LAW OFFICES OF MICHAEL D. FORD
ATTORNEYS AT LAW
72 MAIN STREET, P.O. BOX 485
WEST HARWICH, MA 02671
TEL. (508)430-1900 FAX (508)430-9979
mdfesq1@verizon.net

MICHAEL D. FORD
JEFFREY M. FORD

RECEIVED
JAN 29 2016
CAPE COD COMMISSION

January 28, 2016

Jonathan Idman, Chief Regulatory Officer
Cape Cod Commission
P.O. Box 226
3225 Main Street
Barnstable, MA 02630

Re: Request for Section 14 Certification – Chick-Fil-A

Dear Mr. Idman:

Enclosed please find Chick-Fil-A's Request for a Section 14 Certification from the Committee on Planning and Regulation that Chick-Fil-A's proposed new restaurant in Hyannis need not be reviewed as a Development of Regional Impact.

Also enclosed is a check in the amount of $2,150 payable to the Barnstable County Treasurer which I understand to be the filing fee.

Thank you for your anticipated cooperation and assistance in relation to this matter.

Very truly yours,

Michael D. Ford, Esq
MDF/jlg
Encs.

cc: Clients
Joanne Buntich, Director of Growth Management
Jeff Ribeiro, Regulatory Officer II

1. INTRODUCTION

This application is a request for a certification from the Committee on Planning and Regulation that the Applicant's proposed development does not require DRI review pursuant to Section 14 of the Commission's Regulations of General Application.

The applicant, Chick-Fil-A Inc., is the named Lessee under a certain ground lease for the site by and between Mayflower Cape Cod LLC (the owner of the property) and Chick-Fil-A. Applicable section of the proposed Lease is attached as Appendix "A").

The site is a 1.74 acres (75,947 sq. ft.) located at the corner of Route 132/Iyannough Road and Enterprise Road in Hyannis (Town of Barnstable). It consists of three (3) lots, the current configuration of which resulted from the 1999 relocation of Enterprise Road to the west.

The site is presently improved with an existing 161 space asphalt parking lot previously used in conjunction with the adjoining Cape Cod Mall. Since the construction of the parking lot in 1999, it has been determined that the parking spaces have not been needed for Mall parking as the Mall has a sufficient number of existing spaces to satisfy the parking requirements of the Ordinance and otherwise does not need the parking. The remaining Mall property, meets the current parking requirements without this parking lot.

The project site is currently subject to and has the benefit of an existing DRI Permit (TR96025) which authorizes the redevelopment of the Cape Cod Mall ("Mall"). The site was improved pursuant to the DRI permit as a 161 space parking lot in conjunction with the mall expansion.

The proposed project will consist of a redevelopment of the site, consisting of the removal of the existing parking lot, installation of new parking lot, landscaping, utilities and the construction of a new 5,219 +/- s. ft. restaurant with drive-thru. The property is located in the SCROD Overlay District (underling HB&B Districts) and the GP Overlay District. The Barnstable Town Council recently voted unanimously to amend the provisions of the SCROD Overlay District to permit a restaurant with drive-thru on the site upon issuance of a Special Permit or Modification of a previously issued Special Permit under Section 240-39M. A Special Permit has been issued by the Barnstable Zoning Board of Appeals approving the project.

The site is a separate parcel of land that is not contiguous with the remaining Mall property which comprises the area of Mall operations and is included in the existing DRI permit.

The Applicant seeks a Section 14 certification that the proposed Chick-Fil-A restaurant does not need to be reviewed as a DRI.

II. SECTION 14 - CERTIFICATION

A. The proposed project will consist of a redevelopment of the site, consisting of the removal of the existing 161 space asphalt parking lot, installation of new parking lot, landscaping, utilities and the construction of a new 5,219 +/- sq. ft. Chick-Fil-A restaurant with drive-thru.

As proposed the project does not meet or exceed any of the thresholds identified in Section 2(d) or 3 of the Regulations and has not been "referred" in conjunction with Section 2(b) of the Regulations.

B. The site is the subject of DRI (TR96025) dated January 29, 1998, as modified. The right to obtain local permits has expired (since the 7 years elapsed), and all applicable conditions of approval have been satisfied.

C. The proposed project substantially complies with the applicable minimum performance standards of the RPP as follows:

(1) Land Use

The site is located in an Economic Center on the Land Use Vision Map and is a redevelopment of an existing parking lot use. The site is located in a Shopping Center Redevelopment Overlay District (SCROD) and the underlying HB&B Business District and the Ground Water Protection (GP) Overlay District. The Barnstable Town Council recently voted unanimously to amend the zoning ordinance to allow for the proposed use by Special Permit. A Special Permit has been issued for the project by the Zoning Board of Appeals and Site Plan Approval has issued as well.

