TRAFFIC IMPACT ANALYSIS
EXEMPTION FORM
ENGINEERING DEPARTMENT

Request for exemption received from: **The Design Response, Inc., 215 E. Chatham St, Suite 125, Cary, NC 27519** Telephone: (919)469-2080

Date: September 28, 2018

Type of exemption requested: TRAFFIC IMPACT ANALYSIS (TIA)

Type of justification submitted: a) Written Request with Trip Analysis
b) Site Plan

Key reasons why we support this exemption:

a) The proposed Drive-Through window is expected to generate 160 new vehicle trips per day. Applicant submitted a drive-through trip generation study. Also, proposed site plan provides the required vehicle queue length for drive-through window.
b) Meets the Town TIA Guidelines for an Exemption.

Based upon the attached request for exemption and supporting information, we recommend that the Town Manager approve an exemption for:

1507/1509 East Franklin Street (Dunkin Donuts)

Signed: _____ 10/1/18
Traffic Engineer ***Date***

Approved: _____ 10/1/18
Public Works Director ***Date***

Attachment(s): a) Written request from the Applicant/Developer/Trip Generation Study
b) Site Plan and Fee

RETURN TO ENGINEERING DEPARTMENT WHEN SIGNED

Kumar Neppalli

From: Jack Smyre <jsmyre@thedesignresponse.com>
Sent: Thursday, June 28, 2018 5:24 PM
To: Kumar Neppalli
Cc: Phil Koch
Subject: Re: 1507 & 1509 E. Franklin Street SUP Modification: graphics and QSR study

Kumar,

Hope you are doing well!

We might be targeting a late July submittal date for the SUP modification application related to this property that we discussed at our meeting.

So thought I would check in with you to see if there was any feedback available from your traffic engineering consultant regarding the proper traffic generation rate that should be applied to the current sit-down restaurant space compared to adding a drive-through window service option to that same amount of sit-down restaurant space.

Suppose we should also inquire as to the proper traffic generation rate to use regarding the unchanged retail store (Sherwin Williams) that is also located on this property.

Any guidance that can be provided would be helpful. Still interested in seeing if this project might qualify for a TIA exemption.

However, also realize that we have a holiday week pending. So just bumping this up for attention afterward if you (or them) are out of office next week.

Thanks!

- Jack

> On May 30, 2018, at 6:59 PM, Kumar Neppalli <kneppalli@townofchapelhill.org> wrote:
>
> Got it and will get trip generation.
>
> On May 30, 2018, at 5:48 PM, Jack Smyre <jsmyre@thedesignresponse.com<mailto:jsmyre@thedesignresponse.com>> wrote:
>
> Kumar,
>
> Thank you for meeting with Phil and me this morning. Below is the information, graphic exhibits, and documents you requested in order to share with your traffic engineering consultant.

Exhibits

Attached are some graphic exhibits illustrating the current sit-down restaurant configuration on this Planned Development - Shopping Center site and the proposed conversion of that restaurant to include drive-thru window service. As the existing condition exhibit (based on an as-built survey), the current (and proposed) store size will both be 2,484 square feet.

Vehicular site plan changes associated with the proposal include converting the northern driveway from a full-service driveway to one-way inbound. Also associated with that northern driveway change is a conversion of the current 90-degree parking spaces to the north to 45-degree parking spaces more conducive to the one-way drive system.

Line Length

Have also included a couple of JPG views of the digital model for the proposed drive-thru window configuration illustrating how it works and that a "wait space" is provided in the vehicle return area to keep the line moving if a large or difficult order to fulfill is encountered.

To the line length issue (despite providing the required 10 waiting spaces), the 2017 Quick Service Restaurant (QSR) survey we discussed is attached in which various drive-thru restaurants were studied at all hours of the day (including 169 Dunkin Donuts locations). Note that 80 percent of Dunkin Donut drive-thru customers encountered 0-2 vehicles in line with only 20 percent encountering 3-5 vehicles (the menu board is located at position 5). Less than 1% ever saw 6 or more vehicles in line.

