound	LT-TH-RT	7.4	7.7	A	A	3	5	56	53
		Overall		**7.8**	**9.2**	**A**	**A**				
7	Internal N-S Driveway/CVS Driveway 1 and Osowaw Boulevard	Osowaw Boulevard Eastbound	TH (2)	0	0	--	--	--	--	--	--
			TH-RT					--	--	--	26
		Osowaw Boulevard Westbound	TH (2)	0	0	--	--	--	--	--	--
			RT					--	--	--	--
		Internal N-S Driveway Northbound	RT	11.3	14.6	B	B	15	53	22	113
		CVS Driveway 1 Southbound	RT	9.1	9.7	A	A	0	3	--	--
		Overall		**--**	**--**	**--**	**--**				
8	Osowaw Boulevard and Walmart Driveway/CVS Driveway 2	Walmart Driveway Eastbound	LT-TH	12.7	13.5	B	B	8	18	66	79
			RT					10	23	10	102
		CVS Driveway 2 Westbound	LT-TH-RT	16.9	24	C	C	0	13	21	44
		Osowaw Boulevard Northbound	LT	--	--	--	--	--	--	101	116
			TH-RT					--	--	--	10
		Osowaw Boulevard Southbound	LT	0	7.7	A	A	0	0	--	10
			TH-RT					--	--	9	15
		Overall		**--**	**--**	**--**	**--**				
9	Internal N-S Driveway and Site Drive 1	Site Drive 1 Westbound	LT-RT	9.1	10.2	A	B	5	5	50	88
		Internal N-S Driveway Northbound	TH-RT	--	--	--	--	--	--	36	128
		Internal N-S Driveway Southbound	LT	7.5	7.8	A	A	0	0	--	18
			TH					--	--	6	25
		Overall		**--**	**--**	**--**	**--**				
10	Internal N-S Driveway and Site Drive 2	Site Drive 2 Westbound	LT-RT	9.5	10.6	A	B	3	5	46	69
		Internal N-S Driveway Northbound	TH-RT	--	--	--	--	--	--	--	17
		Internal N-S Driveway Southbound	LT	7.5	7.9	A	A	0	0	12	30
			TH					--	--	--	--
		Overall		**--**	**--**	**--**	**--**				

Volume for the 95th percentile cycle exceeds capacity.
m Volume for the 95th percentile queue is metered by an upstream signal

Table 11: 2027 Build Left Turn Lane Analysis

Intersection	Turn Lane	Posted Speed Limit	Existing Lane Length	Required Deceleration Length	Number of Lanes	95th Percentile Queue Length (AM)	95th Percentile Queue Length (PM)	Required Turn Lane Length	Turn Lane Length Deficiency
US 19 (Commercial Way) and Osowaw Boulevard / Spring Hill Drive	EBL	40	375	145	2	107	221	366	-9
	WBL	40	FULL	145	2	257	265	410	N/A
	NBL	55	475	240	1	119	159	399	-76
	SBL	55	375	240	2	108	208	448	73
US 19 (Commercial Way) and Walmart Driveway	NBL	55	475	240	1	43	73	313	-162
US 19 (Commercial Way) and Pepper Street / Applegate Drive	NBL	55	300	240	1	72	150	390	90
	SBL	55	300	240	1	101	135	375	75

10. CONCLUSION

The recommendations in this report are outlined in the following sections.

Adjustments to Analysis Guidelines

Capacity analysis at all study intersections was completed according to FDOT guidelines.

Intersection Capacity Analysis Summary

The existing intersection of US 19 and Walmart Driveway is expected to operate poorly under future year conditions whether or not the fuel station is built. Due to the low impact by the proposed development, no additional offsite improvements are recommended.

11. RECOMMENDATIONS

Based on the findings of this study, specific geometric improvements have been identified and are recommended to accommodate future traffic conditions. Refer to Figure 12 for an illustration of the recommended lane configurations.

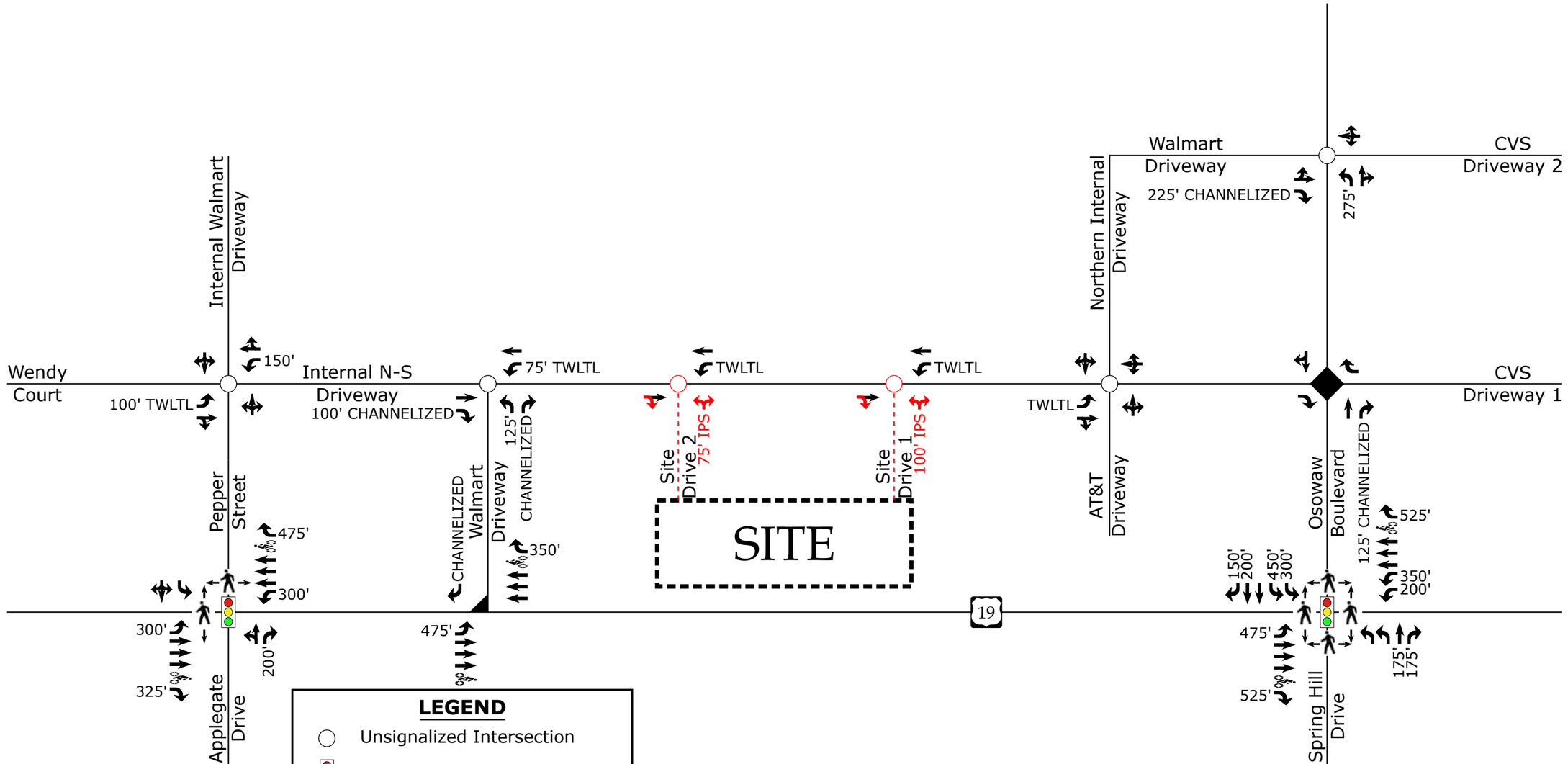
Recommended Improvements by Developer

Internal N-S Driveway and Site Drive 1:

- Construct the westbound proposed driveway as a full-movement driveway with one ingress lane and one egress lane striped as a shared left-turn/right-turn lane with an internal protected stem of at least 100 feet.
- Provide stop control for westbound approach.

Internal N-S Driveway and Site Drive 2:

- Construct the westbound proposed driveway as a full-movement driveway with one ingress lane and one egress lane striped as a shared left-turn/right-turn lane with an internal protected stem of at least 75 feet.
- Provide stop control for westbound approach.



LEGEND

- Unsignalized Intersection
- Signalized Intersection
- Right-In/Right-Out Intersection
- Left-Over Intersection
- Existing Lane
- Improvement by Developer
- X' Storage (In Feet)
- TWLTL Two-Way Left-Turn Lane
- Bicycle Lane
- Pedestrian Crosswalk

DRMP

Walmart Fuel Station
Spring Hill, FL

Recommended Lane Configurations

Scale: Not to Scale | Figure 12

TECHNICAL APPENDIX

APPENDIX A

SCOPING DOCUMENTATION

December 11, 2025

Planning Department
Hernando County, FL
1653 Blaise Drive
Brooksville, FL 34601
Planning@hernandocounty.us

[Sent via Email]

Reference: Walmart Fuel Station – Spring Hill, Florida

Subject: Memorandum of Understanding for TIA Report

Dear Mr. Herring:

The following is a Memorandum of Understanding (MOU) outlining the proposed scope of work and assumptions related to the Traffic Impact Analysis (TIA) for the proposed Florida Walmart Fuel Station, at the existing Walmart Supercenter located at 1485 Commercial Way in Spring Hill, Florida. Refer to the attached site location map.

The development proposes a fuel station that includes twelve (12) vehicle fueling positions (VFP) and a 1,618 square-foot convenience store. Access to the fueling station will be provided via turning movements from Wendy Court. A new full-movement driveway will be constructed on the south side of the fuel parcel, and a second driveway will be located near the northern edge of the site.

The Walmart Supercenter driveways are currently not aligned with the access drives that serve the proposed development. No direct access to Commercial Way (US 19), Osowaw Boulevard, or Pepper Street is proposed. Fuel deliveries will utilize a designated zone along the eastern edge of Wendy Court, entering from the south and exiting north to Osowaw Boulevard.

Trip Generation

Average weekday daily, AM peak hour, and PM peak hour trips for the proposed development were estimated using methodology contained within the ITE *Trip Generation Manual*, 12th Edition. Refer to the following Table 1 for the proposed site trip generations.

Table 1: Site Trip Generation

Land Use (ITE Code)	Intensity	Daily Traffic AADT (vpd)	Weekday AM Peak Hour Trips (vph)			Weekday PM Peak Hour Trips (vph)		
			Enter	Exit	Total	Enter	Exit	Total
Gasoline Station (944)	12 VFP	2,064*	71	71	142	91	91	182
Pass-By Trips - From LUC 944 (58% AM, 42% PM)		*-1,072*	*-41*	*-41*	*-82*	*-38*	*-38*	*-76*
Total Primary Trips		**992**	**30**	**30**	**60**	**53**	**53**	**106**

*Note that the ITE *Trip Generation Manual* 12th Edition only provides the average daily trip value via the average rate.

It is estimated that upon build-out, the proposed development will generate approximately 2,064 site trips on the roadway network during a typical 24-hour weekday period. Of the daily traffic volume, it is anticipated that 142 primary trips (71 entering and 71 exiting) will occur during the weekday AM peak hour and 182 primary trips (91 entering and 91 exiting) will occur during the weekday PM peak hour.

Pass-by trips were taken into consideration in this study. Pass-by trips are made by the traffic already using the adjacent roadway, entering the site as an intermediate stop on their way to another destination. Pass-by trips are expected to account for approximately 82 trips (41 entering and 41 exiting) during the weekday AM peak hour, and 76 trips (38 entering and 38 exiting) during the weekday PM peak hour. It should be noted that the pass-by trips were balanced, as it is likely that these trips would enter and exit in the same hour.

The total primary site trips are the calculated site trips after the reduction for internal capture and pass-by trips. Primary site trips are expected to generate approximately 60 primary trips (30 entering and 30 exiting) during the weekday AM peak hour and 106 primary trips (53 entering and 53 exiting) during the weekday PM peak hour.

Trip Generation

Site trips were distributed based on 2024 AADT data from the 2024 FDOT. Table 2 illustrates how the regional trip distribution percentages were calculated. Figure 3 illustrates the trip distribution percentages.

Table 2: Site Trip Distribution

Segment	From	To	2024 AADT	Percent of Total AADTs	Regional Trip Distribution Percentages
US 19 (Commercial Way)	Hunters Lake Rd	Forest Oaks Blvd	43,000	62.0%	60%
Spring Hill Dr	Commercial Way	Mariner Blvd	23,000	33.1%	30%
Osowaw Blvd	Commercial Way	Osowaw Blvd	1,200	1.7%	5%
Applegate Drive	Commercial Way	Kenlake Ave	2,200	3.2%	5%

Study Area

The study area was determined using the methodology in the City of Tampa Traffic Impact Analysis Guidelines. Refer to the table on the following page for a summary of the existing conditions inventory and study area determination. The study area consists of the following roadway segments:

- Commercial Way (US 19) and Spring Hill Drive / Osowaw Boulevard (signalized)
- Commercial Way (US 19) and Pepper Street / Applegate Drive (signalized)
- Osowaw Boulevard and Internal North–South Driveway / CVS Access 1
- Osowaw Boulevard and Walmart Access Driveway / CVS Access 2
- Internal North–South Driveway and Fuel Station Access Driveways 1 and 2
- Wendy Court and Internal North-South Driveway
- Pepper Street and Wendy Court

Existing Traffic Volumes

Existing peak hour traffic volumes will be determined based on turning movement counts conducted at the existing study intersections, during typical weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak periods, while schools are in session for in-person learning.

Weekday AM and PM peak hour counts will be conducted at the following intersections:

- Commercial Way (US 19) and Spring Hill Drive / Osowaw Boulevard (signalized)
- Commercial Way (US 19) and Pepper Street / Applegate Drive (signalized)
- Osowaw Boulevard and Internal North–South Driveway / CVS Access 1
- Osowaw Boulevard and Walmart Access Driveway / CVS Access 2
- Internal North–South Driveway and Northern Internal Driveway / AT&T Driveway
- Internal North-South Driveway and Walmart Driveway
- Pepper Street and Wendy Court

Background Traffic Volumes

Based on historical Average Annual Daily Traffic (AADT) volumes from FDOT, background traffic volumes will be determined by projecting existing traffic volumes to the year 2027 using a 1.5% annual growth rate. Determination of the average growth rate is summarized in the table on the following page. Trips from vested/committed developments will be added to the project traffic volumes. Table 3 illustrates the methodology used to determine the annual growth rate.

Hernando County and FDOT are to confirm if there are any vested/committed developments to include in the TIA.

Table 3: Segmented Growth Rate Calculation

Segment	From	To	2023	2024	2023-2024 Growth Rate
US 19 (Commercial Way)	Hunters Lake Rd	Forest Oaks Blvd	41,000	43,000	4.88%
Spring Hill Dr	Commercial Way	Mariner Blvd	24,500	23,000	-6.12%
Osowaw Blvd	Commercial Way	Osowaw Blvd	N/A	1,200	N/A
Applegate Drive	Commercial Way	Kenlake Ave	N/A	2,200	N/A
				Average Growth Rate	**-0.62%**
				Weighted Average Growth Rate	**1.50%**

Future Roadway Improvements

The analysis also considers relevant regional planning documents issued by the Hernando/Citrus Metropolitan Planning Organization (MPO), including the 2050 Long-Range Transportation Plan (LRTP), Transit Development Plan (TDP), and Transportation Improvement Program (TIP). A corridor-wide Arterial Traffic Management System (ATMS) upgrade is listed in the 2026–2030 Transportation Improvement Program (TIP), including the addition of fiber, detectors, signal controller upgrades, and travel time readers. This improvement will apply to the entire corridor from the Pasco County Line to Citrus County but will not include any direct widening.

Analysis

All roadway segments will be analyzed for the 2025 Existing, 2027 No-Build, and 2027 Build conditions. All intersections will be analyzed using Synchro (Version 11.1) during the weekday AM and PM peak hours under the following scenarios:

- 2025 Existing
- 2027 No-Build
- 2027 Build

Left turn lane and right turn lane analysis will be performed at all signalized intersections to determine if existing storage lengths are adequate. Turn lane analysis will be performed at all proposed driveways.

Signal warrant analysis will be performed if delay and queue results indicate installation of a traffic signal is needed to reach satisfactory traffic operations. Warrants 1, 2, and 3 from the Manual on Uniform Traffic Control Devised would be reviewed.

Report

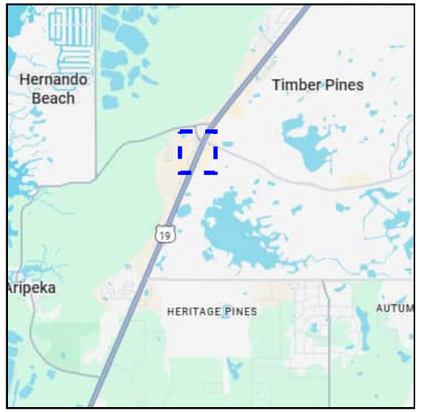
The TIA report will be prepared based on Hernando County and FDOT requirements. If you find this memorandum of understanding acceptable, please let me know so that we may include it in the TIA report. If you have any questions or concerns, please do not hesitate to contact me.

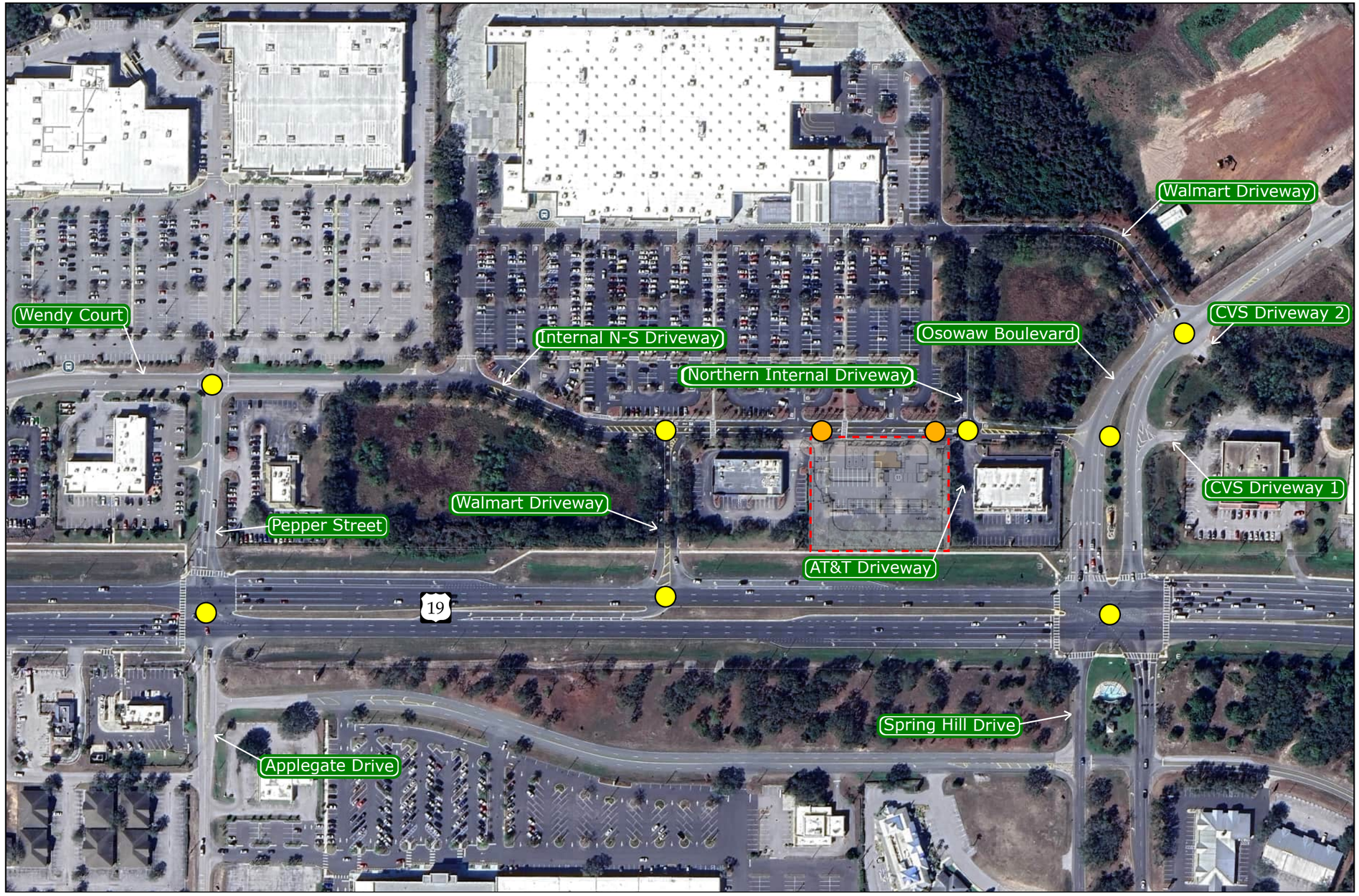
Sincerely,

Caroline Cheeves, PE
Traffic Analysis Project Manager
DRMP, Inc.

Attachments:

- Figure 1 - Site Location Map
- Figure 2 - Site Plan
- Figure 3 – Trip Distribution Percentages





LEGEND

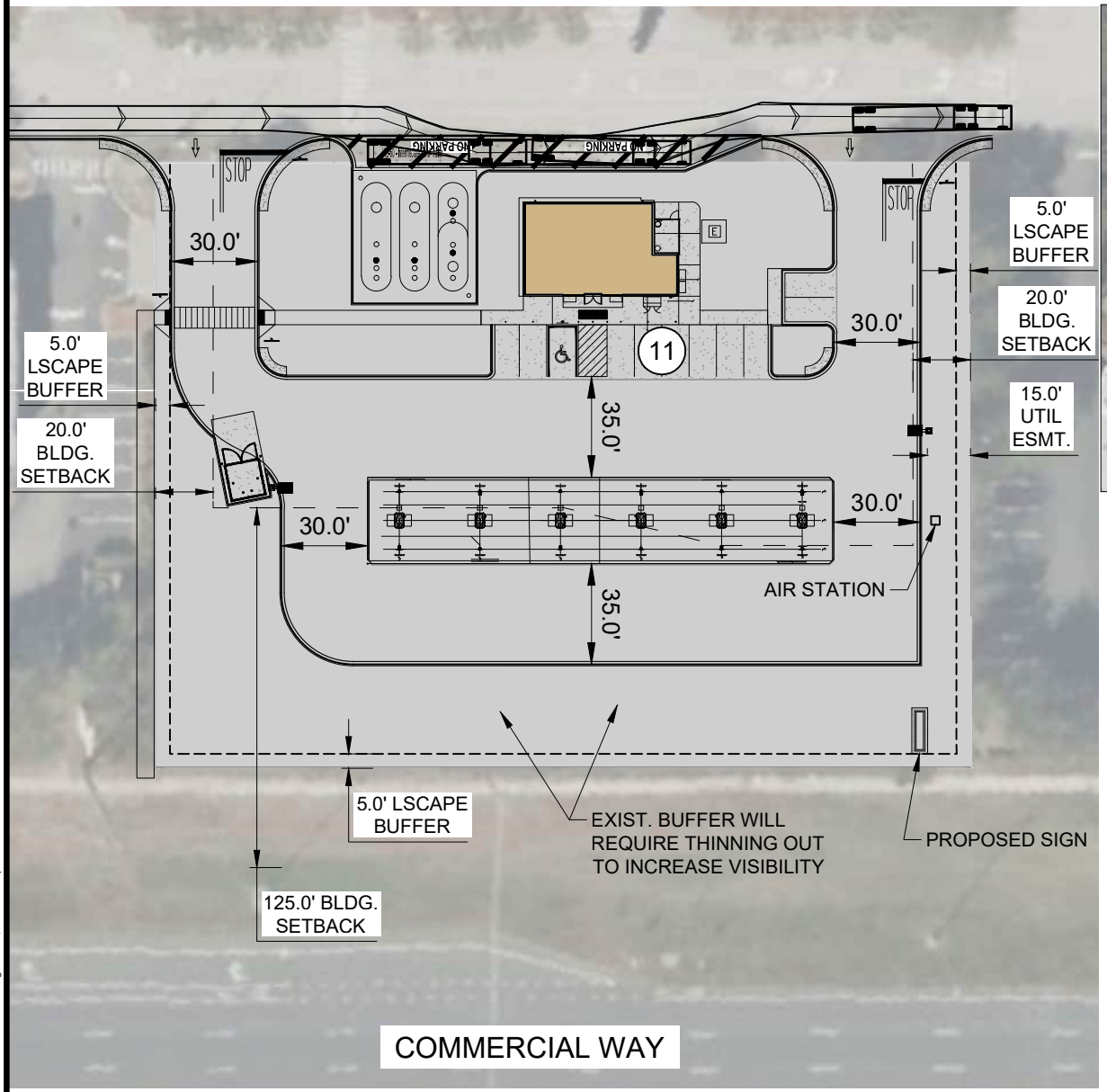
- Study Intersection
- Proposed Site Access
- Study Area

DRMP

Walmart Fuel Station
Spring Hill, FL

Site Location Map

Scale: Not to Scale | Figure 1



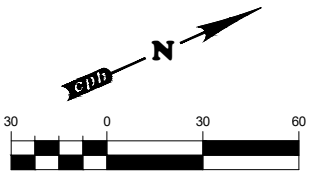
FUEL STATION
SCALE 1'=60'

OVERALL SITE
SCALE 1'=500'

SITE ANALYSIS TABLE

FUEL STATION: 1485 COMMERCIAL WAY, SPRING HILL, FL		
CURRENT ZONE:		PDP
EXISTING WALAMRT PARCEL AREA:		30.14 AC
EXISTING WALAMRT STORE AREA:		217,584 SF
	PARKING COUNT	PARKING RATIO
EXISTING PARKING	961 SPACES	4.4 / 1000 SF
PROPOSED PARKING	889 SPACES	4.1 / 1000 SF
AGENCY REQ. PARKING	871 SPACES	4.0 / 1000 SF
WALMART REQ. PARKING	871 SPACES	4.0 / 1000 SF
FUEL STATION STORE AREA		1,618 SF
EXISTING WALMART FUEL PARCEL AREA		NA
PROPOSED WALMART FUEL PARCEL AREA		1.36+/- AC
	PARKING COUNT	PARKING RATIO
PROPOSED PARKING	11 SPACES	6.8 / 1000 SF
CITY REQ. PARKING	7 SPACES	4.0 / 1000 SF
WALMART REQ. PARKING	5 SPACES	1 / 375 SF
	BUILDING SETBACK	LANDSCAPE BUFFER
FRONT	125'	5'
REAR	35'	5'
SIDE	20'	5'
SIDE	20'	5'

BUILDING , CANOPY & TANKS
SUP 1440 - 6 PUMPS INLINE
(3) 20,000 GALLON TANKS



REVISIONS | BY

cph
500 WEST FULTON STREET
SUITE 600
CHICAGO, IL 60661
PH: 407.322.6841
www.cphcorp.com

STORE #967
WAL-MART STORES, INC.
1485 COMMERCIAL WAY
SPRING HILL, FLORIDA 34606

Walmart

DATE:
02/28/25

OF
PL/ 420

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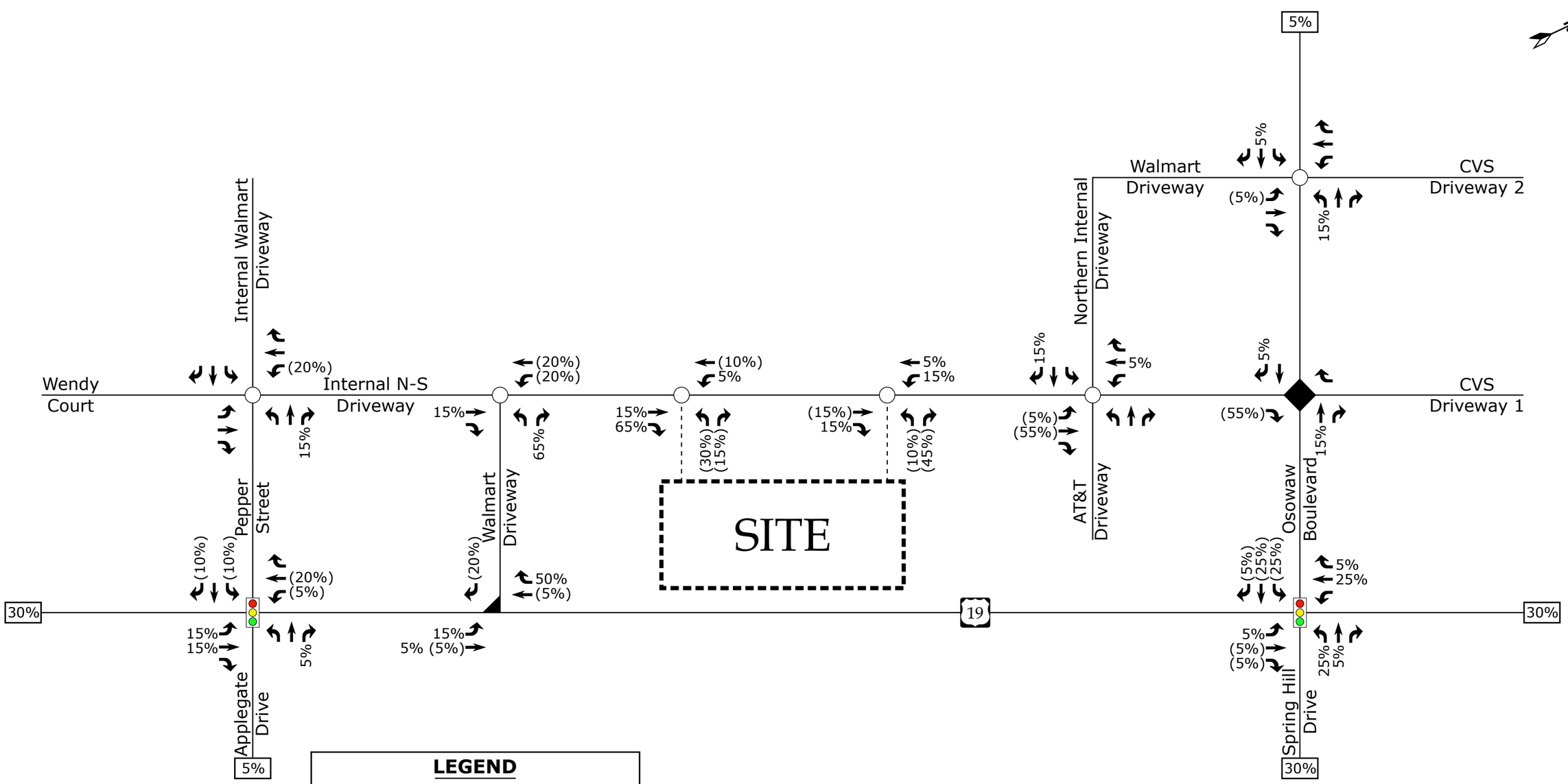


LEGEND

- Unsignalized Intersection
- Signalized Intersection
- Right-In/Right-Out Intersection
- Left-Over Intersection
- X% → Entering Trip Distribution
- (Y%) → Exiting Trip Distribution
- XX% Regional Trip Distribution

DRMP

Walmart Fuel Station
Spring Hill, FL

Site Trip Distribution

Scale: Not to Scale | Figure 8

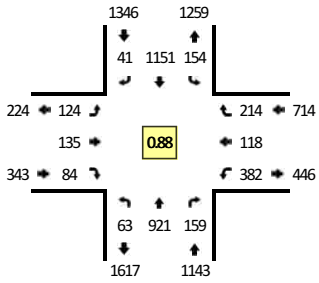
APPENDIX B

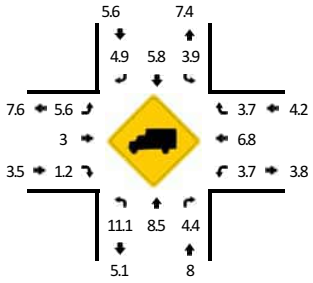
TRAFFIC COUNT DATA

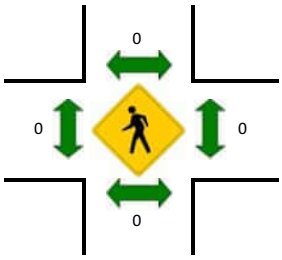
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

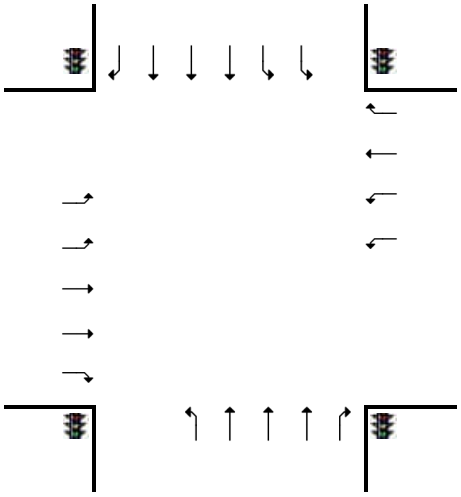
LOCATION: US-19 (Commercial Way) -- Spring Hill Dr / Osowaw Blvd | **QC JOB #:** 17330303
CITY/STATE: Hernando, FL | **DATE:** Thu, Nov 13 2025

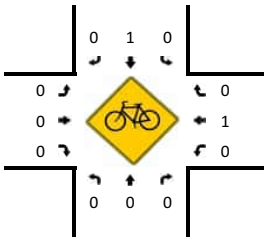
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

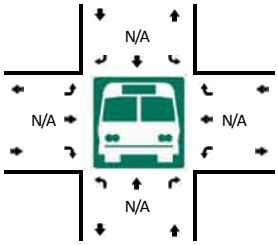


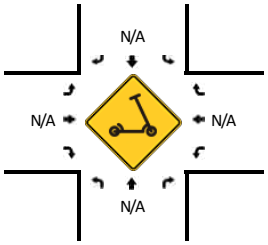












15-Min Count Period Beginning At	US-19 (Commercial Way) (Northbound)				US-19 (Commercial Way) (Southbound)				Spring Hill Dr / Osowaw Blvd (Eastbound)				Spring Hill Dr / Osowaw Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	11	138	19	0	17	276	2	0	22	21	14	0	85	11	32	0	648	
7:15 AM	6	177	28	0	25	335	9	1	11	23	14	0	102	19	34	0	784	
7:30 AM	16	279	52	0	35	359	8	0	18	19	16	1	118	22	60	0	1003	
7:45 AM	16	219	37	0	34	276	10	0	18	29	11	0	102	28	47	0	827	3262
8:00 AM	22	211	30	0	40	270	12	0	43	44	36	0	79	41	57	0	885	3499
8:15 AM	9	212	40	0	43	246	11	2	43	43	21	1	83	27	50	0	831	3546
8:30 AM	8	233	56	0	63	336	18	0	40	23	16	0	72	19	54	0	938	3481
8:45 AM	20	220	40	0	59	245	25	0	34	21	17	0	87	25	75	0	868	3522

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	64	1116	208	0	140	1436	32	0	72	76	64	4	472	88	240	0	4012
Heavy Trucks	16	96	4		4	80	4		8	4	0		12	12	16		256
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 11/20/2025 8:33 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

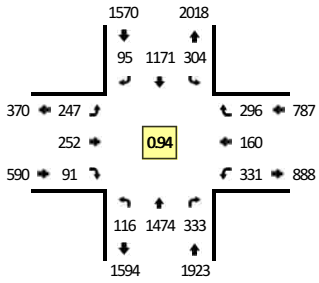
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

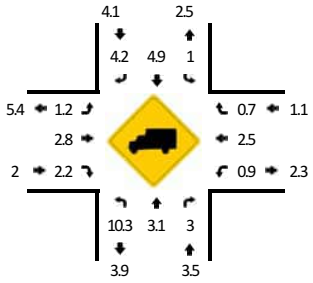
LOCATION: US-19 (Commercial Way) -- Spring Hill Dr / Osowaw Blvd | **QC JOB #:** 17330304

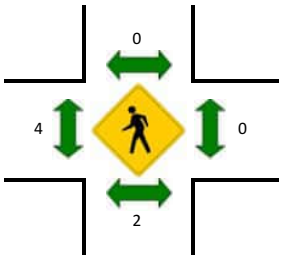
CITY/STATE: Hernando, FL | **DATE:** Thu, Nov 13 2025

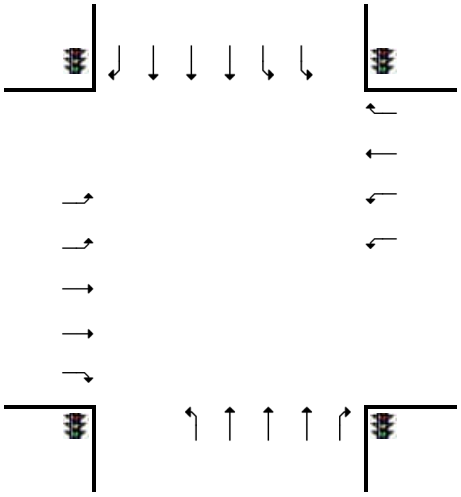
Peak-Hour: 4:30 PM -- 5:30 PM

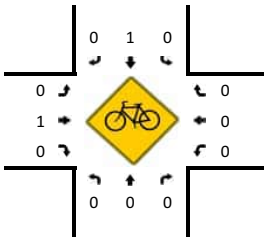
Peak 15-Min: 5:15 PM -- 5:30 PM

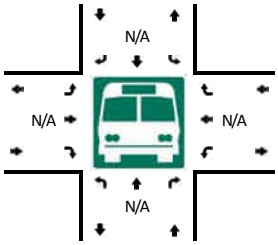


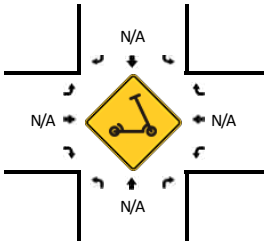












15-Min Count Period Beginning At	US-19 (Commercial Way) (Northbound)				US-19 (Commercial Way) (Southbound)				Spring Hill Dr / Osowaw Blvd (Eastbound)				Spring Hill Dr / Osowaw Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	26	389	87	0	92	258	38	0	61	57	24	2	68	33	76	0	1211	
4:15 PM	20	326	89	0	80	274	31	1	60	58	30	0	77	46	72	0	1164	
4:30 PM	23	337	66	0	62	288	25	0	70	63	18	1	89	45	74	1	1162	
4:45 PM	29	382	80	1	72	278	26	1	43	54	25	0	75	33	84	0	1183	4720
5:00 PM	36	324	76	0	98	329	24	1	62	66	26	0	75	47	71	0	1235	4744
5:15 PM	26	431	111	1	70	276	20	0	71	69	22	0	91	35	67	0	1290	4870
5:30 PM	23	364	91	0	63	264	25	4	44	62	16	0	66	42	77	0	1141	4849
5:45 PM	15	325	101	0	58	186	26	6	74	54	15	0	76	41	71	0	1048	4714

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	104	1724	444	4	280	1104	80	0	284	276	88	0	364	140	268	0	5160
Heavy Trucks	0	52	16		4	72	8		4	4	4		0	4	0		168
Buses																	
Pedestrians		4				0				4				0			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

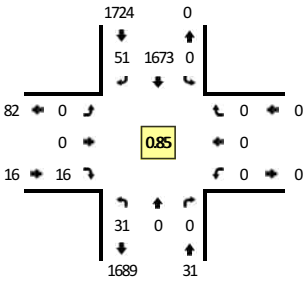
Comments:

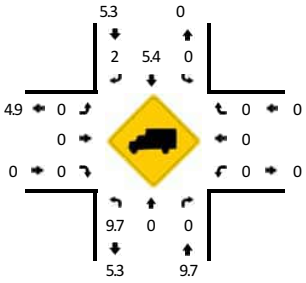
Report generated on 11/20/2025 8:33 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

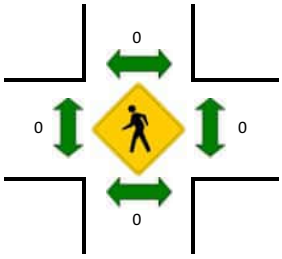
LOCATION: US-19 (Commercial Way) -- RIRO Walmart Dwy | **QC JOB #:** 17330305
CITY/STATE: Hernando, FL | **DATE:** Thu, Nov 13 2025

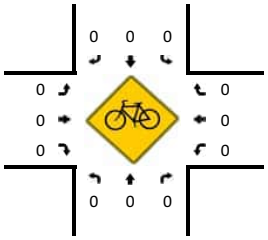
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

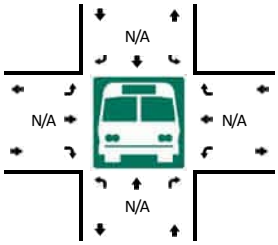


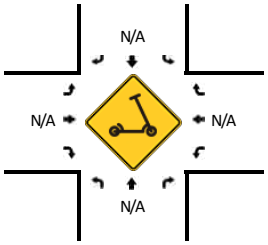


TRUE DATA TO IMPROVE MOBILITY









15-Min Count Period Beginning At	US-19 (Commercial Way) (Northbound)				US-19 (Commercial Way) (Southbound)				RIRO Walmart Dwy (Eastbound)				RIRO Walmart Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	6	0	0	0	0	364	5	0	0	0	6	0	0	0	0	0	381	
7:15 AM	6	0	0	0	0	433	9	0	0	0	1	0	0	0	0	0	449	
7:30 AM	5	0	0	0	0	496	13	0	0	0	5	0	0	0	0	0	519	
7:45 AM	9	0	0	0	0	372	16	0	0	0	6	0	0	0	0	0	403	1752
8:00 AM	11	0	0	0	0	372	13	0	0	0	4	0	0	0	0	0	400	1771
8:15 AM	12	0	0	0	0	331	17	0	0	0	5	0	0	0	0	0	365	1687
8:30 AM	4	0	0	0	0	397	24	0	0	0	5	1	0	0	0	0	431	1599
8:45 AM	7	0	0	1	0	321	24	0	0	0	7	0	0	0	0	0	360	1556

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	0	0	0	0	1984	52	0	0	0	20	0	0	0	0	0	2076
Heavy Trucks	0	0	0		0	104	4		0	0	0		0	0	0		108
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

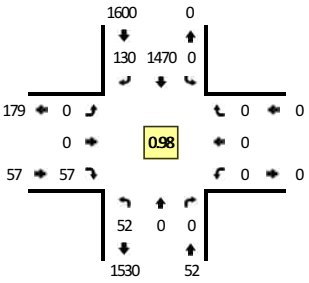
Comments:

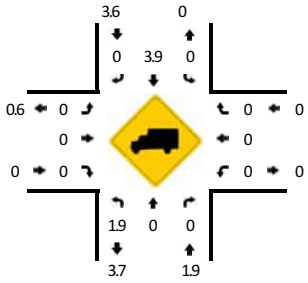
Report generated on 11/20/2025 8:33 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

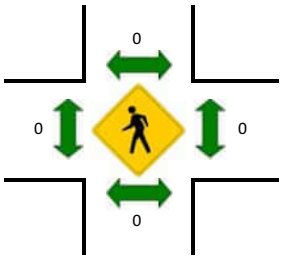
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