As a result, the Applicant believes the project substantially complies with LU.1 and LUI.2. The project as designed and permitted by the Town also meets BDP LUI.3 as a redevelopment and meets LU2.1 regarding Capital Facilities and Infrastructure.

(2) Economic Development

The project is located in an Economic Center and as a result complies with MSP ED1.1.

(3) Water Resources

The Applicant has submitted a Nitrogen Loading Analysis stating that the existing nitrogen on site is 2.22 (ppm) and projected nitrogen loading after development is 1.90 (ppm), (Calculations do not include wastewater on property is connected to town sewer). See Appendix ("B"). Accordingly, the project meets the requirements of MPS WR1.1, WR2.2 and WR5.1.

There are no known public or private drinking water wells within 400 feet of the site. (MPS WR1.2) Use of household hazardous materials will be limited to household quantities as required in a GP (Zone II) Groundwater District (See Appendix ("C"). Accordingly, the project will comply with MPS WR22

Site design includes new stormwater collection system in compliance with MPS WR 2.71 and WR 2.72. This design includes a Stormwater Maintenance and Operation Plan as required by WR2.710. (See Appendix ("D").

(4). Open Space and Recreation

The project is a redevelopment of a fully disturbed site. The amount of green space on the site will be increased. As a result, the applicant is not required to provide open space and complies with 0S1.3.

(5) Transportation

The Applicant has conducted a complete Traffic Study submitted to both the CCC and the Town of Barnstable. The Town retained a traffic engineer who conducted a peer review (also presented to the CCC staff). As a result of the study and the peer review the Special Permit issued to the Applicant contains numerous conditions regarding traffic mitigation and traffic safety measures. (See Appendix ("E") Special Permit Decision – Conditions No. 5-12).

As a result, the Applicant believes that the proposed project as conditioned by the Town's Special Permit and Site Plan Approval is in substantial compliance with the MPS TR 1.7 – TR 3.16.

(6) Hazardous Materials and Waste

The use of hazardous materials will be limited to household quantities, a list of the cleaning products used is attached. Project will comply with MPS WR1.1-1.6. (See Appendix "C"). No hazardous waste will be generated.

(7) Energy

The Project will be completed in substantial compliance. With MPS E1.1 – E 1.8 as follows:

- All equipment is Energy Star rated
- Low flow water fixtures
- LED parking light fixtures
- Energy efficient interior lighting
- 25% concrete paving on site to reduce heat island effect
- White roof to reduce heat island effect
- Outdoor water use cut by 50% though high efficient irrigation system
- Bike racks on property

(8) Affordable Housing

Pursuant to MPS AH3.1, if the project was considered a commercial DRI located in an Economic Center, the required contribution for Affordable Housing would be $36,272.05 (6.95 x 5,219 square feet). The Applicant has offered to make a contribution to the Town of Barnstable Affordable Housing Growth Development Trust Fund in the amount of twenty thousand ($20,000) at the time of issuance of the occupancy permit for the restaurant. Accordingly, the Applicant would suggest that they are in substantial compliance with MPS AH3.1.

(9) Heritage Preservation and Community Character

In designing the building and the site improvements the Applicant has worked with both Town staff and CCC staff taking into consideration the Design Guidelines for Cape Cod proposed by the Commission. (See Finding 8 of the Town's Special Permit). As a result, the proposed development has been designed to substantially comply to the applicable Project Siting Standards, the Building Design Standards, the Parking and Landscaping Standards and the Lighting and Signage Standards as set forth in MPS HPCC 2.1 – HP CCC 2.13.

(10) The Applicant suggests that issues of Coastal Resources, Wildlife Habitat (site is completely paved parking lot), Marine Resources and Wetlands are not applicable to this site.

III. CONCLUSION

The Applicant believes all of the Section 14 requirements for certification have been met. Accordingly, the Applicant requests the CPR Committee issue a certification that the project need not be reviewed as a DRI.

TABLE OF CONTENTS

Appendix A

Lease

Appendix B

Nitrogen Loading – Proposed Non Residential Loading Calculations; Existing Nitrogen Loading Calculations

Appendix C

Hazardous Materials List – Cleaning Supplies In the Restaurant

Appendix D

Stormwater Maintenance and Operation Plan

Appendix E

Town of Barnstable Special Permit Decision No. 2015-057 – Chick Fil-A Inc.

