

April 2, 2025
Revised May 6, 2025

Ms. Diana Spriggs, P.E.
Regulatory Division Director
City of St. Port Lucie Public Works Department
121 S.W. Port St. Lucie Blvd, Building B
Port St. Lucie, FL 34984

RE: SG-7B- Wendy's Queuing Analysis
Port St. Lucie, Florida

Dear Ms. Spriggs:

Kimley-Horn and Associates, Inc. has undertaken the following queuing analysis to evaluate anticipated drive-through queues for a proposed Wendy's just south of the intersection of SW Becker Road & SW Anthony F. Sansone Sr. Blvd in Port St. Lucie, Florida. The subject property will be incorporated into a larger mixed-use development that will include multifamily dwelling units, a gas station, a car dealership, and other commercial uses. The proposed Wendy's fast-food restaurant will be approximately 2,228 square feet with a drive through lane.

Kimley-Horn has prepared this stacking analysis to be included as a part of the site plan application to the City of Port St Lucie to determine if adequate stacking is provided on-site. The conceptual site plan for the project site is included in **Attachment A**.

Wendy's Drive-Through Queuing Calculations

Queuing counts were collected at two nearby Wendy's locations from the hours of 11:00AM to 2:00PM. Data collection occurred on Tuesday, March 25, 2025. The queuing counts considered the number of vehicles in the drive-through during five-minute intervals. The total number of queued cars were counted. Data from the other Wendy's in the area include the addresses of 2210 Gatlin Blvd and 1790 St Lucie Blvd. The collected queuing counts are provided in **Attachment B**.

Proposed Wendy's

For this analysis, customer demand at the Wendy's drive-through was evaluated to determine a conservative queue that could form upon buildout. The capacity of the proposed drive-through design was evaluated for adequacy to provide for the highest 95th percentile queuing demand across the two sites. As shown in **Table 1** below, the highest observed 95th percentile queue across both sites was seven (7) vehicles. The proposed Wendy's drive-through includes space for 11 vehicles, providing enough stacking to adequately handle the highest observed 95th percentile queuing demand.

Table 1 – 95th Percentile Observed Queues and Proposed Stacking Area

Provided On-Site Drive-Through Vehicle Queuing (TOTAL)	Site 1: 95th Percentile Queuing Demand (TOTAL)	Site 2: 95th Percentile Queuing Demand (TOTAL)	Highest Observed 95th Percentile Queue (TOTAL)	Adequate Queuing Provided?
11	7	6	7	Yes



Conclusion

A queuing analysis was performed for a proposed Wendy's just south of the intersection of SW Becker Road & SW Anthony F Sansone Sr. Blvd in Port St. Lucie, Florida. The subject property will be incorporated into a larger mixed-use development that will include multifamily dwelling units, a gas station, a car dealership, and other commercial uses.

Based upon the queuing data from the other nearby Wendy's fast-food restaurants within a 10-mile radius, the highest observed 95th percentile queuing demand for existing Wendy's fast-food restaurant was seven (7) vehicles. The proposed Wendy's drive-through includes space for 11 vehicles, providing enough stacking to adequately handle the maximum observed 95th percentile queuing demand.

Please contact us if you have any questions or need additional information.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