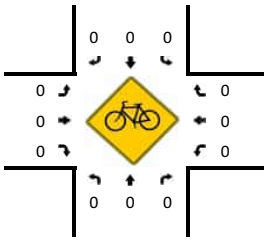
LOCATION: US-19 (Commercial Way) -- RIRO Walmart Dwy | **QC JOB #:** 17330306
CITY/STATE: Hernando, FL | **DATE:** Thu, Nov 13 2025

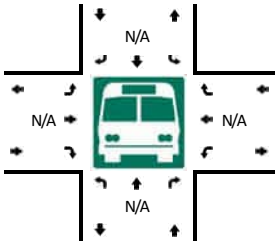
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

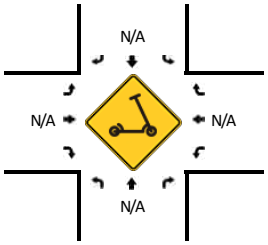












15-Min Count Period Beginning At	US-19 (Commercial Way) (Northbound)				US-19 (Commercial Way) (Southbound)				RIRO Walmart Dwy (Eastbound)				RIRO Walmart Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	21	0	0	1	0	330	28	0	0	0	21	0	0	0	0	0	401	
4:15 PM	14	0	0	1	0	363	22	0	0	0	14	0	0	0	0	0	414	
4:30 PM	10	0	0	0	0	367	34	0	0	0	12	0	0	0	0	0	423	
4:45 PM	15	0	0	3	0	346	34	0	0	0	16	0	0	0	0	0	414	1652
5:00 PM	11	0	0	0	0	382	34	0	0	0	11	0	0	0	0	0	438	1689
5:15 PM	13	0	0	0	0	375	28	0	0	0	18	0	0	0	0	0	434	1709
5:30 PM	20	0	0	0	0	320	29	0	0	0	19	1	0	0	0	0	389	1675
5:45 PM	14	0	0	0	0	255	22	0	0	0	12	0	0	0	0	0	303	1564

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	44	0	0	0	0	1528	136	0	0	0	44	0	0	0	0	0	1752
Heavy Trucks	0	0	0		0	48	0		0	0	0		0	0	0		48
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

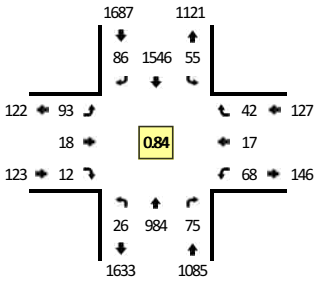
Comments:

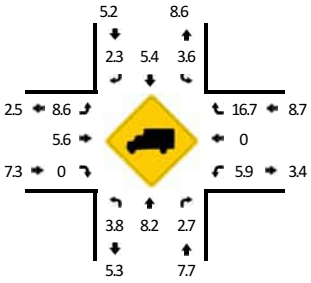
Report generated on 11/20/2025 8:33 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

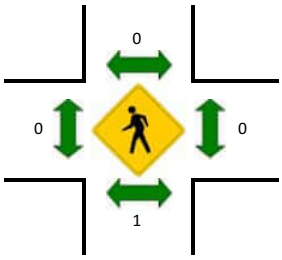
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

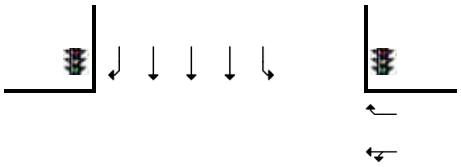
LOCATION: US-19 (Commercial Way) -- Pepper St / Applegate Dr | **QC JOB #:** 17330307
CITY/STATE: Spring Hill, FL | **DATE:** Thu, Nov 13 2025

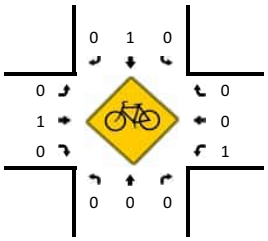
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

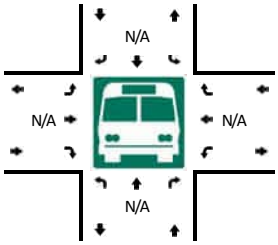


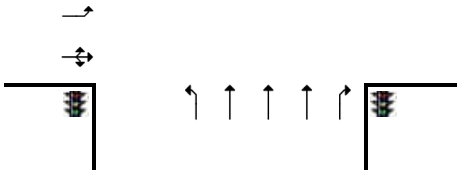


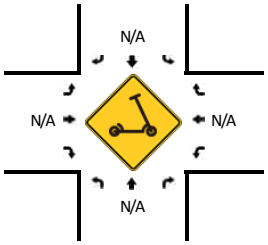












15-Min Count Period Beginning At	US-19 (Commercial Way) (Northbound)				US-19 (Commercial Way) (Southbound)				Pepper St / Applegate Dr (Eastbound)				Pepper St / Applegate Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	5	158	8	4	7	365	4	0	8	4	3	0	14	0	8	0	588	
7:15 AM	4	216	18	2	10	388	24	0	10	2	0	0	19	4	9	0	706	
7:30 AM	4	264	16	1	16	468	30	1	50	6	5	0	19	1	18	0	899	
7:45 AM	7	276	22	2	19	338	19	0	20	8	2	0	15	11	6	0	745	2938
8:00 AM	4	228	19	2	8	352	13	1	13	2	5	0	15	1	9	0	672	3022
8:15 AM	10	252	17	1	18	297	18	0	6	4	3	0	12	5	14	0	657	2973
8:30 AM	13	289	27	4	28	345	27	0	17	7	3	0	23	5	18	0	806	2880
8:45 AM	12	245	33	1	20	288	21	1	13	8	6	0	15	7	17	0	687	2822

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	16	1056	64	4	64	1872	120	4	200	24	20	0	76	4	72	0	3596
Heavy Trucks	0	76	0		0	88	8		4	4	0		4	0	20		204
Buses																	
Pedestrians		4				0				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		4	0	0		4
Scooters																	

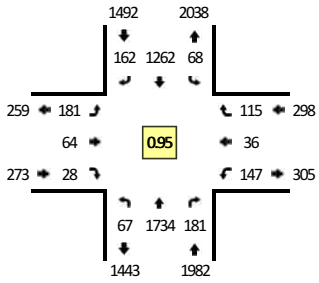
Comments:

Report generated on 11/20/2025 8:33 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

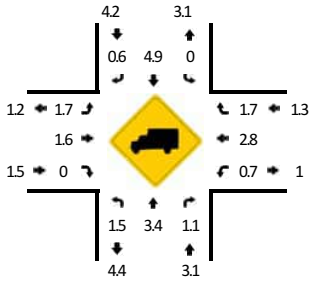
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

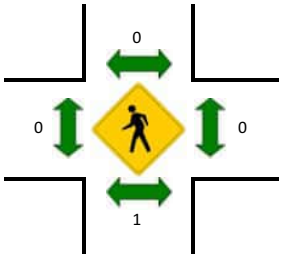
LOCATION: US-19 (Commercial Way) -- Pepper St / Applegate Dr | **QC JOB #:** 17330308
CITY/STATE: Spring Hill, FL | **DATE:** Thu, Nov 13 2025

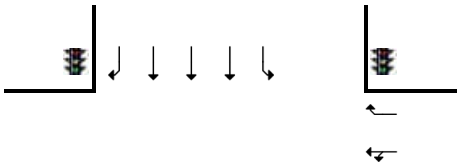
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

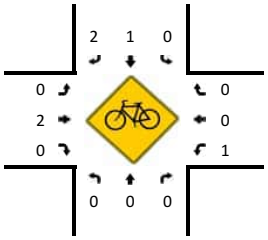


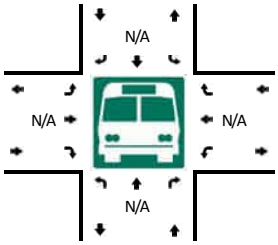
TRUE DATA TO IMPROVE MOBILITY

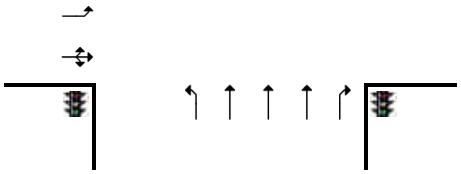


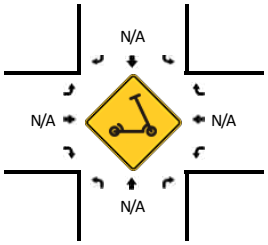












15-Min Count Period Beginning At	US-19 (Commercial Way) (Northbound)				US-19 (Commercial Way) (Southbound)				Pepper St / Applegate Dr (Eastbound)				Pepper St / Applegate Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	17	437	57	0	19	300	35	5	54	23	17	0	27	11	26	0	1028	
4:15 PM	18	385	61	1	23	301	29	0	46	14	10	0	37	7	34	0	966	
4:30 PM	3	338	54	0	21	325	52	0	48	15	12	0	46	10	30	0	954	
4:45 PM	12	429	46	1	18	302	50	3	32	9	3	0	35	5	32	0	977	3925
5:00 PM	18	432	44	3	15	326	32	1	57	16	13	0	38	11	38	0	1044	3941
5:15 PM	16	439	54	0	12	350	39	3	54	25	6	0	36	9	21	0	1064	4039
5:30 PM	15	434	37	2	15	284	41	1	38	14	6	0	38	11	24	0	960	4045
5:45 PM	21	397	40	1	11	221	28	1	49	21	12	0	37	9	24	0	872	3940

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	64	1756	216	0	48	1400	156	12	216	100	24	0	144	36	84	0	4256
Heavy Trucks	0	64	4		0	84	0		4	4	0		0	4	4		168
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	4		0	0	0		0	0	0		4
Scooters																	

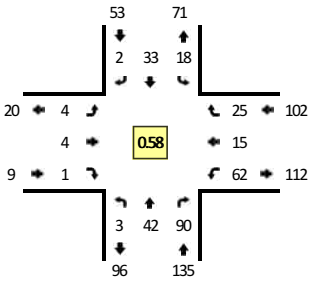
Comments:

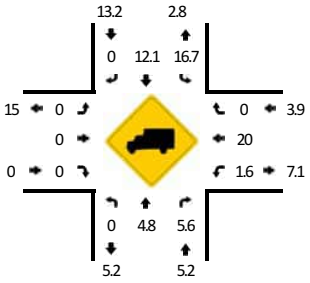
Report generated on 11/20/2025 8:34 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

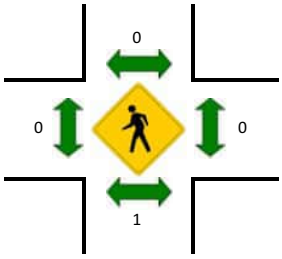
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

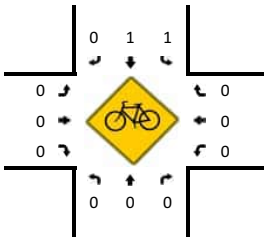
LOCATION: Wendy Ct / Internal N-S Dwy -- Pepper St | **QC JOB #:** 17330317
CITY/STATE: Spring Hill, FL | **DATE:** Thu, Nov 13 2025

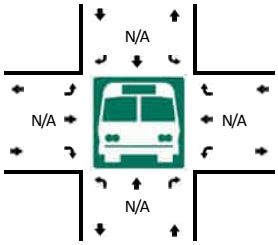
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

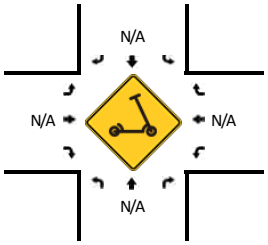












15-Min Count Period Beginning At	Wendy Ct / Internal N-S Dwy (Northbound)				Wendy Ct / Internal N-S Dwy (Southbound)				Pepper St (Eastbound)				Pepper St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	4	4	0	4	5	0	0	0	2	0	0	3	1	3	0	26	
7:15 AM	1	3	8	0	3	7	0	0	0	2	0	0	20	1	5	0	50	
7:30 AM	2	17	58	0	3	12	0	0	2	2	0	0	28	4	2	0	130	
7:45 AM	1	12	21	0	3	9	1	0	1	2	0	0	12	7	10	0	79	285
8:00 AM	0	7	7	0	7	7	1	0	0	0	0	0	6	0	3	0	38	297
8:15 AM	0	6	4	0	5	5	0	0	1	0	1	0	16	4	10	0	52	299
8:30 AM	2	17	14	0	8	8	1	0	0	4	1	0	18	7	13	0	93	262
8:45 AM	0	13	8	0	10	13	0	0	0	0	0	0	17	3	10	0	74	257

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	68	232	0	12	48	0	0	8	8	0	0	112	16	8	0	520
Heavy Trucks	0	4	8		4	8	0		0	0	0		4	4	0		32
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

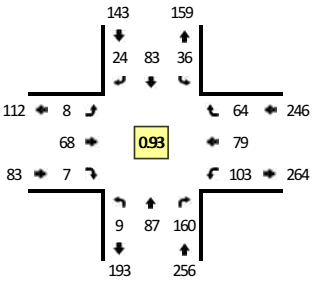
Comments: WB does not have a stop sign

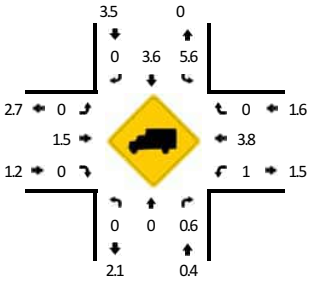
Report generated on 11/20/2025 8:34 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

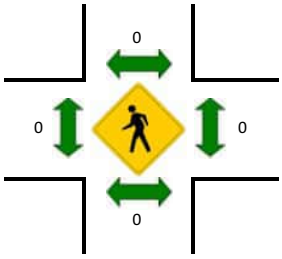
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

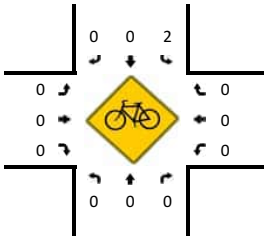
LOCATION: Wendy Ct / Internal N-S Dwy -- Pepper St | **QC JOB #:** 17330318
CITY/STATE: Spring Hill, FL | **DATE:** Thu, Nov 13 2025

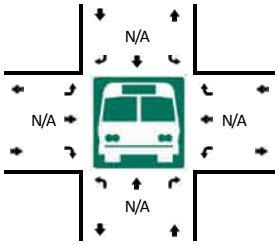
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

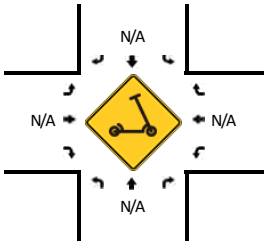












15-Min Count Period Beginning At	Wendy Ct / Internal N-S Dwy (Northbound)				Wendy Ct / Internal N-S Dwy (Southbound)				Pepper St (Eastbound)				Pepper St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	16	57	0	10	33	2	0	5	16	0	0	33	17	16	0	206	
4:15 PM	4	13	39	0	8	22	7	0	4	25	0	0	21	14	15	0	172	
4:30 PM	1	16	41	0	13	28	2	0	1	12	0	0	33	24	6	0	177	
4:45 PM	0	24	26	0	5	20	3	0	0	14	2	0	32	24	13	0	163	718
5:00 PM	3	19	50	0	11	22	6	0	3	18	3	0	19	17	18	0	189	701
5:15 PM	3	22	50	0	10	21	8	0	3	16	2	0	24	22	15	0	196	725
5:30 PM	3	22	34	0	10	20	7	0	2	20	0	0	28	16	18	0	180	728
5:45 PM	3	16	33	0	13	14	6	0	1	24	2	0	10	17	16	0	155	720

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	12	88	200	0	40	84	32	0	12	64	8	0	96	88	60	0	784
Heavy Trucks	0	0	4		4	0	0		0	0	0		4	0	0		12
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments: WB does not have a stop sign

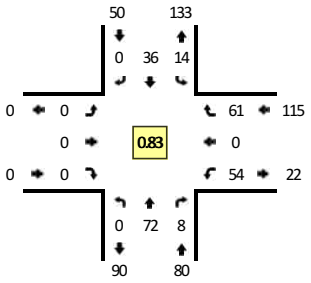
Report generated on 11/20/2025 8:34 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

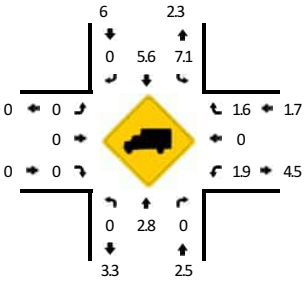
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

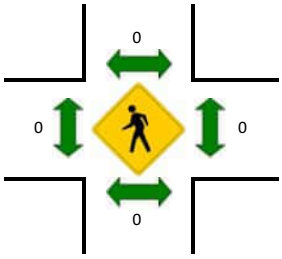
LOCATION: Internal N-S Dwy -- Walmart Dwy
CITY/STATE: Hernando, FL

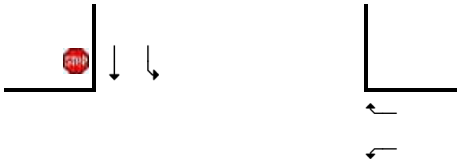
QC JOB #: 17330315
DATE: Thu, Nov 13 2025

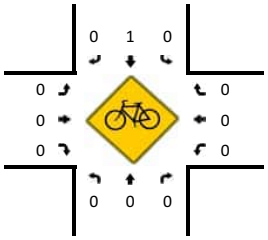
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:45 AM -- 9:00 AM

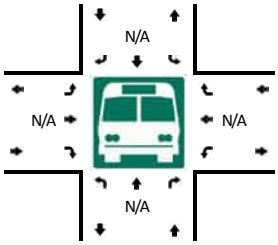


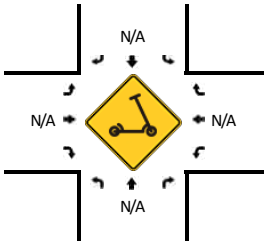












15-Min Count Period Beginning At	Internal N-S Dwy (Northbound)				Internal N-S Dwy (Southbound)				Walmart Dwy (Eastbound)				Walmart Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	13	3	0	3	2	0	0	0	0	0	0	6	0	5	0	32	
7:15 AM	0	11	1	0	1	7	0	0	0	0	0	0	4	0	12	0	36	
7:30 AM	0	20	4	0	2	6	0	0	0	0	0	0	9	0	9	0	50	
7:45 AM	0	18	3	0	2	9	0	0	0	0	0	0	11	0	15	0	58	176
8:00 AM	0	14	2	0	2	7	0	0	0	0	0	0	9	0	15	0	49	193
8:15 AM	0	15	1	0	4	9	0	0	0	0	0	0	10	0	20	0	59	216
8:30 AM	0	23	2	0	4	7	0	0	0	0	0	0	19	0	8	0	63	229
8:45 AM	0	20	3	0	4	13	0	0	0	0	0	0	16	0	18	0	74	245

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	80	12	0	16	52	0	0	0	0	0	0	64	0	72	0	296
Heavy Trucks	0	0	0		0	0	0		0	0	0		4	0	0		4
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

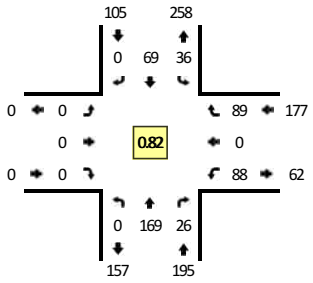
Report generated on 11/20/2025 8:34 AM

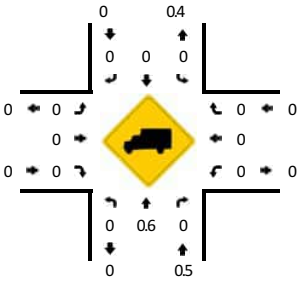
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

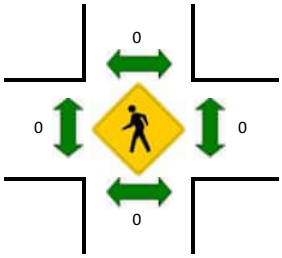
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

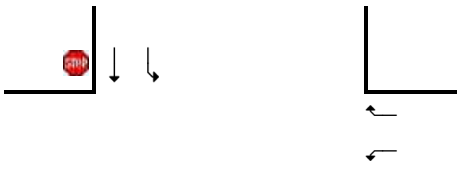
LOCATION: Internal N-S Dwy -- Walmart Dwy | **QC JOB #:** 17330316
CITY/STATE: Hernando, FL | **DATE:** Thu, Nov 13 2025

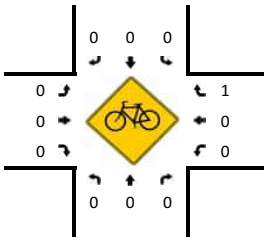
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

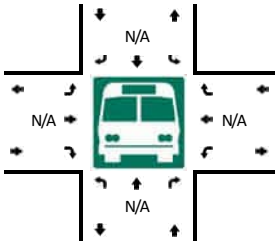


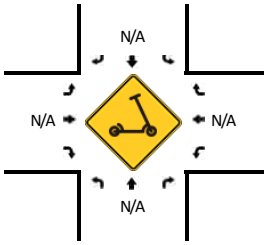












15-Min Count Period Beginning At	Internal N-S Dwy (Northbound)				Internal N-S Dwy (Southbound)				Walmart Dwy (Eastbound)				Walmart Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	58	8	0	12	20	0	0	0	0	0	0	24	0	24	0	146	
4:15 PM	0	41	5	0	9	16	0	0	0	0	0	0	15	0	21	0	107	
4:30 PM	0	32	1	0	11	24	0	0	0	0	0	0	27	0	17	0	112	
4:45 PM	0	38	12	0	4	9	0	0	0	0	0	0	22	0	27	0	112	477
5:00 PM	0	40	6	0	6	12	0	0	0	0	0	0	25	0	20	0	109	440
5:15 PM	0	59	6	0	11	15	0	0	0	0	0	0	19	0	19	0	129	462
5:30 PM	0	42	10	0	10	8	0	0	0	0	0	0	29	0	22	0	121	471
5:45 PM	0	38	5	0	6	15	0	0	0	0	0	0	13	0	24	0	101	460

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	232	32	0	48	80	0	0	0	0	0	0	96	0	96	0	584
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	4		4
Scooters																	

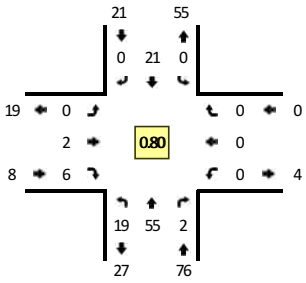
Comments:

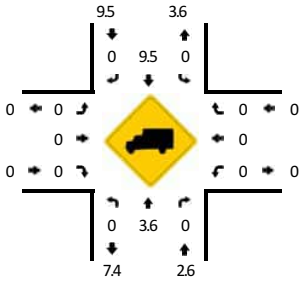
Report generated on 11/20/2025 8:34 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

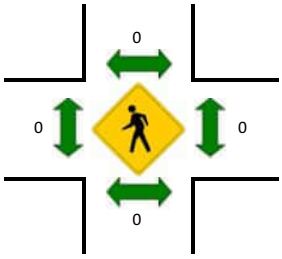
LOCATION: Internal N-S Dwy -- Northern Internal Dwy / AT | **QC JOB #:** 17330313
CITY/STATE: Hernando, FL | **DATE:** Thu, Nov 13 2025

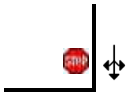
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:45 AM -- 9:00 AM

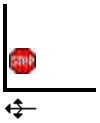


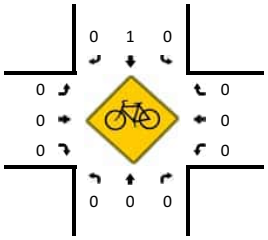


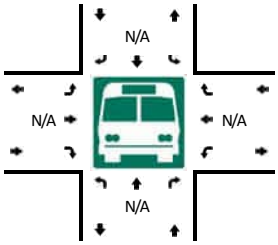
TRUE DATA TO IMPROVE MOBILITY

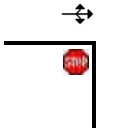


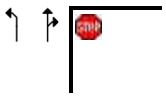


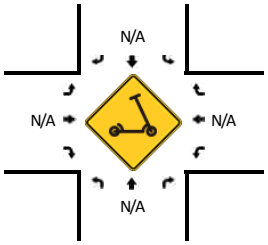












15-Min Count Period Beginning At	Internal N-S Dwy (Northbound)				Internal N-S Dwy (Southbound)				Northern Internal Dwy / AT (Eastbound)				Northern Internal Dwy / AT (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	4	12	0	0	0	1	0	0	0	0	0	0	0	0	0	0	17	
7:15 AM	3	12	0	0	0	6	0	0	0	0	2	0	0	0	0	0	23	
7:30 AM	2	19	0	0	0	6	0	0	0	0	0	0	0	0	0	0	27	
7:45 AM	7	8	0	0	0	6	0	0	0	0	1	0	0	0	0	0	22	89
8:00 AM	6	14	0	0	0	8	0	0	0	0	0	0	0	0	0	0	28	100
8:15 AM	3	12	0	0	0	2	0	0	0	1	2	0	0	0	0	0	20	97
8:30 AM	6	14	0	0	0	2	0	0	0	1	1	0	0	0	0	0	24	94
8:45 AM	4	15	2	0	0	9	0	0	0	0	3	0	0	0	0	0	33	105

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	16	60	8	0	0	36	0	0	0	0	12	0	0	0	0	0	132
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

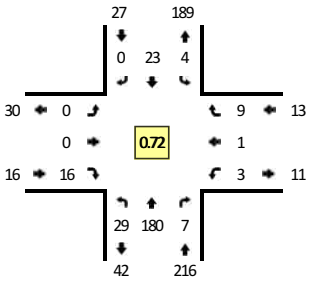
Comments:

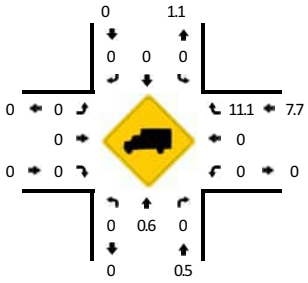
Report generated on 11/20/2025 8:34 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

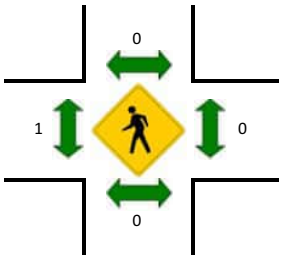
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

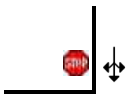
LOCATION: Internal N-S Dwy -- Northern Internal Dwy / AT | **QC JOB #:** 17330314
CITY/STATE: Hernando, FL | **DATE:** Thu, Nov 13 2025

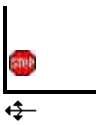
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

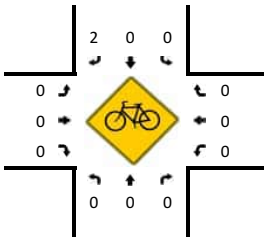


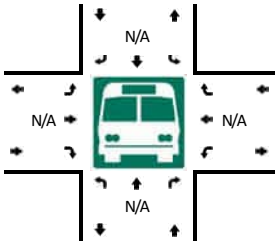


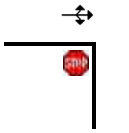


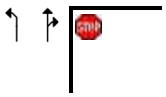


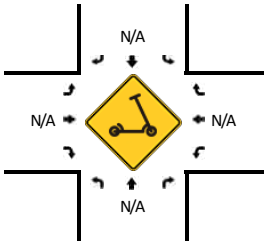












15-Min Count Period Beginning At	Internal N-S Dwy (Northbound)				Internal N-S Dwy (Southbound)				Northern Internal Dwy / AT (Eastbound)				Northern Internal Dwy / AT (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	17	56	3	0	3	9	0	0	0	0	4	0	1	0	1	0	94	
4:15 PM	2	43	1	0	1	4	0	0	0	0	4	0	1	0	2	0	58	
4:30 PM	5	41	2	0	0	6	0	0	0	0	7	0	1	1	5	0	68	
4:45 PM	5	40	1	0	0	4	0	0	0	0	1	0	0	0	1	0	52	272
5:00 PM	8	37	2	0	0	3	0	0	0	2	2	0	1	0	4	0	59	237
5:15 PM	12	54	0	0	0	6	0	0	0	0	2	0	1	0	2	0	77	256
5:30 PM	9	50	0	0	0	2	0	0	0	0	2	0	0	0	1	0	64	252
5:45 PM	6	35	0	0	1	6	0	0	0	0	2	0	0	0	0	0	50	250

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	68	224	12	0	12	36	0	0	0	0	16	0	4	0	4	0	376
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	8		0	0	0		0	0	0		8
Scooters																	

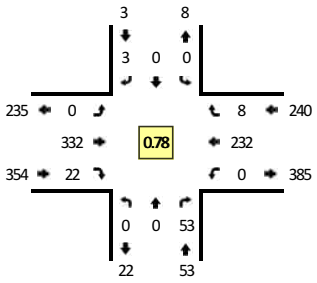
Comments:

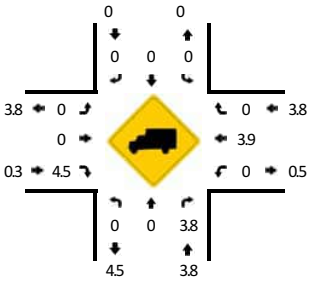
Report generated on 11/20/2025 8:34 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

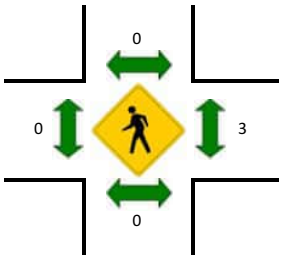
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

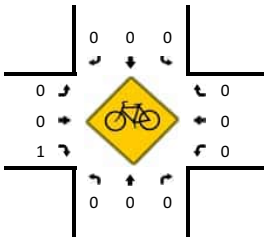
LOCATION: Internal N-S Dwy / CVS Access (1) -- Osowaw Blvd | **QC JOB #:** 17330309
CITY/STATE: Spring Hill, FL | **DATE:** Thu, Nov 13 2025

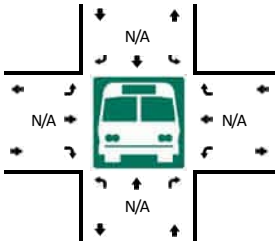
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

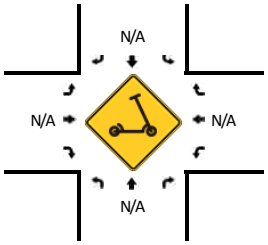












15-Min Count Period Beginning At	Internal N-S Dwy / CVS Access (1) (Northbound)				Internal N-S Dwy / CVS Access (1) (Southbound)				Osowaw Blvd (Eastbound)				Osowaw Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	12	0	0	0	0	0	0	45	1	0	0	23	0	0	81	
7:15 AM	0	0	13	0	0	0	0	0	0	38	6	0	0	34	0	0	91	
7:30 AM	0	0	16	0	0	0	0	0	0	41	7	0	0	48	0	0	112	
7:45 AM	0	0	9	0	0	0	0	0	0	47	5	0	0	53	1	0	115	399
8:00 AM	0	0	13	0	0	0	0	0	0	113	8	0	0	72	3	0	209	527
8:15 AM	0	0	12	0	0	0	2	0	0	91	2	0	0	48	1	0	156	592
8:30 AM	0	0	14	0	0	0	1	0	0	68	2	0	0	43	2	0	130	610
8:45 AM	0	0	14	0	0	0	0	0	0	60	10	0	0	69	2	0	155	650

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	52	0	0	0	0	0	0	452	32	0	0	288	12	0	836
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	12	0		12
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	4		0	0	0		4
Scooters																	

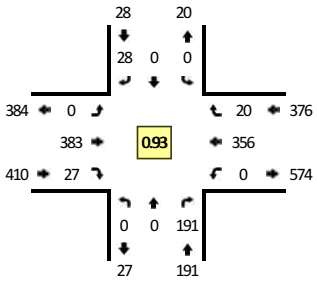
Comments:

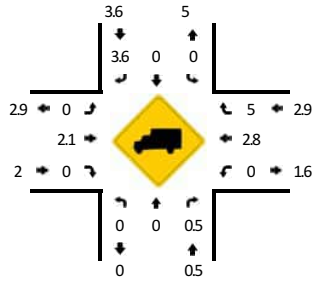
Report generated on 11/20/2025 8:34 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

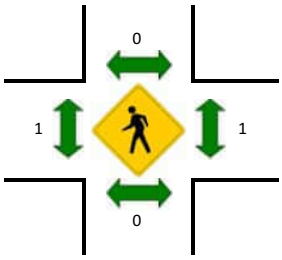
LOCATION: Internal N-S Dwy / CVS Access (1) -- Osowaw Blvd | **QC JOB #:** 17330310
CITY/STATE: Spring Hill, FL | **DATE:** Thu, Nov 13 2025

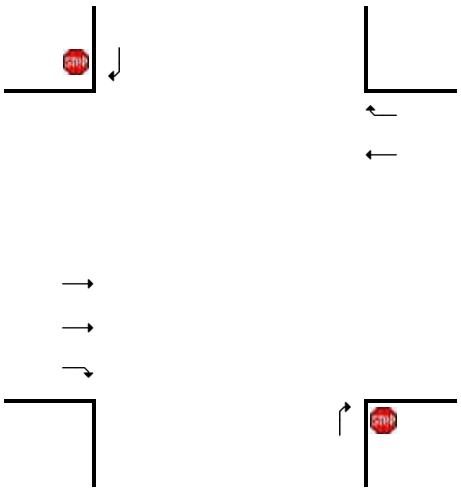
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

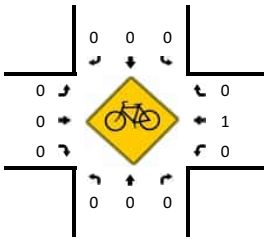


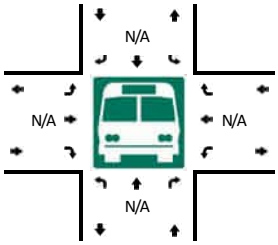


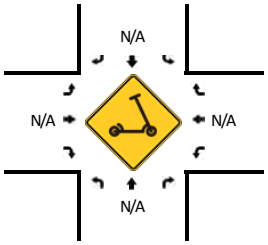
TRUE DATA TO IMPROVE MOBILITY











15-Min Count Period Beginning At	Internal N-S Dwy / CVS Access (1) (Northbound)				Internal N-S Dwy / CVS Access (1) (Southbound)				Osowaw Blvd (Eastbound)				Osowaw Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	57	0	0	0	5	0	0	97	12	0	0	93	6	0	270	
4:15 PM	0	0	47	0	0	0	8	0	0	96	5	0	0	93	4	0	253	
4:30 PM	0	0	45	0	0	0	9	0	0	99	6	0	0	84	8	0	251	
4:45 PM	0	0	42	0	0	0	6	0	0	91	4	0	0	86	2	0	231	1005
5:00 PM	0	0	38	0	0	0	4	0	0	118	3	0	0	103	3	0	269	1004
5:15 PM	0	0	58	0	0	0	4	0	0	94	6	0	0	74	6	0	242	993
5:30 PM	0	0	52	0	0	0	5	0	0	81	2	0	0	87	4	0	231	973
5:45 PM	0	0	35	0	0	0	8	0	0	90	7	0	0	79	5	0	224	966

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	228	0	0	0	20	0	0	388	48	0	0	372	24	0	1080
Heavy Trucks	0	0	0		0	0	0		0	20	0		0	12	0		32
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

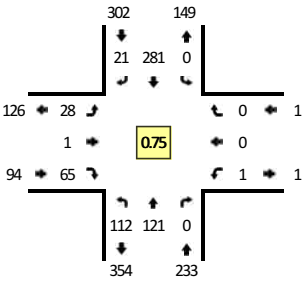
Comments:

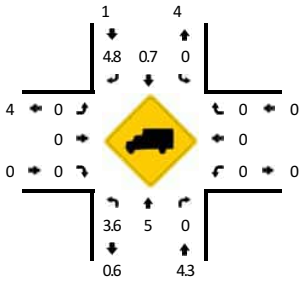
Report generated on 11/20/2025 8:34 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

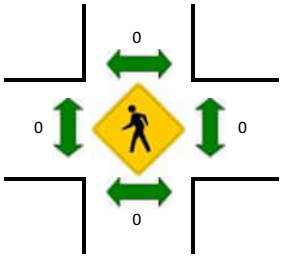
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

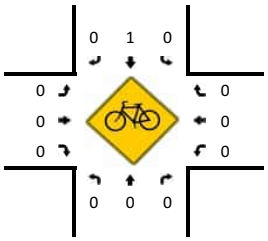
LOCATION: Osowaw Blvd -- Walmart Access Dwy / CVS Access (2) | **QC JOB #:** 17330311
CITY/STATE: Spring Hill, FL | **DATE:** Thu, Nov 13 2025

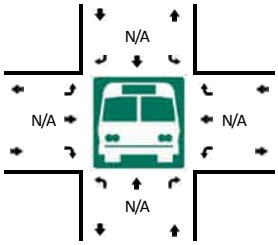
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

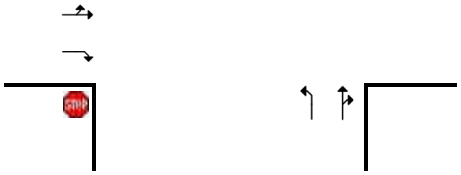


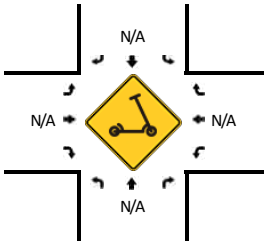












15-Min Count Period Beginning At	Osowaw Blvd (Northbound)				Osowaw Blvd (Southbound)				Walmart Access Dwy / CVS Access (2) (Eastbound)				Walmart Access Dwy / CVS Access (2) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	9	14	0	0	0	28	1	0	4	0	17	0	0	0	0	0	73	
7:15 AM	13	22	0	0	0	39	0	0	2	0	5	0	0	0	0	0	81	
7:30 AM	18	29	0	1	0	41	2	0	5	0	5	0	1	0	0	0	102	
7:45 AM	16	36	0	1	0	39	2	0	9	0	11	0	1	0	1	0	116	372
8:00 AM	20	53	0	0	0	108	5	0	8	0	15	0	0	0	0	0	209	508
8:15 AM	23	25	0	2	0	75	9	0	3	1	14	0	0	0	0	0	152	579
8:30 AM	31	9	0	4	0	48	6	0	9	0	21	0	0	0	0	0	128	605
8:45 AM	31	34	0	1	0	50	1	0	8	0	15	0	1	0	0	0	141	630

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	80	212	0	0	0	432	20	0	32	0	60	0	0	0	0	0	836
Heavy Trucks	4	8	0		0	0	0		0	0	0		0	0	0		12
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	4	0		0	0	0		0	0	0		4
Scooters																	

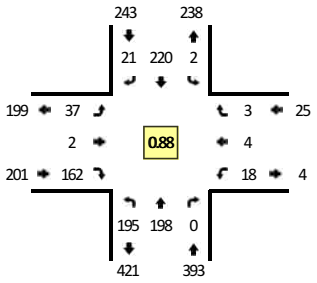
Comments:

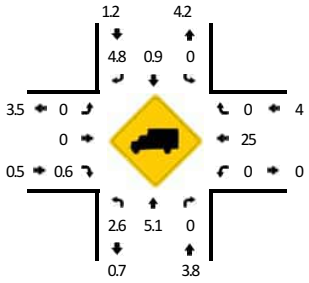
Report generated on 11/20/2025 8:34 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

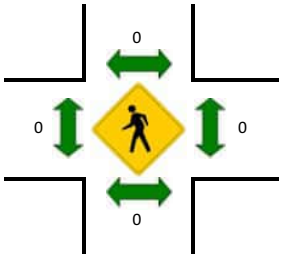
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

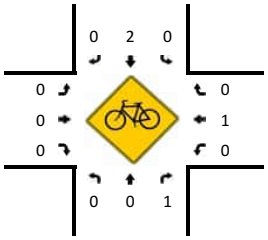
LOCATION: Osowaw Blvd -- Walmart Access Dwy / CVS Access (2) | **QC JOB #:** 17330312
CITY/STATE: Spring Hill, FL | **DATE:** Thu, Nov 13 2025

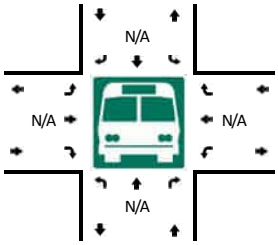
Peak-Hour: 4:15 PM -- 5:15 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

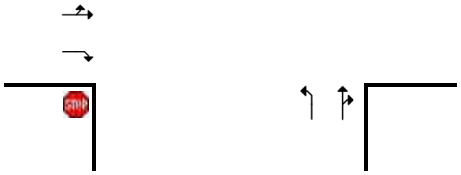


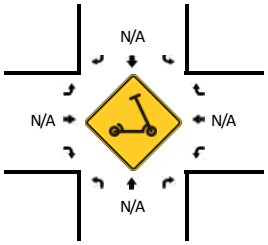












15-Min Count Period Beginning At	Osowaw Blvd (Northbound)				Osowaw Blvd (Southbound)				Walmart Access Dwy / CVS Access (2) (Eastbound)				Walmart Access Dwy / CVS Access (2) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	51	44	0	4	0	58	3	0	29	1	42	0	5	1	5	0	243	
4:15 PM	48	45	0	9	1	57	3	0	6	0	33	0	3	1	0	0	206	
4:30 PM	43	44	0	6	0	49	8	0	8	0	45	0	4	1	0	0	208	
4:45 PM	43	48	0	1	0	56	6	0	8	2	32	0	6	0	1	0	203	860
5:00 PM	40	61	0	5	1	58	4	0	15	0	52	0	5	2	2	0	245	862
5:15 PM	31	42	0	4	1	52	5	0	14	2	43	0	3	0	0	0	197	853
5:30 PM	40	47	1	5	1	50	7	0	12	0	26	0	2	1	2	0	194	839
5:45 PM	46	37	0	4	1	56	8	0	7	1	32	0	3	0	0	0	195	831

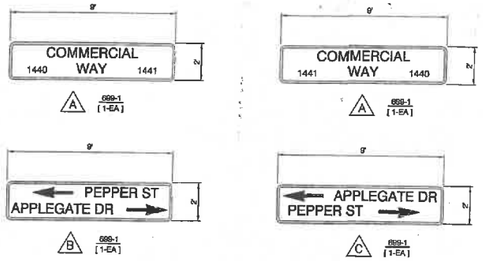
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	160	244	0	20	4	232	16	0	60	0	208	0	20	8	8	0	980
Heavy Trucks	4	28	0		0	4	0		0	0	0		0	4	0		40
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	8	0		0	0	0		0	4	0		12
Scooters																	

Comments:

Report generated on 11/20/2025 8:34 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

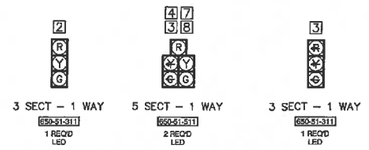
APPENDIX C

SIGNAL PLANS



SINGLE FACE INTERNALLY ILLUMINATED SIGNS ⚠

(SIGNS TO BE LOCATED ON EXISTING STRAIN POLES)



DETAIL OF SIGNAL FACES

GENERAL NOTES

1. THE CONTRACTOR SHALL MEET THE CRITERIA OUTLINED IN "THE MINIMUM SPECIFICATIONS FOR TRAFFIC CONTROL SIGNALS AND DEVICES".