Appendix F

Project Site Plans and Elevations

APPENDIX A

GROUND LEASE

by and between

MAYFLOWER CAPE COD, LLC

a Delaware limited liability company

("LANDLORD")

and

CHICK-FIL-A, INC.

a Georgia corporation

("TENANT")

CAPE COD MALL
HYANNIS, MASSACHUSETTS

GROUND LEASE

CAPE COD MALL

THIS GROUND LEASE ("Lease") is made this 25 day of SEPTEMBER, 2014, being the date on which this Lease is executed by the last party to execute ("Final Execution Date") by and between MAYFLOWER CAPE COD, LLC, a Delaware limited liability company ("Landlord"), and CHICK-FIL-A, INC., a Georgia corporation ("Tenant");

WITNESSETH THAT, in consideration of the rents, covenants and agreements hereinafter set forth, such parties enter into the following agreement:

ARTICLE 1.
BASIC LEASE INFORMATION

Section 1.1 Basic Lease Information.

This Section 1.1 is a summary of the basic terms set forth in this Lease. In addition to the other provisions which are elsewhere defined in this Lease, the following, whenever used in this Lease, shall have the meanings set forth in this Section 1.1:

(a) **Center:** Cape Cod Mall, situated in the City of Hyannis, County of Barnstable, State of Massachusetts, as shown on EXHIBIT B.

(b) **Landlord's Tract:** That portion of the Center owned and/or ground leased by Landlord from time to time, together with any other real property acquired and/or ground leased by Landlord and added thereto.

(c) **Premises:** An outlot as described in EXHIBIT A and as outlined on EXHIBIT B, containing approximately 1.72 acres. Landlord shall have the right to change the outlot designation (but not the acreage or boundary lines) upon written notice to Tenant.

(d) **Building Floor Area:** Not to exceed 5,000 square feet (to be adjusted to the actual square footage of Tenant's building upon completion).

(e) **Initial Term:** Fifteen (15) full Lease Years.

(f) **Options to Renew:** Three (3) options of five (5) year terms.

(g) **Inspection Period:** The period of time commencing on the day after the expiration of the Initial Condition Period (as defined in Section 3.1) and expiring on the expiration of the last to expire of the Conditions Periods (as defined in Section 3.2).

(h) **Commencement Date:** The date which is thirty (30) days after the expiration of the Inspection Period.

IN WITNESS WHEREOF, Tenant has signed and sealed this Lease as of the 17th day of September, 2014.

TENANT:

CHICK-FIL-A, INC., a Georgia corporation

Signatory No. 1

By: _____

Printed: B. Tommy Pearson
Vice President and Assistant General Counsel

Its: _____

Signatory No. 2

By: _____

Printed: B. Lynn Chastain
Vice President and General Counsel

Its: _____

Federal Tax ID # of Tenant: 58-0941582

APPENDIX B

PROPOSED NONRESIDENTIAL LOADING CALCULATIONS

Chick-fil-A Restaurant (104 Enterprise Road, Hyannis, MA):

Lot Size: 1.74 acres (75,946 ft²)
Impervious Surfaces: Roof Area: 6,076 ft²; Paving Area: 44,711 ft²
Natural Area: 26,114 ft²; Lawn Area: 12,120 ft²

WASTEWATER *(project connects to municipal sewer, no onsite sewage disposal system)*

$$\left[\ \frac{\quad}{\quad}\ \right]\left[\ \frac{\quad}{\quad}\ \right] \qquad \left[\ \frac{\quad}{\quad}\ \right]$$

IMPERVIOUS SURFACES

6,076 ft² $\left[\frac{40\text{ in}}{\text{yr}}\right]\left[\frac{\text{ft}}{12\text{ in}}\right]\left[\frac{28.32\text{ L}}{\text{ft}^3}\right]\left[\frac{1\text{ yr}}{365\text{ d}}\right]$ = **1,571 L/d** $\left[\frac{0.75\text{ mg}}{\text{L}}\right]$ = **1,178 mg/d**

44,711 ft² $\left[\frac{40\text{ in}}{\text{yr}}\right]\left[\frac{\text{ft}}{12\text{ in}}\right]\left[\frac{28.32\text{ L}}{\text{ft}^3}\right]\left[\frac{1\text{ yr}}{365\text{ d}}\right]$ = **11,563 L/d** $\left[\frac{1.5\text{ mg}}{\text{L}}\right]$ = **17,345 mg/d**

LAWN

12,120 ft² $\left[\frac{3\text{ lbs}}{1{,}000\text{ ft}^2\text{*yr}}\right]\left[\frac{1\text{ yr}}{365\text{ d}}\right]\left[\frac{454{,}000\text{ mg}}{\text{lb}}\right]\left[\ 0.25\ \right]$ = **11,306 mg/d**

NATURAL

1.74 acres $\left[\frac{43{,}560\text{ ft}^2}{\text{acre}}\right]$ = 75,946 ft²; 75,946 ft² - 49,832 ft² = 26,114 ft²

26,114 ft² $\left[\frac{1.5\text{ ft}}{\text{yr}}\right]\left[\frac{28.32\text{ L}}{\text{ft}^3}\right]\left[\frac{1\text{ yr}}{365\text{ d}}\right]$ = **3,039 L/d**