Not only is this due to menu board placement allowing the kitchen to work on multiple orders, but also because food is not cooked on site. Instead multiple stations in the kitchen prepare drink orders separate from food orders with heating/browning ovens running on cycles under a minute in duration. Corporate expectation is 150-second experience from greeting at menu board to drive-away from the window with food/drinks waiting at the window for the economic transaction to occur.

Please let me know if you would like any other exhibits or documents for use in determining the appropriate traffic generation numbers that should be used for the existing and proposed land use.

Thanks!

Jack L. Smyre, PE, AICP
Principal

The Design Response, Inc.
215 E. Chatham Street, Suite 125 (27511)
P.O. Box 3585
Cary, NC 27519
(919) 469-2080 (office)
(919) 244-5353 (cell)

thedesignresponse.com<http://thedesignresponse.com>

<Existing Conditions SUP 2018-24X36.pdf>
<075002 drive thru x01-SITE.pdf>
<Drive thru 2-15-2018_01.jpeg>
<Drive thru 2-15-2018_10.jpeg>
<2017 QSR drive-thru study.pdf>

RAMEY KEMP & ASSOCIATES
TRANSPORTATION ENGINEERS

RAMEY KEMP & ASSOCIATES, INC.
5808 Faringdon Place, Suite 100
Raleigh, NC 27609
Phone: 919-872-5115
www.rameykemp.com

September 25, 2018

Kumar Neppalli
Town of Chapel Hill
Traffic Engineering Manager
405 Martin Luther King Jr. Blvd
Chapel Hill, NC

Subject: **Trip Generation Letter** – Dunkin' Donuts
Chapel Hill, North Carolina

Dear Mr. Neppalli:

This letter provides a trip generation summary for the addition of a drive-through to the existing Dunkin' Donuts located along Franklin Street, north of Estes Drive in Chapel Hill, North Carolina. The existing development consists of a 2,484 square-foot (s.f.) Dunkin' Donuts and will remain the same size with the addition of the drive-through window. Access to the site will remain the same; however; the northern site drive along Franklin Street will be converted to an ingress only site driveway upon full build-out of the drive-through.

Trip Generation

Average weekday daily, AM peak hour, and PM peak hour trips for the existing and proposed Dunkin' Donuts were estimated utilizing methodology contained within the ITE *Trip Generation Manual*, 10th Edition. Table 1 provides a summary of the existing and proposed development.

Table 1: Site Trip Generation

Land Use (ITE Code)	Intensity	Daily Traffic (vpd)	Weekday AM Peak Hour Trips (vph)		Weekday PM Peak Hour Trips (vph)	
			Enter	Exit	Enter	Exit
Existing: Coffee / Donut Shop without Drive-Through (936)	2,484 s.f.	1,880	128	123	45	45
Proposed: Coffee / Donut Shop with Drive-Through (937)	2,484 s.f.	2,040	154*	148*	54	54
Difference (New Trips)		**+160**	**+26**	**+25**	**+9**	**+9**

* Based upon the weekday PM peak hour, a percent increase (+20%) was utilized to estimate the trip generation.

The data contained within the ITE *Trip Generation Manual*, 10th Edition was not utilized to determine the anticipated trip generation for the Coffee / Donut Shop with Drive-through during the weekday AM peak hour. The trips associated with the site are expected to increase some with the addition of a drive-through; however, the data provided in the ITE *Trip Generation Manual*, 10th Edition did not provide an accurate depiction of this increase when comparing trips without a drive-through and trips with a drive-through. ITE data for the daily trips and weekday PM peak hour shows an expected result when comparing trips without a drive-through and trips with a drive-through. ITE data suggests daily trips will increase by approximately 8% and weekday PM trips will increase by approximately 20% with the addition of a drive-through window. To be conservative, the weekday AM peak hour trips without the drive-through were increased by 20% to estimate the additional trips when the drive-through is built.

As shown in Table 1, it is estimated that with the addition of a drive-through, the site is expected to generate approximately 160 additional trips during a typical 24-hour weekday period. It is estimated that 51 additional trips (26 entering and 25 exiting) will occur during the weekday AM peak hour and 18 additional trips (9 entering and 9 exiting) will occur during the weekday PM peak hour.