2. THE LOCATIONS OF UTILITES SHOWN ON THE PLANS ARE APPROXIMATE. PRIOR TO DIGGING, THE CONTRACTORR SHALL DETERMINE THE EXACT LOCATIONS OF ALL UTILITIES.

3. ONE WEEK PRIOR TO THE TRAFFIC SIGNAL INSTALLATION, PLEASE CONTACT:
   A.) MR. JIM ROSA, FDOT DISTRICT SEVEN TRAFFIC OPERATIONS
   CONSTRUCTION LIASON FDOT
   11201 NORTH MCKINLEY DRIVE
   TAMPA, FLORIDA 33612
   PHONE: (813) 975-6268

   B.) MR. RANDELL CLARK
   SIGNAL SYSTEM SPECIALIST
   HERNANDO COUNTY TRAFFIC OPERATIONS DIVISION
   1525 E. JEFFERSON STREET
   BROOKSVILLE, FLORIDA 34701
   PHONE: (352) 754-4475, EX 17004

4. STATE OF FLORIDA STATUTE 556 (1999) REQUIRES THAT BEFORE EXCAVATING, NOTICE BE GIVEN TO THE UTILITY OWNER NOT LESS THAN TWO (2) FULL BUSINESS DAYS AND NO MORE THAN FIVE (5) FULL BUSINESS DAYS. NOT ALL UTILITY COMPANIES ARE MEMBERS OF "SUNSHINE" 1-800-432-4770.

5. ALL FIELD WIRING, INCLUDING SIGNAL HEAD WIRING AND LEAD-INS, SHALL BE IDENTIFIED BY CLEARLY MARKED WEATHER PROOF TAGS. THE PROPOSED TAGGING SYSTEM SHALL BE IN ACCORDANCE WITH THE CITY OF ST. PETERSBURG AND FDOT STANDARD SPECIFICATIONS.

6. WHEN A CONTRACTOR IS WORKING ON A SIGNAL IN AN INTERSECTION INSTALLING CONDUIT IN THE STREET, INSTALLING NEW SIGNAL EQUIPMENT, AND INSTALLING LOOPS AND RUNS, AND TURNING ON-OFF NEW SIGNAL WHERE A LANE IS CLOSED, A UNIFORMED LAW ENFORCEMENT OFFICER WITH MARKED VEHICLE SHALL BE UTILIZED TO DIRECT TRAFFIC. THE PAYMENT FOR A TRAFFIC CONTROL OFFICER SHALL BE PAID FOR UNDER ITEM NO. 102-14. ⚠

7. ALL NEW SIGNAL HEADS SHALL HAVE TUNNEL VISORS.

8. 699-1:
   INCLUDES ALL PIPES, BRACKETS, CLAMPS, NUTS, SOLTS, WIRE CONNECTIONS IN THE SIGNAL CABINET AND MISCELLANEOUS HARDWARE FOR THE CONTRACTOR TO FURNISH AND INSTALL THE INTERNALLY ILLUMINATED STREET NAME SIGNS TO BE MOUNTED ON THE STRAIN POLE AS SHOWN IN THE PLANS.

9. PRIOR TO ALL TRAFFIC SIGNAL CHANGES (I.E. MAINTENANCE OF TRAFFIC CHANGES, NEW SIGNAL INSTALLATIONS, DIFFERENT PAVEMENT CONFIGURATIONS, ETC.) CONTACT JILL WEHLE AT (813) 975-6241 FOR IMPLEMENTATION OF APPROPRIATE SIGNAL TIMINGS.

10. THE CONTRACTOR SHALL CONTACT THE LOCAL POWER COMPANY FOR THEIR ASSISTANCE IN PERFORMING ALL NECESSARY WORK UNDER POWER LINES. SUCH WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE INSTALLATION OF SPAN WIRE, SIGNAL CABLE, IBERGLASS INSULATORS, AND / OR SIGNAL POLES.

11. THE CONTRACTOR SHALL SUBMIT THE ASBUILT PLANS TO THE ENGINEER FOR APPROVAL PRIOR TO FINAL ACCEPTANCE. UPON FINAL ACCEPTANCE, THE ENGINEER SHALL PROVIDE AT LEAST ONE COPY OF THE FINAL AS-BUILT PLANS TO HERNANDO COUNTY AND ONE COPY TO FDOT DISTRICT TRAFFIC OPERATIONS. THE CONTRACTOR SHALL THEN TRANSFER THE SIGNAL TO HERNANDO COUNTY FOR MAINTENANCE.

12. 632-7-1: EACH PHASE / MOVEMENT SHALL BE WIRED FROM THE SIGNAL DISPLAY TO THE CONTROLLER AS A SEPARATE PHASE / MOVEMENT. THIS INCLUDES THE LEFT TURN MOVEMENTS WHICH SHALL HAVE CONDUCTORS AVAILABLE FOR EITHER PROTECTED OR PERMISSIVE MOVEMENTS. THE CONTRACTOR SHALL VERIFY COLOR CODES FOR SIGNAL CABLE AND INTERCONNECT CABLE WITH THE HERNANDO COUNTY SIGNAL SHOP BEFORE ORDERING AND WIRE THE SIGNAL IN ACCORDANCE WITH THAT COLOR CODE AND F.D.O.T. SPECIFICATIONS. THERE SHALL BE ONE NEUTRAL PER APPROACH. ⚠

13. ALL FIELD WIRES IN CABINET SHALL BE IDENTIFIED WITH PANDUIT #PLFM-C MARKER TIES OR EQUIVALENT.

14. ALL SIGNAL CABLE ON SPAN WIRES SHALL BE ATTACHED TO THE MESSENGER BY USE OF LASING ROD IN PLACE OF TIE WRAPS.

15. 650-51-511 AND 650-51-311; ALL TRAFFIC SIGNAL HEAD INDICATIONS SHALL BE LED.

16. ALL GROUND ROD CONNECTIONS SHALL BE MADE USING EXOTHERMIC WELD GROUND CONNECTORS.

    ALL UNUSED REDS SHALL BE HARD WIRED TO 120V AC; NO PLUG IN JUMPERS SHALL BE USED.

    CABLE CONDUIT BETWEEN THE CONTROLLER BASE AND ALL OF THE POLES SHALL BE A MINIMUM OF 2" PVC.

17. MAIN STREET IS U.S. HIGHWAY 19 (MOVEMENTS 2 AND 6), MINOR STREET IS PEPPER STREET / APPLEGATE DRIVE (MOVEMENTS 4 AND 8).

18. CONTROLLER CABINET AND OVERHEAD WIRING SHALL BE CAPABLE OF SOP 10 WITH ALL NECESSARY COMPONENTS AND OVERHEAD WIRING FURNISHED AND INSTALLED TO SUPPORT SOP 10. ⚠

19. THIS SIGNAL SHALL BE DESIGNED IN ACCORDANCE WITH FDOT DISTRICT 7 TRAFFIC DESIGN GUIDELINGES INDEXES 212, 214, AND 221.

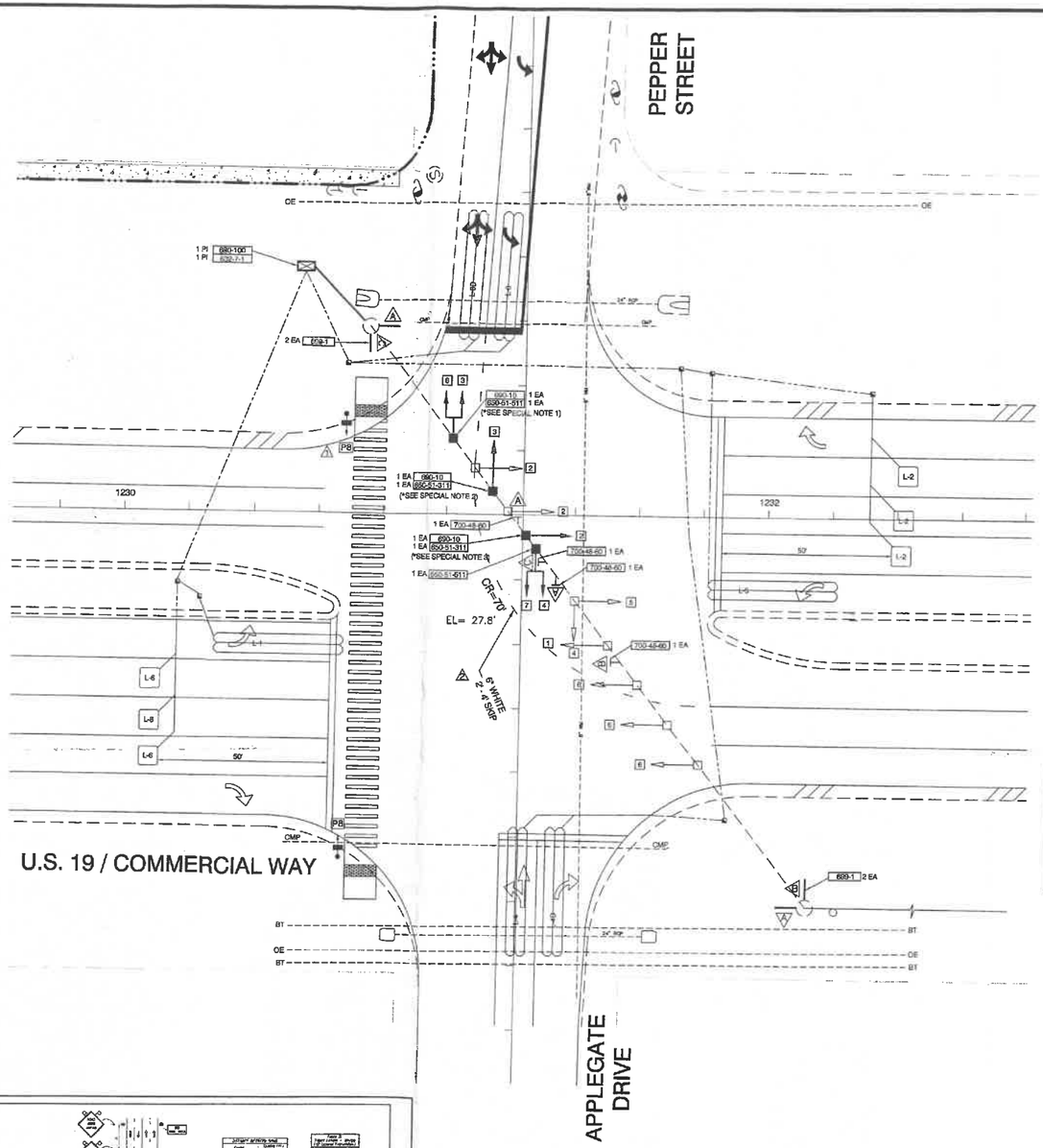
20. SIGNS SHALL BE CANTILEVERED, SINGLE FACED, ILLUMINATED.

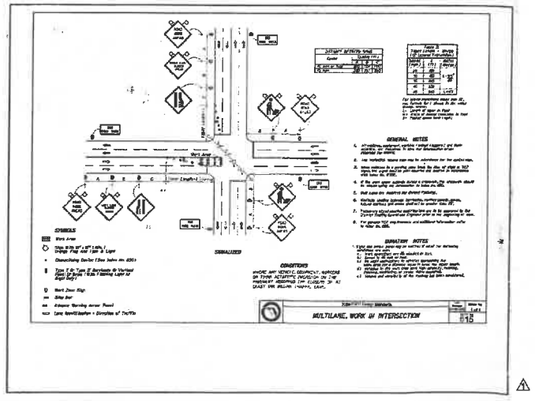
21. IDENTIFY THE FONTS ON THE SIGNS AS FOLLOWS:
   A) FOR STREET NAME, USE 8" EMOD, WITH CAPITAL FIRST LETTER AND REMAINING LETTERS IN LOWER CASE
   B) FOR BLOCK NUMBERS AND SUFFIX, USE 6"D, ALL CAPITALS ⚠
   C) ALL SIGNS TO HAVE WHITE LEGEND AND BORDER ON GREEN BACKGROUND.

22. THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE ONLY; THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION.

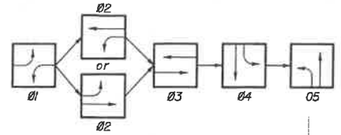
23. M.O.T. IN ACCORDANCE WITH FDOT STANDARD INDEX 615, SHEET 1 OF 1 ⚠

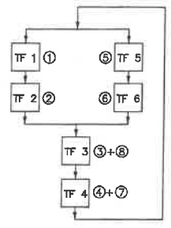
24. ALL REMOVED EQUIPMENT SHALL BE DELIVERED TO:
   HERNANDO COUNTY DEPARTMENT OF PUBLIC WORKS ⚠
   1525 EAST JEFFERSON STREET
   BROOKSVILLE, FLORIDA 34601
   ATTN: DAVID BLAND





SIGNAL OPERATING PLAN NO. 9





SOP #9

SIGNAL TIMING CHART ⚠

TIMING FUNCTIONS	TIMING FUNCTION	1	2	3	4	5	6
	MOVEMENT NO.	1	2	3,8	4,7	5	6
	MIN. GREEN (INITIAL)	5	20	5	5	5	20
	EXT. (PASS)	3	4	3	3	3	4
	MAXIMUM GREEN 1	25	50	30	30	25	50
	MAXIMUM GREEN II	–	–	–	–	–	–
	YELLOW CLEARANCE	3.5	5.0	3.5	3.5	3.5	5.0
	ALL RED CLEARANCE	1.0	2.0	1.0	1.0	1.0	2.0
	PEDESTRIAN WALK	–	–	5.0	5.0	–	–
	PEDESTRIAN CLEARANCE	–	–	37.0	37.0	–	–
	RECALL	–	MIN	–	–	–	MIN

SIGNAL TIMINGS ARE INITIAL AND MAY NEED ADJUSTMENT BY HERNANDO COUNTY.

CONTROLLER OPERATION

1. MAJOR STREET IS U.S. 19 AND MINOR STREET IS APPLEGATE DRIVE.

2. CONTROLLER TO BE 8 PHASE, ACTUATED, SOLID STATE, WITH STANDARD SIGNAL OPERATING PLAN NO. 9.

SPECIAL NOTES

1. REMOVE EXISTING 3-SECTION HEAD.
   INSTALL 5 SECTION HEAD. LOCATION TO REMAIN SAME. EXISTING DISCONNECT TO BE USED.

2. REMOVE EXISTING 3-SECTION HEAD. INSTALL 3-SECTION HEAD WITH ARROWS. LOCATION TO REMAIN SAME. EXISTING DISCONNECT TO BE USED.

3. EXISTING 2 WAY 3-SECTION HEAD TO BE REPLACED BY A ONE WAY 3-SECTION HEAD. EXISTING DISCONNECT TO BE USED.

TABLE OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNITS	QNTY
632-7-1	SIGNALS CABLE (FURNISH & INSTALL)	PI	1
650-51-311	TRAFFIC SIGNAL (FURNISH & INSTALL) (3 SECTION), (STANDARD) (LED)	AS	2
650-51-511	TRAFFIC SIGNAL (FURNISH & INSTALL) (5 SECTION), (STANDARD) (LED)	AS	2
659-106	SIGNAL HEAD AUXILIARIES (FURNISH & INSTALL) (TUNNEL VISOR)	EA	16
699-1	INTERNALLY ILLUMINATED SIGN (FURNISH & INSTALL)	EA	4

ITEMS TO BE REMOVED

PAY ITEM NUMBER	DESCRIPTION	UNIT	QTY
690-100	SIGNAL EQUIPMENT, MISCELLANEOUS	PI	1
700-48-60	SIGN PANEL (REMOVE)	EA	4
690-10	TRAFFIC SIGNAL HEAD ASSEMBLY, (REMOVE)	EA	3

NO.	DATE	DESCRIPTION	BY
6	5.02.08	AS PER COUNTY COMMENTS 1ST SUBMIT.	PBB
5	3.04.08	AS PER THE COUNTY COMMENTS DATED 2/28/08.	PBB

SCALE: AS SHOWN
DRAWN BY: RDK
PROJ. MANAGER: J Caldera
PROJ. #: 2432.003
DATE: 01.24.2008

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5/21/08
Jane A. Caldera
P.E. LIC. NO. 65116
THIS ITEM HAS BEEN DIGITALLY SIGNED BY A REGISTERED PROFESSIONAL
NOT VALID WITHOUT A SIGNATURE AND ORIGINAL SEAL
CERTIFICATE OF AUTHORIZATION No. 8199

ISSUED FOR: ☐ PRELIMINARY ☐ PERMITTING ☐ FINAL ■ CONSTRUCTION ☐ RECORD DWG

CIVIL ENGINEERING
LAND PLANNING
TRAFFIC/TRANSPORTATION
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL SERVICES
SURVEYING
GIS
2300 CURLEW ROAD, STE 107
PALM HARBOR, FLORIDA
34683
PHONE (727) 789-8500
FAX (727) 787-9555
AVIDGROUP.COM

US 19 AT APPLEGATE DRIVE
HERNANDO COUNTY, FLORIDA
SIGNAL MODIFICATION PLAN

SHEET NO. T-1.0

K:\PROJECTS\2432\003\Traffic\SIGNALMODIFICATION PLAN (PDF converted to DWG)\S1 T-1 sht\plotsh T-1 - PROPOSED SignalMod.dwg, 6/20/2008 9:05:08 AM, jcrow

Time of Day Plan

Designed By:	*AHB*
Date:	*03/31/23*
Checked By:	*ZCP*
Date:	*03/31/23*

Arterial: SR 55 (US 19)
Section: 08020000
From: Applegate Dr/Pepper St
To: Northcliffe Blvd/Frontage Rd

ALL SEASON PLAN

Day	Time	Pattern	Cycle Length
Monday Thru Friday	0000 - 0600	99	FREE
	0545 - 0900	1	140
	0900 - 1500	2	150
	1500 - 1830	3	160
	1830 - 2100	4	140
	2100 - 2400	99	FREE
Saturday & Sunday	0000 - 0900	99	FREE
	0900 - 2100	5	150
	2100 - 2400	99	FREE

Designed By:	*AHB*
Date:	*03/31/23*
Checked By:	*ZCP*
Date:	*03/31/23*

Location Details			
Section:	*08020000*	Mile Post:	*1.926*
Major Street:	*SR 55 (US 19)*	Orientation:	*North-South*
Minor Street:	*Spring Hill Dr/Osowaw Blvd*	Orientation:	*East-West*
Sig ID:	*6-2*	System ID:	*08020*

Controller Timings (seconds)

Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes
Direction	*NBL*	*SB*	*EBL*	*WB*	*SBL*	*NB*	*WBL*	*EB*	
Turn Type	*Prot*	*Prot*	*Prot*	*Prot*	*Prot*	*Prot*	*Prot*	*Prot*	
Min Green	*5*	*20*	*5*	*10*	*5*	*20*	*5*	*10*	
Ext	*3.0*	*4.0*	*4.0*	*3.0*	*3.5*	*4.0*	*4.0*	*3.0*	
Yellow	*5.6*	*5.6*	*4.1*	*4.5*	*5.6*	*5.6*	*4.5*	*4.1*	
All Red	*2.4*	*2.6*	*3.6*	*3.3*	*2.6*	*2.4*	*3.3*	*3.6*	
Max I	*35*	*60*	*15*	*35*	*35*	*35*	*15*	*35*	
Max II	*15*	*50*	*15*	*20*	*15*	*50*	*15*	*20*	
Walk		*7*		*7*					
Flashing Don't Walk		*50*		*35*					
Detector Memory									
Det. Cross Switch.									
Dual Entry		*ON*		*ON*		*ON*		*ON*	
Vehicle Recall		*MIN*				*MIN*			
CNA		*ON*				*ON*			
Rest in Walk									

Coordination Timings (seconds)

Pattern	C/O/S	Cycle Length	Splits								Offset	Sequence	Coord Ø
1	-	*140*	*20*	*66*	*20*	*34*	*30*	*56*	*29*	*25*	*50*	*2*	*2 & 6*
2	-	*150*	*25*	*65*	*30*	*30*	*45*	*45*	*30*	*30*	*0*	*2*	*2 & 6*
3	-	*160*	*35*	*70*	*25*	*30*	*45*	*60*	*30*	*25*	*2*	*2*	*2 & 6*
4	-	*140*	*20*	*65*	*20*	*35*	*30*	*55*	*30*	*25*	*49*	*2*	*2 & 6*
5	-	*150*	*20*	*65*	*30*	*35*	*40*	*45*	*35*	*30*	*135*	*2*	*2 & 6*

Offset Reference Point
Lead

Notes:
1) Use 'Inhibit Max' during coordination.
2) Use Floating Force Offs.
3) Max recall Ø2 and Ø6 during coordination.
4) Mainline left turns must not come up togeter due to lane restrictions
5) Controller Brand: Econolite ASC/3-2100
6) Use ped time: Off
7) Transition Mode : Smooth (12%)

SOP 10 (Sequence 1)

Ring - 1	2	1	3	4
Ring - 2	5	6	7	8

SOP 10 (Sequence 2)

Ring - 1	2	1	3	4
Ring - 2	5	6	7	8

Time of Day Plan

Designed By:	***AHB***
Date:	***03/31/23***
Checked By:	***ZCP***
Date:	***03/31/23***

Arterial: SR 55 (US 19)
Section: 08020000
From: Applegate Dr/Pepper St
To: Northcliffe Blvd/Frontage Rd

ALL SEASON PLAN

Day	Time	Pattern	Cycle Length
Monday Thru Friday	0000 - 0600	99	FREE
	0545 - 0900	1	140
	0900 - 1500	2	150
	1500 - 1830	3	160
	1830 - 2100	4	140
	2100 - 2400	99	FREE
Saturday & Sunday	0000 - 0900	99	FREE
	0900 - 2100	5	150
	2100 - 2400	99	FREE

Designed By:	*AHB*
Date:	*03/31/23*
Checked By:	*ZCP*
Date:	*03/31/23*

Location Details			
Section:	*08020000*	Mile Post:	*1.583*
Major Street:	*SR 55 (US 19)*	Orientation:	*North-South*
Minor Street:	*Applegate Dr/Pepper St*	Orientation:	*East-West*
Sig ID:	*6-1*	System ID:	*08020*

Controller Timings (seconds)

Movement # (Controller Phase Ø)	1	2		4	5	6		8	Notes
Direction	*NBL*	*SB*		*WB*	*SBL*	*NB*		*EB*	
Turn Type	*Prot*	*Prot*		*Prot*	*Prot*	*Prot*		*Prot*	
Min Green	*10*	*20*		*5*	*10*	*20*		*5*	
Ext	*3.0*	*4.0*		*3.0*	*3.0*	*4.0*		*3.0*	
Yellow	*5.6*	*5.5*		*3.7*	*5.5*	*5.6*		*3.4*	
All Red	*2.0*	*2.0*		*3.7*	*2.0*	*2.0*		*5.0*	
Max I	*35*	*60*		*35*	*35*	*60*		*35*	
Max II	*10*	*50*		*20*	*10*	*50*		*20*	
Walk		*7*						*7*	
Flashing Don't Walk		*19*						*40*	
Detector Memory									
Det. Cross Switch.									
Dual Entry		*ON*				*ON*			
Vehicle Recall		*MIN*				*MIN*			
CNA		*ON*				*ON*			
Rest in Walk									

Coordination Timings (seconds)

Pattern	C/O/S	Cycle Length	Splits								Offset	Sequence	Coord Ø
1	-	*140*	*25*	*60*		*27*	*25*	*60*		*28*	*51*	*4*	*2 & 6*
2	-	*150*	*25*	*65*		*25*	*25*	*65*		*35*	*12*	*4*	*2 & 6*
3	-	*160*	*25*	*54*		*25*	*25*	*54*		*56*	*18*	*4*	*2 & 6*
4	-	*140*	*22*	*37*		*25*	*22*	*37*		*56*	*63*	*4*	*2 & 6*
5	-	*150*	*25*	*44*		*25*	*25*	*44*		*56*	*145*	*4*	*2 & 6*

Offset Reference Point
Lead

Notes:
1) Use 'Inhibit Max' during coordination.
2) Use Floating Force Offs.
3) Max recall Ø2 and Ø6 during coordination.
4) Controller Brand: Econolite ASC/3-2100
5) Use ped time: Off
6) Transition Mode : Smooth (12%)

SOP 9 (Sequence 1)

Ring - 1	1	2	8	4
Ring - 2	5	6		

SOP 9 (Sequence 4)

Ring - 1	1	2	8	4
Ring - 2	6	5		

CONTRACT PLANS COMPONENTS

ROADWAY PLANS

STATE OF FLORIDA

DEPARTMENT OF TRANSPORTATION

CONTRACT PLANS

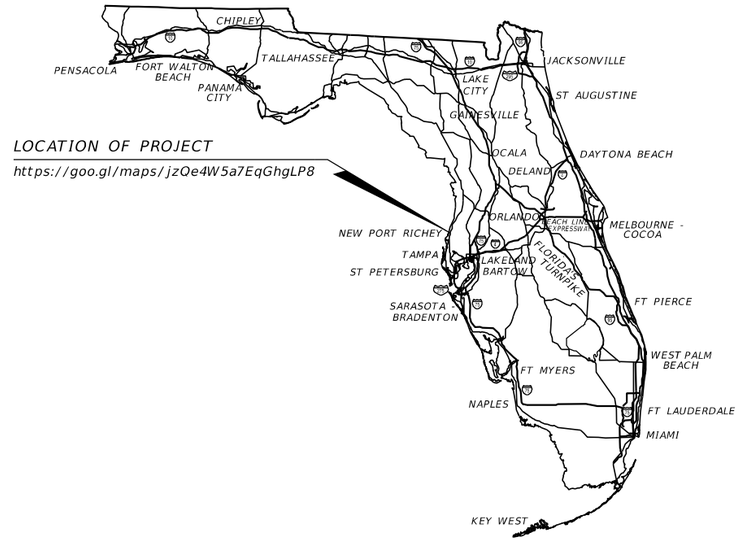
FINANCIAL PROJECT ID 254677-2-52-93

(FEDERAL FUNDS)

HERNANDO COUNTY (08020)

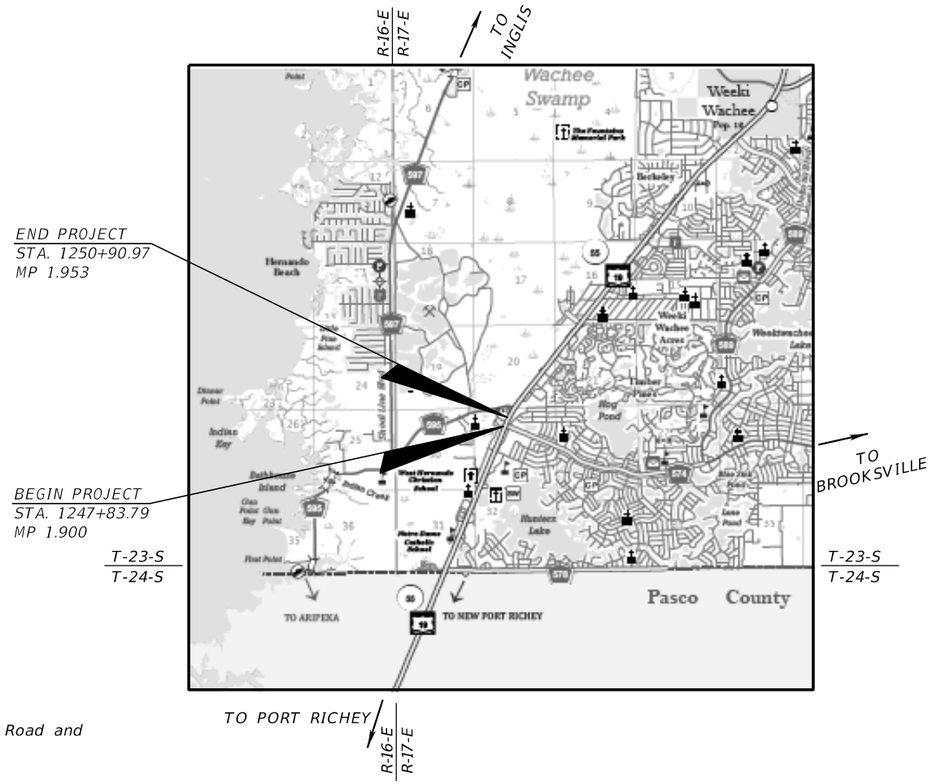
STATE ROAD NO. 55 (US 19)

TASK WORK ORDER #36



LOCATION OF PROJECT

https://goo.gl/maps/jzQe4W5a7EqGhgLP8



END PROJECT
STA. 1250+90.97
MP 1.953

BEGIN PROJECT
STA. 1247+83.79
MP 1.900

INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
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9	ROADWAY PLAN
10 - 11	TEMPORARY TRAFFIC CONTROL PLAN
12	SUMMARY OF VERIFIED UTILITIES
13	SIGNING AND PAVEMENT MARKING PLAN
14	SIGNALIZATION PLAN
15	LIGHTING PLAN
16	LIGHTING SERVICE POINT DETAILS
SQ-1	SUMMARY OF QUANTITIES

wsp

SUBMITTAL RFC
QC CHECKING PROCESS

	Signature	Date	Discipline
ORIGINATOR (Ready for Checking)	K. Pritchard	1/9/23	RDWY
CHECKER Correct: Yellow Highlight Incorrect: Red Markups Comments: Black Cloud			
BACKCHECKER (Originator) Agree: Green Checks Disagree: Green Strike Through			
CORRECTOR Blue Circle			
VERIFIER Correct: Green Circle Incorrect: Red on clean print & return To Backchecker New Comment: Black Cloud			
QC Process Approved By:			

GOVERNING STANDARD PLANS:

Florida Department of Transportation, FY 2020-21 Standard Plans for Road and Bridge Construction and applicable Interim Revisions (IRs).

Standard Plans for Road Construction and associated IRs are available at the following website: http://www.fdot.gov/design/standardplans

APPLICABLE IRs: IR102-600

GOVERNING STANDARD SPECIFICATIONS:

Florida Department of Transportation, January 2021 Standard Specifications for Road and Bridge Construction at the following website: http://www.fdot.gov/programmanagement/Implemented/SpecBooks

ROADWAY PLANS ENGINEER OF RECORD:

DANIEL A. CARNLEY, P.E. NO. 75529
WSP USA, INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607
(813) 520-4444
CONTRACT NO.: C-E7R27
VENDOR NO.: 111531569

FDOT PROJECT MANAGER:

MEGAN ARASTEH, P.E.

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
E7R27	22	1

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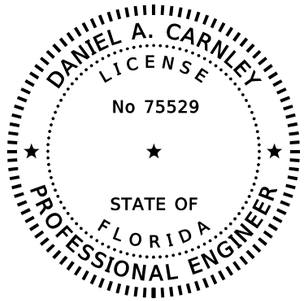

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ON THE DATE ADJACENT TO THE SEAL

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WSP USA, INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FLORIDA 33607
DANIEL A. CARNLEY, P.E. NO. 75529

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

ROADWAY PLANS

SHEET NUMBER	SHEET DESCRIPTION
1	KEY SHEET
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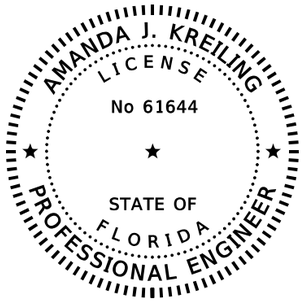

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WSP USA, INC.
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TAMPA, FLORIDA 33607
CAITLIN E. CARNLEY, P.E. NO. 86250

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ROADWAY PLANS

SHEET NUMBER	SHEET DESCRIPTION
2	SIGNATURE SHEET
12	SIGNING AND PAVEMENT MARKING PLAN
13	SIGNALIZATION PLAN
14	LIGHTING PLAN
15	LIGHTING SERVICE POINT DETAILS

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

DANIEL A. CARNLEY
P.E. NO.: 75529
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

SIGNATURE SHEET

SHEET NO. 2

SUMMARY OF PAY ITEMS

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY TOTAL	
			PLAN	FINAL
101-1	MOBILIZATION	LS	1	
102-1	MAINTENANCE OF TRAFFIC	LS	1	
102-14	TRAFFIC CONTROL OFFICER	HR	160	
102-4	PEDESTRIAN SPECIAL DETOUR	LS	2	
102-60	WORK ZONE SIGN	ED	3106	
102-74-1	CHANNELIZING DEVICE- TYPES I, II, D1, VP, DRUM, OR VLCD	ED	3012	
102-74-8	CHANNELIZING DEVICE- PEDESTRIAN LCD (LONGITUDINAL CHANNELIZING DEVICE)	FD	1600	
102- 76	ARROW BOARD / ADVANCE WARNING ARROW PANEL	ED	136	
102-99	PORTABLE CHANGEABLE MESSAGE SIGN, TEMPORARY	ED	230	
102-104	TEMPORARY SIGNALIZATION AND MAINTENANCE OF INTERSECTION	ED	115	
102-107-1	TEMPORARY TRAFFIC DETECTION AND MAINTENANCE OF INTERSECTION	ED	115	
102-115	CHANNELIZING DEVICE (TEMPORARY)(TYPE III) (6')	ED	160	
102-150-1	PORTABLE REGULATORY SIGN	ED	160	
102-150-2	RADAR SPEED DISPLAY UNIT	ED	160	
104-18	INLET PROTECTION SYSTEM	EA	1	
110-2-1	CLEARING & GRUBBING (PUSH BUTTON CONTRACT)	AC	0.09	
110-4-10	REMOVAL OF EXISTING CONCRETE PAVEMENT	SY	83	
120-1	REGULAR EXCAVATION	CY	57.0	
120-6	EMBANKMENT	CY	28.5	
160-4	TYPE B STABILIZATION	SY	38	
285-715	OPTIONAL BASE, BASE GROUP 15, ASPHALT	SY	47	
327-70-19	MILLING EXIST ASPH PAVT, 3/4" AVG DEPTH	SY	2292	
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC C, 1-199 TONS	TN	10.3	
337-7-25	ASPHALT CONCRETE FRICTION COURSE (FC-5, PG 76-22), 1-199 TONS	TN	92.2	
425-6	ADJUSTING VALVE BOXES	EA	1	
520-1-7	CONCRETE CURB & GUTTER, TYPE E	LF	35	
520-2-2	CONCRETE CURB, TYPE B	LF	33	
520-5-11	TRAFFIC SEPARATOR CONCRETE - TYPE I, 4' WIDE	LF	7	
522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6" THICK	SY	122	
527-2	DETECTABLE WARNINGS	SF	157	
570-1-2	PERFORMANCE TURF, SOD	SY	232	

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

DANIEL A. CARNLEY
P.E. NO.: 75529
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

SUMMARY OF PAY ITEMS (1)

SHEET NO.
3

SUMMARY OF PAY ITEMS

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY TOTAL	
			PLAN	FINAL
630-2-11	CONDUIT (F&I) (OPEN TRENCH)	LF	705	
630-2-12	CONDUIT (F&I) (DIRECTIONAL BORE)	LF	620	
632-7-1	SIGNAL CABLE (NEW OR RECONSTRUCTED INTERSECTION - FURNISH & INSTALL)	PI	1	
632-7-6	SIGNAL CABLE (REMOVE) (WITHIN INTERSECTION)	PI	1	
635-2-11	PULL & SPLICE BOX (F&I) (13" X 24" COVER SIZE)	EA	24	
635-2-14	PULL & SPLICE BOX (F&I) (17" X 30" COVER SIZE)	EA	2	
646-1-11	ALUMINUM SIGNALS POLE (F&I) (PEDESTAL)	EA	8	
646-1-60	ALUMINUM SIGNALS POLE (REMOVE)	EA	2	
653-1-11	PEDESTRIAN SIGNAL (F&I) (LED COUNTDOWN) (1 WAY)	AS	8	
660-2-106	LOOP ASSEMBLY (F&I) (TYPE F)	AS	13	
665-1-11	PEDESTRIAN DETECTOR (F&I) (STANDARD)	EA	8	
670-5-400	TRAFFIC CONTROLLER ASSEMBLY (MODIFY)	AS	1	
676-1-500	TRAFFIC SIGNAL CONTROLLER CABINET (ADJUST / MODIFY)	EA	1	
678-1-102	CONTROLLER ACCESSORIES (F&I) (TYPE 6 CONFLICT MONITOR)	EA	2	
700-1-11	SINGLE POST SIGN (F&I) (GROUND MOUNT) (UP TO 12 SF)	AS	2	
700-1-50	SINGLE POST SIGN (RELOCATE)	AS	3	
700-1-60	SINGLE POST SIGN (REMOVE)	AS	3	
705-10-1	OBJECT MARKER (TYPE 1)	EA	2	
705-11-3	DELINEATOR (FLEXIBLE HIGH VISIBLITY MEDIAN)	EA	2	
706-1-1	RAISED PAVEMENT MARKER, TYPE B WITHOUT FINAL SURFACE MARKINGS	EA	53	
*	WHITE/RED (W/R)		33	
	MONO DIRECTIONAL YELLOW (MD/Y)		20	
710-11-101	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (SOLID) (6")	GM	0.116	
710-11-102*	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (SOLID FOR INTERCHANGE AND URBAN ISLAND)(8")	GM	0.036	
710-11-123	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (SOLID) (12")	LF	910	
710-11-124*	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (SOLID) (18")	LF	23	
710-11-125	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (SOLID) (24")	LF	375	
710-11-141	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, 2-4 DOTTED GUIDELINE/ 6-10 DOTTED EXTENSION, 6"	GM	0.020	
710-11-170	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (ARROWS)	EA	7	
710-11-201	PAINTED PAVEMENT MARKINGS (STANDARD) (YELLOW) (SOLID) (6")	GM	0.034	
710-11-290	PAINTED PAVEMENT MARKINGS (STANDARD) (YELLOW) (ISLAND NOSE)	SF	18	
711-11-123	THERMOPLASTIC (STANDARD) (WHITE) (SOLID) (12")	LF	767	
711-11-124	THERMOPLASTIC (STANDARD) (WHITE) (SOLID) (18")	LF	23	
711-11-125	THERMOPLASTIC (STANDARD) (WHITE) (SOLID) (24")	LF	189	
711-11-141	THERMOPLASTIC, STANDARD, WHITE, 2-4 DOTTED GUIDELINE/ 6-10 GAP EXTENSION, 6"	GM	0.020	
711-11-170	THERMOPLASTIC (STANDARD) (WHITE) (ARROW)	EA	7	
711-14-125	THERMOPLASTIC (PREFORMED) (WHITE) (SOLID) (24")	LF	671	
711-14-160	THERMOPLASTIC (PREFORMED) (WHITE) (MESSAGE)	EA	2	
711-14-170	THERMOPLASTIC (PREFORMED) (WHITE) (ARROWS)	EA	2	
711-15-101	THERMOPLASTIC (STANDARD - OPEN GRADED ASPHALT) (WHITE) (SOLID) (6")	GM	0.116	
711-15-102	THERMOPLASTIC (STANDARD - OPEN GRADED ASPHALT) (WHITE) (SOLID) (8")	GM	0.036	
711-15-201	THERMOPLASTIC (STANDARD - OPEN GRADED ASPHALT) (YELLOW) (SOLID) (6")	GM	0.034	
711-17	THERMOPLASTIC (REMOVE EXISTING)	SF	1334	
715-1-12	LIGHTING CONDUCTORS (F&I) (INSULATED) (NO. 8 TO NO. 6)	LF	2850	
715-4-14	LIGHT POLE COMPLETE (F&I) (STANDARD) STANDARD FOUNDATION (45' MOUNTING HEIGHT)	EA	3	
715-4-60	LIGHT POLE COMPLETE (RELOCATE)	EA	1	
715-4-70	LIGHT POLE COMPLETE (REMOVE POLE AND FOUNDATION)	EA	1	
715-7-11	LOAD CENTER (F&I) (SECONDARY VOLTAGE)	EA	1	
715-500-1	POLE CABLE DISTRIBUTION SYSTEM (CONVENTIONAL)	EA	3	

*710-11-123, 710-11-125, AND 711-17 INCLUDE THE COST TO CONSTRUCT A TEMPORARY CROSSWALK IN PHASE I OF THE TEMPORARY TRAFFIC CONTROL PLAN.