SUMMARY

$$\frac{1{,}178 + 17{,}345 + 11{,}306\text{ mg}}{1{,}571 + 11{,}563 + 3{,}039\text{ liters}} = \frac{29{,}829\text{ mg}}{16{,}173\text{ liters}} = \boxed{1.90\text{ ppm}}$$

EXISTING NONRESIDENTIAL LOADING CALCULATIONS

104 Enterprise Road, Hyannis, MA:

Lot Size: 1.74 acres (75,946 ft²)
Impervious Surfaces: Paving Area: 59,418 ft²
Natural Area: 16,528 ft²; Lawn Area: 16,528 ft²

WASTEWATER (*no onsite sewage disposal system)*

$$\left[\ \frac{\quad}{\quad}\ \right]\left[\ \frac{\quad}{\quad}\ \right] \qquad \left[\ \frac{\quad}{\quad}\ \right]$$

IMPERVIOUS SURFACES

$$\left[\frac{40\text{ in}}{\text{yr}}\right]\left[\frac{\text{ft}}{12\text{ in}}\right]\left[\frac{28.32\text{ L}}{\text{ft}^3}\right]\left[\frac{1\text{ yr}}{365\text{ d}}\right] = \qquad \left[\frac{0.75\text{ mg}}{\text{L}}\right] =$$

$$59{,}418\text{ ft}^2\left[\frac{40\text{ in}}{\text{yr}}\right]\left[\frac{\text{ft}}{12\text{ in}}\right]\left[\frac{28.32\text{ L}}{\text{ft}^3}\right]\left[\frac{1\text{ yr}}{365\text{ d}}\right] = \mathbf{15{,}367\text{ L/d}} \qquad \left[\frac{1.5\text{ mg}}{\text{L}}\right] = \mathbf{23{,}051\text{ mg/d}}$$

LAWN

$$16{,}528\text{ ft}^2\left[\frac{3\text{ lbs}}{1{,}000\text{ ft}^2\text{*yr}}\right]\left[\frac{1\text{ yr}}{365\text{ d}}\right]\left[\frac{454{,}000\text{ mg}}{\text{lb}}\right]\left[\ 0.25\ \right] = \mathbf{15{,}418\text{ mg/d}}$$

NATURAL

$$1.74\text{ acres}\left[\frac{43{,}560\text{ ft}^2}{\text{acre}}\right] = 75{,}946\text{ ft}^2;\quad 75{,}946\text{ ft}^2 - 59{,}418\text{ ft}^2 = 16{,}528\text{ ft}^2$$

$$16{,}528\text{ ft}^2\left[\frac{1.5\text{ ft}}{\text{yr}}\right]\left[\frac{28.32\text{ L}}{\text{ft}^3}\right]\left[\frac{1\text{ yr}}{365\text{ d}}\right] = \mathbf{1{,}924\text{ L/d}}$$

SUMMARY

$$\frac{23{,}051 + 15{,}418\text{ mg}}{15{,}367 + 1{,}924\text{ liters}} = \frac{38{,}469\text{ mg}}{17{,}291\text{ liters}} = \boxed{\mathbf{2.22\text{ ppm}}}$$

APPENDIX C

Chemicals in the Restaurant

Essential Information about Chemicals in the Restaurant

- It is important to store all chemicals in designated containers and spray bottles and to store them away from food and food prep areas. Never mix chemicals as this can be hazardous.

FOOD SAFETY

- A Safety Data Sheet (SDS) that meets OSHA requirements must be available for every chemical used in the Restaurant.
  - All Team Members must know where to find SDS, and be able to understand and apply the information found on the SDS.
  - SDS are typically kept on file in the office.
  - If an SDS is missing, it must be added promptly. Many data sheets are available on @*Chick-fil-A*; others can typically be found by doing an online search.

GOJO Products

Only Micrell® hand soap and Purell® hand sanitizer are approved for use in the Restaurant, both at hand sinks and in Restrooms.

Chemical Product		Used For	Source
Antibacterial hand soap (Micrell®)		Washing hands	Pre-packaged refill container
Hand sanitizer (Purell®)		Sanitizing hands	Pre-packaged refill container

Confidential and Proprietary Information – Not for Distribution Outside the Chick-fil-A System
© 2003-2015 CFA Properties, Inc.

Ecolab® QSR (Kay® Chemical) Program

Chick-fil-A, Inc. recommends the Kay chemical program for Restaurant cleaning and sanitation.

- The system is designed to be effective and easy to use for cleaning food service environments, while reducing costs and food safety risks by preventing improper dilution ratios.
- Kay chemicals are color-coded to make it easy to identify which chemical/bottle to use.
- Chick-fil-A, Inc. also recommends Kay SolidSense™ cleaning chemicals for dish detergent, sanitizer and floor cleaner.