Conclusion and Request for Exemption from Traffic Impact Analysis

Based on the *Guidelines for Traffic Impact Analysis*, published by the Town of Chapel Hill, a full traffic impact analysis may be waived by the Town Manager if all of the following conditions are met:

- Daily trip generation is less than 500 (or, for a change to an existing property that does not require rezoning, difference in daily trip generation is less than 500); and
- No more than 250 vehicles per day (or, for a change to an existing property that does not require rezoning, no more than 250 vehicles per day in difference) access an existing collector of local road; and
- The total traffic, including background traffic and additional traffic from the proposed new site or redeveloped property does not exceed an average of 150 vehicles per day on any unpaved road; and
- The applicant submits a written request for a Traffic Impact Analysis waiver with appropriate supporting documentation including pedestrian / bicycle analysis, if applicable; and
- The Town Manager concurs with the request.

Based on the results of the trip generation, we respectfully request that a waiver for the Traffic Impact Analysis be granted for the addition of a drive-through to the existing Dunkin' Donuts.

If you should have any questions, please feel free to contact me at (919) 872-5115.

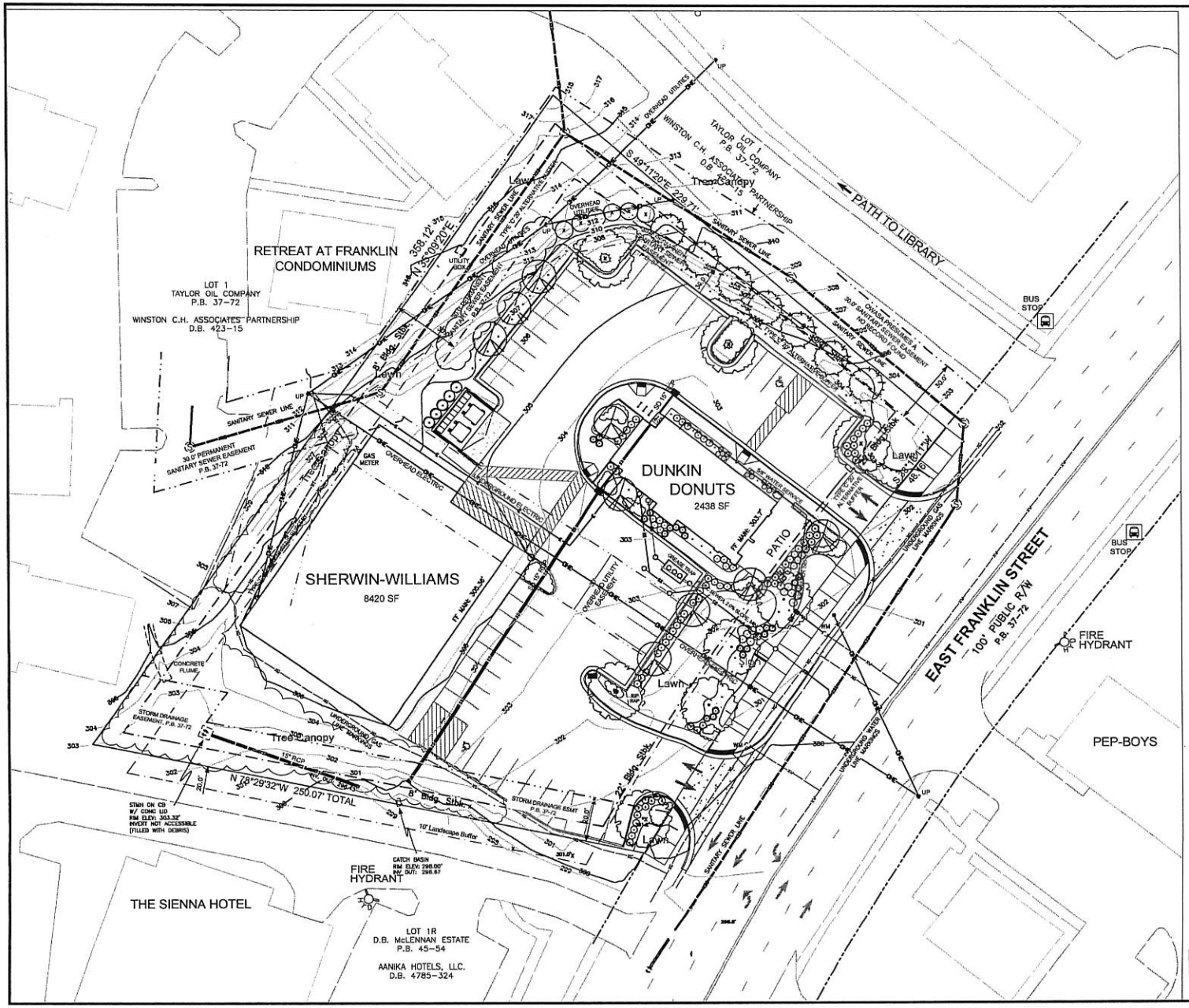
Sincerely,

NORTH CAROLINA PROFESSIONAL SEAL 028926 ENGINEER RYNAL G. STEPHENSON

9/25/18

Rynal Stephenson, P.E.
Regional Manager
Ramey Kemp & Associates, Inc.

NC Corporate License # C-0910



Site Data

Pin Number: 9789-93-9745

Street Address: 1507 & 1509 E. Franklin Street

Owner / Developer:
Taylor Family Properties, LLC
1645 Westbrook Plaza Drive
Winston Salem, NC 27103

Net Acreage: 1.54 AC / 67,160 SF

Gross Land Area: 1.69 AC / 73,825 SF

Zoning: CC - Community Commercial

SUP: PD-SC Planned Development-Shopping Center

Existing Use: Sherwin-Williams Store
Dunkin Donuts Restaurant

Proposed Use: Sherwin-Williams Store
Dunkin Donuts with drive thru

THE DESIGN RESPONSE
PO Box 3365, Cary, NC 27519
thedesignresponse.com
(919) 469-2080