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

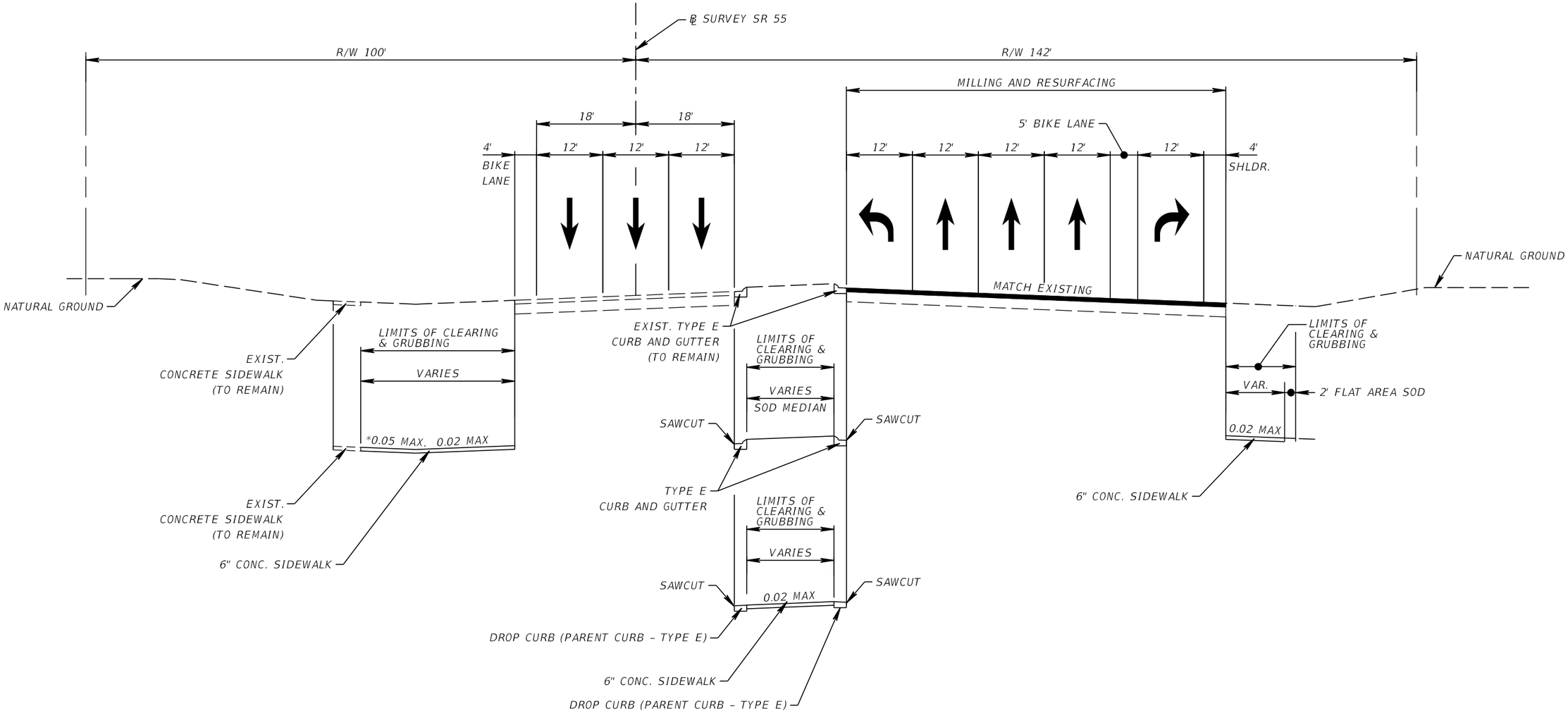
DANIEL A. CARNLEY
P.E. NO.: 75529
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

SUMMARY OF PAY ITEMS (2)

SHEET NO. 4



*0.05 MAX. IS LIMITED TO THE LONGITUDINAL PROFILE.
USE 0.02 MAX. FOR PERPENDICULAR CROSS SLOPE

SR 55 (US 19)
(SOUTH LEG - SEE PLANS FOR LIMITS)

TRAFFIC DATA

CURRENT YEAR = 2022 AADT = 45000
ESTIMATED OPENING YEAR = N/A AADT = N/A
ESTIMATED DESIGN YEAR = N/A AADT = N/A
K = 9 % D = 54% T = 5 % (24 HOUR)
DESIGN HOUR T = 2%
DESIGN SPEED = 65 MPH

MILLING AND RESURFACING

MILL EXISTING ASPHALT PAVEMENT FOR DEPTH (3/4")
RESURFACE WITH FRICTION COURSE FC-5 (3/4") (PG 76-22)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

DANIEL A. CARNLEY
P.E. NO.: 75529
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

TYPICAL SECTION (1)

SHEET NO. 5

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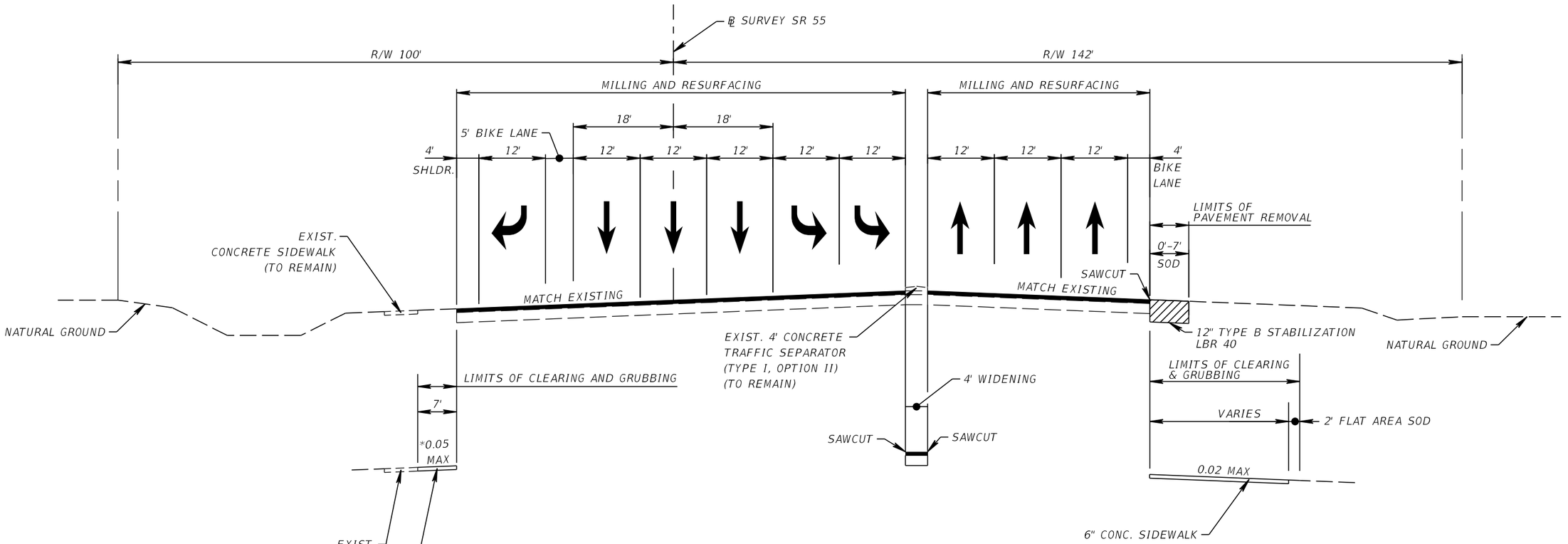

*0.05 MAX. IS LIMITED TO THE LONGITUDINAL PROFILE.
USE 0.02 MAX. FOR PERPENDICULAR CROSS SLOPE

SR 55 (US 19)
(NORTH LEG - SEE PLANS FOR LIMITS)

MILLING AND RESURFACING

MILL EXISTING ASPHALT PAVEMENT FOR DEPTH (3/4")
RESURFACE WITH FRICTION COURSE FC-5 (3/4") (PG 76-22)

WIDENING

OPTIONAL BASE GROUP 15 (TYPE B-12.5 ONLY)
TYPE SP STRUCTURAL COURSE (TRAFFIC C) (4")
WITH FRICTION COURSE FC-5 (3/4") (PG 76-22)

TRAFFIC DATA

CURRENT YEAR = 2022 AADT = 45000
ESTIMATED OPENING YEAR = N/A AADT = N/A
ESTIMATED DESIGN YEAR = N/A AADT = N/A
K = 9 % D = 54% T = 5 % (24 HOUR)
DESIGN HOUR T = 2%
DESIGN SPEED = 65 MPH

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

DANIEL A. CARNLEY
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WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

TYPICAL SECTION (2)

SHEET NO. 6

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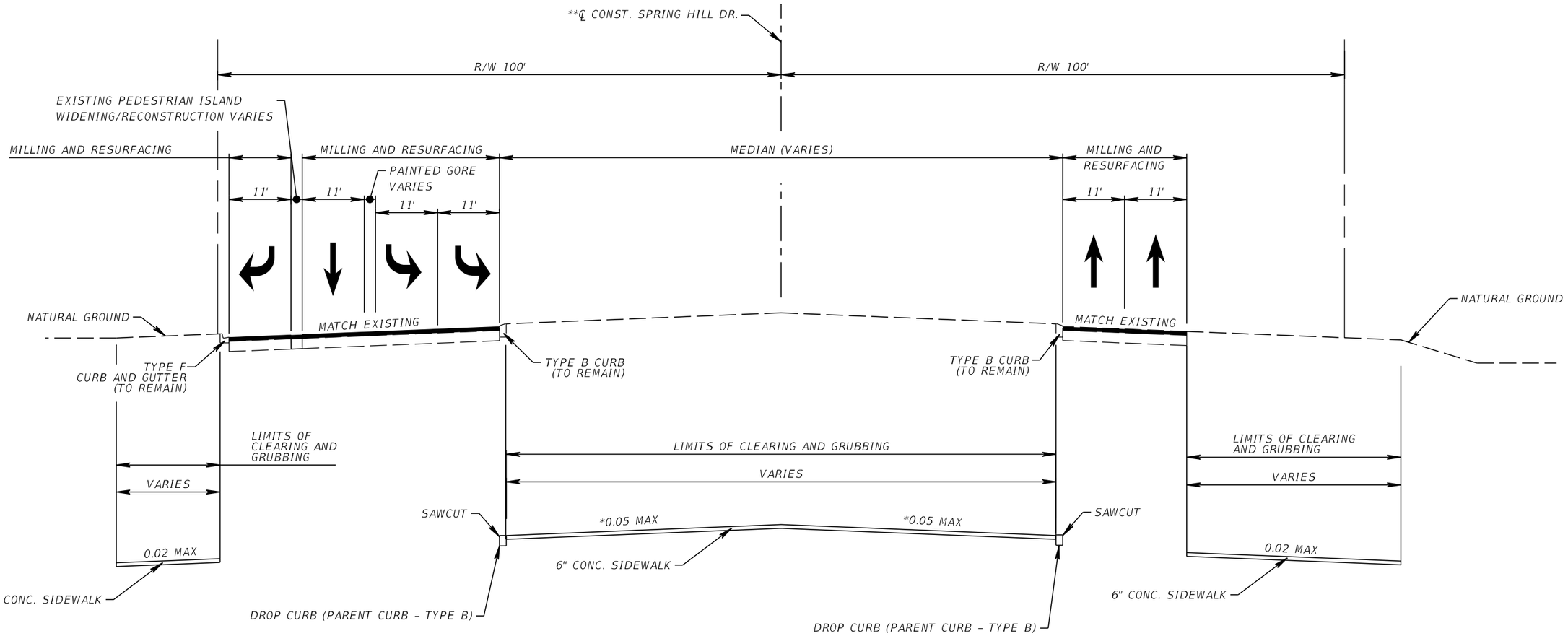

*0.05 MAX. IS LIMITED TO THE LONGITUDINAL PROFILE.
USE 0.02 MAX. FOR PERPENDICULAR CROSS SLOPE

**CONSTRUCTION STAKING TO BE BASED ON THE BASELINE OF SURVEY OF SR 55

TRAFFIC DATA

CURRENT YEAR = 2022 AADT = 45000
ESTIMATED OPENING YEAR = N/A AADT = N/A
ESTIMATED DESIGN YEAR = N/A AADT = N/A
K = 9 % D = 54% T = 6% (24 HOUR)
DESIGN HOUR T = 3%
DESIGN SPEED = 40 MPH

SPRING HILL DR. (EAST LEG)
(SEE PLANS FOR LIMITS)

MILLING AND RESURFACING

MILL EXISTING ASPHALT PAVEMENT FOR DEPTH (3/4")
RESURFACE WITH FRICTION COURSE FC-5 (3/4") (PG 76-22)

WIDENING

OPTIONAL BASE GROUP 15 (TYPE B-12.5 ONLY)
TYPE SP STRUCTURAL COURSE (TRAFFIC C) (4")
WITH FRICTION COURSE FC-5 (3/4") (PG 76-22)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

DANIEL A. CARNLEY
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

TYPICAL SECTION (3)

SHEET NO. 7

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GENERAL NOTES

1. PROJECT RIGHT-OF-WAY, SURVEY CONTROL AND ALIGNMENTS WERE ESTABLISHED FROM FPID:427152-1-52-01

2. THE LOCATION(S) OF THE UTILITIES SHOWN IN THE PLANS (INCLUDING THOSE DESIGNATED Vv, Vh, AND Vvh) ARE BASED ON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE CONSIDERED APPROXIMATE ONLY. THE VERIFIED LOCATIONS/ELEVATIONS APPLY ONLY AT THE POINTS SHOWN. INTERPOLATIONS BETWEEN THESE POINTS HAVE NOT BEEN VERIFIED.

3. UTILITY/AGENCY OWNERS:

COMPANY	CONTACT	TELEPHONE NUMBERS
AT&T DISTRIBUTION	RICK MARINO	352-238-1882
CENTURYLINK/LUMEN	MARK (WOODY) CALDWELL	321-287-9942
HERNANDO COUNTY	JARED WARING	352-754-4759
SPECTRUM	WAYNE MICHAELS	352-302-6615
TECO PEOPLES GAS	JENNA JACKSON	813-917-9446
WITHLACOOCHEE RIVER ELECTRIC COMPANY	DON TAULBEE	352-596-4000 X3138
ZAYO GROUP/FORMERLY LIGHTWAVE, LLC	BRUCE HERRINGTON	252-207-2400

4. SPECIAL EVENT DAYS FOR THIS PROJECT INCLUDE:
EVENTS IN HOMOSASSA WITH AN ANTICIPATED CROWD OF 20K OR HIGHER
EVENTS IN SPRING HILL WITH AN ANTICIPATED CROWD OF 20K OR HIGHER

SIGNALIZATION NOTES

1. MAINTAINING AGENCY: HERNANDO COUNTY.

2. CONTACT THE FOLLOWING PERSONNEL ONE WEEK PRIOR TO THE TRAFFIC SIGNAL CONSTRUCTION:

A) CURTIS DEMPSEY, FDOT DISTRICT SEVEN TRAFFIC OPERATIONS
CONSTRUCTION LIAISON
FLORIDA DEPARTMENT OF TRANSPORTATION
11201 NORTH McKINLEY DRIVE
TAMPA, FLORIDA 33612
PHONE: (813) 975 – 6226
EMAIL: curtis.dempsey@dot.state.fl.us

B) HERNANDO COUNTY DEPARTMENT OF PUBLIC WORKS
1525 EAST JEFFERSON STREET
BROOKSVILLE, FLORIDA 34601
PHONE: (352) 754 – 4060

3. PRIOR TO INSTALLATION OF NEW TRAFFIC SIGNAL, CONTACT HERNANDO COUNTY DEPARTMENT OF PUBLIC WORKS AT (352) 754–4060 AT LEAST 48 HOURS IN ADVANCE FOR IMPLEMENTATION OF APPROPRIATE SIGNAL TIMINGS.

4. MEET THE FOLLOWING REQUIREMENTS WHEN USING THE EQUIPMENT TO INSTALL THE MAST ARM POLE FOUNDATIONS:

A) MAINTAIN OVERHEAD LINE LOCATIONS BOTH VERTICALLY AND HORIZONTALLY.

5. USE A NINE CONDUCTOR SIGNAL CABLE FOR EACH TURNING MOVEMENT SIGNAL HEAD. USE A SEVEN CONDUCTOR SIGNAL CABLE FOR EACH THROUGH MOVEMENT SIGNAL INDICATION. USE A FIVE CONDUCTOR SIGNAL CABLE FOR EACH PEDESTRIAN MOVEMENT SIGNAL INDICATION. USE A TWO CONDUCTOR SHIELDED CABLE FOR EACH PEDESTRIAN BUTTON. USE A FIVE CONDUCTOR CABLE FOR EACH ILLUMINATED LED STREET NAME SIGN. CONTACT HERNANDO COUNTY DEPARTMENT OF PUBLIC WORKS TRAFFIC AT (352)754–4060 FOR UPDATES.

PAY ITEM NOTES

630–2–11:
TWO SEPARATE UNDERGROUND CONDUIT RUNS LOCATED 180 DEGREES APART ARE REQUIRED FOR ALL SIGNAL MAST ARMS. THERE SHALL BE A MINIMUM OF TWO RUNS OF 2" CONDUIT BETWEEN THE LAST LOW VOLTAGE PULL BOX LOCATED NEAR THE CONTROLLER CABINET.

630–2–12:
CONDUITS INSTALLED WITH THE DIRECTIONAL BORE METHOD SHALL BE HDPE WITH A MINIMUM SIZE OF 2" UNLESS OTHERWISE NOTED IN THE PLANS.

632–7–1:
WIRE EACH PHASE/MOVEMENT FROM THE SIGNAL DISPLAY TO THE CONTROLLER AS A SEPARATE PHASE/MOVEMENT, COORDINATE APPROVED SPLICE KITS WITH HERNANDO COUNTY AND INSTALL IN THE BASE OF THE SIGNAL POLE. THIS INCLUDES THE LEFT TURN MOVEMENT THAT HAS CONDUCTORS AVAILABLE FOR EITHER PROTECTED OR PERMISSIVE MOVEMENTS. VERIFY COLOR CODES FOR SIGNAL CABLE WITH THE HERNANDO COUNTY TRAFFIC SIGNAL SUPERVISOR BEFORE ORDERING. WIRE THE SIGNAL IN ACCORDANCE WITH THAT COLOR CODE. INCLUDE ONE NEUTRAL PER APPROACH. WIRE ALL PEDESTRIAN DETECTORS USING SEPARATE CABLE, UTILIZING LOW VOLTAGE CONDUIT AND PULL BOXES. REFER TO THE MAST ARM TABULATION SHEET FOR MORE INFORMATION.

635–2–11 / 635–2–14:
THE SIGNAL CABLE PULL BOXES ADJACENT TO THE CONTROLLER CABINET SHALL BE 17"X30". ALL PULL BOX LIDS FOR PULL BOXES USED SIGNALIZATION SHALL DISPLAY THE TEXT, "TRAFFIC SIGNAL" IN STAMPED EMBOSSED LETTERS.

665–1–11:
PUSH BUTTON SHALL HAVE A VISUAL INDICATION OF ACTUATION AND SHALL REMAIN ILLUMINATED UNTIL THE PEDESTRIAN WALK INDICATION IS DISPLAYED.

670–5–400:

NOTIFY THE HERNANDO COUNTY SIGNAL SHOP AND FDOT DISTRICT SEVEN TRAFFIC OPERATIONS VIA PHONE AT (352)754–4060 AT LEAST 48 HOURS IN ADVANCE OF TURNING ON A NEW OR MODIFIED CONTROLLER CABINET ASSEMBLY.

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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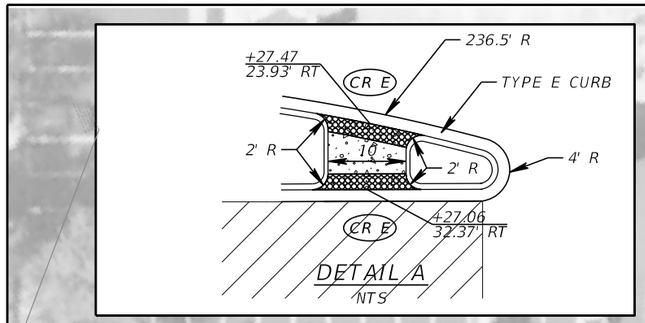
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

GENERAL NOTES

SHEET NO. 8



OSOWAW BLVD.

R/W LINE

WREC 25 KV DISTRIBUTION & 115 KV TRANSMISSION

1248+35.75
100.00' LT

VVH101
VVH106
TH
TH
+29.56
47.57' LT
EX. EL. 18.70

VVH107

+23.56
54.20' LT
EX. EL. 18.96

CONST. 6' CONC. SWK.

+23.56
39.37' LT
EL. 18.31

+23.56
24.37' LT
EX. EL. 18.61

+29.56
39.37' LT
EL. 18.37

+29.56
27.02' LT
EX. EL. 18.56

1247 1248 1249 1250 1251 1252

N 23° 35' 59" E

SR 55 (US 19)

BEGIN TYPE E C&G
STA. 1248+16.22
20.41' RT

+42.51
25.95' RT

DETAIL A

+83.79
33.94' RT

+41.86
33.83' RT

+41.86
82.38' RT

BEGIN PROJECT
BEGIN CONSTRUCTION
STA. 1247+83.79
N = 1500198.23
E = 454515.95

END TYPE E C&G
STA. 1248+16.22
33.91' RT

+83.40
99.08' RT

+24.06
103.28' RT
EX. EL. 18.34

CONST. 6' SIDEWALK

+24.06
118.36' RT
EL. 18.11

ADJUST WATER VALVE

R/W LINE

+49.31
118.36' RT
EX. EL. 18.31

1248+36.12
142.00' RT

+53.34
122.86' RT

R/W LINE

SPRING HILL DR.

℄ SURVEY SR 55

+03.33
113.91' RT

CR E

+99.23
122.86' RT

+64.28
115.12' RT

CR E

CONST. 6' SIDEWALK

+80.50
171.19' RT

+26.30
171.19' RT

R/W LINE

+45.12
45.67' LT
EX. EL. 19.67

+27.28
45.37' LT

+24.59
43.57' LT

+19.64
45.62' LT

+18.74
42.36' LT

+12.41
41.31' LT

+24.61
41.86' LT

+24.63
39.61' LT

+45.12
41.11' LT
EX. EL. 19.89

1250+35.75
100.00' LT

R/W LINE

CONST. 6' CONC. SWK.

+51.12
45.81' LT
EX. EL. 19.68

+51.12
40.89' LT
EX. EL. 19.94

VVH105
TH
TH

VVH109

+91.81
51.38' LT
EX. EL. 19.79

CONST. 6' CONC. SWK.

+91.82
46.57' LT
EX. EL. 19.88

VVH104

+90.97
39.85' LT

+51.12
40.89' LT
EX. EL. 19.61

+78.37
46.43' LT
EX. EL. 19.77

END PROJECT
END CONSTRUCTION
STA. 1250+90.97
N = 1500479.71
E = 454638.93

SR 55 (US 19)

CONST. TYPE I TRAFFIC SEPARATOR

+55.96
41.94' RT

+60.62
41.94' RT

2' R

PC STA. 1250+80.00

+90.97
41.96' RT

+60.62
45.98' RT

+55.96
45.99' RT

+55.62
45.99' RT

45' R

+12.41
82.38' RT

+79.82
86.06' RT

+12.39
86.23' RT

+55.62
90.60' RT

+51.12
93.18' RT
EL. 17.75

+30.70
130.97' RT

+28.58
130.52' RT

CONST. 6' SIDEWALK

+51.12
118.36' RT
EL. 17.84

+32.47
118.36' RT
EX. EL. 18.22

1250+36.16
132.00' RT

VVH110
VVH108
VVH103
VVH102

R/W LINE

0 10 40
Feet

LEGEND

- WIDENING
- PAVEMENT REMOVAL
- MILL EXISTING ASPHALT PAVEMENT FOR DEPTH (¾")
- CONCRETE SIDEWALK
- DETECTABLE WARNINGS

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

DANIEL A. CARNLEY
P.E. NO.: 75529
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

ROADWAY PLAN

SHEET NO. 9

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TEMPORARY TRAFFIC CONTROL PLAN (TTCP) PHASING NOTES:

PHASE I:

THE INTENT OF THIS PHASE IS TO CONSTRUCT THE PROPOSED PAVEMENT WIDENING, SIDEWALK AND CURB WORK, SIGNALIZATION/LIGHTING CONDUIT, PULL BOXES, AND LIGHTING/SIGNAL FOUNDATION WORK IN SUCH A WAY THAT AT LEAST ONE CROSSWALK SPANNING SR 55 (US 19) IS PROVIDED AT ALL TIMES.

1. INSTALL ADVANCE WARNING SIGNS AS SHOWN IN THE ADVANCE WARNING SIGN DETAILS.

2. CONSTRUCT PROPOSED MEDIAN WORK ON THE SOUTH SIDE OF SR 55 (US 19) BY CLOSING THE INSIDE SOUTHBOUND TRAVEL LANE AND THE NORTHBOUND LEFT TURN LANE USING INDEX 102-613,102-615 AND 102-670. UTILIZE THE NORTHBOUND INSIDE TRAVEL LANE TO MAINTAIN THE NORTHBOUND LEFT MOVEMENT. MAINTAIN ALL TURNING MOVEMENTS THROUGH THE INTERSECTION WITH A TRAFFIC CONTROL OFFICER.

3. CONSTRUCT SIDEWALK AND CURB WORK, SIGNALIZATION/LIGHTING CONDUIT, PULL BOXES, AND LIGHTING/SIGNAL FOUNDATION WORK ON THE SOUTHEAST AND SOUTHWEST QUADRANTS OF THE INTERSECTION USING INDEX 102-613, 102-616, 102-660 AND 102-670. REMOVE EXISTING STRIPING AND PLACE TEMPORARY STRIPING TO ALLOW FOR A TEMPORARY CROSSWALK SPANNING SR 55 (US 19) AT THE SOUTH LEG OF THE INTERSECTION AT THE LOCATION SHOWN IN THE SIGNING AND PAVEMENT MARKING PLAN.

4. CONSTRUCT PROPOSED MEDIAN WORK ON THE NORTH SIDE OF SR 55 (US 19) BY CLOSING THE INSIDE NORTHBOUND TRAVEL LANE, THE INSIDE SOUTHBOUND LEFT TURN LANE, AND THE INSIDE EASTBOUND LEFT TURN LANE USING INDEX 102-613, 102-615 AND 102-670. UTILIZE THE SOUTHBOUND OUTSIDE TURN LANE TO MAINTAIN THE SOUTHBOUND LEFT MOVEMENT AND THE OUTSIDE EASTBOUND TURN LANE TO MAINTAIN THE EASTBOUND LEFT MOVEMENT. MAINTAIN ALL TURNING MOVEMENTS THROUGH THE INTERSECTION WITH A TRAFFIC CONTROL OFFICER. CLOSE THE EXISTING CROSSWALK AT THE NORTH LEG OF THE INTERSECTION AND MAINTAIN PEDESTRIAN ROUTES USING THE SOUTH LEG CROSSING.

5. CONSTRUCT THE PROPOSED PAVEMENT WIDENING ON SPRING HILL DRIVE BY CLOSING THE WESTBOUND RIGHT TURN LANE UTILIZING INDEX 102-613 AND 102-616. ADDITIONALLY, PLACE CHANNELIZING DEVICES ALONG THE SOUTH EDGE OF THE STRIPED GORE TO THE NORTH OF THE WESTBOUND TRAVEL LANE. MAINTAIN THE WESTBOUND RIGHT TURN MOVEMENT UTILIZING THE WESTBOUND THROUGH LANE AND A TRAFFIC CONTROL OFFICER.

6. CONSTRUCT PROPOSED MEDIAN WORK ON SPRING HILL DRIVE BY CLOSING THE INSIDE WESTBOUND TURN LANE UTILIZING INDEX 102-613, 102-615, AND 102-616. MAINTAIN THE EASTBOUND TRAVEL LANES WITH A MINIMUM 10-FT TRAVEL LANE.

7. CONSTRUCT SIDEWALK AND CURB WORK, SIGNALIZATION/LIGHTING CONDUIT, PULL BOXES, AND LIGHTING/SIGNAL FOUNDATION WORK ON THE NORTHEAST AND NORTHWEST QUADRANTS OF THE INTERSECTION USING INDEX 102-613, 102-616, 102-660 AND 102-670. PRIOR TO THE PAVEMENT REMOVAL WORK ON THE NORTHEAST QUADRANT OF THE INTERSECTION, PLEASE ASSURE THE EXISTING PEDESTRIAN ISLAND HAS BEEN REMOVED AND WIDENED PER PLANS TO PROVIDE A RIDEABLE PAVEMENT SURFACE ALONG WITH A TEMPORARY STRIPING THAT ALLOWS FOR A MINIMUM 11-FT WESTBOUND RIGHT TURN LANE.

PHASE II:

THE INTENT OF THIS PHASE IS TO MILL AND RESURFACE THE ROADWAY AND TO INSTALL FINAL SIGNAL AND LIGHTING COMPONENTS.

1. MAINTAIN ADVANCE WARNING SIGN DETAILS.

2. INSTALL THE PROPOSED LIGHTING AND PEDESTRIAN SIGNAL ON THE FOUNDATIONS CONSTRUCTED IN PHASE I UTILIZING INDEX 102-613, 102-615, AND 102-670.

3. MILL AND RESURFACE THE ROADWAY AND PLACE FINAL PAVEMENT MARKINGS (PAINT) UTILIZING INDEX 102-613, 102-615, 102-616, 102-617, 102-623 AND 102-670. ALSO, INCLUDE ANY TRAFFIC SIGNAL LOOPS PER THE PLANS. DUE TO COMPLEXITY AND SIZE OF THE INTERSECTION UTILIZE UP TO TWO (2) TRAFFIC CONTROL OFFICERS TO ASSIST IN MAINTAINING TURNING MOVEMENTS AT THE INTERSECTION.

PHASE III:

THE INTENT OF THIS PHASE IS TO PLACE THE FINAL PAVEMENT MARKINGS (THERMOS) AFTER THE 14 DAY PAVEMENT CURE PERIOD UTILIZING INDEX 102-613, 102-615, 102-616, 102-617, 102-623 AND 102-670.

TEMPORARY TRAFFIC CONTROL PLAN (TTCP) GENERAL NOTES:

1. THE EXISTING POSTED SPEED LIMIT OF 55 MPH FOR SR 55 (US 19) SHALL BE MAINTAINED. THE EXISTING POSTED SPEED LIMIT OF 40 MPH FOR SPRING HILL DRIVE SHALL BE MAINTAINED. THE EXISTING POSTED SPEED LIMIT OF 40 MPH FOR OSOWAW BOULEVARD SHALL BE MAINTAINED.

2. CONSULT FDOT STANDARD PLAN INDICES 102-600 SERIES AS APPLICABLE FOR MAINTENANCE OF TRAFFIC.

3. NO SINGLE LANE CLOSURES ARE PERMITTED FOR SR 55 (US 19) BETWEEN 7 AM TO 8 PM AND NO DOUBLE LANE CLOSURES ARE PERMITTED FOR SR 55 (US 19) BETWEEN 6 AM TO 10 PM.

4. UTILIZE TRAFFIC CONTROL OFFICER AND/OR CERTIFIED FLAGGER TO MAINTAIN BICYCLE TRAFFIC THROUGH THE WORK ZONE DURING CONSTRUCTION OPERATIONS.

5. THE BIKE LANE WILL REMAIN OPEN AND FREE OF OBSTRUCTIONS WHEN FLAGGERS OR TRAFFIC CONTROL OFFICERS ARE NOT PROVIDED AND WILL REMAIN CONNECTED TO THE EXISTING FACILITY WHEN CONSTRUCTION IS NOT ACTIVELY TAKING PLACE.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

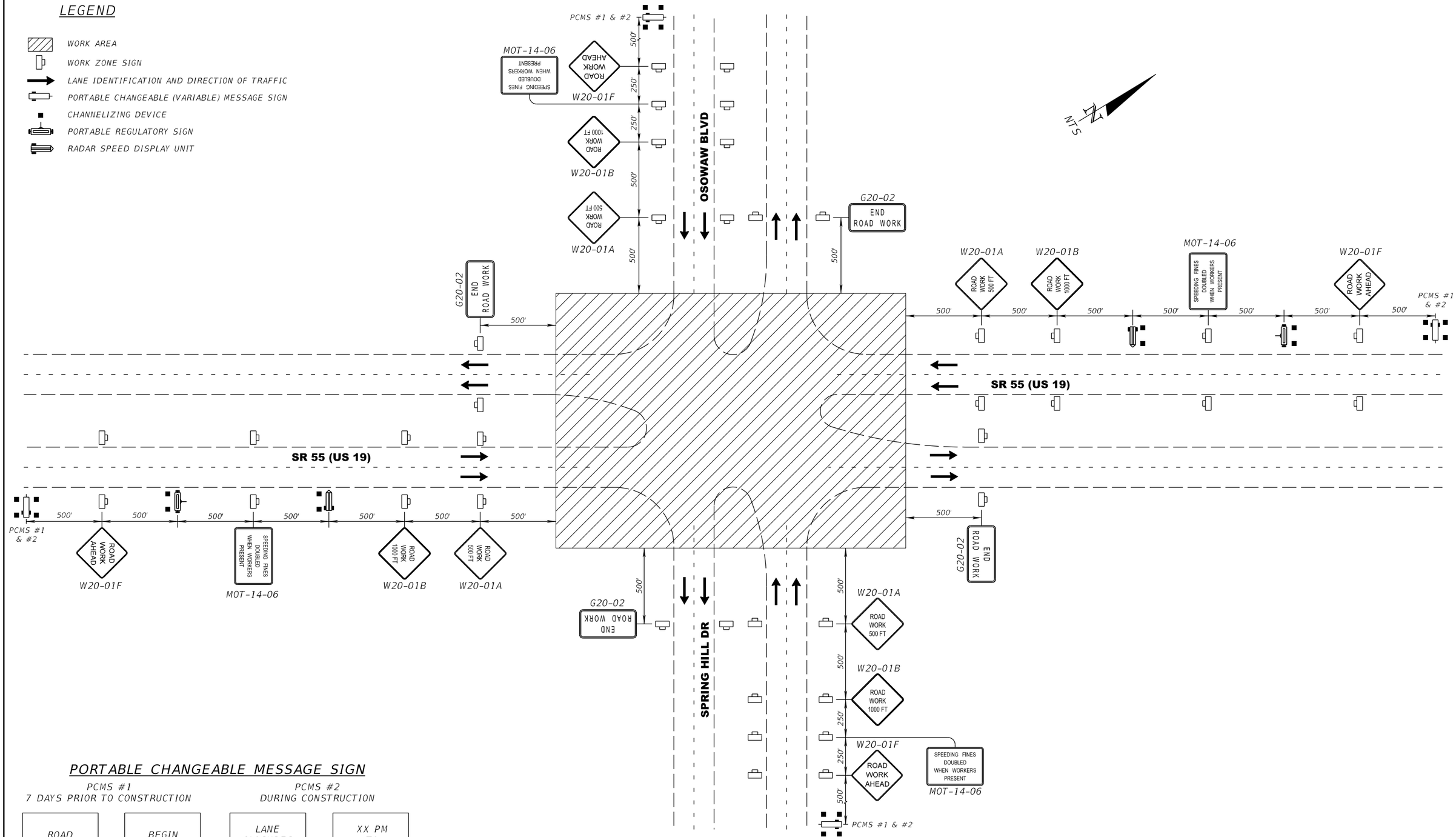
TEMPORARY TRAFFIC CONTROL PLAN (01)

SHEET NO. 10

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

LEGEND

- WORK AREA
- WORK ZONE SIGN
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC
- PORTABLE CHANGEABLE (VARIABLE) MESSAGE SIGN
- CHANNELIZING DEVICE
- PORTABLE REGULATORY SIGN
- RADAR SPEED DISPLAY UNIT



PORTABLE CHANGEABLE MESSAGE SIGN

PCMS #1 7 DAYS PRIOR TO CONSTRUCTION		PCMS #2 DURING CONSTRUCTION	
ROAD WORK	BEGIN XX/XX	LANE CLOSURES AHEAD	XX PM TO XX AM

ADVANCE WARNING SIGNS

NTS

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

TEMPORARY TRAFFIC CONTROL PLAN (02)

SHEET NO. 11

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

SUMMARY OF VERIFIED UTILITIES

Vvh #	UTILITY DESCRIPTION (Owner, type)	SIZE	MATERIALS	℄ and/or ℄			EXISTING GROUND ELEVATION	TOP ELEVATION	COMMENTS
				STATION	OFFSET	LT/RT			
101	HERNANDO COUNTY, WATER	8"	PVC	1248+41.85	77.21'	LT	18.55	13.00	UTILITY VERIFIED
102	FRONTIER, TELEPHONE	2"	DBC	1250+29.47	152.39'	RT	19.40	17.16	POSSIBLE OOS TELEPHONE
103	HERNANDO COUNTY, FOC	2 @ 2"	PE	1250+31.58	152.34'	RT	19.29	13.61	UTILITY VERIFIED
104	N/A	N/A	N/A	1250+84.91	49.48'	LT	19.74	9.74	TRENCHED TO 4'; CLEARED TO 10'
105	N/A	N/A	N/A	1250+84.94	53.11'	LT	19.68	9.68	TRENCHED TO 4'; CLEARED TO 10'
106	N/A	N/A	N/A	1248+38.66	75.81'	LT	19.15	9.15	TRENCHED TO 4'; CLEARED TO 10'
107	LUMEN, FO	UNKNOWN	PE	1248+43.85	73.16'	LT	19.21	9.77	UNABLE TO VISUALIZE DUE TO CAVE IN
108	FRONTIER, BT	0.5"	DBC	1250+32.20	151.33'	RT	19.27	16.27	UTILITY VERIFIED
109	HERNANDO COUNTY, FM	POSSIBLE 12"	DIP	1250+86.22	56.36'	LT	19.26	11.62	UTILITY VERIFIED
110	N/A	N/A	N/A	1250+34.56	151.64'	RT	19.60	9.60	TRENCHED TO 4'; CLEARED TO 10'

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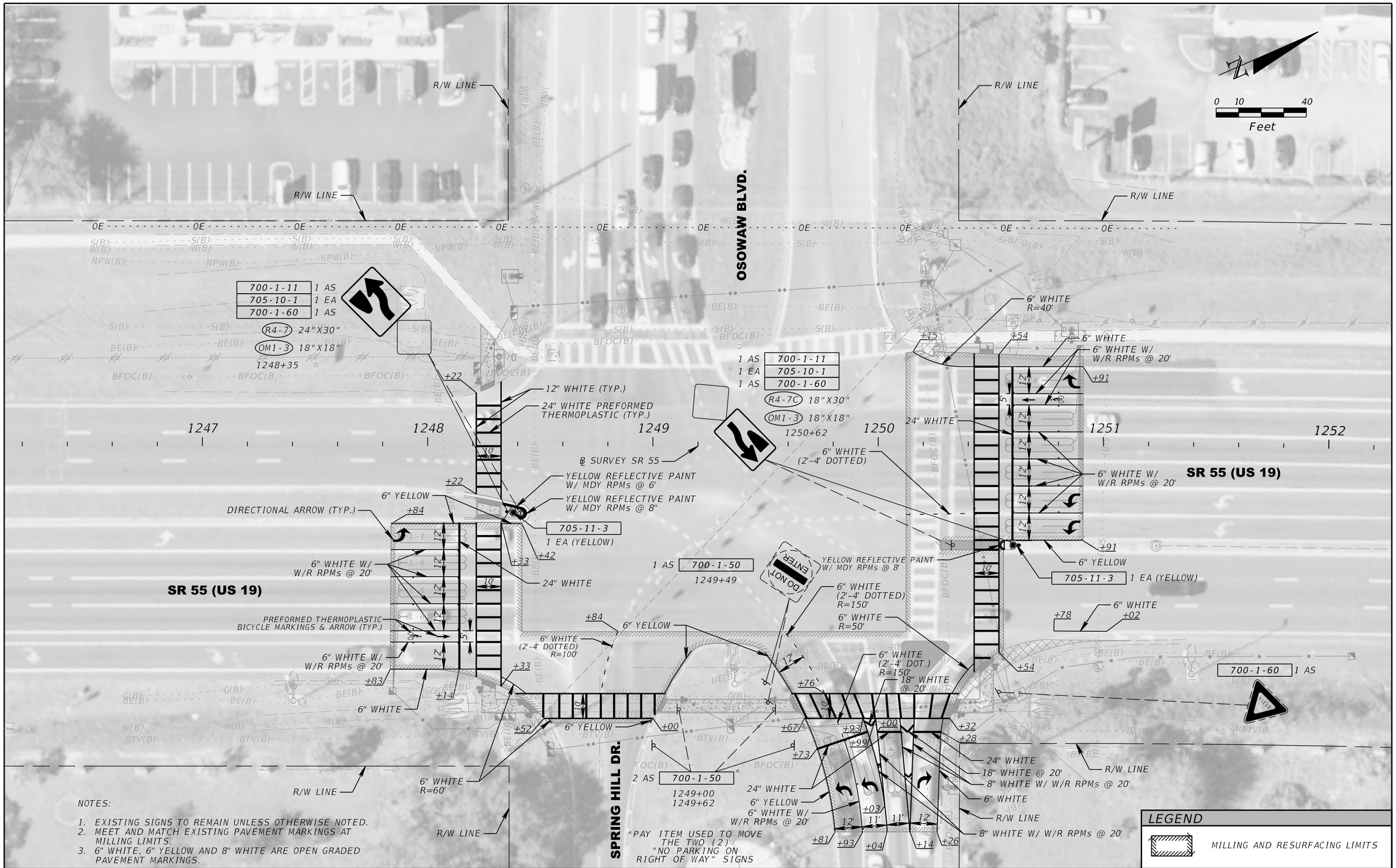
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

SUMMARY OF VERIFIED UTILITIES

SHEET NO. 12



NOTES:

1. EXISTING SIGNS TO REMAIN UNLESS OTHERWISE NOTED.
2. MEET AND MATCH EXISTING PAVEMENT MARKINGS AT MILLING LIMITS.
3. 6" WHITE, 6" YELLOW AND 8" WHITE ARE OPEN GRADED PAVEMENT MARKINGS.

LEGEND

MILLING AND RESURFACING LIMITS

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

AMANDA J. KREILING
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5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

SIGNING AND PAVEMENT MARKING PLAN

SHEET NO. 13

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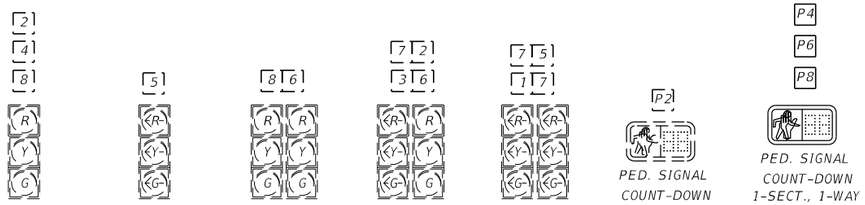
SIGNAL HEAD DETAILS:



NOTES:

1. SR 55 (US 19) IS THE MAJOR STREET, POSTED SPEED = 60 MPH. OSOWAW BLVD. IS THE MINOR STREET, POSTED SPEED = 35 MPH. SPRING HILL DR. IS THE MINOR STREET, POSTED SPEED = 30 MPH.
2. WHEN THE SIGNAL IS IN FLASHING MODE, MOVEMENTS 2 AND 6 SHALL FLASH YELLOW, AND ALL OTHER MOVEMENTS SHALL FLASH RED.
3. SIGNAL TIMINGS ARE INITIAL AND MAY REQUIRE FIELD ADJUSTING AS DIRECTED BY THE ENGINEER.
4. SEE LIGHTING PLAN FOR LIGHTING CONDUCTOR DETAILS.
5. MOVEMENT P6 SHALL OPERATE AS A SINGLE STAGE CROSSING, BUT SHALL BE WIRED FOR A 2-STAGE CROSSING.
6. EXISTING VEHICULAR SIGNAL HEAD LOCATIONS ARE APPROXIMATE.

630-2-11	2 RUNS @ 10 LF
632-7-1	1 PI
632-7-6	1 PI
635-2-14	2 EA
670-5-400	1 AS
676-1-500	1 EA
678-1-102	2 EA

UTILIZE EXIST. CONDUIT FOR NEW PED. MOVEMENTS, IF AVAILABLE OR CORE DRILL EXISTING CABINET BASE. ADJUST SIGNAL TIMINGS AND CONNECT NEW PEDESTRIAN MOVEMENTS. PAY ITEM 678-1-102 SHALL BE USED FOR NEW REQUIRED LOAD SWITCHES.