Chemical Product		Used For	Source
Multi-surface and glass cleaner		Surfaces, glass, mirrors	Dispenser in mop sink
Solid floor cleaner (Kay SolidSense™ FloorCare A/B)		Floors	Dispensing hose at mop sink
Heavy Duty Degreaser		Removing oil and heavy dirt (e.g., in mop sink, parking lot, Dumpster area)	Dispenser in mop sink
Solid dish detergent (Kay SolidSense™ All Purpose Super Concentrate)		Washing dishes	Dispensing hose at compartment sink
Solid Sanitizer (Kay SolidSense™ Sanitizer)		Sanitizing surfaces throughout the Restaurant, including dishes	Dispensing hose at compartment sink

Confidential and Proprietary Information – Not for Distribution Outside the Chick-fil-A System
© 2003-2015 CFA Properties, Inc.

Chemical Product		Used For	Source
Powdered sanitizer (Kay-5® Sanitizer)		Sanitizing drink tower nozzles/ diffusers, BIB connectors and freezing chamber of ice cream machine	Packet; mixed in 2.5 gallons of water
Disinfectant (Kay Insta-Use Disinfectant)		Disinfecting after body fluid accidents; disinfecting Playground	Cartridge; added to water in spray bottle
Sizzle®		Cleaning hot contact toaster surfaces and breakfast griddle	Pre-packaged in bottle
Release agent		Pre-treating Garland grill	Pre-packaged in bottle
Super contact cleaner		Cleaning Garland grill and oven	Pre-packaged in bottle
Restroom cleaner		Cleaning restroom sinks and toilets/urinals	Pre-packaged in bottle
Drain treatment (Bio-Shield®)		Maintaining drains	Pre-packaged in bottle

Confidential and Proprietary Information – Not for Distribution Outside the Chick-fil-A System
© 2003-2015 CFA Properties, Inc.

Chemical Product		Used For	Source
Specialty cleaner and polish		Polishing stainless steel surfaces that are not food contact surfaces	Pre-packaged in bottle
Deodorizer (Aromist®)		Deodorizing Restrooms	Pre-packaged refill can

Sani Professional® Products

There are two types of pre-moistened, disposable cleaning/sanitizing wipes approved for use in Restaurants – one for use in back of house, the other for use in Dining Room.

Chemical Product		Used For	Source
Surface sanitizer wipes (package with red stripe) (Table Turners® No-rinse Sanitizing wipes)		Cleaning and sanitizing surfaces in back of house	Dispenser package
Table Turners® cleaning wipes (package with green stripe)		Cleaning Dining Room during peak sales periods	Dispenser package

Confidential and Proprietary Information – Not for Distribution Outside the Chick-fil-A System
© 2003-2015 CFA Properties, Inc.

APPENDIX D

STORMWATER DRAINAGE ANALYSIS

FOR

PROPOSED

104 ENTERPRISE ROAD
Village of Hyannis, Massachusetts
Barnstable County

Prepared by:

BOHLER ENGINEERING
352 Turnpike Road
Southborough, MA 01772
Tel: (508) 480-9900
Fax: (508) 480-9080

William D. Goebel, P.E.
Massachusetts P.E. License #42644

August 21, 2015
BEPC #W141096

APPENDICES

A. STORMWATER ATTENUATION CALCULATIONS (USING RATIONAL METHOD)

B. PIPE SIZING CALCULATIONS

C. OPERATION & MAINTENANCE PLAN

D. BORING LOGS

DRAINAGE ANALYSIS

The table below demonstrates that the post-redevelopment runoff rates associated with all storm events including the 2-year, 10-year, 25-year and 100-year storms will be decreased as a result of the proposed development.

Summary of Total Stormwater Runoff Rates Leaving the Site

Frequency (yrs)	Existing Flow (CFS)	Proposed Flow (CFS)	Change (CFS)
2	4.42	3.96	-0.46
10	6.03	5.40	-0.63
25	7.10	6.36	-0.74
100	8.98	8.04	-0.94

This is a result of the decrease in impervious areas and the implementation of the proposed stormwater management system including deep-sump hooded catch basins and a bio-retention basin. The below bullets also highlight the stormwater management system's improvements illustrated on the enclosed drawings prepared by Bohler Engineering.

- A portion of the newly redeveloped areas will be collected via deep sump catch basins with water quality hoods and conveyed through a series of pipe networks before being routed to the municipal drainage system within Enterprise Road.
- The stormwater runoff rates entering the municipal drainage system will have been reduced for all storm events under post-redevelopment conditions as demonstrated by the below table.
- Groundwater recharge will be improved through the increase in pervious / landscape areas and the bio-retention basin under post-redevelopment conditions. Total pervious / landscaped area will be increased by approximately 9,285 square feet.
- Existing drainage patterns have maintained under post-redevelopment conditions and no new outfalls or stormwater conveyances are being proposed. The uncontrolled sheet flow conditions that previously existed have been improved via a controlled pipe network system.
- Stormwater Quality will be improved through the increase in pervious / landscaped areas along with the new deep sump hooded catch basins and bio-retention basin.