Stephanie A. Guerra, P.E.
Transportation Engineer

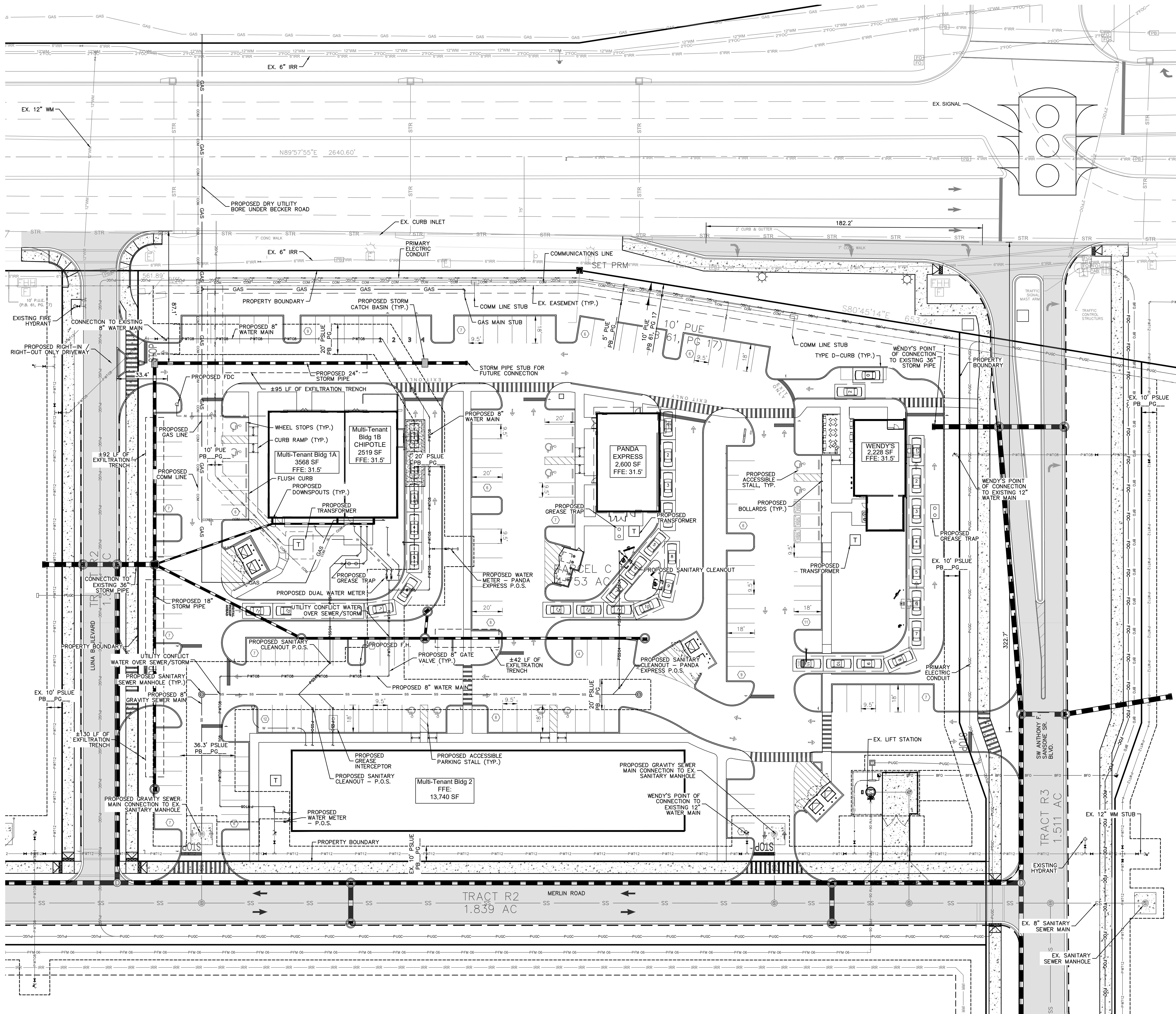
Florida Registration Number: 84302

Attachments: Conceptual Site Plan
 Wendy's Queuing Data

K:\WPB_TPTO\Kinlen\SG7-Becker Road\Queue Study\Wendy's\2025-03-31 Wendy's Queuing Analysis.docx

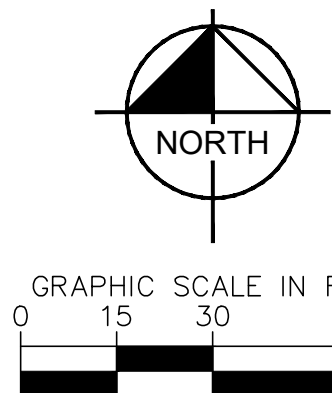
ATTACHMENT A
Conceptual Site Plan

Plotted By: Anderson, Sarah Sheet: Mouhalis Parcel C - 100 PRELIMINARY ENGINEERING PLAN - 249222002 May 06, 2025 03:31:37pm K:\VRB\LEDA\249222002 - 557 Parcel C - Mouhalis\CAD\PlanSheets\100 PRELIMINARY ENGINEERING PLAN - 249222002.dwg
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