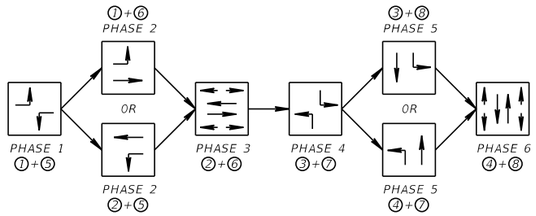
0 10 50
Feet

DETECTORS FOR LOOPS

LOOP	NO. OF NEW LOOPS	NO. OF NEW DETECT.	DELAY TIME (SEC.)
L-1	1	-	-
L-2	3	-	-
L-2A	1	-	15
L-3	**	**	**
L-4	1	-	-
L-5	2	-	-
L-6	3	-	-
L-7	2	-	-
L-8	**	**	**
L-8A	**	**	**

** EXISTING TO REMAIN

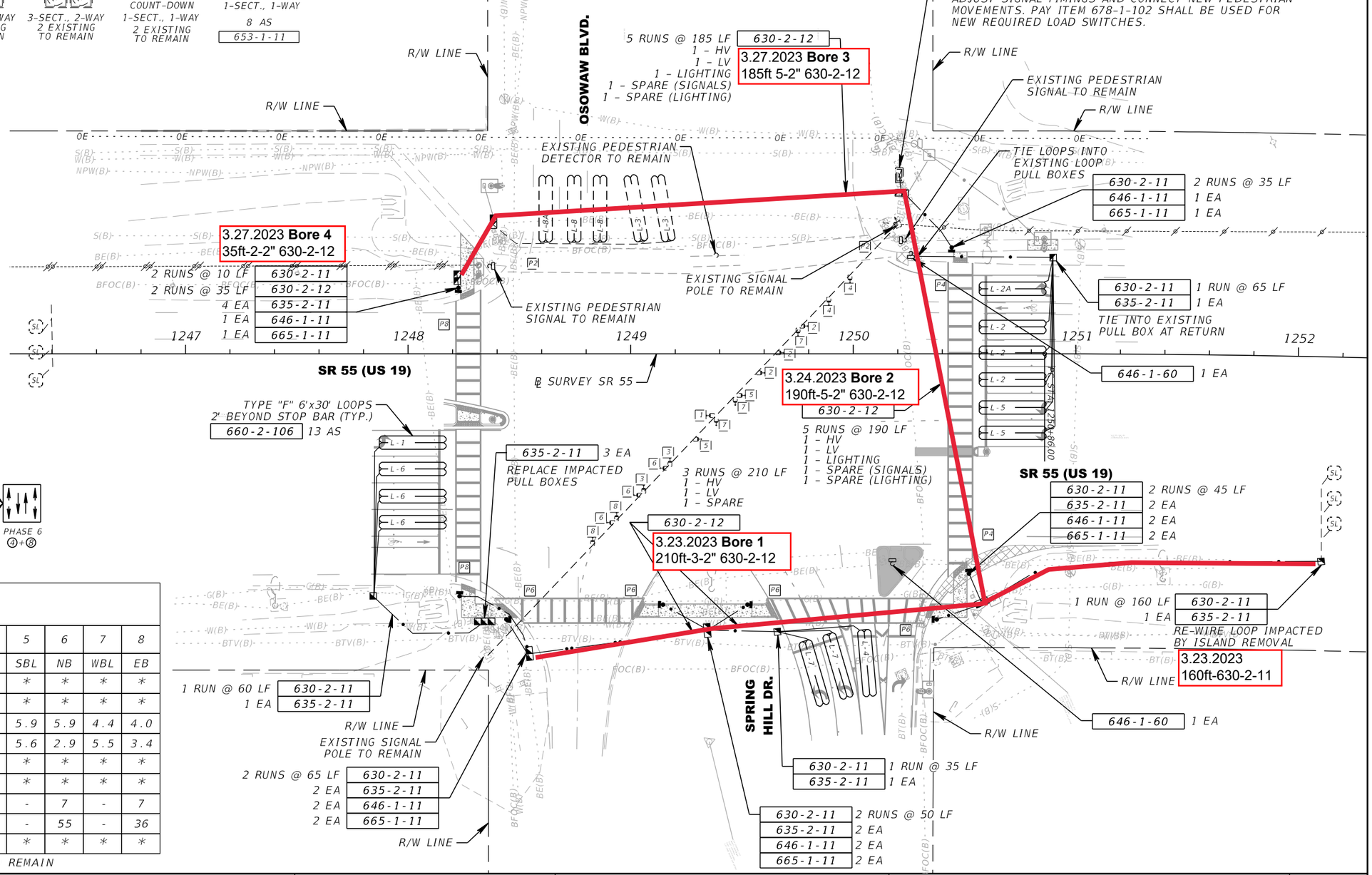
PROPOSED S.O.P.:



CONTROLLER TIMINGS

CONTROLLER PHASE, MOVEMENT NUMBER	1	2	3	4	5	6	7	8
DIRECTION	NBL	SB	EBL	WB	SBL	NB	WBL	EB
MINIMUM GREEN	*	*	*	*	*	*	*	*
EXTENSION	*	*	*	*	*	*	*	*
YELLOW CLEARANCE	5.9	5.9	4.0	4.4	5.9	5.9	4.4	4.0
ALL RED	5.6	2.9	5.5	3.4	5.6	2.9	5.5	3.4
MAXIMUM GREEN 1	*	*	*	*	*	*	*	*
MAXIMUM GREEN 2	*	*	*	*	*	*	*	*
PEDESTRIAN WALK	-	7	-	7	-	7	-	7
PED. CLEARANCE	-	49	-	39	-	55	-	36
RECALL	*	*	*	*	*	*	*	*

* EXISTING TIMINGS TO REMAIN



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

AMANDA J. KREILING
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

SIGNALIZATION PLAN

SHEET NO. 14

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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LIGHTING LEGEND

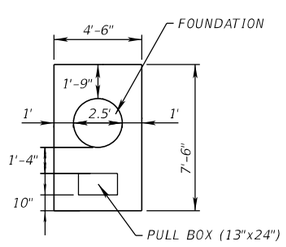
LABEL	SYMBOL	DESCRIPTION
A		MANUFACTURER: GE LIGHTING SOLUTIONS, MODEL: EVOLVE ERL2 SERIES LED FIXTURE, PHOTOMETRIC CURVE NUMBER: ERL2 30D340.IES. LUMINAIRE IS HORIZONTAL, POLE TOP MOUNTED, AT 45 FEET MOUNTING HEIGHT, ATTACHED TO SHOULDER MOUNTED CONVENTIONAL LIGHT POLE, WIRED FOR 120V OPERATION. SYMBOL INCLUDES LUMINAIRE, ARM, POLE, TRANSFORMER BREAKAWAY BASE, POLE CABLE DISTRIBUTION SYSTEM (PCDS), FOUNDATION AND CONCRETE SLAB. PULL BOX AND PCDS PAID FOR SEPARATELY.
B		MANUFACTURER: GE LIGHTING SOLUTIONS, MODEL: EVOLVE ERL2 SERIES LED FIXTURE, PHOTOMETRIC CURVE NUMBER: ERL2 27D340.IES. LUMINAIRE IS HORIZONTAL, POLE TOP MOUNTED, AT 45 FEET MOUNTING HEIGHT, ATTACHED TO SHOULDER MOUNTED CONVENTIONAL LIGHT POLE, WIRED FOR 120V OPERATION. SYMBOL INCLUDES LUMINAIRE, ARM, POLE, TRANSFORMER BREAKAWAY BASE, POLE CABLE DISTRIBUTION SYSTEM (PCDS), FOUNDATION AND CONCRETE SLAB. PULL BOX AND PCDS PAID FOR SEPARATELY.
		PROPOSED LIGHTING PULL BOX. PAY ITEM 635-2-11
		INITIAL AND FINAL LOCATION OF RELOCATED LIGHT POLE IMPACTED BY SIDEWALK AND GRADING WORK. ADJUST LIGHT POLE ELEVATION TO MEET FINISHED GRADE.

LIGHTING NOTES

1. MAINTAINING AGENCY: HERNANDO COUNTY
2. THE LOCATION OF LIGHT POLES, PULL BOXES AND SERVICE DISCONNECT ARE DIAGRAMMATIC ONLY AND MAY BE SHIFTED UPON APPROVAL OF THE ENGINEER TO ACCOMMODATE LOCAL CONDITIONS AND EXISTING UTILITY LOCATIONS.
3. NOTIFY HERNANDO COUNTY 7 DAYS BEFORE FINAL ACCEPTANCE FOR INSPECTION.
4. SEE SIGNALIZATION PLAN FOR ADDITIONAL DIRECTIONAL BORE PAY ITEM DETAILS.
5. LUMINAIRE ATTACHMENT SHOP DRAWING SUBMITTAL REQUIRED.
6. CONCRETE SLAB FOR POLE T-1-3 SHALL BE INCORPORATED INTO ADJACENT PROPOSED SIDEWALK.

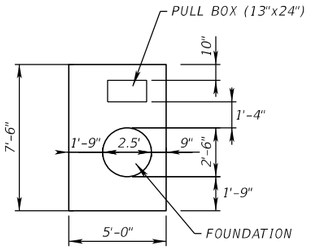
POLE A-1-2 SLAB DETAIL

N.T.S.



POLE T-1-2 SLAB DETAIL

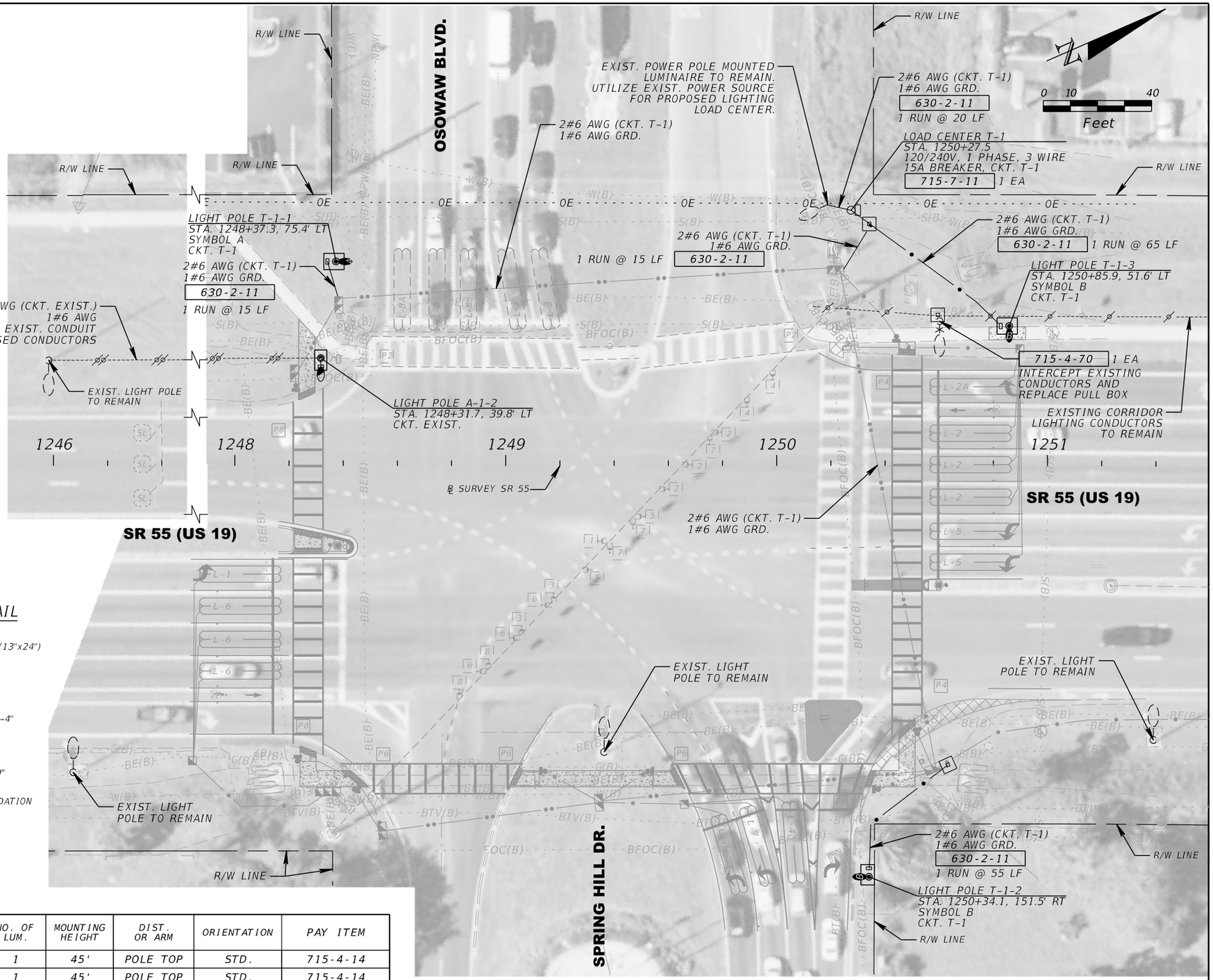
N.T.S.



LIGHTING DATA TABLE

POLE NO.	LUM. LABEL	WATTAGE	CIRCUIT	STATION	OFFSET	NO. OF LUM.	MOUNTING HEIGHT	DIST. OR ARM	ORIENTATION	PAY ITEM
T-1-1	A	278	T-1	1248+37.3	75.4' LT.	1	45'	POLE TOP	STD.	715-4-14
T-1-2	B	237	T-1	1250+34.1	151.5' RT.	1	45'	POLE TOP	STD.	715-4-14
T-1-3	B	237	T-1	1250+85.9	51.6' LT.	1	45'	POLE TOP	STD.	715-4-14
A-1-2	N/A	EXIST.	EXIST.	1248+31.7	39.8' LT.	EXIST.	EXIST.	EXIST.	STD.	715-4-60

STD. ORIENTATION = PERPENDICULAR TO ADJACENT ROADWAY



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

AMANDA J. KREILING
P.E. NO.: 61644
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

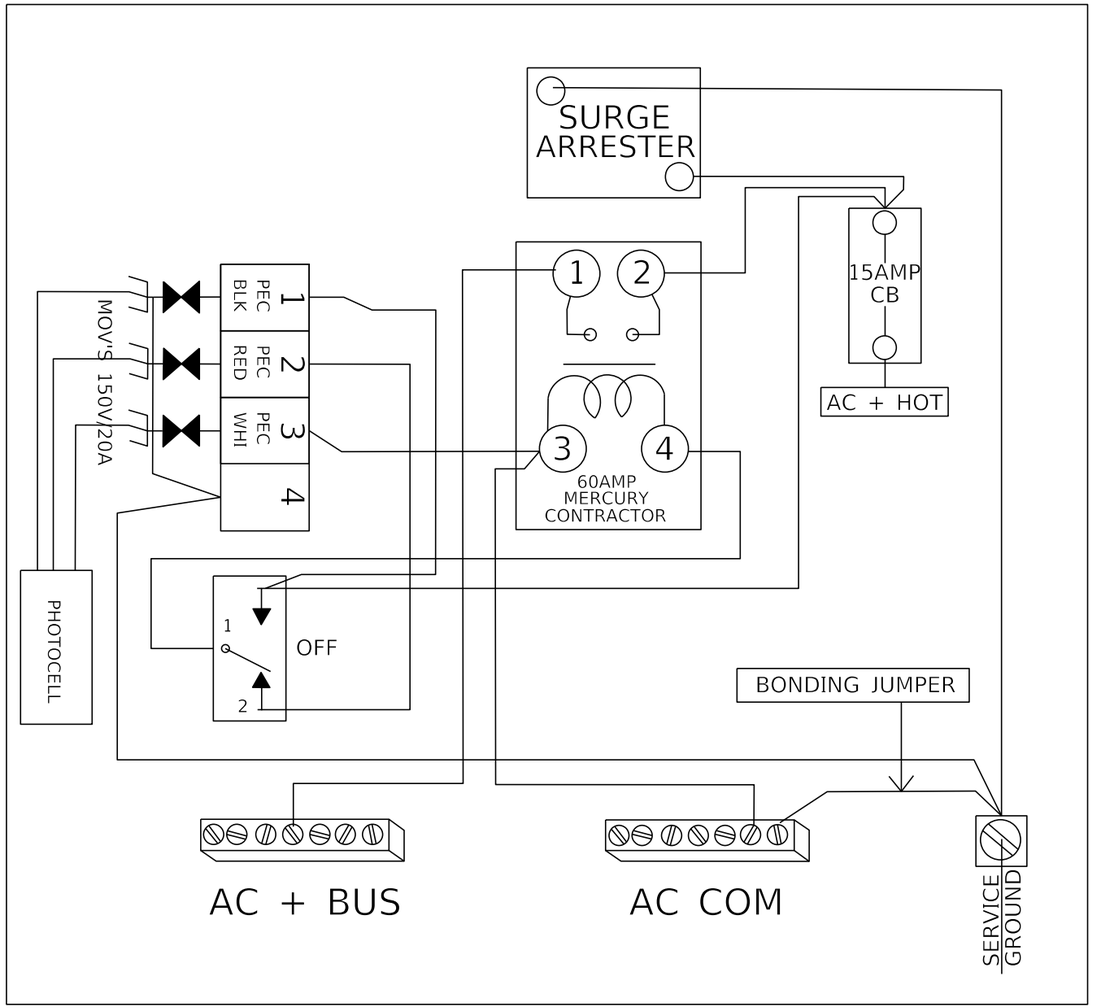
LIGHTING PLAN

SHEET NO. 15

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

USKP670346 1/9/2023 11:17:00 AM Default T:\Sys\Projects\25467725293_TWO_36\lighting\PLANLT01.dgn

NEMA TYPE I ENCLOSURE



* THE SWITCH ABOVE IS SHOWN IN THE AUTO POSITION.

NOTE:

1. THE MINIMUM CABINET DIMENSIONS ARE 13" X 10" X 11".

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

AMANDA J. KREILING
P.E. NO.: 61644
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

LIGHTING SERVICE POINT DETAILS

SHEET NO. 16

460

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

SUMMARY OF PAVEMENT

PAY ITEM NO.	PAY ITEM DESCRIPTION	LOCATION STA. TO STA.	SIDE	AREA ID	UNIT	QUANTITY P	QUANTITY F	TOTAL P	TOTAL F	DESIGN NOTES	CONSTRUCTION REMARKS
285715	OPTIONAL BASE, BASE GROUP 15	1250+10.27 to 1250+30.76	RT	22502	SY	34.9		47			
		1250+27.62 to 1250+55.96	RT	22509		11.9					
0327 70 19	MILLING EXIST ASPH PAVT, 3/4" AVG DEPTH	1247+83.79 to 1250+90.97	LT/RT	47540	SY	2292.2		2292			
0334 1 14	SUPERPAVE ASPHALTIC CONC, TRAFFIC C, 1-199 TONS	1250+10.27 to 1250+30.76	RT	43453	TN	7.70		10.3			
		1250+27.62 to 1250+55.96	RT	43448		2.63					
0337 7 25	ASPHALT CONCRETE FRICTION COURSE (FC-5, PG 76-22), 1-199 TONS	1247+83.79 to 1250+90.97	LT/RT	47588	TN	91.69		92.2			
		1250+27.62 to 1250+55.96	RT	31953		0.50					

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION

DANIEL A. CARNLEY
P.E. NO.: 75529
WSP USA INC.
5411 SKYCENTER DR., SUITE 650
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	HERNANDO	254677-2-52-93

SUMMARY OF QUANTITIES

SHEET NO.
SQ-1

Submittal Report

Financial Project:	254677-2-52-93	Submittal Type:	PLANS
Submittal Phase:	FINAL	Submittal Staff Type:	CONSULTANT
Received Date:	12/13/2022	Response Due Date:	1/12/2023
Grace Period:	0	District:	SEVENTH
Status:	OPEN	Create Date:	12/13/2022
Create User Id:	KNJACHD	Last Update:	12/13/2022
		Last Update User Id:	KNJACHD

Description:

TWO #36 DBPB V - Commercial Way (US 19) at Spring Hill Drive Pedestrian and Lighting Crosswalk Improvements. Reviewers, please send David Hernandez an e-mail (david.hernandez2@dot.state.fl.us) with final sign off if you have no further comments and previous phase submittal comments were addressed. Thank you.

Threads:

Name	Assignment	Due Date	Status	Comments
Abdul Waris	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
ALLEN TURNER	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Allison Conner	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Anthony Celani	LEAD REVIEWER	12/29/2022	ACTIVE	1

No	Status	Current Holder	Reference	Categories
10	COMMENT SUBMITTED FOR RESPONSE	DANIEL CARNLEY		DRAINAGE

Created By	Created On	
Anthony Celani	12/27/2022	-

Provided via Exhibit to the reviewer

Demonstrate that the added sidewalk at the corners of the intersection will not block or impede flow into the ditch system.

Name	Assignment	Due Date	Status	Comments
Blake Stallworth	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Brian McDermott	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
CAITLIN CARNLEY	LEAD DESIGNER	1/12/2023	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Calvin Mason	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
CARLENE RIECSS	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Catie Neal	REVIEWER	12/29/2022	ACTIVE	1

No	Status	Current Holder	Reference	Categories
2	COMMENT AGREED WITH			ENVIRONMENTAL MANAGEMENT OFF.

Created By	Created On	Version	Delegate For
Catie Neal	12/19/2022	1	

A natural resource review of the Final Plans has been completed on behalf of the District Seven Environmental Management Office (DEMO). Based on the project plans and location, there are no impacts to farmlands, Section 4(f) resources, floodplains, wetlands, surface waters, protected species, or habitat anticipated. DEMO will review any future submittals as necessary to confirm that this determination remains valid in accordance with federal and state regulations.

DANIEL CARNLEY	1/4/2023	1	

Comment Agreed & Closed

Name	Assignment	Due Date	Status	Comments
Chad Stewart	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Charles Manganaro	LEAD REVIEWER	12/29/2022	ACTIVE	1

No	Status	Current Holder	Reference	Categories
3	COMMENT AGREED WITH			CONSTRUCTION

Created By	Created On	Version	Delegate For
Charles Manganaro	12/21/2022	1	

Sheet 3- a pay item should be added for inlet protection

DANIEL CARNLEY	1/4/2023	1	

Comment Agreed & Closed

Name	Assignment	Due Date	Status	Comments
Cristina Suarez	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
DANIEL CARNLEY	CONSULTANT PROJECT MANAGER	1/12/2023	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
DANIEL HUNTER	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Daniel Lauricello	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
DAVID GORDINIER	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
David Grillo	LEAD REVIEWER	12/29/2022	ACTIVE	1

No	Status	Current Holder	Reference	Categories
1	COMMENT AGREED WITH			RAILROAD

Created By	Created On	Version	Delegate For
David Grillo	12/13/2022	1	

No Comment

DANIEL CARNLEY	1/4/2023	1	

Comment Agreed & Closed

Name	Assignment	Due Date	Status	Comments
David Guttenplan	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments

David Hernandez Jr	IN-HOUSE PROJECT MANAGER AST.	12/29/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
David Skrelunas	REVIEWER	12/29/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Demetrio Arencibia	LEAD REVIEWER	12/29/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Donald Marco	LEAD REVIEWER	12/29/2022	ACTIVE	0*
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Edward Cronyn	LEAD REVIEWER	12/29/2022	ACTIVE	0*
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Elizabeth (Jill) Wehle	LEAD REVIEWER	12/29/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Emilio Dominguez	LEAD REVIEWER	12/29/2022	ACTIVE	0*
Name	**Assignment**	**Due Date**	**Status**	**Comments**
FRED LAPIANA	LEAD REVIEWER	12/29/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Gautom Dey	LEAD REVIEWER	12/29/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
George Boyle	LEAD REVIEWER	12/29/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
HOSSEIN AMIRI	REVIEWER	12/29/2022	ACTIVE	5

No	**Status**	**Current Holder**	**Reference**	**Categories**
4	RESPONSE SUBMITTED	HOSSEIN AMIRI	10 - Phase 1 N2	TRAFFIC ANALYSIS,TRAFFIC CONTROL,SAFETY

Created By	**Created On**	**Version**	**Delegate For**
HOSSEIN AMIRI	12/23/2022	1	

Consider providing temporary dotted guideline striping to provide guidance for the temporary turn lane changes.

DANIEL CARNLEY	1/4/2023	1	

Disagree this only happens during night operations and complex movements are to be handled with a traffic control officer.

No	**Status**	**Current Holder**	**Reference**	**Categories**
5	RESPONSE SUBMITTED	HOSSEIN AMIRI	10 - Phase 1 N2	TRAFFIC ANALYSIS,TRAFFIC CONTROL,SAFETY

Created By	**Created On**	**Version**	**Delegate For**
HOSSEIN AMIRI	12/23/2022	1	

Please provide a note stating traffic signal head adjustments are needed and are to be coordinated with the traffic operations office prior to implementation.

DANIEL CARNLEY	1/4/2023	1	

Disagree this only happens during night operations and complex movements are to be handled with a traffic control officer.

No	Status	Current Holder	Reference	Categories
6	RESPONSE SUBMITTED	HOSSEIN AMIRI	10 - Phase 1 N4	TRAFFIC ANALYSIS,TRAFFIC CONTROL,SAFETY

Created By	Created On	Version	Delegate For
HOSSEIN AMIRI	12/23/2022	1	

Note 4 calls for maintaining the southbound left turns from the inside travel lane. Given the dual left configuration of the southbound approach, are double lane closure required to accommodate this work? If not, consider revising the note to call for maintaining the outside left turn lane which would leave the southbound through movement undisrupted.
Since the northbound inside lane needs to be closed for this work, consider the closure of the eastbound inside left turn movement from Osowaw Blvd or providing no turn on red signs for the westbound traffic on Spring Hill Dr turning right toward northbound SR 55 (US 19).

DANIEL CARNLEY	1/4/2023	1	

Agree, the outside SB turn lane will be maintained, and the inside EB left turn will be closed.

No	Status	Current Holder	Reference	Categories
7	RESPONSE SUBMITTED	HOSSEIN AMIRI	10 - Phase 1 N6	TRAFFIC ANALYSIS,TRAFFIC CONTROL,SAFETY

Created By	Created On	Version	Delegate For
HOSSEIN AMIRI	12/23/2022	1	

Is the closure of the eastbound inside lane adjacent to the median required for accommodating median work on Spring Hill Dr? It seems provisions of closing the inside lane have been removed from this final submittal.

DANIEL CARNLEY	1/4/2023	1	

Yes this was discussed with FDOT Roadway Design and the contractor where they feel they can complete this work without the additional closure and associated traffic impacts.

No	Status	Current Holder	Reference	Categories
8	COMMENT AGREED WITH		10 - TTCP General Notes	TRAFFIC ANALYSIS,TRAFFIC CONTROL,SAFETY

Created By	Created On	Version	Delegate For
HOSSEIN AMIRI	12/23/2022	1	

Please revise the title of the notes on the bottom part of the sheet to state TTCP General notes instead of Phasing notes.

DANIEL CARNLEY	1/4/2023	1	

Comment Agreed & Closed

Name	Assignment	Due Date	Status	Comments
Jacqueline Beebe	LEAD REVIEWER	12/29/2022	ACTIVE	0
James Ledbetter	LEAD REVIEWER	12/29/2022	ACTIVE	0
Joel Johnson	LEAD REVIEWER	12/29/2022	ACTIVE	0
Joel Provenzano	LEAD REVIEWER	12/29/2022	ACTIVE	0
John Escobio	LEAD REVIEWER	12/29/2022	ACTIVE	0
JON SANCHEZ	LEAD REVIEWER	12/29/2022	ACTIVE	0
Joseph Feaster	LEAD REVIEWER	12/29/2022	ACTIVE	0*
Julie Scanlon	LEAD REVIEWER	12/29/2022	ACTIVE	0*
Katina Kavouklis	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
KEITH A LARSON	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Kirk Bogen	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Kisan Patel	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Larry Hagen	LEAD REVIEWER	12/29/2022	ACTIVE	1

No	Status	Current Holder	Reference	Categories
9	COMMENT SUBMITTED FOR RESPONSE	CAITLIN CARNLEY	Sheet 14	SIGNALIZATION

Created By	Created On	Version	Delegate For
Larry Hagen	12/27/2022	1	

For US 19, the posted speed is 60 mph according to note 1. The yellow time for 60 mph per the TEM is 5.9 seconds. Plans show 5.5 seconds for those movements.

Name	Assignment	Due Date	Status	Comments
LILLIAN HOYT	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Lynn Decker	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Madhu Madaram	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Marcel Goss	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Mark Chianese	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
MARK MORGAN	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Marlene Hebert	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Megan Arasteh	IN-HOUSE PROJECT MANAGER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Megan Miller	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Michael R. Brown	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Omar Chehab	LEAD REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Peter (Ping) Hsu	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Randall Aebersold	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
REBECCA SPAIN SCHWARZ	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Reebie Simms	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Robert F. Grimsley	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Robin Rhinesmith	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Rohan Abraham	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
RON PATEL	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Sarah Guagnini	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Sarah Guagnini	REVIEWER	12/29/2022	ACTIVE	1

No	Status	Current Holder	Reference	Categories
14	COMMENT AGREED WITH			CULTURAL RESOURCES,ENVIRONMENTAL MANAGEMENT OFF.

Created By	Created On	Version	Delegate For
Sarah Guagnini	12/29/2022	1	

A cultural resource review of the Final plans (dated December 2022) has been completed on behalf of Robin Rhinesmith. These plans were compared to the Phase III plans (dated October 2022). There are no changes to the scope of work. Based on a desktop review, there are no cultural resource concerns. This project qualifies as a minor project under the FDOT/Federal Highway Administration (FHWA) Programmatic Agreement (PA) (Stipulation VI). Therefore, a Minor Project Notification Form was submitted to the State Historic Preservation Officer (SHPO) on December 7, 2022, to notify them of this finding. No further cultural resource coordination is needed unless there are changes to the scope of work and/or right of way requirements.

DANIEL CARNLEY	1/4/2023	1	

Comment Agreed & Closed

Name	Assignment	Due Date	Status	Comments
SCOTT HERRING	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Skipper Pomicter	REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
STEPHEN STACK	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
STEVE DIEZ	LEAD REVIEWER	12/29/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Taylor Smith	REVIEWER	12/29/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
TODD CROSBY	LEAD REVIEWER	12/29/2022	ACTIVE	3

No	Status	Current Holder	Reference	Categories
11	COMMENT SUBMITTED FOR RESPONSE	CAITLIN CARNLEY		SIGNING AND MARKING

Created By	Created On	Version	Delegate For
TODD CROSBY	12/28/2022	1	

1. Will signage be installed at Crosswalk on Springhill Drive "No Stopping in Crosswalk"

No	Status	Current Holder	Reference	Categories
12	COMMENT SUBMITTED FOR RESPONSE	CAITLIN CARNLEY		SIGNING AND MARKING

Created By	Created On	Version	Delegate For
TODD CROSBY	12/28/2022	1	

On Springhill Drive will areas between lanes be gorged as in the existing condition

No	Status	Current Holder	Reference	Categories
13	COMMENT SUBMITTED FOR RESPONSE	CAITLIN CARNLEY		SIGNING AND MARKING

Created By	Created On	Version	Delegate For
TODD CROSBY	12/28/2022	1	

Include a note that the No Parking signs with in the fountain area need to remain. they can be relocated but need to remain in the median area.

RE: Task 36 RFC Comments

EJ

Escobio, John <John.Escobio@dot.state.fl.us>
To Pritchard, Kyle A.
Cc Carnley, Danny; Hernandez Jr., David

Reply | Reply All | Forward | ...
Mon 1/9/2023 9:39 AM

Kyle,
On TTCP Plan Sht. 10, note 6 should be expanded to include median work adjacent to the EB inside lane of Spring Hill Dr. I spoke to Danny C. about this some time ago and we agreed that it could be done by placing barrels offset about 5' from the inside edge (no lane closure required).
JE

APPENDIX D

CAPACITY ANALYSIS CALCULATIONS

2025 EXISTING

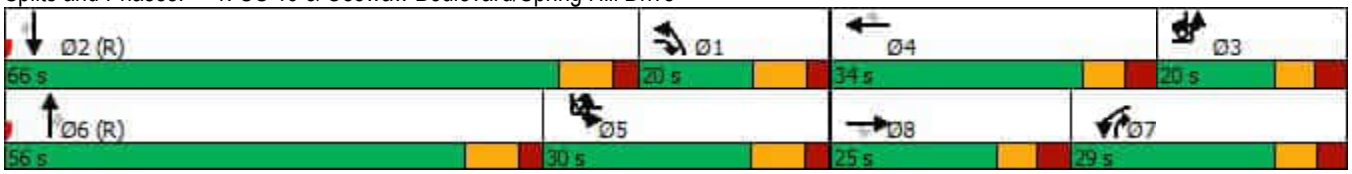
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	2	122	135	84	382	118	214	63	921	159	2	152
Future Volume (vph)	2	122	135	84	382	118	214	63	921	159	2	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		175	0		175	475		525		275
Storage Lanes		2		2	2		2	1		1		2
Taper Length (ft)		100			100			100				100
Lane Util. Factor	0.95	0.97	0.95	1.00	0.97	1.00	1.00	1.00	0.91	1.00	0.91	0.97
Frt				0.850			0.850			0.850		
Flt Protected		0.950			0.950			0.950				0.950
Satd. Flow (prot)	0	3433	3539	1583	3433	1863	1583	1770	5085	1583	0	3433
Flt Permitted		0.950			0.950			0.950				0.950
Satd. Flow (perm)	0	3433	3539	1583	3433	1863	1583	1770	5085	1583	0	3433
Right Turn on Red				No			No			No		
Satd. Flow (RTOR)												
Link Speed (mph)			40			40			55			
Link Distance (ft)			352			1085			891			
Travel Time (s)			6.0			18.5			11.0			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	136	150	93	424	131	238	70	1023	177	2	169
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	138	150	93	424	131	238	70	1023	177	0	171
Turn Type	Prot	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	Prot
Protected Phases	3!	3	8	1	7	4	5!	1	6	7	5!	5
Permitted Phases				8			4			6		
Detector Phase	3	3	8	1	7	4	5	1	6	7	5	5
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0	20.0	5.0	5.0	5.0
Minimum Split (s)	12.7	12.7	17.7	13.0	12.8	17.8	13.2	13.0	28.0	12.8	13.2	13.2
Total Split (s)	20.0	20.0	25.0	20.0	29.0	34.0	30.0	20.0	56.0	29.0	30.0	30.0
Total Split (%)	14.3%	14.3%	17.9%	14.3%	20.7%	24.3%	21.4%	14.3%	40.0%	20.7%	21.4%	21.4%
Maximum Green (s)	12.3	12.3	17.3	12.0	21.2	26.2	21.8	12.0	48.0	21.2	21.8	21.8
Yellow Time (s)	4.1	4.1	4.1	5.6	4.5	4.5	5.6	5.6	5.6	4.5	5.6	5.6
All-Red Time (s)	3.6	3.6	3.6	2.4	3.3	3.3	2.6	2.4	2.4	3.3	2.6	2.6
Lost Time Adjust (s)		-2.7	-2.7	-3.0	-2.8	-2.8	-3.2	-3.0	-3.0	-2.8		-3.2
Total Lost Time (s)		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0
Lead/Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	3.0	4.0	3.0	3.5	3.0	4.0	4.0	3.5	3.5
Recall Mode	None	None	None	None	None	None	None	None	C-Max	None	None	None
Act Effct Green (s)		21.8	14.3	33.1	25.5	18.0	46.8	13.8	56.4	86.9		23.8
Actuated g/C Ratio		0.16	0.10	0.24	0.18	0.13	0.33	0.10	0.40	0.62		0.17
v/c Ratio		0.26	0.41	0.25	0.68	0.55	0.45	0.40	0.50	0.18		0.29
Control Delay		53.4	62.1	44.3	59.2	65.2	38.6	54.0	19.2	8.6		51.9
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay		53.4	62.1	44.3	59.2	65.2	38.6	54.0	19.2	8.6		51.9
LOS		D	E	D	E	E	D	D	B	A		D
Approach Delay			54.6			54.0			19.6			
Approach LOS			D			D			B			

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1151	41
Future Volume (vph)	1151	41
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		525
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.91	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	5085	1583
Flt Permitted		
Satd. Flow (perm)	5085	1583
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)	55	
Link Distance (ft)	1088	
Travel Time (s)	13.5	
Peak Hour Factor	0.90	0.90
Adj. Flow (vph)	1279	46
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1279	46
Turn Type	NA	pm+ov
Protected Phases	2	3!
Permitted Phases		2
Detector Phase	2	3
Switch Phase		
Minimum Initial (s)	20.0	5.0
Minimum Split (s)	28.2	12.7
Total Split (s)	66.0	20.0
Total Split (%)	47.1%	14.3%
Maximum Green (s)	57.8	12.3
Yellow Time (s)	5.6	4.1
All-Red Time (s)	2.6	3.6
Lost Time Adjust (s)	-3.2	-2.7
Total Lost Time (s)	5.0	5.0
Lead/Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	4.0	4.0
Recall Mode	C-Max	None
Act Effct Green (s)	66.4	93.2
Actuated g/C Ratio	0.47	0.67
v/c Ratio	0.53	0.04
Control Delay	27.6	9.5
Queue Delay	0.0	0.0
Total Delay	27.6	9.5
LOS	C	A
Approach Delay	29.8	
Approach LOS	C	

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Queue Length 50th (ft)		57	68	69	185	114	167	62	113	37		70
Queue Length 95th (ft)		91	103	117	243	175	233	116	127	54		106
Internal Link Dist (ft)			272			1005			811			
Turn Bay Length (ft)				175			175	475		525		275
Base Capacity (vph)		534	505	365	640	385	520	189	2049	967		613
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0		0
Spillback Cap Reductn		0	0	0	0	0	0	0	0	0		0
Storage Cap Reductn		0	0	0	0	0	0	0	0	0		0
Reduced v/c Ratio		0.26	0.30	0.25	0.66	0.34	0.46	0.37	0.50	0.18		0.28

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 50 (36%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 33.8		Intersection LOS: C	
Intersection Capacity Utilization 62.3%		ICU Level of Service B	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

Splits and Phases: 1: US 19 & Osowaw Boulevard/Spring Hill Drive



Lane Group	SBT	SBR
Queue Length 50th (ft)	304	14
Queue Length 95th (ft)	365	33
Internal Link Dist (ft)	1008	
Turn Bay Length (ft)		525
Base Capacity (vph)	2412	1053
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.53	0.04

Intersection Summary

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	1	246	252	91	1	330	160	296	1	114	1474	333
Future Volume (vph)	1	246	252	91	1	330	160	296	1	114	1474	333
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		175		0		175		475		525
Storage Lanes		2		2		2		2		1		1
Taper Length (ft)		100				100				100		
Lane Util. Factor	0.95	0.97	0.95	1.00	1.00	0.97	1.00	1.00	0.91	1.00	0.91	1.00
Frt				0.850				0.850				0.850
Flt Protected		0.950				0.950				0.950		
Satd. Flow (prot)	0	3433	3539	1583	0	3433	1863	1583	0	1770	5085	1583
Flt Permitted		0.950				0.950				0.950		
Satd. Flow (perm)	0	3433	3539	1583	0	3433	1863	1583	0	1770	5085	1583
Right Turn on Red				No				No				No
Satd. Flow (RTOR)												
Link Speed (mph)			40				40				55	
Link Distance (ft)			352				1085				891	
Travel Time (s)			6.0				18.5				11.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1	273	280	101	1	367	178	329	1	127	1638	370
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	274	280	101	0	368	178	329	0	128	1638	370
Turn Type	Prot	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov
Protected Phases	3!	3	8	1!	7!	7	4	5!	1!	1	6	7!
Permitted Phases				8				4				6
Detector Phase	3	3	8	1	7	7	4	5	1	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	5.0	10.0	5.0	5.0	5.0	20.0	5.0
Minimum Split (s)	12.7	12.7	17.7	13.0	12.8	12.8	17.8	13.2	13.0	13.0	28.0	12.8
Total Split (s)	25.0	25.0	25.0	35.0	30.0	30.0	30.0	45.0	35.0	35.0	60.0	30.0
Total Split (%)	15.6%	15.6%	15.6%	21.9%	18.8%	18.8%	18.8%	28.1%	21.9%	21.9%	37.5%	18.8%
Maximum Green (s)	17.3	17.3	17.3	27.0	22.2	22.2	22.2	36.8	27.0	27.0	52.0	22.2
Yellow Time (s)	4.1	4.1	4.1	5.6	4.5	4.5	4.5	5.6	5.6	5.6	5.6	4.5
All-Red Time (s)	3.6	3.6	3.6	2.4	3.3	3.3	3.3	2.6	2.4	2.4	2.4	3.3
Lost Time Adjust (s)		-2.7	-2.7	-3.0		-2.8	-2.8	-3.2		-3.0	-3.0	-2.8
Total Lost Time (s)		5.0	5.0	5.0		5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	3.0	4.0	4.0	3.0	3.5	3.0	3.0	4.0	4.0
Recall Mode	None	None	None	None	None	None	None	None	None	None	C-Max	None
Act Effct Green (s)		22.4	19.4	49.3		25.3	22.3	62.1		24.8	60.5	90.7
Actuated g/C Ratio		0.14	0.12	0.31		0.16	0.14	0.39		0.16	0.38	0.57
v/c Ratio		0.57	0.65	0.21		0.68	0.69	0.54		0.47	0.85	0.41
Control Delay		69.1	75.5	41.6		70.5	79.2	40.4		44.4	36.8	20.7
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
Total Delay		69.1	75.5	41.6		70.5	79.2	40.4		44.4	36.8	20.7
LOS		E	E	D		E	E	D		D	D	C
Approach Delay			67.6				60.9				34.5	
Approach LOS			E				E				C	

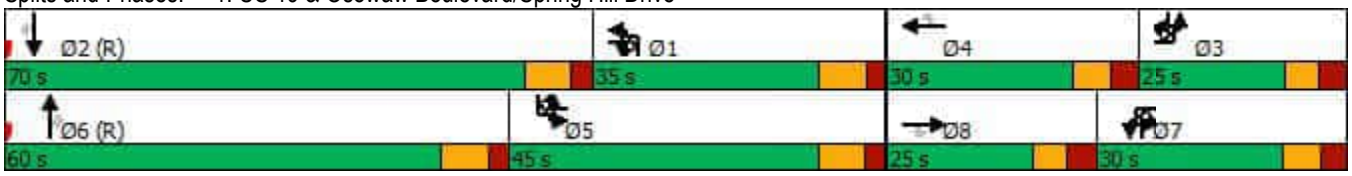
Lane Group	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Volume (vph)	2	302	1171	95
Future Volume (vph)	2	302	1171	95
Ideal Flow (vphpl)	1900	1900	1900	1900
Storage Length (ft)		275		525
Storage Lanes		2		1
Taper Length (ft)		100		
Lane Util. Factor	0.91	0.97	0.91	1.00
Frt				0.850
Flt Protected		0.950		
Satd. Flow (prot)	0	3433	5085	1583
Flt Permitted		0.950		
Satd. Flow (perm)	0	3433	5085	1583
Right Turn on Red				No
Satd. Flow (RTOR)				
Link Speed (mph)			55	
Link Distance (ft)			1088	
Travel Time (s)			13.5	
Peak Hour Factor	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	336	1301	106
Shared Lane Traffic (%)				
Lane Group Flow (vph)	0	338	1301	106
Turn Type	Prot	Prot	NA	pm+ov
Protected Phases	5!	5	2	3!
Permitted Phases				2
Detector Phase	5	5	2	3
Switch Phase				
Minimum Initial (s)	5.0	5.0	20.0	5.0
Minimum Split (s)	13.2	13.2	28.2	12.7
Total Split (s)	45.0	45.0	70.0	25.0
Total Split (%)	28.1%	28.1%	43.8%	15.6%
Maximum Green (s)	36.8	36.8	61.8	17.3
Yellow Time (s)	5.6	5.6	5.6	4.1
All-Red Time (s)	2.6	2.6	2.6	3.6
Lost Time Adjust (s)		-3.2	-3.2	-2.7
Total Lost Time (s)		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	3.5	4.0	4.0
Recall Mode	None	None	C-Max	None
Act Effct Green (s)		34.8	70.5	97.9
Actuated g/C Ratio		0.22	0.44	0.61
v/c Ratio		0.45	0.58	0.11
Control Delay		55.7	36.0	14.8
Queue Delay		0.0	0.0	0.0
Total Delay		55.7	36.0	14.8
LOS		E	D	B
Approach Delay			38.5	
Approach LOS			D	

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Queue Length 50th (ft)		136	148	77		185	179	259		131	347	118
Queue Length 95th (ft)		195	202	124		248	264	338		m159	#572	249
Internal Link Dist (ft)			272				1005				811	
Turn Bay Length (ft)				175				175		475		525
Base Capacity (vph)		481	453	479		560	293	605		331	1921	896
Starvation Cap Reductn		0	0	0		0	0	0		0	0	0
Spillback Cap Reductn		0	0	0		0	0	0		0	0	0
Storage Cap Reductn		0	0	0		0	0	0		0	0	0
Reduced v/c Ratio		0.57	0.62	0.21		0.66	0.61	0.54		0.39	0.85	0.41

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 2 (1%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 44.1		Intersection LOS: D	
Intersection Capacity Utilization 79.2%		ICU Level of Service D	
Analysis Period (min) 15			

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.
! Phase conflict between lane groups.