Calculations documenting the above runoff rates are included within the Appendix of this analysis along with pipe sizing calculations.

APPENDIX A

STORMWATER ATTENTUATION CALCULATIONS

(USING RATIONAL METHOD)

SUMMARY OF DRAINAGE CALCULATIONS

"C" BEFORE: EXISTING SITE

CONDITION	AREA (SF)	%	COEFF.	FRACT. COMP.
ASPHALT/BUILDING	59,418	78.2%	0.9	0.70
LANDSCAPE / GRASS	16,528	21.8%	0.3	0.07
TOTAL	75,946	100.00%	"C" COMPOS.	=0.77

"C" AFTER: PROPOSED SITE

CONDITION	AREA (SF)	%	COEFF.	FRACT. COMP.
ASPHALT/BUILDING	50,133	66.0%	0.9	0.59
LANDSCAPE / GRASS	25,813	34.0%	0.3	0.10
TOTAL	75,946	100.00%	"C" COMPOS.	=0.69

APPROXIMATE TIME OF CONCENTRATIONS & STORM INTENSITIES

TC =5 MIN.(TIME OF CONCENTRATION - EXISTING)
TC =5 MIN.(TIME OF CONCENTRATION - PROPOSED)
I =3.3IN./HR.(2 YR STORM INTENSITY)
I =4.5IN./HR.(10 YR STORM INTENSITY)
I =5.3IN./HR.(25 YR STORM INTENSITY)
I =6.7IN./HR.(100 YR STORM INTENSITY)

DETERMINE OFF-SITE RUNOFF - TOTAL SITE:

	2 YR	10 YR	25 YR	100 YR	
"Q" EXISTING = "C" COMP. X I X AREA =	4.42	6.03	7.10	8.98	CFS
"Q" PROP. = "C" COMP. X I X AREA =	3.96	5.40	6.36	8.04	CFS
NET DECREASE IN RUNOFF =	**-0.46**	**-0.63**	**-0.74**	**-0.94**	**CFS**

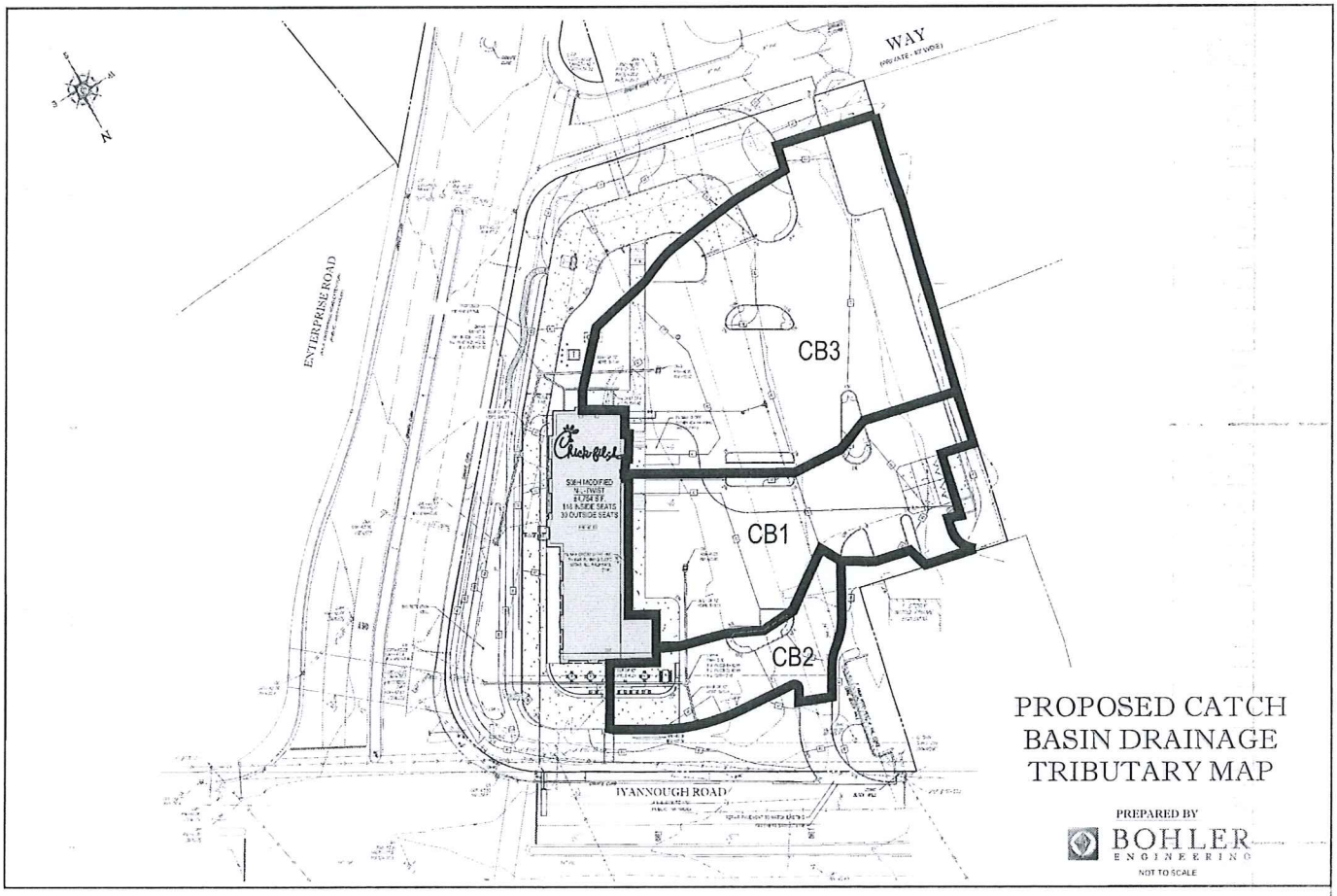
NOTE: NO INCREASE IN RUNOFF DUE TO INCREASE PERVIOUS SURFACES (9,285 SF).