NORTH

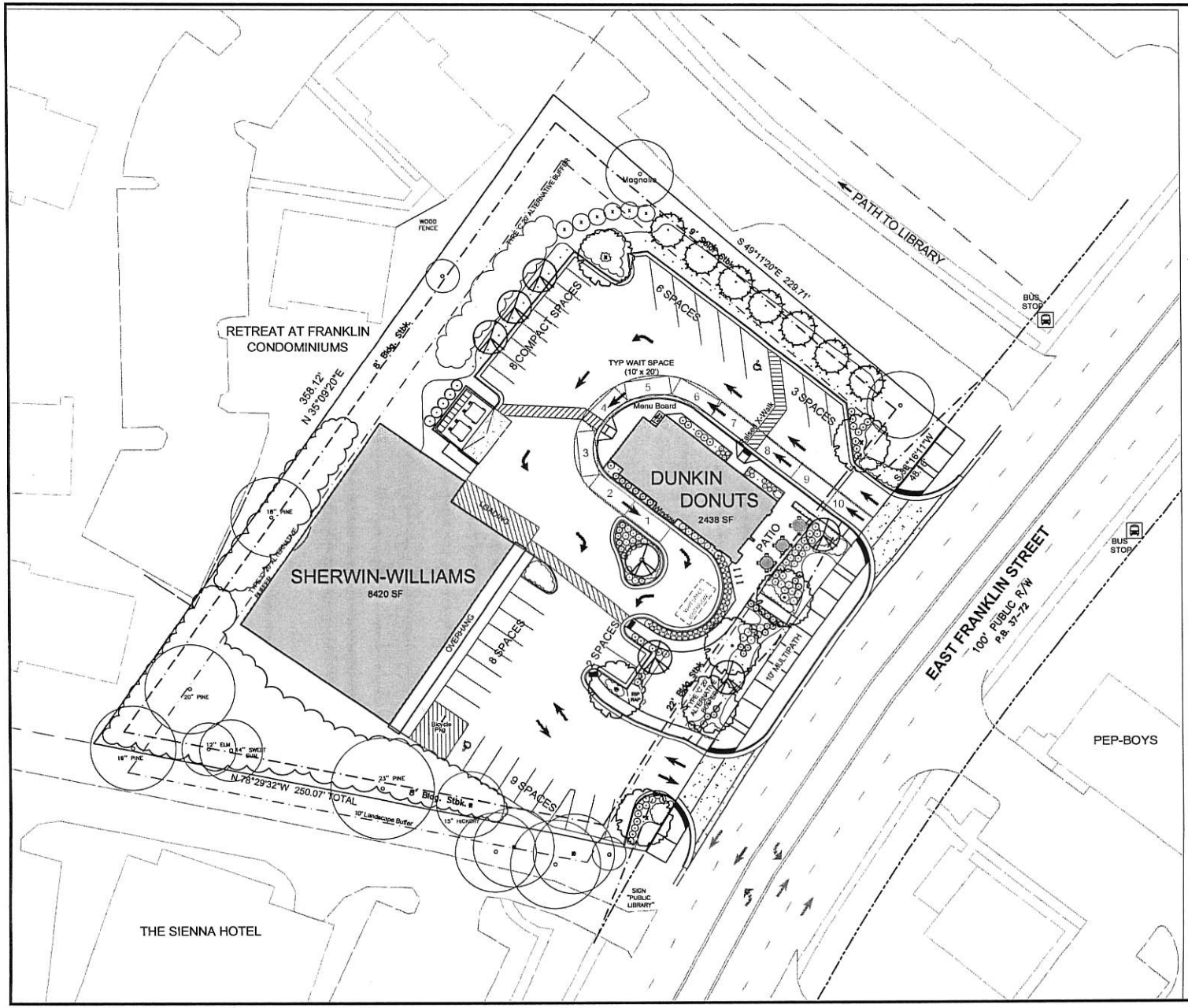
1509 East Franklin - Restaurant

Chapel Hill, North Carolina

Existing Conditions with Utilities and Easements

DATE:	REVISION:

DATE: 3-15-2016
SCALE: 1"=20'
DRAWN BY: JLS
JOB NO.: 075-002
SHEET NO.
X - X
OF X SHEETS



Project Data

Dunkin Donuts Drive Thru

1509 E. Franklin Street, Chapel Hill, NC 27514

Applicant:

The Design Response
PO Box 3585
Cary, NC 27519
919-469-2080
jsmyre@thedesignresponse.com

Site Data

Pin Number: 9789-93-9745

Street Address: 1507 & 1509 E. Franklin Street

Owner / Developer:

1507 E Franklin St LLC
1125 W NC 54, Suite 504
Durham, NC 27707

Net Acreage: 1.53 AC, 67,160 SF
Gross Land Area: 1.69 AC, 73,825 SF

Zoning: CC - Community Commercial

SUP: PD-SC Planned Development-Shopping Center

Parking Data

Vehicle: 36 spaces (8 compact)
Bicycle 8 unsecured, 3 secure
Drive thru wait stack: 10 cars (10'x20' wait space)

THE DESIGN RESPONSE
PO Box 3585, Cary, NC 27519
jsmyre@thedesignresponse.com
(919) 469-2080