Splits and Phases: 1: US 19 & Osowaw Boulevard/Spring Hill Drive



Lane Group	SBU	SBL	SBT	SBR
Queue Length 50th (ft)		158	395	46
Queue Length 95th (ft)		202	447	83
Internal Link Dist (ft)			1008	
Turn Bay Length (ft)		275		525
Base Capacity (vph)		858	2239	968
Starvation Cap Reductn		0	0	0
Spillback Cap Reductn		0	0	0
Storage Cap Reductn		0	0	0
Reduced v/c Ratio		0.39	0.58	0.11

Intersection Summary

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	31	1090	1673	51
Future Vol, veh/h	0	16	31	1090	1673	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	475	-	-	350
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	34	1211	1859	57

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	930	1916	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	0	231	138	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	231	138	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.9	1.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	138	-	231	-	-
HCM Lane V/C Ratio	0.25	-	0.077	-	-
HCM Control Delay (s)	39.6	-	21.9	-	-
HCM Lane LOS	E	-	C	-	-
HCM 95th %tile Q(veh)	0.9	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	0	57	3	49	1986	1470	130
Future Vol, veh/h	0	57	3	49	1986	1470	130
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	Stop	-	-	None	-	None
Storage Length	-	0	-	475	-	-	350
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	63	3	54	2207	1633	144

Major/Minor	Minor2		Major1			Major2	
Conflicting Flow All	-	817	1192	1777	0	-	0
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.64	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	2.32	3.12	-	-	-
Pot Cap-1 Maneuver	0	274	344	162	-	-	-
Stage 1	0	-	-	-	-	-	-
Stage 2	0	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	-	274	166	166	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22	1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	166	-	274	-	-
HCM Lane V/C Ratio	0.348	-	0.231	-	-
HCM Control Delay (s)	37.9	-	22	-	-
HCM Lane LOS	E	-	C	-	-
HCM 95th %tile Q(veh)	1.4	-	0.9	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	93	18	12	68	17	42	7	19	984	75	2	53
Future Volume (vph)	93	18	12	68	17	42	7	19	984	75	2	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		200		300		325		300
Storage Lanes	1		0	0		1		1		1		1
Taper Length (ft)	100			100				100				100
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.91	1.00	0.91	1.00	0.91	1.00
Frt		0.971				0.850				0.850		
Flt Protected	0.950	0.975			0.962			0.950				0.950
Satd. Flow (prot)	1681	1675	0	0	1792	1583	0	1770	5085	1583	0	1770
Flt Permitted	0.950	0.975			0.962			0.950				0.950
Satd. Flow (perm)	1681	1675	0	0	1792	1583	0	1770	5085	1583	0	1770
Right Turn on Red			No			No				No		
Satd. Flow (RTOR)												
Link Speed (mph)		25			30				55			
Link Distance (ft)		455			1096				1049			
Travel Time (s)		12.4			24.9				13.0			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	103	20	13	76	19	47	8	21	1093	83	2	59
Shared Lane Traffic (%)	34%											
Lane Group Flow (vph)	68	68	0	0	95	47	0	29	1093	83	0	61
Turn Type	Split	NA		Split	NA	pm+ov	Prot	Prot	NA	pm+ov	Prot	Prot
Protected Phases	8	8		4	4	5!	1	1	6	4	5!	5
Permitted Phases						4				6		
Detector Phase	8	8		4	4	5	1	1	6	4	5	5
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	10.0	20.0	5.0	10.0	10.0
Minimum Split (s)	13.4	13.4		12.4	12.4	17.5	17.6	17.6	27.6	12.4	17.5	17.5
Total Split (s)	28.0	28.0		27.0	27.0	25.0	25.0	25.0	60.0	27.0	25.0	25.0
Total Split (%)	20.0%	20.0%		19.3%	19.3%	17.9%	17.9%	17.9%	42.9%	19.3%	17.9%	17.9%
Maximum Green (s)	19.6	19.6		19.6	19.6	17.5	17.4	17.4	52.4	19.6	17.5	17.5
Yellow Time (s)	3.4	3.4		3.7	3.7	5.5	5.6	5.6	5.6	3.7	5.5	5.5
All-Red Time (s)	5.0	5.0		3.7	3.7	2.0	2.0	2.0	2.0	3.7	2.0	2.0
Lost Time Adjust (s)	-3.4	-3.4			-2.4	-2.5		-2.6	-2.6	-2.4		-2.5
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0		5.0
Lead/Lag						Lag	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	None	C-Max	None	None	None
Act Effct Green (s)	14.4	14.4			15.1	30.8		13.8	80.2	96.4		13.7
Actuated g/C Ratio	0.10	0.10			0.11	0.22		0.10	0.57	0.69		0.10
v/c Ratio	0.39	0.40			0.49	0.14		0.17	0.38	0.08		0.35
Control Delay	64.5	64.6			66.8	40.5		59.5	18.7	4.9		48.7
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0	0.0		0.0
Total Delay	64.5	64.6			66.8	40.5		59.5	18.7	4.9		48.7
LOS	E	E			E	D		E	B	A		D
Approach Delay		64.5			58.1				18.7			
Approach LOS		E			E				B			

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1546	86
Future Volume (vph)	1546	86
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		475
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.91	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	5085	1583
Flt Permitted		
Satd. Flow (perm)	5085	1583
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)	55	
Link Distance (ft)	939	
Travel Time (s)	11.6	
Peak Hour Factor	0.90	0.90
Adj. Flow (vph)	1718	96
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1718	96
Turn Type	NA	pm+ov
Protected Phases	2	8
Permitted Phases		2
Detector Phase	2	8
Switch Phase		
Minimum Initial (s)	20.0	5.0
Minimum Split (s)	27.5	13.4
Total Split (s)	60.0	28.0
Total Split (%)	42.9%	20.0%
Maximum Green (s)	52.5	19.6
Yellow Time (s)	5.5	3.4
All-Red Time (s)	2.0	5.0
Lost Time Adjust (s)	-2.5	-3.4
Total Lost Time (s)	5.0	5.0
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	4.0	3.0
Recall Mode	C-Max	None
Act Effct Green (s)	83.7	103.2
Actuated g/C Ratio	0.60	0.74
v/c Ratio	0.56	0.08
Control Delay	9.5	4.9
Queue Delay	0.0	0.0
Total Delay	9.5	4.9
LOS	A	A
Approach Delay	10.6	
Approach LOS	B	

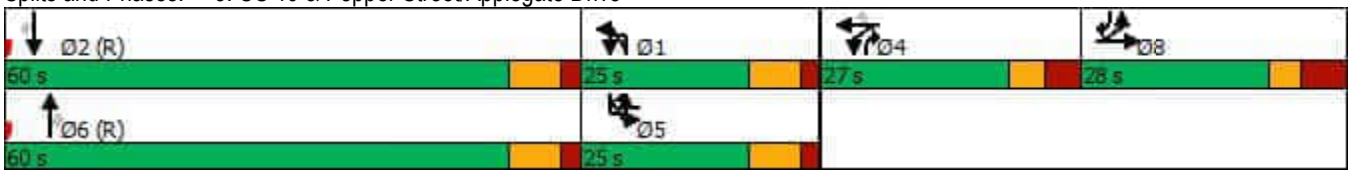
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Queue Length 50th (ft)	62	62			83	34		25	199	11		55
Queue Length 95th (ft)	111	111			137	64		57	287	25		m97
Internal Link Dist (ft)		375			1016				969			
Turn Bay Length (ft)						200		300		325		300
Base Capacity (vph)	276	275			281	361		252	2914	1167		252
Starvation Cap Reductn	0	0			0	0		0	0	0		0
Spillback Cap Reductn	0	0			0	0		0	0	0		0
Storage Cap Reductn	0	0			0	0		0	0	0		0
Reduced v/c Ratio	0.25	0.25			0.34	0.13		0.12	0.38	0.07		0.24

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 51 (36%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 17.7		Intersection LOS: B	
Intersection Capacity Utilization 62.0%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

! Phase conflict between lane groups.

Splits and Phases: 3: US 19 & Pepper Street/Applegate Drive



Lane Group	SBT	SBR
Queue Length 50th (ft)	130	17
Queue Length 95th (ft)	226	m30
Internal Link Dist (ft)	859	
Turn Bay Length (ft)		475
Base Capacity (vph)	3041	1164
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.56	0.08

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	181	64	28	147	36	115	6	61	1734	181	8	60
Future Volume (vph)	181	64	28	147	36	115	6	61	1734	181	8	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		200		300		325		300
Storage Lanes	1		0	0		1		1		1		1
Taper Length (ft)	100			100				100				100
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.91	1.00	0.91	1.00	0.91	1.00
Frt		0.969				0.850				0.850		
Flt Protected	0.950	0.984			0.961			0.950				0.950
Satd. Flow (prot)	1681	1687	0	0	1790	1583	0	1770	5085	1583	0	1770
Flt Permitted	0.950	0.984			0.961			0.950				0.950
Satd. Flow (perm)	1681	1687	0	0	1790	1583	0	1770	5085	1583	0	1770
Right Turn on Red			No			No				No		
Satd. Flow (RTOR)												
Link Speed (mph)		25			30				55			
Link Distance (ft)		455			1096				1049			
Travel Time (s)		12.4			24.9				13.0			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	201	71	31	163	40	128	7	68	1927	201	9	67
Shared Lane Traffic (%)	25%											
Lane Group Flow (vph)	151	152	0	0	203	128	0	75	1927	201	0	76
Turn Type	Split	NA		Split	NA	pm+ov	Prot	Prot	NA	pm+ov	Prot	Prot
Protected Phases	8	8		4	4	5!	1	1	6	4	5!	5
Permitted Phases						4				6		
Detector Phase	8	8		4	4	5	1	1	6	4	5	5
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	10.0	20.0	5.0	10.0	10.0
Minimum Split (s)	13.4	13.4		12.4	12.4	17.5	17.6	17.6	27.6	12.4	17.5	17.5
Total Split (s)	56.0	56.0		25.0	25.0	25.0	25.0	25.0	54.0	25.0	25.0	25.0
Total Split (%)	35.0%	35.0%		15.6%	15.6%	15.6%	15.6%	15.6%	33.8%	15.6%	15.6%	15.6%
Maximum Green (s)	47.6	47.6		17.6	17.6	17.5	17.4	17.4	46.4	17.6	17.5	17.5
Yellow Time (s)	3.4	3.4		3.7	3.7	5.5	5.6	5.6	5.6	3.7	5.5	5.5
All-Red Time (s)	5.0	5.0		3.7	3.7	2.0	2.0	2.0	2.0	3.7	2.0	2.0
Lost Time Adjust (s)	-3.4	-3.4			-2.4	-2.5		-2.6	-2.6	-2.4		-2.5
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0		5.0
Lead/Lag						Lag	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	None	C-Max	None	None	None
Act Effct Green (s)	23.5	23.5			21.4	43.7		17.3	77.8	99.2		17.3
Actuated g/C Ratio	0.15	0.15			0.13	0.27		0.11	0.49	0.62		0.11
v/c Ratio	0.61	0.62			0.85	0.30		0.39	0.78	0.20		0.40
Control Delay	74.0	74.1			96.6	47.7		71.9	37.9	7.9		51.8
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0	0.0		0.0
Total Delay	74.0	74.1			96.6	47.7		71.9	37.9	7.9		51.8
LOS	E	E			F	D		E	D	A		D
Approach Delay		74.0			77.7				36.3			
Approach LOS		E			E				D			

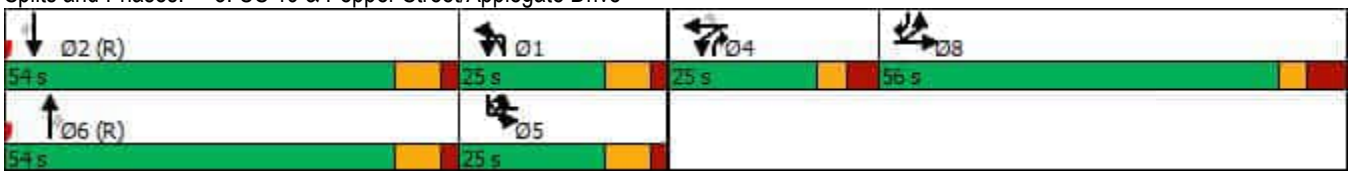
Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1262	162
Future Volume (vph)	1262	162
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		475
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.91	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	5085	1583
Flt Permitted		
Satd. Flow (perm)	5085	1583
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)	55	
Link Distance (ft)	939	
Travel Time (s)	11.6	
Peak Hour Factor	0.90	0.90
Adj. Flow (vph)	1402	180
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1402	180
Turn Type	NA	pm+ov
Protected Phases	2	8
Permitted Phases		2
Detector Phase	2	8
Switch Phase		
Minimum Initial (s)	20.0	5.0
Minimum Split (s)	27.5	13.4
Total Split (s)	54.0	56.0
Total Split (%)	33.8%	35.0%
Maximum Green (s)	46.5	47.6
Yellow Time (s)	5.5	3.4
All-Red Time (s)	2.0	5.0
Lost Time Adjust (s)	-2.5	-3.4
Total Lost Time (s)	5.0	5.0
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	4.0	3.0
Recall Mode	C-Max	None
Act Effct Green (s)	77.8	106.3
Actuated g/C Ratio	0.49	0.66
v/c Ratio	0.57	0.17
Control Delay	12.9	6.2
Queue Delay	0.0	0.0
Total Delay	12.9	6.2
LOS	B	A
Approach Delay	13.9	
Approach LOS	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Queue Length 50th (ft)	158	160			210	105		74	610	44		77
Queue Length 95th (ft)	229	230			#371	167		130	741	84		m132
Internal Link Dist (ft)		375			1016				969			
Turn Bay Length (ft)						200		300		325		300
Base Capacity (vph)	535	537			239	424		221	2473	981		221
Starvation Cap Reductn	0	0			0	0		0	0	0		0
Spillback Cap Reductn	0	0			0	0		0	0	0		0
Storage Cap Reductn	0	0			0	0		0	0	0		0
Reduced v/c Ratio	0.28	0.28			0.85	0.30		0.34	0.78	0.20		0.34

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 18 (11%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 33.6		Intersection LOS: C	
Intersection Capacity Utilization 74.4%		ICU Level of Service D	
Analysis Period (min) 15			

\# 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.
! Phase conflict between lane groups.

Splits and Phases: 3: US 19 & Pepper Street/Applegate Drive



Lane Group	SBT	SBR
Queue Length 50th (ft)	116	32
Queue Length 95th (ft)	172	45
Internal Link Dist (ft)	859	
Turn Bay Length (ft)		475
Base Capacity (vph)	2473	1051
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.57	0.17

Intersection Summary

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	4	1	62	15	25	3	42	90	18	33	2
Future Vol, veh/h	4	4	1	62	15	25	3	42	90	18	33	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	4	1	69	17	28	3	47	100	20	37	2
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	7.6	8.1	8.1	8
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	44%	61%	100%	0%
Vol Thru, %	0%	32%	44%	15%	0%	94%
Vol Right, %	0%	68%	11%	25%	0%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	132	9	102	18	35
LT Vol	3	0	4	62	18	0
Through Vol	0	42	4	15	0	33
RT Vol	0	90	1	25	0	2
Lane Flow Rate	3	147	10	113	20	39
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.005	0.18	0.013	0.139	0.03	0.053
Departure Headway (Hd)	5.39	4.409	4.573	4.407	5.439	4.897
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	668	818	785	816	660	733
Service Time	3.09	2.109	2.589	2.419	3.155	2.613
HCM Lane V/C Ratio	0.004	0.18	0.013	0.138	0.03	0.053
HCM Control Delay	8.1	8.1	7.6	8.1	8.3	7.9
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0	0.7	0	0.5	0.1	0.2

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	68	7	103	79	64	9	87	160	36	83	24
Future Vol, veh/h	8	68	7	103	79	64	9	87	160	36	83	24
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	76	8	114	88	71	10	97	178	40	92	27
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	9.5	11.6	11.5	9.8
HCM LOS	A	B	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	10%	42%	100%	0%
Vol Thru, %	0%	35%	82%	32%	0%	78%
Vol Right, %	0%	65%	8%	26%	0%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	247	83	246	36	107
LT Vol	9	0	8	103	36	0
Through Vol	0	87	68	79	0	83
RT Vol	0	160	7	64	0	24
Lane Flow Rate	10	274	92	273	40	119
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.017	0.405	0.142	0.396	0.072	0.19
Departure Headway (Hd)	6.285	5.319	5.562	5.214	6.435	5.768
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	570	678	645	692	557	623
Service Time	4.013	3.047	3.598	3.242	4.166	3.499
HCM Lane V/C Ratio	0.018	0.404	0.143	0.395	0.072	0.191
HCM Control Delay	9.1	11.6	9.5	11.6	9.7	9.9
HCM Lane LOS	A	B	A	B	A	A
HCM 95th-tile Q	0.1	2	0.5	1.9	0.2	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	54	61	72	8	14	36
Future Volume (Veh/h)	54	61	72	8	14	36
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	60	68	80	9	16	40
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)				4		
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		120	0	160	120
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		120	0	160	120
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)						
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	96		89	99	98	95
cM capacity (veh/h)	1623		742	1085	713	742

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	60	68	89	16	40
Volume Left	60	0	0	16	0
Volume Right	0	68	9	0	0
cSH	1623	1700	825	713	742
Volume to Capacity	0.04	0.04	0.11	0.02	0.05
Queue Length 95th (ft)	3	0	9	2	4
Control Delay (s)	7.3	0.0	10.2	10.2	10.1
Lane LOS	A		B	B	B
Approach Delay (s)	3.4		10.2	10.1	
Approach LOS			B	B	

Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	17.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	88	89	169	26	36	69
Future Volume (Veh/h)	88	89	169	26	36	69
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	98	99	188	29	40	77
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)				4		
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		196	0	290	196
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		196	0	290	196
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)						
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	94		71	97	92	88
cM capacity (veh/h)	1623		657	1085	480	657

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	98	99	217	40	77
Volume Left	98	0	0	40	0
Volume Right	0	99	29	0	0
cSH	1623	1700	759	480	657
Volume to Capacity	0.06	0.06	0.29	0.08	0.12
Queue Length 95th (ft)	5	0	30	7	10
Control Delay (s)	7.4	0.0	12.1	13.2	11.2
Lane LOS	A		B	B	B
Approach Delay (s)	3.7		12.1	11.9	
Approach LOS			B	B	

Intersection Summary			
Average Delay	8.9		
Intersection Capacity Utilization	27.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	2	6	0	0	0	19	55	2	0	21	0
Future Vol, veh/h	0	2	6	0	0	0	19	55	2	0	21	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	7	0	0	0	21	61	2	0	23	0
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	6.8	0	7.7	7.3
HCM LOS	A	-	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	0%	0%
Vol Thru, %	0%	96%	25%	100%	100%
Vol Right, %	0%	4%	75%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	57	8	0	21
LT Vol	19	0	0	0	0
Through Vol	0	55	2	0	21
RT Vol	0	2	6	0	0
Lane Flow Rate	21	63	9	0	23
Geometry Grp	5	5	2	2	4a
Degree of Util (X)	0.03	0.08	0.009	0	0.027
Departure Headway (Hd)	5.061	4.537	3.666	4.124	4.111
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	711	794	962	0	870
Service Time	2.767	2.242	1.741	2.201	2.141
HCM Lane V/C Ratio	0.03	0.079	0.009	0	0.026
HCM Control Delay	7.9	7.6	6.8	7.2	7.3
HCM Lane LOS	A	A	A	N	A
HCM 95th-tile Q	0.1	0.3	0	0	0.1

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	16	3	1	9	29	180	7	4	23	0
Future Vol, veh/h	0	0	16	3	1	9	29	180	7	4	23	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	18	3	1	10	32	200	8	4	26	0
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	7.1	7.3	8.8	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	23%	15%
Vol Thru, %	0%	96%	0%	8%	85%
Vol Right, %	0%	4%	100%	69%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	187	16	13	27
LT Vol	29	0	0	3	4
Through Vol	0	180	0	1	23
RT Vol	0	7	16	9	0
Lane Flow Rate	32	208	18	14	30
Geometry Grp	5	5	2	2	4a
Degree of Util (X)	0.046	0.264	0.02	0.017	0.036
Departure Headway (Hd)	5.106	4.58	3.986	4.221	4.295
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	702	785	903	853	821
Service Time	2.828	2.301	1.987	2.222	2.386
HCM Lane V/C Ratio	0.046	0.265	0.02	0.016	0.037
HCM Control Delay	8.1	8.9	7.1	7.3	7.5
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	1.1	0.1	0.1	0.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	332	22	0	232	8	0	0	53	0	0	3
Future Vol, veh/h	0	332	22	0	232	8	0	0	53	0	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	23	-	-	12	-	125	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	369	24	0	258	9	0	0	59	0	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	197	-	-	129
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	7.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.92	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	-	0	0	0	690	0	0	897
Stage 1	0	-	-	0	-	0	0	0	-	0	0	-
Stage 2	0	-	-	0	-	0	0	0	-	0	0	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	690	-	-	897
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	10.7	9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	690	-	-	-	897
HCM Lane V/C Ratio	0.085	-	-	-	0.004
HCM Control Delay (s)	10.7	-	-	-	9
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	-	0

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	383	27	0	356	20	0	0	191	0	0	28
Future Vol, veh/h	0	383	27	0	356	20	0	0	191	0	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	23	-	-	12	-	125	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	426	30	0	396	22	0	0	212	0	0	31

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	228	-	-	198
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	7.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.92	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	-	0	0	0	660	0	0	810
Stage 1	0	-	-	0	-	0	0	0	-	0	0	-
Stage 2	0	-	-	0	-	0	0	0	-	0	0	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	660	-	-	810
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	13	9.6
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	660	-	-	-	810
HCM Lane V/C Ratio	0.322	-	-	-	0.038
HCM Control Delay (s)	13	-	-	-	9.6
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	1.4	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	28	1	65	1	0	0	7	105	121	0	0	281	21
Future Vol, veh/h	28	1	65	1	0	0	7	105	121	0	0	281	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	225	-	-	-	-	0	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	1	72	1	0	0	8	117	134	0	0	312	23

Major/Minor	Minor2			Minor1				Major1			Major2		
Conflicting Flow All	692	708	324	692	719	134	-	335	0	0	134	0	0
Stage 1	324	324	-	368	384	-	-	-	-	-	-	-	-
Stage 2	368	384	-	324	335	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	358	360	717	358	354	915	-	1224	-	-	1451	-	-
Stage 1	688	650	-	652	611	-	-	-	-	-	-	-	-
Stage 2	652	611	-	688	643	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	358	360	717	321	354	915	~ -16	~ -16	-	-	1451	-	-
Mov Cap-2 Maneuver	358	360	-	321	354	-	-	-	-	-	-	-	-
Stage 1	688	650	-	652	611	-	-	-	-	-	-	-	-
Stage 2	652	611	-	618	643	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.3	16.3		0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	358	717	321	1451	-	-
HCM Lane V/C Ratio	-	-	-	0.09	0.101	0.003	-	-	-
HCM Control Delay (s)	-	-	-	16	10.6	16.3	0	-	-
HCM Lane LOS	-	-	-	C	B	C	A	-	-
HCM 95th %tile Q(veh)	-	-	-	0.3	0.3	0	0	-	-

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

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	37	2	162	18	4	3	21	174	198	0	2	220	21
Future Vol, veh/h	37	2	162	18	4	3	21	174	198	0	2	220	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	225	-	-	-	-	0	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	2	180	20	4	3	23	193	220	0	2	244	23

Major/Minor	Minor2			Minor1				Major1			Major2		
Conflicting Flow All	870	912	256	867	923	220	-	267	0	0	220	0	0
Stage 1	260	260	-	606	652	-	-	-	-	-	-	-	-
Stage 2	610	652	-	261	271	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	272	274	783	273	270	820	-	1297	-	-	1349	-	-
Stage 1	745	693	-	484	464	-	-	-	-	-	-	-	-
Stage 2	482	464	-	744	685	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	267	274	783	209	270	820	~ -9	~ -9	-	-	1349	-	-
Mov Cap-2 Maneuver	267	274	-	209	270	-	-	-	-	-	-	-	-
Stage 1	745	692	-	484	464	-	-	-	-	-	-	-	-
Stage 2	475	464	-	570	684	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13	22		0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	267	783	239	1349	-	-
HCM Lane V/C Ratio	-	-	-	0.162	0.23	0.116	0.002	-	-
HCM Control Delay (s)	-	-	-	21.1	11	22	7.7	-	-
HCM Lane LOS	-	-	-	C	B	C	A	-	-
HCM 95th %tile Q(veh)	-	-	-	0.6	0.9	0.4	0	-	-

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

APPENDIX E

CAPACITY ANALYSIS CALCULATIONS

2027 NO-BUILD

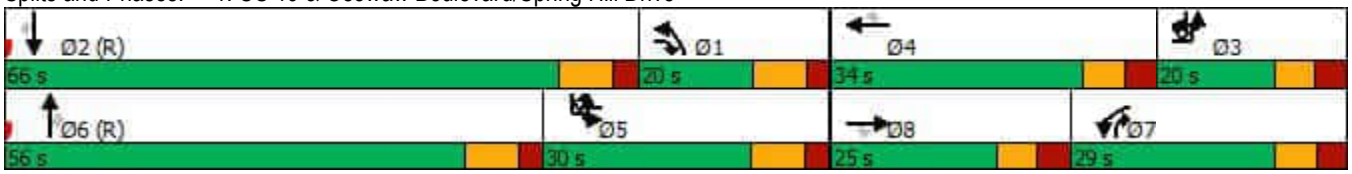
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	2	126	139	87	394	122	220	65	949	164	2	157
Future Volume (vph)	2	126	139	87	394	122	220	65	949	164	2	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		175	0		175	475		525		275
Storage Lanes		2		2	2		2	1		1		2
Taper Length (ft)		100			100			100				100
Lane Util. Factor	0.95	0.97	0.95	1.00	0.97	1.00	1.00	1.00	0.91	1.00	0.91	0.97
Frt				0.850			0.850			0.850		
Flt Protected		0.950			0.950			0.950				0.950
Satd. Flow (prot)	0	3433	3539	1583	3433	1863	1583	1770	5085	1583	0	3433
Flt Permitted		0.950			0.950			0.950				0.950
Satd. Flow (perm)	0	3433	3539	1583	3433	1863	1583	1770	5085	1583	0	3433
Right Turn on Red				No			No			No		
Satd. Flow (RTOR)												
Link Speed (mph)			40			40			55			
Link Distance (ft)			352			1085			891			
Travel Time (s)			6.0			18.5			11.0			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	140	154	97	438	136	244	72	1054	182	2	174
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	142	154	97	438	136	244	72	1054	182	0	176
Turn Type	Prot	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	Prot
Protected Phases	3!	3	8	1	7	4	5!	1	6	7	5!	5
Permitted Phases				8			4			6		
Detector Phase	3	3	8	1	7	4	5	1	6	7	5	5
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0	20.0	5.0	5.0	5.0
Minimum Split (s)	12.7	12.7	17.7	13.0	12.8	17.8	13.2	13.0	28.0	12.8	13.2	13.2
Total Split (s)	20.0	20.0	25.0	20.0	29.0	34.0	30.0	20.0	56.0	29.0	30.0	30.0
Total Split (%)	14.3%	14.3%	17.9%	14.3%	20.7%	24.3%	21.4%	14.3%	40.0%	20.7%	21.4%	21.4%
Maximum Green (s)	12.3	12.3	17.3	12.0	21.2	26.2	21.8	12.0	48.0	21.2	21.8	21.8
Yellow Time (s)	4.1	4.1	4.1	5.6	4.5	4.5	5.6	5.6	5.6	4.5	5.6	5.6
All-Red Time (s)	3.6	3.6	3.6	2.4	3.3	3.3	2.6	2.4	2.4	3.3	2.6	2.6
Lost Time Adjust (s)		-2.7	-2.7	-3.0	-2.8	-2.8	-3.2	-3.0	-3.0	-2.8		-3.2
Total Lost Time (s)		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0
Lead/Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	3.0	4.0	3.0	3.5	3.0	4.0	4.0	3.5	3.5
Recall Mode	None	None	None	None	None	None	None	None	C-Max	None	None	None
Act Effct Green (s)		21.8	14.5	33.3	25.7	18.3	47.2	13.9	56.0	86.7		23.9
Actuated g/C Ratio		0.16	0.10	0.24	0.18	0.13	0.34	0.10	0.40	0.62		0.17
v/c Ratio		0.27	0.42	0.26	0.70	0.56	0.46	0.41	0.52	0.19		0.30
Control Delay		53.6	62.2	44.4	59.7	65.3	38.5	53.7	19.4	8.7		52.0
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay		53.6	62.2	44.4	59.7	65.3	38.5	53.7	19.4	8.7		52.0
LOS		D	E	D	E	E	D	D	B	A		D
Approach Delay			54.7			54.3			19.8			
Approach LOS			D			D			B			

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1186	42
Future Volume (vph)	1186	42
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		525
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.91	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	5085	1583
Flt Permitted		
Satd. Flow (perm)	5085	1583
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)	55	
Link Distance (ft)	1088	
Travel Time (s)	13.5	
Peak Hour Factor	0.90	0.90
Adj. Flow (vph)	1318	47
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1318	47
Turn Type	NA	pm+ov
Protected Phases	2	3!
Permitted Phases		2
Detector Phase	2	3
Switch Phase		
Minimum Initial (s)	20.0	5.0
Minimum Split (s)	28.2	12.7
Total Split (s)	66.0	20.0
Total Split (%)	47.1%	14.3%
Maximum Green (s)	57.8	12.3
Yellow Time (s)	5.6	4.1
All-Red Time (s)	2.6	3.6
Lost Time Adjust (s)	-3.2	-2.7
Total Lost Time (s)	5.0	5.0
Lead/Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	4.0	4.0
Recall Mode	C-Max	None
Act Effct Green (s)	66.0	92.8
Actuated g/C Ratio	0.47	0.66
v/c Ratio	0.55	0.04
Control Delay	28.2	9.7
Queue Delay	0.0	0.0
Total Delay	28.2	9.7
LOS	C	A
Approach Delay	30.4	
Approach LOS	C	

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Queue Length 50th (ft)		58	70	72	191	118	172	64	116	38		72
Queue Length 95th (ft)		94	105	120	252	181	238	118	131	56		108
Internal Link Dist (ft)			272			1005			811			
Turn Bay Length (ft)				175			175	475		525		275
Base Capacity (vph)		534	505	367	642	385	523	189	2034	974		613
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0		0
Spillback Cap Reductn		0	0	0	0	0	0	0	0	0		0
Storage Cap Reductn		0	0	0	0	0	0	0	0	0		0
Reduced v/c Ratio		0.27	0.30	0.26	0.68	0.35	0.47	0.38	0.52	0.19		0.29

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 50 (36%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 34.1		Intersection LOS: C	
Intersection Capacity Utilization 63.3%		ICU Level of Service B	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

Splits and Phases: 1: US 19 & Osowaw Boulevard/Spring Hill Drive



Lane Group	SBT	SBR
Queue Length 50th (ft)	319	14
Queue Length 95th (ft)	379	33
Internal Link Dist (ft)	1008	
Turn Bay Length (ft)		525
Base Capacity (vph)	2397	1049
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.55	0.04

Intersection Summary

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	1	253	260	94	1	340	165	305	1	117	1519	343
Future Volume (vph)	1	253	260	94	1	340	165	305	1	117	1519	343
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		175		0		175		475		525
Storage Lanes		2		2		2		2		1		1
Taper Length (ft)		100				100				100		
Lane Util. Factor	0.95	0.97	0.95	1.00	1.00	0.97	1.00	1.00	0.91	1.00	0.91	1.00
Frt				0.850				0.850				0.850
Flt Protected		0.950				0.950				0.950		
Satd. Flow (prot)	0	3433	3539	1583	0	3433	1863	1583	0	1770	5085	1583
Flt Permitted		0.950				0.950				0.950		
Satd. Flow (perm)	0	3433	3539	1583	0	3433	1863	1583	0	1770	5085	1583
Right Turn on Red				No				No				No
Satd. Flow (RTOR)												
Link Speed (mph)			40				40				55	
Link Distance (ft)			352				1085				891	
Travel Time (s)			6.0				18.5				11.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1	281	289	104	1	378	183	339	1	130	1688	381
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	282	289	104	0	379	183	339	0	131	1688	381
Turn Type	Prot	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov
Protected Phases	3!	3	8	1!	7!	7	4	5!	1!	1	6	7!
Permitted Phases				8				4				6
Detector Phase	3	3	8	1	7	7	4	5	1	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	5.0	10.0	5.0	5.0	5.0	20.0	5.0
Minimum Split (s)	12.7	12.7	17.7	13.0	12.8	12.8	17.8	13.2	13.0	13.0	28.0	12.8
Total Split (s)	25.0	25.0	25.0	35.0	30.0	30.0	30.0	45.0	35.0	35.0	60.0	30.0
Total Split (%)	15.6%	15.6%	15.6%	21.9%	18.8%	18.8%	18.8%	28.1%	21.9%	21.9%	37.5%	18.8%
Maximum Green (s)	17.3	17.3	17.3	27.0	22.2	22.2	22.2	36.8	27.0	27.0	52.0	22.2
Yellow Time (s)	4.1	4.1	4.1	5.6	4.5	4.5	4.5	5.6	5.6	5.6	5.6	4.5
All-Red Time (s)	3.6	3.6	3.6	2.4	3.3	3.3	3.3	2.6	2.4	2.4	2.4	3.3
Lost Time Adjust (s)		-2.7	-2.7	-3.0		-2.8	-2.8	-3.2		-3.0	-3.0	-2.8
Total Lost Time (s)		5.0	5.0	5.0		5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	3.0	4.0	4.0	3.0	3.5	3.0	3.0	4.0	4.0
Recall Mode	None	None	None	None	None	None	None	None	None	None	C-Max	None
Act Effct Green (s)		22.4	19.5	50.0		25.4	22.4	63.0		25.5	59.6	90.0
Actuated g/C Ratio		0.14	0.12	0.31		0.16	0.14	0.39		0.16	0.37	0.56
v/c Ratio		0.59	0.67	0.21		0.70	0.70	0.54		0.46	0.89	0.43
Control Delay		69.6	76.3	41.3		71.1	80.0	40.1		43.1	39.8	21.8
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
Total Delay		69.6	76.3	41.3		71.1	80.0	40.1		43.1	39.8	21.8
LOS		E	E	D		E	F	D		D	D	C
Approach Delay			68.1				61.3				36.9	
Approach LOS			E				E				D	

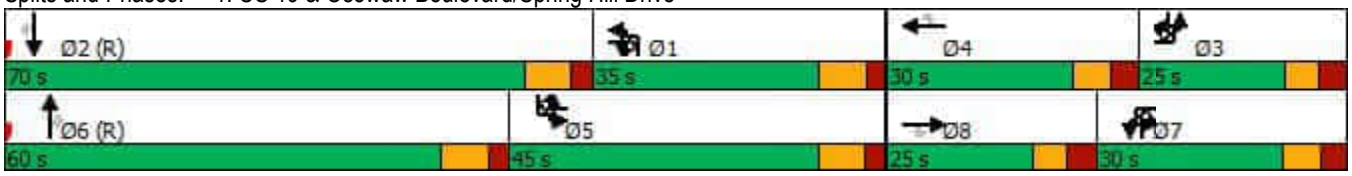
Lane Group	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Volume (vph)	2	311	1206	98
Future Volume (vph)	2	311	1206	98
Ideal Flow (vphpl)	1900	1900	1900	1900
Storage Length (ft)		275		525
Storage Lanes		2		1
Taper Length (ft)		100		
Lane Util. Factor	0.91	0.97	0.91	1.00
Frt				0.850
Flt Protected		0.950		
Satd. Flow (prot)	0	3433	5085	1583
Flt Permitted		0.950		
Satd. Flow (perm)	0	3433	5085	1583
Right Turn on Red				No
Satd. Flow (RTOR)				
Link Speed (mph)			55	
Link Distance (ft)			1088	
Travel Time (s)			13.5	
Peak Hour Factor	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	346	1340	109
Shared Lane Traffic (%)				
Lane Group Flow (vph)	0	348	1340	109
Turn Type	Prot	Prot	NA	pm+ov
Protected Phases	5!	5	2	3!
Permitted Phases				2
Detector Phase	5	5	2	3
Switch Phase				
Minimum Initial (s)	5.0	5.0	20.0	5.0
Minimum Split (s)	13.2	13.2	28.2	12.7
Total Split (s)	45.0	45.0	70.0	25.0
Total Split (%)	28.1%	28.1%	43.8%	15.6%
Maximum Green (s)	36.8	36.8	61.8	17.3
Yellow Time (s)	5.6	5.6	5.6	4.1
All-Red Time (s)	2.6	2.6	2.6	3.6
Lost Time Adjust (s)		-3.2	-3.2	-2.7
Total Lost Time (s)		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	3.5	4.0	4.0
Recall Mode	None	None	C-Max	None
Act Effct Green (s)		35.5	69.6	97.0
Actuated g/C Ratio		0.22	0.44	0.61
v/c Ratio		0.46	0.61	0.11
Control Delay		55.3	37.0	15.1
Queue Delay		0.0	0.0	0.0
Total Delay		55.3	37.0	15.1
LOS		E	D	B
Approach Delay			39.2	
Approach LOS			D	

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Queue Length 50th (ft)		142	153	79		192	184	266		134	421	133
Queue Length 95th (ft)		200	208	128		256	271	350		m157	#725	m254
Internal Link Dist (ft)			272				1005				811	
Turn Bay Length (ft)				175				175		475		525
Base Capacity (vph)		481	450	483		561	293	611		331	1893	887
Starvation Cap Reductn		0	0	0		0	0	0		0	0	0
Spillback Cap Reductn		0	0	0		0	0	0		0	0	0
Storage Cap Reductn		0	0	0		0	0	0		0	0	0
Reduced v/c Ratio		0.59	0.64	0.22		0.68	0.62	0.55		0.40	0.89	0.43

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 2 (1%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 45.4		Intersection LOS: D	
Intersection Capacity Utilization 81.1%		ICU Level of Service D	
Analysis Period (min) 15			

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.
! Phase conflict between lane groups.