- LEGEND**
- PROPERTY LINE
 - PROPOSED LOT LINE
 - PROPOSED 12" WATER MAIN
 - PROPOSED 8" WATER MAIN
 - PROPOSED WATER SERVICE
 - PROPOSED WATER GATE VALVE
 - PROPOSED REDUCER
 - PROPOSED FIRE HYDRANT ASSEMBLY
 - PROPOSED SANITARY SEWER MANHOLE
 - PROPOSED SANITARY SEWER MAIN
 - PROPOSED 8" SANITARY FORCE MAIN
 - PROPOSED 6" SANITARY FORCE MAIN
 - PROPOSED STORM SEWER PIPE
 - PROPOSED ROADWAY CURB INLET - TYPE P-5
 - PROPOSED STORM MANHOLE
 - PROPOSED CATCH BASIN
 - PROPOSED CURB INLET TYPE P-9
 - PROPOSED TRANSFORMER PAD
 - EXISTING ASPHALT
 - PROPOSED ASPHALT (STANDARD DUTY)

- GENERAL NOTES:**
- THIS PRELIMINARY ENGINEERING PLAN IS PROVIDED FOR REFERENCE ONLY DURING THE SITE PLAN REVIEW APPLICATION. AFTER SITE PLAN APPROVAL, EACH TENANT WILL BE RESPONSIBLE FOR SUBMITTING THEIR OWN DETAILED CONSTRUCTION PLANS TO THE CITY. FUTURE UTILITY POINTS OF CONNECTIONS ARE SHOWN ON THE PLAN TO DEMONSTRATE THAT THERE IS A FUTURE POINT OF CONNECTION FOR EACH TENANT AND THAT THERE IS THE ABILITY TO USE EXISTING WATER MAIN STUBS TO CREATE A LOOPED WATER MAIN THROUGH THE WENDY'S PARCEL.
 - THE EXISTING AND PROPOSED HYDRANTS ON-SITE AND OFF-SITE MEET ST. LUCIE COUNTY FIRE HYDRANT COVER REQUIREMENTS FOR THE BUILDINGS PROPOSED ON THIS SITE PLAN.
 - NO GAS LINES SHALL BE PROVIDED FOR THE PROPOSED WENDY'S.



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SUNSHINE STATE ONE CALL OF FLORIDA, INC.



VERTICAL DATUM
ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88). SUBTRACT 1.50' FROM NAVD 29' ELEVATION TO GET THE NAVD 88 ELEVATION.
CITY OF PORT ST. LUCIE PROJECT #
P25-023
PSLUSD PROJECT #
#5438C

Kimley»Horn © 2025 KIMLEY-HORN AND ASSOCIATES, INC. 445 24TH STREET, SUITE 200, VERO BEACH, FL 32960 PHONE: 772-794-4100 WWW.KIMLEY-HORN.COM REGISTRY NO. 35106	
LICENSED PROFESSIONAL KHA PROJECT 249222002 DATE 12/17/24 SCALE AS SHOWN DESIGNED BY DRAWN BY CHECKED BY	SARAH ANDERSON, P.E. FLORIDA LICENSE NUMBER 98012 DATE: _____
PRELIMINARY ENGINEERING PLAN	
MOUHALIS PARCEL C SOUTHERN GROVE 7 CITY OF PORT ST. LUCIE FLORIDA	
SHEET NUMBER C-100	

ATTACHMENT B
Wendy's Queuing Data

	Site 1	Site 2
Time	Total #	Total #
11:00 AM	3	2
11:05 AM	2	2
11:10 AM	2	1
11:15 AM	2	0
11:20 AM	5	0
11:25 AM	5	3
11:30 AM	3	3
11:35 AM	3	1
11:40 AM	3	3
11:45 AM	6	2
11:50 AM	7	1
11:55 AM	6	3
12:00 PM	3	4
12:05 PM	3	6
12:10 PM	3	3
12:15 PM	2	6
12:20 PM	4	9
12:25 PM	3	6
12:30 PM	4	0
12:35 PM	2	3
12:40 PM	3	5
12:45 PM	3	4
12:50 PM	1	2
12:55 PM	2	3
01:00 PM	3	5
01:05 PM	2	4
01:10 PM	4	2
01:15 PM	4	5
01:20 PM	2	5
01:25 PM	4	6
01:30 PM	4	0
01:35 PM	6	5
01:40 PM	6	3
01:45 PM	7	2
01:50 PM	6	5
01:55 PM	6	2

Site 1 - 95th Percentile Queue	7	Site 1- 2210 Gatlin Blvd
Site 2 - 95th Percentile Queue	6	Site 2- 1790 St Lucie Blvd
Highest Observed 95th Percentile Queue	7	