NORTH

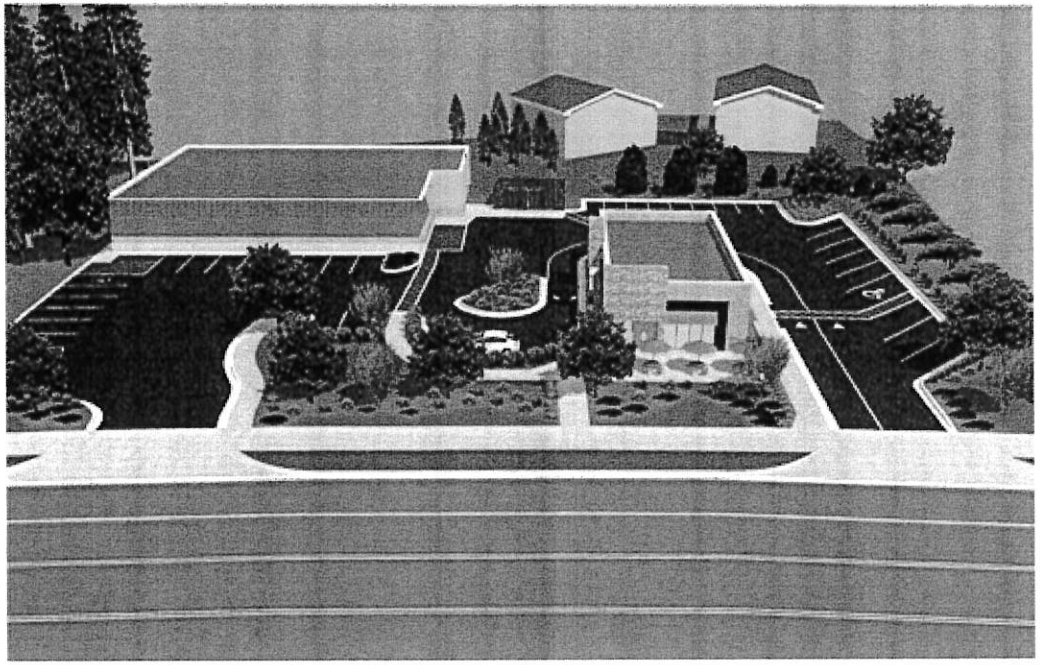
1509 East Franklin - Restaurant

Chapel Hill, North Carolina

Proposed Site Plan

DATE:	REVISION:

DATE: 3-31-2018
SCALE: 1"=20'
DRAWN BY: JLS
JOB NO.: 075-002
SHEET NO. X - X
OF X SHEETS



QSR
Limited-Service, Unlimited Possibilities

Vehicles in Line

THE DRIVE-THRU PERFORMANCE STUDY (/REPORTS/2017-DRIVE-THRU-PERFORMANCE-STUDY)

BRAND INSIGHTS:

- Arby's (/reports/drive-thru-2017-arbys)
- Carl's Jr./Hardee's (/reports/drive-thru-2017-carlsjr)
- Chick-fil-A (/reports/drive-thru-2017-chickfila)
- McDonald's (/reports/drive-thru-2017-mcdonalds)
- Taco Bell (/reports/drive-thru-2017-taco-bell)
- Wendy's (/reports/drive-thru-2017-wendys)

Drive-Thru Performance: A Closer Look (/content/drive-thru-2017-closer-look)

Methodology (/content/drive-thru-2017-methodology)

CHARTS:

- Order Accuracy (/content/drive-thru-2017-accuracy)
- Speed of Service (/content/drive-thru-2017-speed-service)
- Service Attributes (/content/drive-thru-2017-service-attributes)
- Vehicles in Line (/content/drive-thru-2017-vehicles)
- Suggestive Sells (/content/drive-thru-2017-suggestive-sell)
- Type of Suggestive Sell (/content/drive-thru-2017-suggestive-sell-type)
- OCB in Place (/content/drive-thru-2017-ocb)
- Stations in Use (/content/drive-thru-2017-stations)
- Issues Experienced (/content/drive-thru-2017-issues)

RESULTS REFLECT A PERCENTAGE OF DRIVE-THRU VISITS AT EACH CHAIN

CHAIN (/CONTENT/DRIVE-THRU-2017-VEHICLES?SORT=CHAIN&DIR=DESC)	0-2 (/CONTENT/DRIVE-THRU-2017-VEHICLES?SORT=02&DIR=ASC)	3-5 (/CONTENT/DRIVE-THRU-2017-VEHICLES?SORT=35&DIR=ASC)	6 OR MORE (/CONTENT/DRIVE-THRU-2017-VEHICLES?SORT=6_OR_MORE&DIR=ASC)
Arby's	78.70	21.30	0.00
Burger King	81.30	18.10	0.60
Carl's Jr.	89.80	10.20	0.00
Chick-fil-A	21.90	50.80	27.30
Dunkin' Donuts	79.30	20.10	0.60
Hardee's	88.10	11.90	0.00
KFC	83.20	15.60	1.20
McDonald's	34.60	48.60	16.80
Panera Bread	78.90	21.10	0.00
Raising Cane's	65.30	32.00	2.70
Starbucks	60.50	37.10	2.40
Taco Bell	78.40	21.60	0.00
Tim Hortons	92.10	7.90	0.00
Wendy's	69.70	27.30	3.00
Zaxby's	62.70	36.00	1.30
Summary	68.30	27.00	4.80