DUE TO A NET DECREASE IN RUNOFF, NO DETENTION IS PROPOSED. DRAINAGE IMPROVEMENTS INCLUDE DEEP SUMP CATCH BASINS WITH OIL/WATER HOODS AND PREVENTING STORMWATER FROM SHEETFLOWING ONTO ADJACENT ROADWAYS AND PROPERTIES

APPENDIX B

PIPE SIZING CALCULATIONS

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	DRAINAGE COMPUTATIONS FOR 25-YEAR STORM EVENT																
2	LOCATION		IMPERVIOUS AREA			OTHER			SUM			Q				Q	V
3	FROM	TO	A	C	CA	A	C	CA	CA	Tc	I	IxCA	D	S	n	full	full
4			(Ac)			(Ac)				(Min)	in/hr	(cfs)	(in)	(ft/ft)		(cfs)	(fps)
5	ROOF	DMH-B	0.120	0.9	0.11	0.000	0.3	0.00	0.11	5	6.0	0.65	6	0.020	0.013	0.79	4.04
6																	
7	CB-2	DMH-A	0.120	0.9	0.11	0.005	0.3	0.00	0.11	5	6.0	0.66	12	0.010	0.013	3.56	4.54
8																	
9	CB-1	DMH-A	0.280	0.9	0.25	0.020	0.3	0.01	0.26	5	6.0	1.55	12	0.010	0.013	3.56	4.54
10																	
11	CB-3	DMH-B	0.410	0.9	0.37	0.110	0.3	0.03	0.40	5	6.0	2.41	12	0.010	0.013	3.56	4.54
12																	
13	DMH-B	EX. CB	0.530	0.9	0.48	0.110	0.3	0.03	0.51	5	6.0	3.06	12	0.015	0.013	4.36	5.56
14																	
15	DMH-A	EX. CB	0.400	0.9	0.36	0.025	0.3	0.01	0.37	5	6.0	2.21	12	0.010	0.013	3.56	4.54
16																	
17	CB-4	EX. CB's	0.160	0.9	0.14	0.170	0.3	0.05	0.20	5	6.0	1.17	12	0.010	0.013	3.56	4.54
18																	


WAY
ENTERPRISE ROAD
CB3
CB1
CB2
IVANNOUGH ROAD
PROPOSED CATCH
BASIN DRAINAGE
TRIBUTARY MAP
PREPARED BY
BOHLER
ENGINEERING
NOT TO SCALE

APPENDIX C

OPERATION & MAINTENANCE PLAN

LONG TERM STORMWATER SYSTEM OPERATION AND MAINTENANCE PLAN

The Stormwater Management Standards

Standard 9: A Long –Term Operation and Maintenance (O&M) Plan shall be developed and implemented to ensure that stormwater management systems function as designed.

The Long-term Operation and Maintenance Plan shall at a minimum identify:

1. Stormwater management system(s) owners;
2. The party or parties responsible for operation and maintenance, including how future property owners will be notified of the presence of the stormwater management system and the requirement for proper operation and maintenance;
3. The routine and non-routine maintenance tasks to be undertaken after construction is complete and a schedule for implementing those tasks;
4. Plan that is drawn to scale and shows the location of all stormwater BMPs in each treatment train along with the discharge point;
5. Description and delineation of public safety features; and
6. Estimated operations and maintenance budget.