Splits and Phases: 1: US 19 & Osowaw Boulevard/Spring Hill Drive



Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	32	1123	1724	53
Future Vol, veh/h	0	16	32	1123	1724	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	475	-	-	350
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	36	1248	1916	59

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	958	1975	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	0	221	129	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	221	129	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.7	1.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	129	-	221	-	-
HCM Lane V/C Ratio	0.276	-	0.08	-	-
HCM Control Delay (s)	43.2	-	22.7	-	-
HCM Lane LOS	E	-	C	-	-
HCM 95th %tile Q(veh)	1	-	0.3	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	0	59	3	50	2046	1514	134
Future Vol, veh/h	0	59	3	50	2046	1514	134
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	Stop	-	-	None	-	None
Storage Length	-	0	-	475	-	-	350
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	66	3	56	2273	1682	149

Major/Minor	Minor2		Major1			Major2	
Conflicting Flow All	-	841	1228	1831	0	-	0
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.64	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	2.32	3.12	-	-	-
Pot Cap-1 Maneuver	0	264	328	152	-	-	-
Stage 1	0	-	-	-	-	-	-
Stage 2	0	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	-	264	156	156	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.1	1.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	156	-	264	-	-
HCM Lane V/C Ratio	0.377	-	0.248	-	-
HCM Control Delay (s)	41.6	-	23.1	-	-
HCM Lane LOS	E	-	C	-	-
HCM 95th %tile Q(veh)	1.6	-	1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	96	19	12	70	18	43	7	20	1014	77	2	55
Future Volume (vph)	96	19	12	70	18	43	7	20	1014	77	2	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		200		300		325		300
Storage Lanes	1		0	0		1		1		1		1
Taper Length (ft)	100			100				100				100
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.91	1.00	0.91	1.00	0.91	1.00
Frt		0.972				0.850				0.850		
Flt Protected	0.950	0.975			0.962			0.950				0.950
Satd. Flow (prot)	1681	1677	0	0	1792	1583	0	1770	5085	1583	0	1770
Flt Permitted	0.950	0.975			0.962			0.950				0.950
Satd. Flow (perm)	1681	1677	0	0	1792	1583	0	1770	5085	1583	0	1770
Right Turn on Red			No			No				No		
Satd. Flow (RTOR)												
Link Speed (mph)		25			30				55			
Link Distance (ft)		455			1096				1049			
Travel Time (s)		12.4			24.9				13.0			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	107	21	13	78	20	48	8	22	1127	86	2	61
Shared Lane Traffic (%)	34%											
Lane Group Flow (vph)	71	70	0	0	98	48	0	30	1127	86	0	63
Turn Type	Split	NA		Split	NA	pm+ov	Prot	Prot	NA	pm+ov	Prot	Prot
Protected Phases	8	8		4	4	5!	1	1	6	4	5!	5
Permitted Phases						4				6		
Detector Phase	8	8		4	4	5	1	1	6	4	5	5
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	10.0	20.0	5.0	10.0	10.0
Minimum Split (s)	13.4	13.4		12.4	12.4	17.5	17.6	17.6	27.6	12.4	17.5	17.5
Total Split (s)	28.0	28.0		27.0	27.0	25.0	25.0	25.0	60.0	27.0	25.0	25.0
Total Split (%)	20.0%	20.0%		19.3%	19.3%	17.9%	17.9%	17.9%	42.9%	19.3%	17.9%	17.9%
Maximum Green (s)	19.6	19.6		19.6	19.6	17.5	17.4	17.4	52.4	19.6	17.5	17.5
Yellow Time (s)	3.4	3.4		3.7	3.7	5.5	5.6	5.6	5.6	3.7	5.5	5.5
All-Red Time (s)	5.0	5.0		3.7	3.7	2.0	2.0	2.0	2.0	3.7	2.0	2.0
Lost Time Adjust (s)	-3.4	-3.4			-2.4	-2.5		-2.6	-2.6	-2.4		-2.5
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0		5.0
Lead/Lag						Lag	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	None	C-Max	None	None	None
Act Effct Green (s)	14.7	14.7			15.4	31.1		13.9	79.6	96.0		13.8
Actuated g/C Ratio	0.10	0.10			0.11	0.22		0.10	0.57	0.69		0.10
v/c Ratio	0.40	0.40			0.50	0.14		0.17	0.39	0.08		0.36
Control Delay	64.5	64.4			66.7	40.3		59.4	19.3	5.0		48.5
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0	0.0		0.0
Total Delay	64.5	64.4			66.7	40.3		59.4	19.3	5.0		48.5
LOS	E	E			E	D		E	B	A		D
Approach Delay		64.5			58.0				19.2			
Approach LOS		E			E				B			

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1593	89
Future Volume (vph)	1593	89
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		475
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.91	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	5085	1583
Flt Permitted		
Satd. Flow (perm)	5085	1583
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)	55	
Link Distance (ft)	939	
Travel Time (s)	11.6	
Peak Hour Factor	0.90	0.90
Adj. Flow (vph)	1770	99
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1770	99
Turn Type	NA	pm+ov
Protected Phases	2	8
Permitted Phases		2
Detector Phase	2	8
Switch Phase		
Minimum Initial (s)	20.0	5.0
Minimum Split (s)	27.5	13.4
Total Split (s)	60.0	28.0
Total Split (%)	42.9%	20.0%
Maximum Green (s)	52.5	19.6
Yellow Time (s)	5.5	3.4
All-Red Time (s)	2.0	5.0
Lost Time Adjust (s)	-2.5	-3.4
Total Lost Time (s)	5.0	5.0
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	4.0	3.0
Recall Mode	C-Max	None
Act Effct Green (s)	83.1	102.8
Actuated g/C Ratio	0.59	0.73
v/c Ratio	0.59	0.09
Control Delay	10.1	5.2
Queue Delay	0.0	0.0
Total Delay	10.1	5.2
LOS	B	A
Approach Delay	11.1	
Approach LOS	B	

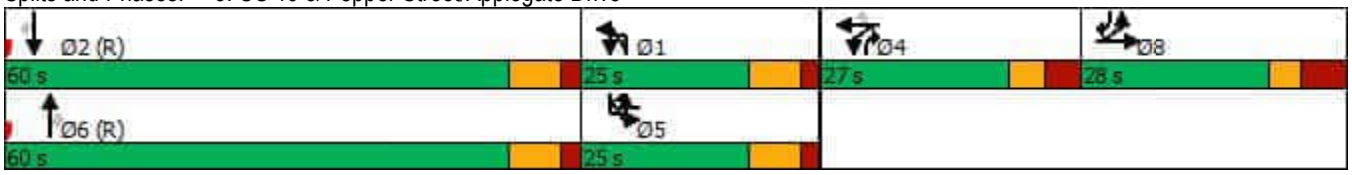
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Queue Length 50th (ft)	64	64			85	35		26	209	12		56
Queue Length 95th (ft)	115	114			142	64		58	301	26		m99
Internal Link Dist (ft)		375			1016				969			
Turn Bay Length (ft)						200		300		325		300
Base Capacity (vph)	276	275			281	364		252	2890	1159		252
Starvation Cap Reductn	0	0			0	0		0	0	0		0
Spillback Cap Reductn	0	0			0	0		0	0	0		0
Storage Cap Reductn	0	0			0	0		0	0	0		0
Reduced v/c Ratio	0.26	0.25			0.35	0.13		0.12	0.39	0.07		0.25

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 51 (36%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 63.1%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

! Phase conflict between lane groups.

Splits and Phases: 3: US 19 & Pepper Street/Applegate Drive



Lane Group	SBT	SBR
Queue Length 50th (ft)	134	18
Queue Length 95th (ft)	264	m33
Internal Link Dist (ft)	859	
Turn Bay Length (ft)		475
Base Capacity (vph)	3017	1159
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.59	0.09

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	186	66	29	151	37	118	6	63	1786	186	8	62
Future Volume (vph)	186	66	29	151	37	118	6	63	1786	186	8	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		200		300		325		300
Storage Lanes	1		0	0		1		1		1		1
Taper Length (ft)	100			100				100				100
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.91	1.00	0.91	1.00	0.91	1.00
Frt		0.969				0.850				0.850		
Flt Protected	0.950	0.984			0.961			0.950				0.950
Satd. Flow (prot)	1681	1687	0	0	1790	1583	0	1770	5085	1583	0	1770
Flt Permitted	0.950	0.984			0.961			0.950				0.950
Satd. Flow (perm)	1681	1687	0	0	1790	1583	0	1770	5085	1583	0	1770
Right Turn on Red			No			No				No		
Satd. Flow (RTOR)												
Link Speed (mph)		25			30				55			
Link Distance (ft)		455			1096				1049			
Travel Time (s)		12.4			24.9				13.0			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	207	73	32	168	41	131	7	70	1984	207	9	69
Shared Lane Traffic (%)	25%											
Lane Group Flow (vph)	155	157	0	0	209	131	0	77	1984	207	0	78
Turn Type	Split	NA		Split	NA	pm+ov	Prot	Prot	NA	pm+ov	Prot	Prot
Protected Phases	8	8		4	4	5!	1	1	6	4	5!	5
Permitted Phases						4				6		
Detector Phase	8	8		4	4	5	1	1	6	4	5	5
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	10.0	20.0	5.0	10.0	10.0
Minimum Split (s)	13.4	13.4		12.4	12.4	17.5	17.6	17.6	27.6	12.4	17.5	17.5
Total Split (s)	56.0	56.0		25.0	25.0	25.0	25.0	25.0	54.0	25.0	25.0	25.0
Total Split (%)	35.0%	35.0%		15.6%	15.6%	15.6%	15.6%	15.6%	33.8%	15.6%	15.6%	15.6%
Maximum Green (s)	47.6	47.6		17.6	17.6	17.5	17.4	17.4	46.4	17.6	17.5	17.5
Yellow Time (s)	3.4	3.4		3.7	3.7	5.5	5.6	5.6	5.6	3.7	5.5	5.5
All-Red Time (s)	5.0	5.0		3.7	3.7	2.0	2.0	2.0	2.0	3.7	2.0	2.0
Lost Time Adjust (s)	-3.4	-3.4			-2.4	-2.5		-2.6	-2.6	-2.4		-2.5
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0		5.0
Lead/Lag						Lag	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	None	C-Max	None	None	None
Act Effct Green (s)	23.9	23.9			21.6	44.0		17.4	77.1	98.7		17.4
Actuated g/C Ratio	0.15	0.15			0.14	0.28		0.11	0.48	0.62		0.11
v/c Ratio	0.62	0.62			0.87	0.30		0.40	0.81	0.21		0.41
Control Delay	73.7	74.0			98.8	47.8		72.1	39.5	8.1		51.0
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0	0.0		0.0
Total Delay	73.7	74.0			98.8	47.8		72.1	39.5	8.1		51.0
LOS	E	E			F	D		E	D	A		D
Approach Delay		73.8			79.1				37.7			
Approach LOS		E			E				D			

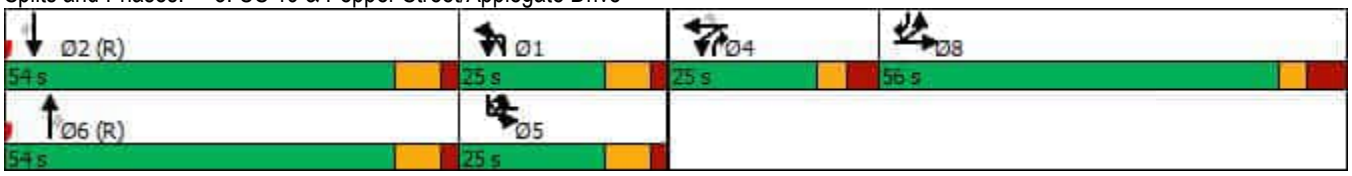
Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1300	167
Future Volume (vph)	1300	167
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		475
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.91	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	5085	1583
Flt Permitted		
Satd. Flow (perm)	5085	1583
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)	55	
Link Distance (ft)	939	
Travel Time (s)	11.6	
Peak Hour Factor	0.90	0.90
Adj. Flow (vph)	1444	186
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1444	186
Turn Type	NA	pm+ov
Protected Phases	2	8
Permitted Phases		2
Detector Phase	2	8
Switch Phase		
Minimum Initial (s)	20.0	5.0
Minimum Split (s)	27.5	13.4
Total Split (s)	54.0	56.0
Total Split (%)	33.8%	35.0%
Maximum Green (s)	46.5	47.6
Yellow Time (s)	5.5	3.4
All-Red Time (s)	2.0	5.0
Lost Time Adjust (s)	-2.5	-3.4
Total Lost Time (s)	5.0	5.0
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	4.0	3.0
Recall Mode	C-Max	None
Act Effct Green (s)	77.1	106.0
Actuated g/C Ratio	0.48	0.66
v/c Ratio	0.59	0.18
Control Delay	13.1	6.2
Queue Delay	0.0	0.0
Total Delay	13.1	6.2
LOS	B	A
Approach Delay	14.1	
Approach LOS	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Queue Length 50th (ft)	162	165			217	108		76	644	46		79
Queue Length 95th (ft)	234	237			#386	171		132	781	87		m133
Internal Link Dist (ft)		375			1016				969			
Turn Bay Length (ft)						200		300		325		300
Base Capacity (vph)	535	537			241	426		221	2449	976		221
Starvation Cap Reductn	0	0			0	0		0	0	0		0
Spillback Cap Reductn	0	0			0	0		0	0	0		0
Storage Cap Reductn	0	0			0	0		0	0	0		0
Reduced v/c Ratio	0.29	0.29			0.87	0.31		0.35	0.81	0.21		0.35

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 18 (11%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 34.5		Intersection LOS: C	
Intersection Capacity Utilization 75.6%		ICU Level of Service D	
Analysis Period (min) 15			

\# 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.
! Phase conflict between lane groups.

Splits and Phases: 3: US 19 & Pepper Street/Applegate Drive



Lane Group	SBT	SBR
Queue Length 50th (ft)	116	33
Queue Length 95th (ft)	184	47
Internal Link Dist (ft)	859	
Turn Bay Length (ft)		475
Base Capacity (vph)	2449	1048
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.59	0.18

Intersection Summary

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	4	1	64	15	26	3	43	93	19	34	2
Future Vol, veh/h	4	4	1	64	15	26	3	43	93	19	34	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	4	1	71	17	29	3	48	103	21	38	2
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	7.7	8.2	8.1	8
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	44%	61%	100%	0%
Vol Thru, %	0%	32%	44%	14%	0%	94%
Vol Right, %	0%	68%	11%	25%	0%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	136	9	105	19	36
LT Vol	3	0	4	64	19	0
Through Vol	0	43	4	15	0	34
RT Vol	0	93	1	26	0	2
Lane Flow Rate	3	151	10	117	21	40
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.005	0.185	0.013	0.143	0.032	0.055
Departure Headway (Hd)	5.401	4.419	4.593	4.421	5.454	4.913
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	667	818	781	813	659	732
Service Time	3.101	2.119	2.61	2.434	3.167	2.626
HCM Lane V/C Ratio	0.004	0.185	0.013	0.144	0.032	0.055
HCM Control Delay	8.1	8.1	7.7	8.2	8.3	7.9
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0	0.7	0	0.5	0.1	0.2

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	70	7	106	81	66	9	90	165	37	86	25
Future Vol, veh/h	8	70	7	106	81	66	9	90	165	37	86	25
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	78	8	118	90	73	10	100	183	41	96	28
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	9.7	12	11.9	10
HCM LOS	A	B	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	9%	42%	100%	0%
Vol Thru, %	0%	35%	82%	32%	0%	77%
Vol Right, %	0%	65%	8%	26%	0%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	255	85	253	37	111
LT Vol	9	0	8	106	37	0
Through Vol	0	90	70	81	0	86
RT Vol	0	165	7	66	0	25
Lane Flow Rate	10	283	94	281	41	123
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.018	0.423	0.148	0.411	0.074	0.2
Departure Headway (Hd)	6.337	5.371	5.634	5.268	6.493	5.825
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	566	672	636	683	552	617
Service Time	4.067	3.101	3.677	3.302	4.23	3.561
HCM Lane V/C Ratio	0.018	0.421	0.148	0.411	0.074	0.199
HCM Control Delay	9.2	12	9.7	12	9.8	10
HCM Lane LOS	A	B	A	B	A	A
HCM 95th-tile Q	0.1	2.1	0.5	2	0.2	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	56	63	74	8	14	37
Future Volume (Veh/h)	56	63	74	8	14	37
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	62	70	82	9	16	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)				4		
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		124	0	165	124
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		124	0	165	124
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)						
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	96		89	99	98	94
cM capacity (veh/h)	1623		737	1085	705	737

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	62	70	91	16	41
Volume Left	62	0	0	16	0
Volume Right	0	70	9	0	0
cSH	1623	1700	818	705	737
Volume to Capacity	0.04	0.04	0.11	0.02	0.06
Queue Length 95th (ft)	3	0	9	2	4
Control Delay (s)	7.3	0.0	10.3	10.2	10.2
Lane LOS	A		B	B	B
Approach Delay (s)	3.4		10.3	10.2	
Approach LOS			B	B	

Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	17.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	91	92	174	27	37	71
Future Volume (Veh/h)	91	92	174	27	37	71
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	101	102	193	30	41	79
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)				4		
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		202	0	298	202
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		202	0	298	202
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)						
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	94		70	97	91	88
cM capacity (veh/h)	1623		651	1085	468	651

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	101	102	223	41	79
Volume Left	101	0	0	41	0
Volume Right	0	102	30	0	0
cSH	1623	1700	752	468	651
Volume to Capacity	0.06	0.06	0.30	0.09	0.12
Queue Length 95th (ft)	5	0	31	7	10
Control Delay (s)	7.4	0.0	12.2	13.4	11.3
Lane LOS	A		B	B	B
Approach Delay (s)	3.7		12.2	12.0	
Approach LOS			B	B	

Intersection Summary			
Average Delay	9.0		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	2	6	0	0	0	20	57	2	0	22	0
Future Vol, veh/h	0	2	6	0	0	0	20	57	2	0	22	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	7	0	0	0	22	63	2	0	24	0
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	6.8	0	7.8	7.3
HCM LOS	A	-	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	0%	0%
Vol Thru, %	0%	97%	25%	100%	100%
Vol Right, %	0%	3%	75%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	59	8	0	22
LT Vol	20	0	0	0	0
Through Vol	0	57	2	0	22
RT Vol	0	2	6	0	0
Lane Flow Rate	22	66	9	0	24
Geometry Grp	5	5	2	2	4a
Degree of Util (X)	0.031	0.083	0.009	0	0.028
Departure Headway (Hd)	5.062	4.538	3.673	4.131	4.113
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	711	793	960	0	869
Service Time	2.767	2.243	1.75	2.21	2.144
HCM Lane V/C Ratio	0.031	0.083	0.009	0	0.028
HCM Control Delay	7.9	7.7	6.8	7.2	7.3
HCM Lane LOS	A	A	A	N	A
HCM 95th-tile Q	0.1	0.3	0	0	0.1

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	16	3	1	9	30	185	7	4	24	0
Future Vol, veh/h	0	0	16	3	1	9	30	185	7	4	24	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	18	3	1	10	33	206	8	4	27	0
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	7.1	7.3	8.9	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	23%	14%
Vol Thru, %	0%	96%	0%	8%	86%
Vol Right, %	0%	4%	100%	69%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	192	16	13	28
LT Vol	30	0	0	3	4
Through Vol	0	185	0	1	24
RT Vol	0	7	16	9	0
Lane Flow Rate	33	213	18	14	31
Geometry Grp	5	5	2	2	4a
Degree of Util (X)	0.047	0.271	0.02	0.017	0.037
Departure Headway (Hd)	5.107	4.581	4.002	4.237	4.298
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	703	785	900	850	820
Service Time	2.828	2.302	2.003	2.238	2.391
HCM Lane V/C Ratio	0.047	0.271	0.02	0.016	0.038
HCM Control Delay	8.1	9	7.1	7.3	7.6
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	1.1	0.1	0.1	0.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	342	23	0	239	8	0	0	55	0	0	3
Future Vol, veh/h	0	342	23	0	239	8	0	0	55	0	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	23	-	-	12	-	125	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	380	26	0	266	9	0	0	61	0	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	203	-	-	133
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	7.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.92	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	-	0	0	0	684	0	0	892
Stage 1	0	-	-	0	-	0	0	0	-	0	0	-
Stage 2	0	-	-	0	-	0	0	0	-	0	0	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	684	-	-	892
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	10.8	9.1
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	684	-	-	-	892
HCM Lane V/C Ratio	0.089	-	-	-	0.004
HCM Control Delay (s)	10.8	-	-	-	9.1
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	-	0

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	395	28	0	367	21	0	0	197	0	0	29
Future Vol, veh/h	0	395	28	0	367	21	0	0	197	0	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	23	-	-	12	-	125	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	439	31	0	408	23	0	0	219	0	0	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	235	-	-	204
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	7.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.92	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	-	0	0	0	653	0	0	803
Stage 1	0	-	-	0	-	0	0	0	-	0	0	-
Stage 2	0	-	-	0	-	0	0	0	-	0	0	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	653	-	-	803
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	13.3	9.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	653	-	-	-	803
HCM Lane V/C Ratio	0.335	-	-	-	0.04
HCM Control Delay (s)	13.3	-	-	-	9.7
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	1.5	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	29	1	67	1	0	0	7	108	125	0	0	289	22
Future Vol, veh/h	29	1	67	1	0	0	7	108	125	0	0	289	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	225	-	-	-	-	0	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	1	74	1	0	0	8	120	139	0	0	321	24

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	712	728	333	713	740	139	-	345	0	0	139	0	0
Stage 1	333	333	-	379	395	-	-	-	-	-	-	-	-
Stage 2	379	395	-	334	345	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	347	350	709	347	345	909	-	1214	-	-	1445	-	-
Stage 1	681	644	-	643	605	-	-	-	-	-	-	-	-
Stage 2	643	605	-	680	636	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	347	350	709	310	345	909	~ -17	~ -17	-	-	1445	-	-
Mov Cap-2 Maneuver	347	350	-	310	345	-	-	-	-	-	-	-	-
Stage 1	681	644	-	643	605	-	-	-	-	-	-	-	-
Stage 2	643	605	-	608	636	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.5	16.7		0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	347	709	310	1445	-	-
HCM Lane V/C Ratio	-	-	-	0.096	0.105	0.004	-	-	-
HCM Control Delay (s)	-	-	-	16.5	10.7	16.7	0	-	-
HCM Lane LOS	-	-	-	C	B	C	A	-	-
HCM 95th %tile Q(veh)	-	-	-	0.3	0.3	0	0	-	-

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

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	38	2	167	19	4	3	22	179	204	0	2	227	22
Future Vol, veh/h	38	2	167	19	4	3	22	179	204	0	2	227	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	225	-	-	-	-	0	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	2	186	21	4	3	24	199	227	0	2	252	24

Major/Minor	Minor2			Minor1				Major1			Major2		
Conflicting Flow All	897	941	264	894	953	227	-	276	0	0	227	0	0
Stage 1	268	268	-	625	673	-	-	-	-	-	-	-	-
Stage 2	629	673	-	269	280	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	261	263	775	262	259	812	-	1287	-	-	1341	-	-
Stage 1	738	687	-	473	454	-	-	-	-	-	-	-	-
Stage 2	470	454	-	737	679	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	256	263	775	198	259	812	~ -9	~ -9	-	-	1341	-	-
Mov Cap-2 Maneuver	256	263	-	198	259	-	-	-	-	-	-	-	-
Stage 1	738	686	-	473	454	-	-	-	-	-	-	-	-
Stage 2	463	454	-	558	678	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.2	23.3		0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	256	775	226	1341	-	-
HCM Lane V/C Ratio	-	-	-	0.174	0.239	0.128	0.002	-	-
HCM Control Delay (s)	-	-	-	22	11.1	23.3	7.7	-	-
HCM Lane LOS	-	-	-	C	B	C	A	-	-
HCM 95th %tile Q(veh)	-	-	-	0.6	0.9	0.4	0	-	-

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

APPENDIX F

CAPACITY ANALYSIS CALCULATIONS

2027 BUILD

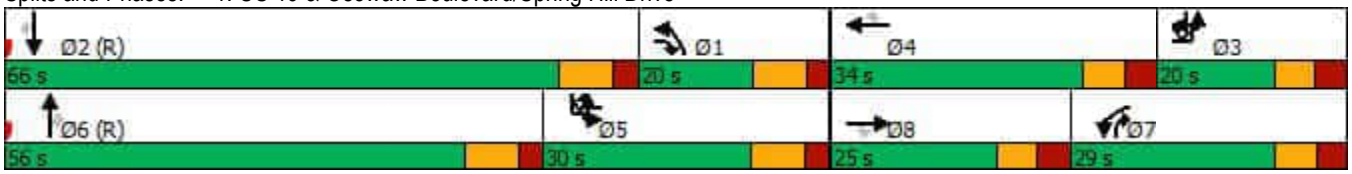
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	2	146	146	98	401	124	220	66	938	165	2	157
Future Volume (vph)	2	146	146	98	401	124	220	66	938	165	2	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		175	0		175	475		525		275
Storage Lanes		2		2	2		2	1		1		2
Taper Length (ft)		100			100			100				100
Lane Util. Factor	0.95	0.97	0.95	1.00	0.97	1.00	1.00	1.00	0.91	1.00	0.91	0.97
Frt				0.850			0.850			0.850		
Flt Protected		0.950			0.950			0.950				0.950
Satd. Flow (prot)	0	3433	3539	1583	3433	1863	1583	1770	5085	1583	0	3433
Flt Permitted		0.950			0.950			0.950				0.950
Satd. Flow (perm)	0	3433	3539	1583	3433	1863	1583	1770	5085	1583	0	3433
Right Turn on Red				No			No			No		
Satd. Flow (RTOR)												
Link Speed (mph)			40			40			55			
Link Distance (ft)			352			1085			891			
Travel Time (s)			6.0			18.5			11.0			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	162	162	109	446	138	244	73	1042	183	2	174
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	164	162	109	446	138	244	73	1042	183	0	176
Turn Type	Prot	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	Prot
Protected Phases	3!	3	8	1	7	4	5!	1	6	7	5!	5
Permitted Phases				8			4			6		
Detector Phase	3	3	8	1	7	4	5	1	6	7	5	5
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0	20.0	5.0	5.0	5.0
Minimum Split (s)	12.7	12.7	17.7	13.0	12.8	17.8	13.2	13.0	28.0	12.8	13.2	13.2
Total Split (s)	20.0	20.0	25.0	20.0	29.0	34.0	30.0	20.0	56.0	29.0	30.0	30.0
Total Split (%)	14.3%	14.3%	17.9%	14.3%	20.7%	24.3%	21.4%	14.3%	40.0%	20.7%	21.4%	21.4%
Maximum Green (s)	12.3	12.3	17.3	12.0	21.2	26.2	21.8	12.0	48.0	21.2	21.8	21.8
Yellow Time (s)	4.1	4.1	4.1	5.6	4.5	4.5	5.6	5.6	5.6	4.5	5.6	5.6
All-Red Time (s)	3.6	3.6	3.6	2.4	3.3	3.3	2.6	2.4	2.4	3.3	2.6	2.6
Lost Time Adjust (s)		-2.7	-2.7	-3.0	-2.8	-2.8	-3.2	-3.0	-3.0	-2.8		-3.2
Total Lost Time (s)		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0
Lead/Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	3.0	4.0	3.0	3.5	3.0	4.0	4.0	3.5	3.5
Recall Mode	None	None	None	None	None	None	None	None	C-Max	None	None	None
Act Effct Green (s)		22.1	14.7	33.9	25.9	18.5	47.6	14.1	55.3	86.1		24.1
Actuated g/C Ratio		0.16	0.10	0.24	0.18	0.13	0.34	0.10	0.40	0.62		0.17
v/c Ratio		0.30	0.44	0.29	0.70	0.56	0.45	0.41	0.52	0.19		0.30
Control Delay		54.0	62.2	44.6	59.9	65.2	38.2	53.2	19.6	8.8		51.8
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay		54.0	62.2	44.6	59.9	65.2	38.2	53.2	19.6	8.8		51.8
LOS		D	E	D	E	E	D	D	B	A		D
Approach Delay			54.7			54.4			20.0			
Approach LOS			D			D			B			

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1194	44
Future Volume (vph)	1194	44
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		525
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.91	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	5085	1583
Flt Permitted		
Satd. Flow (perm)	5085	1583
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)	55	
Link Distance (ft)	1088	
Travel Time (s)	13.5	
Peak Hour Factor	0.90	0.90
Adj. Flow (vph)	1327	49
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1327	49
Turn Type	NA	pm+ov
Protected Phases	2	3!
Permitted Phases		2
Detector Phase	2	3
Switch Phase		
Minimum Initial (s)	20.0	5.0
Minimum Split (s)	28.2	12.7
Total Split (s)	66.0	20.0
Total Split (%)	47.1%	14.3%
Maximum Green (s)	57.8	12.3
Yellow Time (s)	5.6	4.1
All-Red Time (s)	2.6	3.6
Lost Time Adjust (s)	-3.2	-2.7
Total Lost Time (s)	5.0	5.0
Lead/Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	4.0	4.0
Recall Mode	C-Max	None
Act Effct Green (s)	65.3	92.4
Actuated g/C Ratio	0.47	0.66
v/c Ratio	0.56	0.05
Control Delay	28.8	9.8
Queue Delay	0.0	0.0
Total Delay	28.8	9.8
LOS	C	A
Approach Delay	30.8	
Approach LOS	C	

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Queue Length 50th (ft)		68	74	81	194	120	171	65	116	39		72
Queue Length 95th (ft)		107	110	133	257	182	238	119	130	56		108
Internal Link Dist (ft)			272			1005			811			
Turn Bay Length (ft)				175			175	475		525		275
Base Capacity (vph)		542	505	369	646	385	525	189	2007	968		613
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0		0
Spillback Cap Reductn		0	0	0	0	0	0	0	0	0		0
Storage Cap Reductn		0	0	0	0	0	0	0	0	0		0
Reduced v/c Ratio		0.30	0.32	0.30	0.69	0.36	0.46	0.39	0.52	0.19		0.29

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 50 (36%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 34.7		Intersection LOS: C	
Intersection Capacity Utilization 63.7%		ICU Level of Service B	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

Splits and Phases: 1: US 19 & Osowaw Boulevard/Spring Hill Drive



Lane Group	SBT	SBR
Queue Length 50th (ft)	324	15
Queue Length 95th (ft)	383	34
Internal Link Dist (ft)	1008	
Turn Bay Length (ft)		525
Base Capacity (vph)	2370	1044
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.56	0.05

Intersection Summary

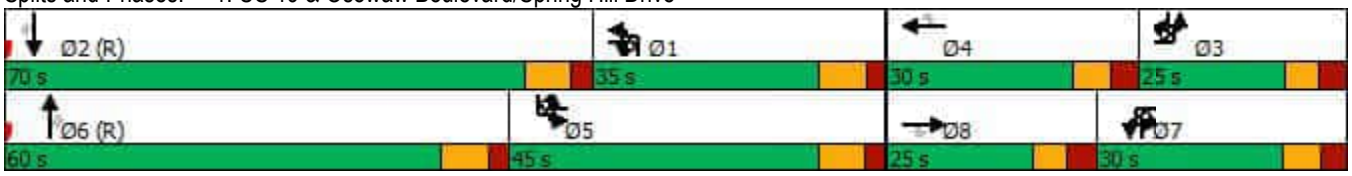
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	1	283	273	101	1	353	167	305	1	120	1506	347
Future Volume (vph)	1	283	273	101	1	353	167	305	1	120	1506	347
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		175		0		175		475		525
Storage Lanes		2		2		2		2		1		1
Taper Length (ft)		100				100				100		
Lane Util. Factor	0.95	0.97	0.95	1.00	1.00	0.97	1.00	1.00	0.91	1.00	0.91	1.00
Frt				0.850				0.850				0.850
Flt Protected		0.950				0.950				0.950		
Satd. Flow (prot)	0	3433	3539	1583	0	3433	1863	1583	0	1770	5085	1583
Flt Permitted		0.950				0.950				0.950		
Satd. Flow (perm)	0	3433	3539	1583	0	3433	1863	1583	0	1770	5085	1583
Right Turn on Red				No				No				No
Satd. Flow (RTOR)												
Link Speed (mph)			40				40				55	
Link Distance (ft)			352				1085				891	
Travel Time (s)			6.0				18.5				11.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1	314	303	112	1	392	186	339	1	133	1673	386
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	315	303	112	0	393	186	339	0	134	1673	386
Turn Type	Prot	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov
Protected Phases	3!	3	8	1!	7!	7	4	5!	1!	1	6	7!
Permitted Phases				8				4				6
Detector Phase	3	3	8	1	7	7	4	5	1	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	5.0	10.0	5.0	5.0	5.0	20.0	5.0
Minimum Split (s)	12.7	12.7	17.7	13.0	12.8	12.8	17.8	13.2	13.0	13.0	28.0	12.8
Total Split (s)	25.0	25.0	25.0	35.0	30.0	30.0	30.0	45.0	35.0	35.0	60.0	30.0
Total Split (%)	15.6%	15.6%	15.6%	21.9%	18.8%	18.8%	18.8%	28.1%	21.9%	21.9%	37.5%	18.8%
Maximum Green (s)	17.3	17.3	17.3	27.0	22.2	22.2	22.2	36.8	27.0	27.0	52.0	22.2
Yellow Time (s)	4.1	4.1	4.1	5.6	4.5	4.5	4.5	5.6	5.6	5.6	5.6	4.5
All-Red Time (s)	3.6	3.6	3.6	2.4	3.3	3.3	3.3	2.6	2.4	2.4	2.4	3.3
Lost Time Adjust (s)		-2.7	-2.7	-3.0		-2.8	-2.8	-3.2		-3.0	-3.0	-2.8
Total Lost Time (s)		5.0	5.0	5.0		5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	3.0	4.0	4.0	3.0	3.5	3.0	3.0	4.0	4.0
Recall Mode	None	None	None	None	None	None	None	None	None	None	C-Max	None
Act Effct Green (s)		22.9	19.8	50.3		25.7	22.6	63.1		25.5	59.0	89.7
Actuated g/C Ratio		0.14	0.12	0.31		0.16	0.14	0.39		0.16	0.37	0.56
v/c Ratio		0.64	0.69	0.23		0.71	0.71	0.54		0.48	0.89	0.44
Control Delay		71.2	76.9	41.4		71.8	80.4	40.1		42.7	41.2	22.9
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
Total Delay		71.2	76.9	41.4		71.8	80.4	40.1		42.7	41.2	22.9
LOS		E	E	D		E	F	D		D	D	C
Approach Delay			69.0				61.8				38.1	
Approach LOS			E				E				D	

Lane Group	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Volume (vph)	2	311	1219	101
Future Volume (vph)	2	311	1219	101
Ideal Flow (vphpl)	1900	1900	1900	1900
Storage Length (ft)		275		525
Storage Lanes		2		1
Taper Length (ft)		100		
Lane Util. Factor	0.91	0.97	0.91	1.00
Frt				0.850
Flt Protected		0.950		
Satd. Flow (prot)	0	3433	5085	1583
Flt Permitted		0.950		
Satd. Flow (perm)	0	3433	5085	1583
Right Turn on Red				No
Satd. Flow (RTOR)				
Link Speed (mph)			55	
Link Distance (ft)			1088	
Travel Time (s)			13.5	
Peak Hour Factor	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	346	1354	112
Shared Lane Traffic (%)				
Lane Group Flow (vph)	0	348	1354	112
Turn Type	Prot	Prot	NA	pm+ov
Protected Phases	5!	5	2	3!
Permitted Phases				2
Detector Phase	5	5	2	3
Switch Phase				
Minimum Initial (s)	5.0	5.0	20.0	5.0
Minimum Split (s)	13.2	13.2	28.2	12.7
Total Split (s)	45.0	45.0	70.0	25.0
Total Split (%)	28.1%	28.1%	43.8%	15.6%
Maximum Green (s)	36.8	36.8	61.8	17.3
Yellow Time (s)	5.6	5.6	5.6	4.1
All-Red Time (s)	2.6	2.6	2.6	3.6
Lost Time Adjust (s)		-3.2	-3.2	-2.7
Total Lost Time (s)		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	3.5	4.0	4.0
Recall Mode	None	None	C-Max	None
Act Effct Green (s)		35.5	69.0	96.9
Actuated g/C Ratio		0.22	0.43	0.61
v/c Ratio		0.46	0.62	0.12
Control Delay		55.4	37.6	15.2
Queue Delay		0.0	0.0	0.0
Total Delay		55.4	37.6	15.2
LOS		E	D	B
Approach Delay			39.6	
Approach LOS			D	

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Queue Length 50th (ft)		160	160	85		201	187	266		138	412	141
Queue Length 95th (ft)		221	218	137		265	274	350		m159	#713	m259
Internal Link Dist (ft)			272				1005				811	
Turn Bay Length (ft)				175				175		475		525
Base Capacity (vph)		491	453	486		560	293	613		331	1875	881
Starvation Cap Reductn		0	0	0		0	0	0		0	0	0
Spillback Cap Reductn		0	0	0		0	0	0		0	0	0
Storage Cap Reductn		0	0	0		0	0	0		0	0	0
Reduced v/c Ratio		0.64	0.67	0.23		0.70	0.63	0.55		0.40	0.89	0.44

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 2 (1%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 46.4		Intersection LOS: D	
Intersection Capacity Utilization 81.7%		ICU Level of Service D	
Analysis Period (min) 15			
# 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.			
! Phase conflict between lane groups.			

Splits and Phases: 1: US 19 & Osowaw Boulevard/Spring Hill Drive



Lane Group	SBU	SBL	SBT	SBR
Queue Length 50th (ft)		162	417	50
Queue Length 95th (ft)		208	471	88
Internal Link Dist (ft)			1008	
Turn Bay Length (ft)		275		525
Base Capacity (vph)		858	2193	958
Starvation Cap Reductn		0	0	0
Spillback Cap Reductn		0	0	0
Storage Cap Reductn		0	0	0
Reduced v/c Ratio		0.41	0.62	0.12

Intersection Summary

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	30	46	1114	1712	91
Future Vol, veh/h	0	30	46	1114	1712	91
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	475	-	-	350
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	33	51	1238	1902	101

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	951	2003	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	0	224	125	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	224	125	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.9	2.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	125	-	224	-	-
HCM Lane V/C Ratio	0.409	-	0.149	-	-
HCM Control Delay (s)	52.4	-	23.9	-	-
HCM Lane LOS	F	-	C	-	-
HCM 95th %tile Q(veh)	1.7	-	0.5	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	0	75	3	73	2037	1506	175
Future Vol, veh/h	0	75	3	73	2037	1506	175
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	Stop	-	-	None	-	None
Storage Length	-	0	-	475	-	-	350
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	83	3	81	2263	1673	194

Major/Minor	Minor2		Major1			Major2	
Conflicting Flow All	-	837	1222	1867	0	-	0
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.64	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	2.32	3.12	-	-	-
Pot Cap-1 Maneuver	0	266	331	146	-	-	-
Stage 1	0	-	-	-	-	-	-
Stage 2	0	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	-	266	148	148	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.6	2.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	148	-	266	-	-
HCM Lane V/C Ratio	0.571	-	0.313	-	-
HCM Control Delay (s)	57.3	-	24.6	-	-
HCM Lane LOS	F	-	C	-	-
HCM 95th %tile Q(veh)	2.9	-	1.3	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	100	19	21	70	18	44	7	29	1014	77	2	57
Future Volume (vph)	100	19	21	70	18	44	7	29	1014	77	2	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		200		300		325		300
Storage Lanes	1		0	0		1		1		1		1
Taper Length (ft)	100			100				100				100
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.91	1.00	0.91	1.00	0.91	1.00
Frt		0.955				0.850				0.850		
Flt Protected	0.950	0.979			0.962			0.950				0.950
Satd. Flow (prot)	1681	1654	0	0	1792	1583	0	1770	5085	1583	0	1770
Flt Permitted	0.950	0.979			0.962			0.950				0.950
Satd. Flow (perm)	1681	1654	0	0	1792	1583	0	1770	5085	1583	0	1770
Right Turn on Red			No			No				No		
Satd. Flow (RTOR)												
Link Speed (mph)		25			30				55			
Link Distance (ft)		455			1096				1049			
Travel Time (s)		12.4			24.9				13.0			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	111	21	23	78	20	49	8	32	1127	86	2	63
Shared Lane Traffic (%)	29%											
Lane Group Flow (vph)	79	76	0	0	98	49	0	40	1127	86	0	65
Turn Type	Split	NA		Split	NA	pm+ov	Prot	Prot	NA	pm+ov	Prot	Prot
Protected Phases	8	8		4	4	5!	1	1	6	4	5!	5
Permitted Phases						4				6		
Detector Phase	8	8		4	4	5	1	1	6	4	5	5
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	10.0	20.0	5.0	10.0	10.0
Minimum Split (s)	13.4	13.4		12.4	12.4	17.5	17.6	17.6	27.6	12.4	17.5	17.5
Total Split (s)	28.0	28.0		27.0	27.0	25.0	25.0	25.0	60.0	27.0	25.0	25.0
Total Split (%)	20.0%	20.0%		19.3%	19.3%	17.9%	17.9%	17.9%	42.9%	19.3%	17.9%	17.9%
Maximum Green (s)	19.6	19.6		19.6	19.6	17.5	17.4	17.4	52.4	19.6	17.5	17.5
Yellow Time (s)	3.4	3.4		3.7	3.7	5.5	5.6	5.6	5.6	3.7	5.5	5.5
All-Red Time (s)	5.0	5.0		3.7	3.7	2.0	2.0	2.0	2.0	3.7	2.0	2.0
Lost Time Adjust (s)	-3.4	-3.4			-2.4	-2.5		-2.6	-2.6	-2.4		-2.5
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0		5.0
Lead/Lag						Lag	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	None	C-Max	None	None	None
Act Effct Green (s)	15.3	15.3			15.4	31.2		14.0	78.9	95.3		13.9
Actuated g/C Ratio	0.11	0.11			0.11	0.22		0.10	0.56	0.68		0.10
v/c Ratio	0.43	0.42			0.50	0.14		0.23	0.39	0.08		0.37
Control Delay	64.7	64.5			66.7	40.2		60.7	19.7	5.2		48.9
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0	0.0		0.0
Total Delay	64.7	64.5			66.7	40.2		60.7	19.7	5.2		48.9
LOS	E	E			E	D		E	B	A		D
Approach Delay		64.6			57.9				20.0			
Approach LOS		E			E				C			

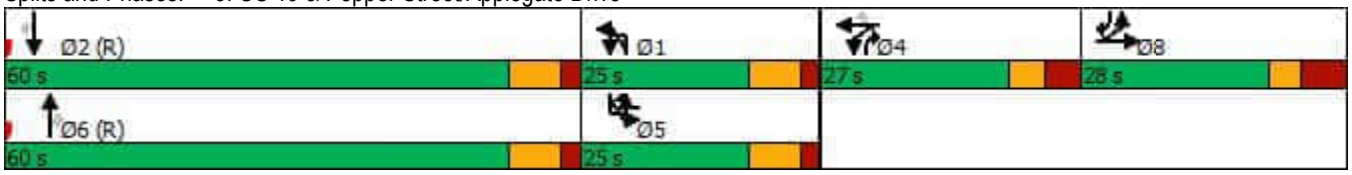
Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1593	89
Future Volume (vph)	1593	89
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		475
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.91	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	5085	1583
Flt Permitted		
Satd. Flow (perm)	5085	1583
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)	55	
Link Distance (ft)	939	
Travel Time (s)	11.6	
Peak Hour Factor	0.90	0.90
Adj. Flow (vph)	1770	99
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1770	99
Turn Type	NA	pm+ov
Protected Phases	2	8
Permitted Phases		2
Detector Phase	2	8
Switch Phase		
Minimum Initial (s)	20.0	5.0
Minimum Split (s)	27.5	13.4
Total Split (s)	60.0	28.0
Total Split (%)	42.9%	20.0%
Maximum Green (s)	52.5	19.6
Yellow Time (s)	5.5	3.4
All-Red Time (s)	2.0	5.0
Lost Time Adjust (s)	-2.5	-3.4
Total Lost Time (s)	5.0	5.0
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	4.0	3.0
Recall Mode	C-Max	None
Act Effct Green (s)	78.9	99.2
Actuated g/C Ratio	0.56	0.71
v/c Ratio	0.62	0.09
Control Delay	11.7	5.7
Queue Delay	0.0	0.0
Total Delay	11.7	5.7
LOS	B	A
Approach Delay	12.7	
Approach LOS	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Queue Length 50th (ft)	71	69			85	35		34	212	12		59
Queue Length 95th (ft)	125	121			142	65		72	305	27		m101
Internal Link Dist (ft)		375			1016				969			
Turn Bay Length (ft)						200		300		325		300
Base Capacity (vph)	276	271			281	365		252	2864	1151		252
Starvation Cap Reductn	0	0			0	0		0	0	0		0
Spillback Cap Reductn	0	0			0	0		0	0	0		0
Storage Cap Reductn	0	0			0	0		0	0	0		0
Reduced v/c Ratio	0.29	0.28			0.35	0.13		0.16	0.39	0.07		0.26

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 51 (36%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 19.5		Intersection LOS: B	
Intersection Capacity Utilization 63.1%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

! Phase conflict between lane groups.