QSR
Limited-Service, Unlimited Possibilities

Speed of Service

THE DRIVE-THRU PERFORMANCE STUDY (/REPORTS/2017-DRIVE-THRU-PERFORMANCE-STUDY)

BRAND INSIGHTS:

- Arby's (/reports/drive-thru-2017-arbys)
- Carl's Jr./Hardee's (/reports/drive-thru-2017-carlsjr)
- Chick-fil-A (/reports/drive-thru-2017-chickfila)
- McDonald's (/reports/drive-thru-2017-mcdonalds)
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Methodology (/content/drive-thru-2017-methodology)

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- Suggestive Sells (/content/drive-thru-2017-suggestive-sell)
- Type of Suggestive Sell (/content/drive-thru-2017-suggestive-sell-type)
- OCB in Place (/content/drive-thru-2017-ocb)
- Stations in Use (/content/drive-thru-2017-stations)
- Issues Experienced (/content/drive-thru-2017-issues)

CHAIN (/CONTENT/DRIVE-THRU-2017-SPEED-SERVICE?SORT=CHAIN&DIR=DESC)	AVERAGE TIME (IN SECONDS) (/CONTENT/DRIVE-THRU-2017-SPEED-SERVICE?SORT=AVERAGE_TIME_IN_SECONDS&DIR=ASC)
Arby's	244.37
Burger King	189.48
Carl's Jr.	270.22
Chick-fil-A	251.04
Dunkin' Donuts	173.85
Hardee's	287.87
KFC	230.98
McDonald's	239.03
Panera Bread	262.68
Raising Cane's	168.23
Starbucks	266.41
Taco Bell	212.71
Tim Hortons	202.66
Wendy's	180.05
Zaxby's	212.85
Summary	224.77

QSR
Limited-Service, Unlimited Possibilities

Methodology for The 2017 Drive-Thru Performance Study

THE DRIVE-THRU PERFORMANCE STUDY (/REPORTS/2017-DRIVE-THRU-PERFORMANCE-STUDY)

BRAND INSIGHTS:
- Arby's (/reports/drive-thru-2017-arbys)
- Carl's Jr./Hardee's (/reports/drive-thru-2017-carlsjr)
- Chick-fil-A (/reports/drive-thru-2017-chickfila)
- McDonald's (/reports/drive-thru-2017-mcdonalds)
- Taco Bell (/reports/drive-thru-2017-taco-bell)
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- Issues Experienced (/content/drive-thru-2017-issues)

See Level Human Experience. (http://www.seelevelhx.com)Data for the bsp;2017 QSR Drive-Thru Study was collected and tabulated by SeeLevel HX. The study included 15 chains and data from 2,011 visits, with the following break-down of visits by chain: Arby's (169), Burger King (171), Carl's Jr. (88), Chick-fil-A (183), Dunkin' Donuts (169), Hardee's (84), KFC (167), McDonald's (179), Panera Bread (76), Raising Cane's (75), Starbucks (168), Taco Bell (167), Tim Horton's (76), Wendy's (165), and Zaxby's (75). Visits were conducted across the country, across 156 markets. No restaurant location was visited more than once. All data was collected between June 1 and July 30, 2017.

Daypart analysis was based on the time of day of the visit—breakfast (5–9 a.m.), mid morning (9–11:30 a.m.), lunch (11:30 a.m. to 1:30 p.m.), late afternoon (1:30–4 p.m.), and dinner (4–7 p.m.). The distribution of visits mirrored revenue by daypart.

Upon each visit, a trained data collection specialist surveyed the drive-thru lane and then entered the line as any other customer. Each order placed by our researchers consisted of one main item, one side item, and one beverage. A minor special request was also made with each order, such as beverage with no ice. Although two different speed-of-service times were recorded for each visit (one for the researchers' order/experience and another from a randomly selected vehicle), all tables within this feature are related to the researchers' own vehicle and experience only, as this was the controlled order. Service time was defined as the time from stopping at the order station to receipt of all items (including change). Additional data collected by each researcher included but was not limited to: order accuracy, drive-thru and exterior appearance, speaker clarity, and customer service. All purchases were made using cash so as not to influence timing.