Splits and Phases: 3: US 19 & Pepper Street/Applegate Drive



Lane Group	SBT	SBR
Queue Length 50th (ft)	138	18
Queue Length 95th (ft)	283	m34
Internal Link Dist (ft)	859	
Turn Bay Length (ft)		475
Base Capacity (vph)	2864	1116
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.62	0.09

Intersection Summary

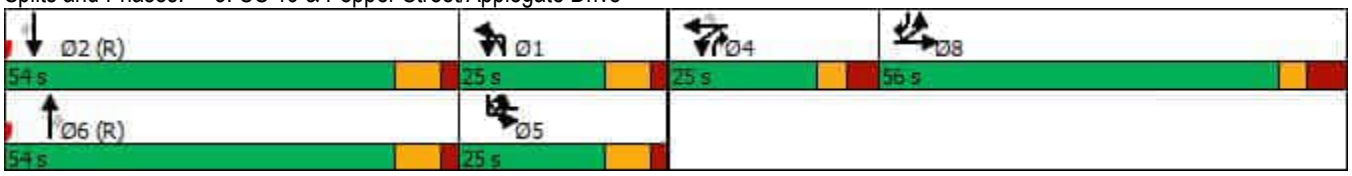
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	193	66	40	151	37	121	6	75	1790	186	8	65
Future Volume (vph)	193	66	40	151	37	121	6	75	1790	186	8	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		200		300		325		300
Storage Lanes	1		0	0		1		1		1		1
Taper Length (ft)	100			100				100				100
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.91	1.00	0.91	1.00	0.91	1.00
Frt		0.960				0.850				0.850		
Flt Protected	0.950	0.986			0.961			0.950				0.950
Satd. Flow (prot)	1681	1675	0	0	1790	1583	0	1770	5085	1583	0	1770
Flt Permitted	0.950	0.986			0.961			0.950				0.950
Satd. Flow (perm)	1681	1675	0	0	1790	1583	0	1770	5085	1583	0	1770
Right Turn on Red			No			No				No		
Satd. Flow (RTOR)												
Link Speed (mph)		25			30				55			
Link Distance (ft)		455			1096				1049			
Travel Time (s)		12.4			24.9				13.0			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	214	73	44	168	41	134	7	83	1989	207	9	72
Shared Lane Traffic (%)	22%											
Lane Group Flow (vph)	167	164	0	0	209	134	0	90	1989	207	0	81
Turn Type	Split	NA		Split	NA	pm+ov	Prot	Prot	NA	pm+ov	Prot	Prot
Protected Phases	8	8		4	4	5!	1	1	6	4	5!	5
Permitted Phases						4				6		
Detector Phase	8	8		4	4	5	1	1	6	4	5	5
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	10.0	20.0	5.0	10.0	10.0
Minimum Split (s)	13.4	13.4		12.4	12.4	17.5	17.6	17.6	27.6	12.4	17.5	17.5
Total Split (s)	56.0	56.0		25.0	25.0	25.0	25.0	25.0	54.0	25.0	25.0	25.0
Total Split (%)	35.0%	35.0%		15.6%	15.6%	15.6%	15.6%	15.6%	33.8%	15.6%	15.6%	15.6%
Maximum Green (s)	47.6	47.6		17.6	17.6	17.5	17.4	17.4	46.4	17.6	17.5	17.5
Yellow Time (s)	3.4	3.4		3.7	3.7	5.5	5.6	5.6	5.6	3.7	5.5	5.5
All-Red Time (s)	5.0	5.0		3.7	3.7	2.0	2.0	2.0	2.0	3.7	2.0	2.0
Lost Time Adjust (s)	-3.4	-3.4			-2.4	-2.5		-2.6	-2.6	-2.4		-2.5
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0		5.0
Lead/Lag						Lag	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	None	C-Max	None	None	None
Act Effct Green (s)	25.1	25.1			21.5	44.0		17.5	75.9	97.3		17.5
Actuated g/C Ratio	0.16	0.16			0.13	0.28		0.11	0.47	0.61		0.11
v/c Ratio	0.63	0.62			0.87	0.31		0.46	0.83	0.21		0.42
Control Delay	73.3	72.8			99.5	47.9		74.3	40.9	8.5		51.8
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0	0.0		0.0
Total Delay	73.3	72.8			99.5	47.9		74.3	40.9	8.5		51.8
LOS	E	E			F	D		E	D	A		D
Approach Delay		73.0			79.4				39.3			
Approach LOS		E			E				D			

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1305	167
Future Volume (vph)	1305	167
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		475
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.91	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	5085	1583
Flt Permitted		
Satd. Flow (perm)	5085	1583
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)	55	
Link Distance (ft)	939	
Travel Time (s)	11.6	
Peak Hour Factor	0.90	0.90
Adj. Flow (vph)	1450	186
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1450	186
Turn Type	NA	pm+ov
Protected Phases	2	8
Permitted Phases		2
Detector Phase	2	8
Switch Phase		
Minimum Initial (s)	20.0	5.0
Minimum Split (s)	27.5	13.4
Total Split (s)	54.0	56.0
Total Split (%)	33.8%	35.0%
Maximum Green (s)	46.5	47.6
Yellow Time (s)	5.5	3.4
All-Red Time (s)	2.0	5.0
Lost Time Adjust (s)	-2.5	-3.4
Total Lost Time (s)	5.0	5.0
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	4.0	3.0
Recall Mode	C-Max	None
Act Effct Green (s)	75.9	106.0
Actuated g/C Ratio	0.47	0.66
v/c Ratio	0.60	0.18
Control Delay	13.9	6.3
Queue Delay	0.0	0.0
Total Delay	13.9	6.3
LOS	B	A
Approach Delay	14.9	
Approach LOS	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Queue Length 50th (ft)	174	171			218	111		89	654	48		83
Queue Length 95th (ft)	248	245			#386	175		150	795	91		m135
Internal Link Dist (ft)		375			1016				969			
Turn Bay Length (ft)						200		300		325		300
Base Capacity (vph)	535	533			240	426		221	2410	963		221
Starvation Cap Reductn	0	0			0	0		0	0	0		0
Spillback Cap Reductn	0	0			0	0		0	0	0		0
Storage Cap Reductn	0	0			0	0		0	0	0		0
Reduced v/c Ratio	0.31	0.31			0.87	0.31		0.41	0.83	0.21		0.37

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 18 (11%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 35.6		Intersection LOS: D	
Intersection Capacity Utilization 76.2%		ICU Level of Service D	
Analysis Period (min) 15			
# 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.			
! Phase conflict between lane groups.			

Splits and Phases: 3: US 19 & Pepper Street/Applegate Drive



Lane Group	SBT	SBR
Queue Length 50th (ft)	130	34
Queue Length 95th (ft)	206	48
Internal Link Dist (ft)	859	
Turn Bay Length (ft)		475
Base Capacity (vph)	2410	1048
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.60	0.18

Intersection Summary

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	4	1	64	15	35	3	43	93	32	34	2
Future Vol, veh/h	4	4	1	64	15	35	3	43	93	32	34	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	4	1	71	17	39	3	48	103	36	38	2
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	7.7	8.2	8.2	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	44%	56%	100%	0%
Vol Thru, %	0%	32%	44%	13%	0%	94%
Vol Right, %	0%	68%	11%	31%	0%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	136	9	114	32	36
LT Vol	3	0	4	64	32	0
Through Vol	0	43	4	15	0	34
RT Vol	0	93	1	35	0	2
Lane Flow Rate	3	151	10	127	36	40
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.005	0.187	0.013	0.155	0.054	0.055
Departure Headway (Hd)	5.427	4.444	4.647	4.416	5.478	4.937
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	662	810	772	814	656	728
Service Time	3.14	2.158	2.665	2.43	3.194	2.652
HCM Lane V/C Ratio	0.005	0.186	0.013	0.156	0.055	0.055
HCM Control Delay	8.2	8.2	7.7	8.2	8.5	7.9
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0	0.7	0	0.5	0.2	0.2

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	70	7	106	81	78	9	90	165	55	86	25
Future Vol, veh/h	8	70	7	106	81	78	9	90	165	55	86	25
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	78	8	118	90	87	10	100	183	61	96	28
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	9.8	12.4	12.1	10.1
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	9%	40%	100%	0%
Vol Thru, %	0%	35%	82%	31%	0%	77%
Vol Right, %	0%	65%	8%	29%	0%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	255	85	265	55	111
LT Vol	9	0	8	106	55	0
Through Vol	0	90	70	81	0	86
RT Vol	0	165	7	78	0	25
Lane Flow Rate	10	283	94	294	61	123
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.018	0.429	0.15	0.434	0.111	0.201
Departure Headway (Hd)	6.418	5.452	5.731	5.309	6.549	5.88
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	558	660	624	677	547	609
Service Time	4.154	3.186	3.779	3.346	4.291	3.622
HCM Lane V/C Ratio	0.018	0.429	0.151	0.434	0.112	0.202
HCM Control Delay	9.3	12.2	9.8	12.4	10.1	10.1
HCM Lane LOS	A	B	A	B	B	B
HCM 95th-tile Q	0.1	2.2	0.5	2.2	0.4	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	56	115	83	8	28	50
Future Volume (Veh/h)	56	115	83	8	28	50
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	62	128	92	9	31	56
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)				4		
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		124	0	170	124
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		124	0	170	124
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)						
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	96		88	99	96	92
cM capacity (veh/h)	1623		737	1085	691	737

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	62	128	101	31	56
Volume Left	62	0	0	31	0
Volume Right	0	128	9	0	0
cSH	1623	1700	809	691	737
Volume to Capacity	0.04	0.08	0.12	0.04	0.08
Queue Length 95th (ft)	3	0	11	4	6
Control Delay (s)	7.3	0.0	10.4	10.5	10.3
Lane LOS	A		B	B	B
Approach Delay (s)	2.4		10.4	10.3	
Approach LOS			B	B	

Intersection Summary			
Average Delay	6.4		
Intersection Capacity Utilization	18.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	91	156	186	27	53	89
Future Volume (Veh/h)	91	156	186	27	53	89
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	101	173	207	30	59	99
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)				4		
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		202	0	306	202
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		202	0	306	202
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)						
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	94		68	97	87	85
cM capacity (veh/h)	1623		651	1085	453	651

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	101	173	237	59	99
Volume Left	101	0	0	59	0
Volume Right	0	173	30	0	0
cSH	1623	1700	745	453	651
Volume to Capacity	0.06	0.10	0.32	0.13	0.15
Queue Length 95th (ft)	5	0	34	11	13
Control Delay (s)	7.4	0.0	12.5	14.1	11.5
Lane LOS	A		B	B	B
Approach Delay (s)	2.7		12.5	12.5	
Approach LOS			B	B	

Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	2	11	0	0	0	22	99	2	0	27	0
Future Vol, veh/h	0	2	11	0	0	0	22	99	2	0	27	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	12	0	0	0	24	110	2	0	30	0
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	6.9	0	8	7.4
HCM LOS	A	-	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	0%	0%
Vol Thru, %	0%	98%	15%	100%	100%
Vol Right, %	0%	2%	85%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	101	13	0	27
LT Vol	22	0	0	0	0
Through Vol	0	99	2	0	27
RT Vol	0	2	11	0	0
Lane Flow Rate	24	112	14	0	30
Geometry Grp	5	5	2	2	4a
Degree of Util (X)	0.034	0.142	0.015	0	0.035
Departure Headway (Hd)	5.075	4.561	3.819	4.343	4.159
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	709	790	943	0	856
Service Time	2.783	2.269	1.819	2.343	2.205
HCM Lane V/C Ratio	0.034	0.142	0.015	0	0.035
HCM Control Delay	8	8	6.9	7.3	7.4
HCM Lane LOS	A	A	A	N	A
HCM 95th-tile Q	0.1	0.5	0	0	0.1

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	24	3	1	9	33	239	7	4	31	0
Future Vol, veh/h	0	0	24	3	1	9	33	239	7	4	31	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	27	3	1	10	37	266	8	4	34	0
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	7.3	7.5	9.6	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	23%	11%
Vol Thru, %	0%	97%	0%	8%	89%
Vol Right, %	0%	3%	100%	69%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	33	246	24	13	35
LT Vol	33	0	0	3	4
Through Vol	0	239	0	1	31
RT Vol	0	7	24	9	0
Lane Flow Rate	37	273	27	14	39
Geometry Grp	5	5	2	2	4a
Degree of Util (X)	0.052	0.35	0.031	0.018	0.048
Departure Headway (Hd)	5.127	4.607	4.17	4.415	4.47
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	699	779	863	815	805
Service Time	2.858	2.338	2.173	2.419	2.477
HCM Lane V/C Ratio	0.053	0.35	0.031	0.017	0.048
HCM Control Delay	8.1	9.8	7.3	7.5	7.7
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.2	1.6	0.1	0.1	0.2

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	338	28	0	244	8	0	0	97	0	0	3
Future Vol, veh/h	0	338	28	0	244	8	0	0	97	0	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	23	-	-	12	-	125	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	376	31	0	271	9	0	0	108	0	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	204	-	-	136
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	7.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.92	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	-	0	0	0	683	0	0	888
Stage 1	0	-	-	0	-	0	0	0	-	0	0	-
Stage 2	0	-	-	0	-	0	0	0	-	0	0	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	683	-	-	888
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	11.3	9.1
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	683	-	-	-	888
HCM Lane V/C Ratio	0.158	-	-	-	0.004
HCM Control Delay (s)	11.3	-	-	-	9.1
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	0.6	-	-	-	0

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	391	35	0	375	21	0	0	251	0	0	29
Future Vol, veh/h	0	391	35	0	375	21	0	0	251	0	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	23	-	-	12	-	125	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	434	39	0	417	23	0	0	279	0	0	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	237	-	-	209
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	7.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.92	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	-	0	0	0	651	0	0	797
Stage 1	0	-	-	0	-	0	0	0	-	0	0	-
Stage 2	0	-	-	0	-	0	0	0	-	0	0	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	651	-	-	797
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	14.6	9.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	651	-	-	-	797
HCM Lane V/C Ratio	0.428	-	-	-	0.04
HCM Control Delay (s)	14.6	-	-	-	9.7
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	2.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	31	1	67	1	0	0	7	113	125	0	0	290	22
Future Vol, veh/h	31	1	67	1	0	0	7	113	125	0	0	290	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	225	-	-	-	-	0	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	1	74	1	0	0	8	126	139	0	0	322	24

Major/Minor	Minor2			Minor1				Major1			Major2		
Conflicting Flow All	725	741	334	726	753	139	-	346	0	0	139	0	0
Stage 1	334	334	-	391	407	-	-	-	-	-	-	-	-
Stage 2	391	407	-	335	346	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	340	344	708	340	339	909	-	1213	-	-	1445	-	-
Stage 1	680	643	-	633	597	-	-	-	-	-	-	-	-
Stage 2	633	597	-	679	635	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	340	344	708	304	339	909	~ -17	~ -17	-	-	1445	-	-
Mov Cap-2 Maneuver	340	344	-	304	339	-	-	-	-	-	-	-	-
Stage 1	680	643	-	633	597	-	-	-	-	-	-	-	-
Stage 2	633	597	-	607	635	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.7	16.9		0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	340	708	304	1445	-	-
HCM Lane V/C Ratio	-	-	-	0.105	0.105	0.004	-	-	-
HCM Control Delay (s)	-	-	-	16.8	10.7	16.9	0	-	-
HCM Lane LOS	-	-	-	C	B	C	A	-	-
HCM 95th %tile Q(veh)	-	-	-	0.3	0.4	0	0	-	-

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

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	41	2	167	19	4	3	22	187	204	0	2	230	22
Future Vol, veh/h	41	2	167	19	4	3	22	187	204	0	2	230	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	225	-	-	-	-	0	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	2	186	21	4	3	24	208	227	0	2	256	24

Major/Minor	Minor2			Minor1				Major1			Major2		
Conflicting Flow All	919	963	268	916	975	227	-	280	0	0	227	0	0
Stage 1	272	272	-	643	691	-	-	-	-	-	-	-	-
Stage 2	647	691	-	273	284	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	252	256	771	253	251	812	-	1283	-	-	1341	-	-
Stage 1	734	685	-	462	446	-	-	-	-	-	-	-	-
Stage 2	460	446	-	733	676	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	247	256	771	191	251	812	~ -10	~ -10	-	-	1341	-	-
Mov Cap-2 Maneuver	247	256	-	191	251	-	-	-	-	-	-	-	-
Stage 1	734	684	-	462	446	-	-	-	-	-	-	-	-
Stage 2	454	446	-	554	675	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.5	24		0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	247	771	218	1341	-	-
HCM Lane V/C Ratio	-	-	-	0.193	0.241	0.133	0.002	-	-
HCM Control Delay (s)	-	-	-	23	11.1	24	7.7	-	-
HCM Lane LOS	-	-	-	C	B	C	A	-	-
HCM 95th %tile Q(veh)	-	-	-	0.7	0.9	0.5	0	-	-

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

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	33	90	13	7	31
Future Vol, veh/h	7	33	90	13	7	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	25	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	37	100	14	8	34

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	157	107	0	0	114	0
Stage 1	107	-	-	-	-	-
Stage 2	50	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	834	947	-	-	1475	-
Stage 1	917	-	-	-	-	-
Stage 2	972	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	830	947	-	-	1475	-
Mov Cap-2 Maneuver	806	-	-	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	967	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	1.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	919	1475	-
HCM Lane V/C Ratio	-	-	0.048	0.005	-
HCM Control Delay (s)	-	-	9.1	7.5	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	43	236	16	10	48
Future Vol, veh/h	7	43	236	16	10	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	25	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	48	262	18	11	53

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	346	271	0	0	280	0
Stage 1	271	-	-	-	-	-
Stage 2	75	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	651	768	-	-	1283	-
Stage 1	775	-	-	-	-	-
Stage 2	948	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	645	768	-	-	1283	-
Mov Cap-2 Maneuver	671	-	-	-	-	-
Stage 1	775	-	-	-	-	-
Stage 2	939	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	1.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	753	1283	-
HCM Lane V/C Ratio	-	-	0.074	0.009	-
HCM Control Delay (s)	-	-	10.2	7.8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	11	92	48	3	35
Future Vol, veh/h	20	11	92	48	3	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	25	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	12	102	53	3	39

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	174	129	0	0	155	0
Stage 1	129	-	-	-	-	-
Stage 2	45	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	816	921	-	-	1425	-
Stage 1	897	-	-	-	-	-
Stage 2	977	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	814	921	-	-	1425	-
Mov Cap-2 Maneuver	793	-	-	-	-	-
Stage 1	897	-	-	-	-	-
Stage 2	975	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	834	1425	-
HCM Lane V/C Ratio	-	-	0.041	0.002	-
HCM Control Delay (s)	-	-	9.5	7.5	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	14	238	60	5	50
Future Vol, veh/h	27	14	238	60	5	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	25	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	16	264	67	6	56

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	366	298	0	0	331	0
Stage 1	298	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	634	741	-	-	1228	-
Stage 1	753	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	631	741	-	-	1228	-
Mov Cap-2 Maneuver	657	-	-	-	-	-
Stage 1	753	-	-	-	-	-
Stage 2	950	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	683	1228	-
HCM Lane V/C Ratio	-	-	0.067	0.005	-
HCM Control Delay (s)	-	-	10.6	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

APPENDIX G

CAPACITY ANALYSIS CALCULATIONS

SIMTRAFFIC QUEUING ANALYSIS

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	UL	L	T	T	R	L	L	T	R	L	T	T
Maximum Queue (ft)	106	131	133	118	132	302	358	274	224	136	156	145
Average Queue (ft)	45	73	72	48	64	185	175	139	138	46	93	83
95th Queue (ft)	95	124	118	103	121	260	282	254	227	102	140	134
Link Distance (ft)	246	246	246			1009	1009				778	778
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				175	175			175	175	475		
Storage Blk Time (%)							5	3	5			
Queuing Penalty (veh)							19	7	11			

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	R	UL	L	T	T	T	R
Maximum Queue (ft)	140	99	153	267	339	321	253	64
Average Queue (ft)	66	26	42	104	242	216	164	15
95th Queue (ft)	124	72	109	194	324	295	245	45
Link Distance (ft)	778				1031	1031	1031	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		525	275	275				525
Storage Blk Time (%)				0	3			
Queuing Penalty (veh)				0	5			

Intersection: 2: US 19 & Walmart Driveway

Movement	NB	SB
Directions Served	L	R
Maximum Queue (ft)	91	7
Average Queue (ft)	28	0
95th Queue (ft)	70	5
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	475	350
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	LT	R	UL	T	T	T	R	UL	T	T
Maximum Queue (ft)	111	126	168	92	86	307	261	237	57	143	244	271
Average Queue (ft)	36	65	73	29	27	185	145	100	20	47	119	128
95th Queue (ft)	81	113	133	68	69	273	238	192	53	106	228	244
Link Distance (ft)	350	350	1026			1015	1015	1015			870	870
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				200	300				325	300		
Storage Blk Time (%)			0			0					0	
Queuing Penalty (veh)			0			0					0	

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	272	73
Average Queue (ft)	132	17
95th Queue (ft)	249	53
Link Distance (ft)	870	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		475
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Wendy Court/Internal N-S Driveway & Southern Internal Driveway/Pepper Street

Movement	EB	NB	NB	SB	SB
Directions Served	LTR	L	TR	L	TR
Maximum Queue (ft)	36	29	78	33	49
Average Queue (ft)	8	2	41	11	23
95th Queue (ft)	31	13	66	35	49
Link Distance (ft)	994		1006		863
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		100		150	
Storage Blk Time (%)			0		
Queuing Penalty (veh)			0		

Intersection: 5: Internal N-S Driveway & Walmart Driveway

Movement	WB	NB	SB	SB
Directions Served	R	T	L	T
Maximum Queue (ft)	60	70	36	51
Average Queue (ft)	3	34	13	23
95th Queue (ft)	25	56	38	50
Link Distance (ft)	255	863		539
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			75	
Storage Blk Time (%)		0		0
Queuing Penalty (veh)		0		0

Intersection: 6: Internal N-S Driveway & Northern Internal Driveway/AT&T Driveway

Movement	EB	NB	NB	SB
Directions Served	LTR	L	TR	LTR
Maximum Queue (ft)	31	30	58	31
Average Queue (ft)	7	17	27	17
95th Queue (ft)	28	41	46	41
Link Distance (ft)	986		539	204
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Internal N-S Driveway/CVS Driveway 1 & Osowaw Boulevard

Movement	NB
Directions Served	R
Maximum Queue (ft)	22
Average Queue (ft)	1
95th Queue (ft)	11
Link Distance (ft)	204
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Osowaw Boulevard & Walmart Driveway/CVS Driveway 2

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	UL	TR
Maximum Queue (ft)	66	56	11	96	13
Average Queue (ft)	21	3	1	29	0
95th Queue (ft)	52	27	9	68	5
Link Distance (ft)	972		1006	197	1041
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		225			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 42

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	UL	L	T	T	R	UL	L	T	R	UL	T	T
Maximum Queue (ft)	214	236	275	227	182	567	739	275	225	312	548	575
Average Queue (ft)	113	138	135	117	74	211	309	226	193	89	377	400
95th Queue (ft)	193	207	226	194	147	400	602	330	255	251	546	568
Link Distance (ft)	246	246	246			1009	1009				778	778
Upstream Blk Time (%)	0	0	1	0			1					
Queuing Penalty (veh)	0	0	1	0			0					
Storage Bay Dist (ft)				175	175			175	175	475		
Storage Blk Time (%)			3	2	0		13	19	17		5	
Queuing Penalty (veh)			8	2	0		66	34	32		6	

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	R	UL	L	T	T	T	R
Maximum Queue (ft)	575	477	232	374	446	401	362	129
Average Queue (ft)	391	229	125	187	288	267	245	43
95th Queue (ft)	569	402	211	313	406	370	345	99
Link Distance (ft)	778				1031	1031	1031	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		525	275	275				525
Storage Blk Time (%)	4			0	9			
Queuing Penalty (veh)	15			0	29			

Intersection: 2: US 19 & Walmart Driveway

Movement	EB	NB	NB	NB	SB
Directions Served	R	UL	T	T	R
Maximum Queue (ft)	38	116	135	7	30
Average Queue (ft)	2	39	4	0	1
95th Queue (ft)	19	86	95	5	10
Link Distance (ft)	255		870	870	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		475			350
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	LT	R	UL	T	T	T	R	UL	T	T
Maximum Queue (ft)	206	266	466	278	400	635	628	547	425	279	315	322
Average Queue (ft)	104	150	253	133	135	441	398	351	107	111	130	156
95th Queue (ft)	176	230	458	290	365	598	566	494	319	250	247	264
Link Distance (ft)	350	350	1026			1015	1015	1015			870	870
Upstream Blk Time (%)		0										
Queuing Penalty (veh)		0										
Storage Bay Dist (ft)				200	300				325	300		
Storage Blk Time (%)			30	1	0	25		10		4	0	
Queuing Penalty (veh)			39	1	0	19		20		19	0	

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	291	153
Average Queue (ft)	159	56
95th Queue (ft)	261	121
Link Distance (ft)	870	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		475
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Wendy Court/Internal N-S Driveway & Southern Internal Driveway/Pepper Street

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	77	16	33	139	54	108
Average Queue (ft)	37	1	10	63	24	44
95th Queue (ft)	60	10	33	104	47	77
Link Distance (ft)	994	350		1006		863
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100		150	
Storage Blk Time (%)				1		0
Queuing Penalty (veh)				0		0

Intersection: 5: Internal N-S Driveway & Walmart Driveway

Movement	WB	NB	SB	SB
Directions Served	R	T	L	T
Maximum Queue (ft)	85	92	45	77
Average Queue (ft)	8	46	24	36
95th Queue (ft)	51	72	48	61
Link Distance (ft)	255	863		539
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			75	
Storage Blk Time (%)	0	0		0
Queuing Penalty (veh)	0	0		0

Intersection: 6: Internal N-S Driveway & Northern Internal Driveway/AT&T Driveway

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	LTR
Maximum Queue (ft)	40	36	48	70	53
Average Queue (ft)	15	12	19	38	23
95th Queue (ft)	41	38	45	60	49
Link Distance (ft)	986	1061		539	204
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			100		
Storage Blk Time (%)				0	
Queuing Penalty (veh)				0	

Intersection: 7: Internal N-S Driveway/CVS Driveway 1 & Osowaw Boulevard

Movement	EB	NB
Directions Served	TR	R
Maximum Queue (ft)	5	103
Average Queue (ft)	0	21
95th Queue (ft)	3	76
Link Distance (ft)	197	204
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 8: Osowaw Boulevard & Walmart Driveway/CVS Driveway 2

Movement	EB	EB	WB	NB	SB	SB
Directions Served	LT	R	LTR	UL	L	TR
Maximum Queue (ft)	73	99	49	110	6	8
Average Queue (ft)	29	25	15	38	0	0
95th Queue (ft)	63	80	42	83	4	4
Link Distance (ft)	972		1006	197		1041
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		225			125	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 294

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	UL	L	T	T	R	L	L	T	R	L	T	T
Maximum Queue (ft)	123	168	174	164	148	285	343	273	225	140	192	189
Average Queue (ft)	47	79	78	54	64	182	175	133	141	52	104	97
95th Queue (ft)	102	135	136	115	122	260	279	249	225	115	166	162
Link Distance (ft)	246	246	246			1009	1009				778	778
Upstream Blk Time (%)			0	0								
Queuing Penalty (veh)			0	0								
Storage Bay Dist (ft)				175	175			175	175	475		
Storage Blk Time (%)			0	0	0		7	3	5			
Queuing Penalty (veh)			0	0	0		26	7	12			

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	R	UL	L	T	T	T	R
Maximum Queue (ft)	169	112	138	289	373	339	271	74
Average Queue (ft)	77	32	47	116	254	228	172	12
95th Queue (ft)	145	86	114	210	345	315	253	43
Link Distance (ft)	778				1031	1031	1031	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		525	275	275				525
Storage Blk Time (%)				0	4			
Queuing Penalty (veh)				0	7			

Intersection: 2: US 19 & Walmart Driveway

Movement	NB
Directions Served	L
Maximum Queue (ft)	99
Average Queue (ft)	28
95th Queue (ft)	68
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	475
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	LT	R	UL	T	T	T	R	UL	T	T
Maximum Queue (ft)	113	143	162	88	93	297	268	198	78	122	276	283
Average Queue (ft)	37	66	79	28	30	197	152	91	23	44	145	154
95th Queue (ft)	83	118	139	67	70	293	251	179	58	93	262	274
Link Distance (ft)	350	350	1026			1015	1015	1015			870	870
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				200	300				325	300		
Storage Blk Time (%)						0					0	
Queuing Penalty (veh)						0					0	

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	283	86
Average Queue (ft)	154	17
95th Queue (ft)	276	52
Link Distance (ft)	870	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		475
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Wendy Court/Internal N-S Driveway & Southern Internal Driveway/Pepper Street

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	31	4	23	81	29	58
Average Queue (ft)	7	0	2	43	14	24
95th Queue (ft)	27	3	15	67	37	51
Link Distance (ft)	994	350		1006		863
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100		150	
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 5: Internal N-S Driveway & Walmart Driveway

Movement	WB	NB	SB	SB
Directions Served	R	T	L	T
Maximum Queue (ft)	11	59	36	45
Average Queue (ft)	1	33	12	24
95th Queue (ft)	11	53	37	48
Link Distance (ft)	255	863		539
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			75	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Internal N-S Driveway & Northern Internal Driveway/AT&T Driveway

Movement	EB	NB	NB	SB
Directions Served	LTR	L	TR	LTR
Maximum Queue (ft)	31	30	35	36
Average Queue (ft)	9	13	26	18
95th Queue (ft)	32	37	44	43
Link Distance (ft)	986		539	204
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Internal N-S Driveway/CVS Driveway 1 & Osowaw Boulevard

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: Osowaw Boulevard & Walmart Driveway/CVS Driveway 2

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	UL	TR
Maximum Queue (ft)	52	31	22	89	20
Average Queue (ft)	23	1	1	32	1
95th Queue (ft)	49	13	11	70	9
Link Distance (ft)	972		1006	197	1041
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		225			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 53

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	UL	L	T	T	R	UL	L	T	R	UL	T	T
Maximum Queue (ft)	196	226	300	232	167	752	957	275	225	413	680	693
Average Queue (ft)	108	136	153	130	71	239	342	218	182	120	454	466
95th Queue (ft)	182	205	249	207	143	487	724	333	270	371	723	730
Link Distance (ft)	246	246	246			1009	1009				778	778
Upstream Blk Time (%)		0	1	0			3				5	5
Queuing Penalty (veh)		0	2	0			0				38	36
Storage Bay Dist (ft)				175	175			175	175	475		
Storage Blk Time (%)			5	2	0		16	18	16	0	16	
Queuing Penalty (veh)			12	2	1		83	33	30	0	21	

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	R	UL	L	T	T	T	R
Maximum Queue (ft)	675	540	235	354	442	384	390	100
Average Queue (ft)	467	295	137	197	284	268	246	37
95th Queue (ft)	738	559	219	311	387	360	347	83
Link Distance (ft)	778				1031	1031	1031	
Upstream Blk Time (%)	5							
Queuing Penalty (veh)	39							
Storage Bay Dist (ft)		525	275	275				525
Storage Blk Time (%)	15	0	0	1	8			
Queuing Penalty (veh)	56	0	0	3	30			

Intersection: 2: US 19 & Walmart Driveway

Movement	EB	NB	NB	NB	NB	SB
Directions Served	R	UL	T	T	T	R
Maximum Queue (ft)	20	188	292	215	330	36
Average Queue (ft)	1	44	49	54	57	2
95th Queue (ft)	12	154	303	338	328	15
Link Distance (ft)	255		870	870	870	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		475				350
Storage Blk Time (%)			1			
Queuing Penalty (veh)			0			

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	LT	R	UL	T	T	T	R	UL	T	T
Maximum Queue (ft)	208	247	532	300	400	689	646	541	424	231	265	253
Average Queue (ft)	98	155	298	154	146	481	439	384	110	87	124	144
95th Queue (ft)	174	237	509	332	381	643	582	518	329	213	222	239
Link Distance (ft)	350	350	1026			1015	1015	1015			870	870
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				200	300				325	300		
Storage Blk Time (%)			45	1	0	30		14		1	0	
Queuing Penalty (veh)			58	2	0	23		30		2	0	

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	262	170
Average Queue (ft)	152	63
95th Queue (ft)	248	134
Link Distance (ft)	870	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		475
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Wendy Court/Internal N-S Driveway & Southern Internal Driveway/Pepper Street

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	70	10	29	132	56	79
Average Queue (ft)	39	0	7	62	21	40
95th Queue (ft)	63	6	27	98	48	67
Link Distance (ft)	994	350		1006		863
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100		150	
Storage Blk Time (%)				1		
Queuing Penalty (veh)				0		

Intersection: 5: Internal N-S Driveway & Walmart Driveway

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	T	L	T
Maximum Queue (ft)	4	72	90	40	64
Average Queue (ft)	0	11	43	22	32
95th Queue (ft)	3	49	69	46	52
Link Distance (ft)		255	863		539
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	125			75	
Storage Blk Time (%)			0		0
Queuing Penalty (veh)			0		0

Intersection: 6: Internal N-S Driveway & Northern Internal Driveway/AT&T Driveway

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	LTR
Maximum Queue (ft)	31	31	44	85	40
Average Queue (ft)	14	10	20	39	20
95th Queue (ft)	39	34	45	64	45
Link Distance (ft)	986	1061		539	204
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			100		
Storage Blk Time (%)				0	
Queuing Penalty (veh)				0	

Intersection: 7: Internal N-S Driveway/CVS Driveway 1 & Osowaw Boulevard

Movement	NB
Directions Served	R
Maximum Queue (ft)	116
Average Queue (ft)	19
95th Queue (ft)	76
Link Distance (ft)	204
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Osowaw Boulevard & Walmart Driveway/CVS Driveway 2

Movement	EB	EB	WB	NB	SB	SB
Directions Served	LT	R	LTR	UL	L	TR
Maximum Queue (ft)	69	91	45	110	11	14
Average Queue (ft)	30	23	19	39	0	0
95th Queue (ft)	60	77	43	81	5	6
Link Distance (ft)	972		1006	197		1041
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		225			125	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 502

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	UL	L	T	T	R	L	L	T	R	L	T	T
Maximum Queue (ft)	120	149	137	130	160	345	367	274	225	151	193	190
Average Queue (ft)	49	79	81	63	71	198	193	148	143	57	101	94
95th Queue (ft)	97	127	125	117	139	283	313	262	229	122	167	161
Link Distance (ft)	246	246	246			1009	1009				778	778
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				175	175			175	175	475		
Storage Blk Time (%)					0		7	4	6			
Queuing Penalty (veh)					0		25	9	13			

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	R	UL	L	T	T	T	R
Maximum Queue (ft)	184	169	170	278	370	353	312	66
Average Queue (ft)	77	40	54	126	262	241	194	15
95th Queue (ft)	158	112	131	235	354	331	285	45
Link Distance (ft)	778				1031	1031	1031	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		525	275	275				525
Storage Blk Time (%)				0	5			
Queuing Penalty (veh)				0	9			

Intersection: 2: US 19 & Walmart Driveway

Movement	NB	SB
Directions Served	L	R
Maximum Queue (ft)	112	15
Average Queue (ft)	40	0
95th Queue (ft)	86	6
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	475	350
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	LT	R	UL	T	T	T	R	UL	T	T
Maximum Queue (ft)	107	146	179	137	120	321	281	240	78	113	286	294
Average Queue (ft)	41	76	82	37	40	200	156	109	21	42	154	165
95th Queue (ft)	87	127	145	94	91	289	253	206	59	89	269	281
Link Distance (ft)	350	350	1026			1015	1015	1015			870	870
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				200	300				325	300		
Storage Blk Time (%)			0	0		1					0	
Queuing Penalty (veh)			0	0		0					0	

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	300	86
Average Queue (ft)	167	20
95th Queue (ft)	283	57
Link Distance (ft)	870	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		475
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Wendy Court/Internal N-S Driveway & Southern Internal Driveway/Pepper Street

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	31	4	28	69	52	64
Average Queue (ft)	7	0	2	42	21	26
95th Queue (ft)	29	3	14	64	46	52
Link Distance (ft)	994	350		1006		863
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100		150	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 5: Internal N-S Driveway & Walmart Driveway

Movement	WB	NB	SB	SB
Directions Served	R	T	L	T
Maximum Queue (ft)	68	62	54	71
Average Queue (ft)	6	33	23	31
95th Queue (ft)	37	56	49	58
Link Distance (ft)	255	863		247
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			75	
Storage Blk Time (%)	0		0	0
Queuing Penalty (veh)	0		0	0

Intersection: 6: Internal N-S Driveway & Northern Internal Driveway/AT&T Driveway

Movement	EB	NB	NB	SB
Directions Served	LTR	L	TR	LTR
Maximum Queue (ft)	36	23	57	56
Average Queue (ft)	14	10	32	21
95th Queue (ft)	39	28	44	48
Link Distance (ft)	987		23	204
Upstream Blk Time (%)		1	8	
Queuing Penalty (veh)		0	11	
Storage Bay Dist (ft)		100		
Storage Blk Time (%)		1	8	
Queuing Penalty (veh)		1	2	

Intersection: 7: Internal N-S Driveway/CVS Driveway 1 & Osowaw Boulevard

Movement	NB
Directions Served	R
Maximum Queue (ft)	22
Average Queue (ft)	1
95th Queue (ft)	11
Link Distance (ft)	204
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Osowaw Boulevard & Walmart Driveway/CVS Driveway 2

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	UL	TR
Maximum Queue (ft)	66	10	21	101	9
Average Queue (ft)	24	0	1	34	0
95th Queue (ft)	51	7	10	75	5
Link Distance (ft)	972		1006	197	1041
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		225			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 9: Internal N-S Driveway & Site Drive 1

Movement	WB	NB	SB
Directions Served	LR	TR	T
Maximum Queue (ft)	50	36	6
Average Queue (ft)	27	7	0
95th Queue (ft)	52	30	4
Link Distance (ft)	1066	157	23
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 10: Internal N-S Driveway & Site Drive 2

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	46	12
Average Queue (ft)	22	0
95th Queue (ft)	46	6
Link Distance (ft)	1092	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		25
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Network Summary

Network wide Queuing Penalty: 70

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	UL	L	T	T	R	UL	L	T	R	UL	T	T
Maximum Queue (ft)	222	240	327	240	198	386	590	275	225	329	612	629
Average Queue (ft)	118	153	183	143	85	215	304	224	191	97	417	440
95th Queue (ft)	196	225	313	230	172	335	528	330	256	261	579	607
Link Distance (ft)	246	246	246			1009	1009				778	778
Upstream Blk Time (%)	0	0	3	0							0	0
Queuing Penalty (veh)	0	0	6	0							0	0
Storage Bay Dist (ft)				175	175			175	175	475		
Storage Blk Time (%)			9	4	1		17	16	19		8	
Queuing Penalty (veh)			24	6	1		88	32	36		10	

Intersection: 1: US 19 & Osowaw Boulevard/Spring Hill Drive

Movement	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	R	UL	L	T	T	T	R
Maximum Queue (ft)	606	490	257	361	448	386	365	117
Average Queue (ft)	430	272	147	205	290	272	262	43
95th Queue (ft)	594	455	239	325	397	361	352	92
Link Distance (ft)	778				1031	1031	1031	
Upstream Blk Time (%)	0							
Queuing Penalty (veh)	0							
Storage Bay Dist (ft)		525	275	275				525
Storage Blk Time (%)	7		0	0	8			
Queuing Penalty (veh)	25		0	2	28			

Intersection: 2: US 19 & Walmart Driveway

Movement	EB	NB	NB	NB	NB	SB	SB
Directions Served	R	UL	T	T	T	T	R
Maximum Queue (ft)	54	168	16	204	201	4	31
Average Queue (ft)	4	54	1	7	13	0	3
95th Queue (ft)	29	118	12	131	184	3	18
Link Distance (ft)	255		870	870	870	778	
Upstream Blk Time (%)				0	0		
Queuing Penalty (veh)				0	0		
Storage Bay Dist (ft)		475				350	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	LT	R	UL	T	T	T	R	UL	T	T
Maximum Queue (ft)	231	274	511	300	400	829	805	710	425	224	273	296
Average Queue (ft)	115	167	282	151	168	564	522	447	171	82	137	163
95th Queue (ft)	193	250	479	318	429	800	752	655	439	181	233	259
Link Distance (ft)	350	350	1026			1015	1015	1015			870	870
Upstream Blk Time (%)							0					
Queuing Penalty (veh)							0					
Storage Bay Dist (ft)				200	300				325	300		
Storage Blk Time (%)			41	1		37		20		0	0	
Queuing Penalty (veh)			55	2		34		42		0	0	

Intersection: 3: US 19 & Pepper Street/Applegate Drive

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	316	164
Average Queue (ft)	168	67
95th Queue (ft)	263	139
Link Distance (ft)	870	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		475
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Wendy Court/Internal N-S Driveway & Southern Internal Driveway/Pepper Street

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	88	27	33	134	78	89
Average Queue (ft)	38	2	8	67	31	41
95th Queue (ft)	67	12	29	107	59	69
Link Distance (ft)	994	350		1006		863
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100		150	
Storage Blk Time (%)				1		
Queuing Penalty (veh)				0		

Intersection: 5: Internal N-S Driveway & Walmart Driveway

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	R	L	T
Maximum Queue (ft)	45	134	84	22	57	72
Average Queue (ft)	2	26	46	1	27	36
95th Queue (ft)	32	85	71	11	51	59
Link Distance (ft)		255	863			247
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	125			100	75	
Storage Blk Time (%)		0	0		0	0
Queuing Penalty (veh)		0	0		0	0

Intersection: 6: Internal N-S Driveway & Northern Internal Driveway/AT&T Driveway

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	LTR
Maximum Queue (ft)	44	30	23	65	53
Average Queue (ft)	16	11	15	35	25
95th Queue (ft)	43	35	32	49	49
Link Distance (ft)	987	1060		23	204
Upstream Blk Time (%)			1	20	
Queuing Penalty (veh)			0	63	
Storage Bay Dist (ft)			100		
Storage Blk Time (%)			1	20	
Queuing Penalty (veh)			4	8	

Intersection: 7: Internal N-S Driveway/CVS Driveway 1 & Osowaw Boulevard

Movement	EB	NB
Directions Served	TR	R
Maximum Queue (ft)	26	113
Average Queue (ft)	2	28
95th Queue (ft)	19	92
Link Distance (ft)	197	204
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	1	

Intersection: 8: Osowaw Boulevard & Walmart Driveway/CVS Driveway 2

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	UL	TR	L	TR
Maximum Queue (ft)	79	102	44	116	10	10	15
Average Queue (ft)	33	21	17	45	0	0	1
95th Queue (ft)	65	77	42	93	7	5	8
Link Distance (ft)	972		1006	197	197		1041
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		225				125	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 9: Internal N-S Driveway & Site Drive 1

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	88	128	18	25
Average Queue (ft)	38	38	1	1
95th Queue (ft)	75	86	9	12
Link Distance (ft)	1066	157		23
Upstream Blk Time (%)		0	0	0
Queuing Penalty (veh)		0	0	0
Storage Bay Dist (ft)			25	
Storage Blk Time (%)			0	0
Queuing Penalty (veh)			0	0

Intersection: 10: Internal N-S Driveway & Site Drive 2

Movement	WB	NB	SB
Directions Served	LR	TR	L
Maximum Queue (ft)	69	17	30
Average Queue (ft)	28	1	3
95th Queue (ft)	56	11	17
Link Distance (ft)	1092	247	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			25
Storage Blk Time (%)			1
Queuing Penalty (veh)			0

Network Summary

Network wide Queuing Penalty: 472