The Operation and Maintenance Plan shall identify best management practices for implementing maintenance activities in a manner that minimizes impacts to wetland resource areas.

The Proposal is for a private development.

Stormwater Management System

Owner: Simon/Cape Cod LLC Lessee: Chick-fil-A (during lease term)

General Contractor: TBD

The General Contractor shall have all logs and reports as stated within the Stormwater Pollution Prevention Plan readily available at all times for inspection by the City of Quincy.

Method of recording for future Owners

☐ Deed
☐ Order of Conditions
☐ Other: _____

DRAINAGE SYSTEM

The following components shall be inspected:

- Inspection during or immediately following initial installation of sediment controls.
- Inspection following severe rainstorms to check for damage to controls.
- Inspection prior to seeding deadlines, particularly in the fall.
- Final inspection of projects nearing completion to ensure that temporary controls have been removed, stabilization is complete, drainage ways are in proper condition, and the final contours agree with the proposed contours on the approved plan.

Storm Events
2 year storm= 3.3 inches
10 year storm=4.5 inches
25 year storm=5.3 inches
100 year storm=6.7 inches

After the occurrence of any of the storm events noted above, or any other heavy rainfall that may have affected stormwater management facilities, the designated inspector shall inspect the components listed below for evidence of scouring or erosion, excessive sediment deposits, clogging of stormwater structures, or any other condition that may adversely affect stormwater management operations.

If any of these conditions are observed, then appropriate actions should be taken to restore the stormwater management facility so that it operates as intended.

COMPONENT: Infiltration Basins / Bioretention

RESPONSIBILITY:
During Construction: General Contractor - TBD
Post Construction: Chick-fil-A (for duration of lease)

ACTION: Preventative Maintenance, Inspection & Mowing

FREQUENCY:
During Construction

1. Cleaning – As needed during construction or whenever the sediment depth is 6" deep.
2. Inspection – As needed during construction but once a month at a minimum.

Post Construction

1. Preventative Maintenance- Two times per year
2. Inspection to ensure proper functioning – After every major storm during the first 3 months of operation and twice a year thereafter.
3. Mow the buffer area and side slopes. Remove all grass clippings and accumulated organic matter- Twice yearly during the growing season.
4. Inspect and clean pretreatment devices- After every major storm during the first 3 months of operation and twice a year thereafter.

DESCRIPTION: The Infiltration & Bioretention pond shall be inspected a minimum of two times per year to ensure that they are operating as intended and that all components are stable and in working order. Inspections shall be by qualified personnel. During the growing season, the ponds shall be mowed at least twice, with additional cuttings performed as needed. All tree saplings of any species will be removed from embankments and the pond bottom. The inlet to the pond shall be inspected for erosion and sedimentation, and rip-rap shall be promptly repaired as needed. Sediment collecting in the pond bottom shall be inspected four times annually, and removal shall commence any time the sediment reaches a depth of six inches anywhere in the pond. Any pond sediments removed shall be disposed of in accordance with the latest DEP guidelines for stormwater sediment disposal.

Inspections:

- Inlet and Outlet condition
- Sediment Accumulation
- Oil/Gas Sheen in water
- General Inspection of basin

BUDGET: Inspection & Cleanings - $250/ yr based on semi-annual inspections & cleanings

COMPONENT: Deep sump catch basins

RESPONSIBILITY:
During Construction: General Contractor - TBD
Post Construction: Chick-fil-A (for duration of lease)

ACTION: Cleaning (Sediment removal / sump cleaning) and Inspection

FREQUENCY:
During Construction

1. Cleaning – As needed during construction or whenever the depth of deposits is greater than or equal to one half the depth from the bottom invert of the lowest pipe.
2. Inspection – Weekly during construction

Post Construction

1. Cleaning – Twice a year or whenever the depth of deposits is greater than or equal to one half the depth from the bottom invert of the lowest pipe in the basin.
2. Inspection – Twice a year

DESCRIPTION: Basins are to be cleaned twice per year. The General Contractor will monitor sumps and remove sediments as necessary. The Owner will monitor sumps post construction on an as needed basis. Precautions shall take place to maintain the integrity of the oil trapping hoods during cleaning. The hoods shall be inspected and repaired as necessary. Accumulated Hydrocarbon shall be collected separately from accumulated sediment. All material shall be disposed of in accordance with DEP regulations.

Inspections:

- Frame and Grate
- Inlet and Outlet condition
- Cracks and settlement & joint failure & leaking
- Sediment Accumulation
- Oil/Gas Sheen in water
- Condition of hood
- General Inspection of structure

BUDGET: Inspection/cleaning- $250/ per basin per yr based on inspections and cleanings twice a year.

SAMPLE STORMWATER OPERATION & MAINTAINENCE ACTIVITY FORM

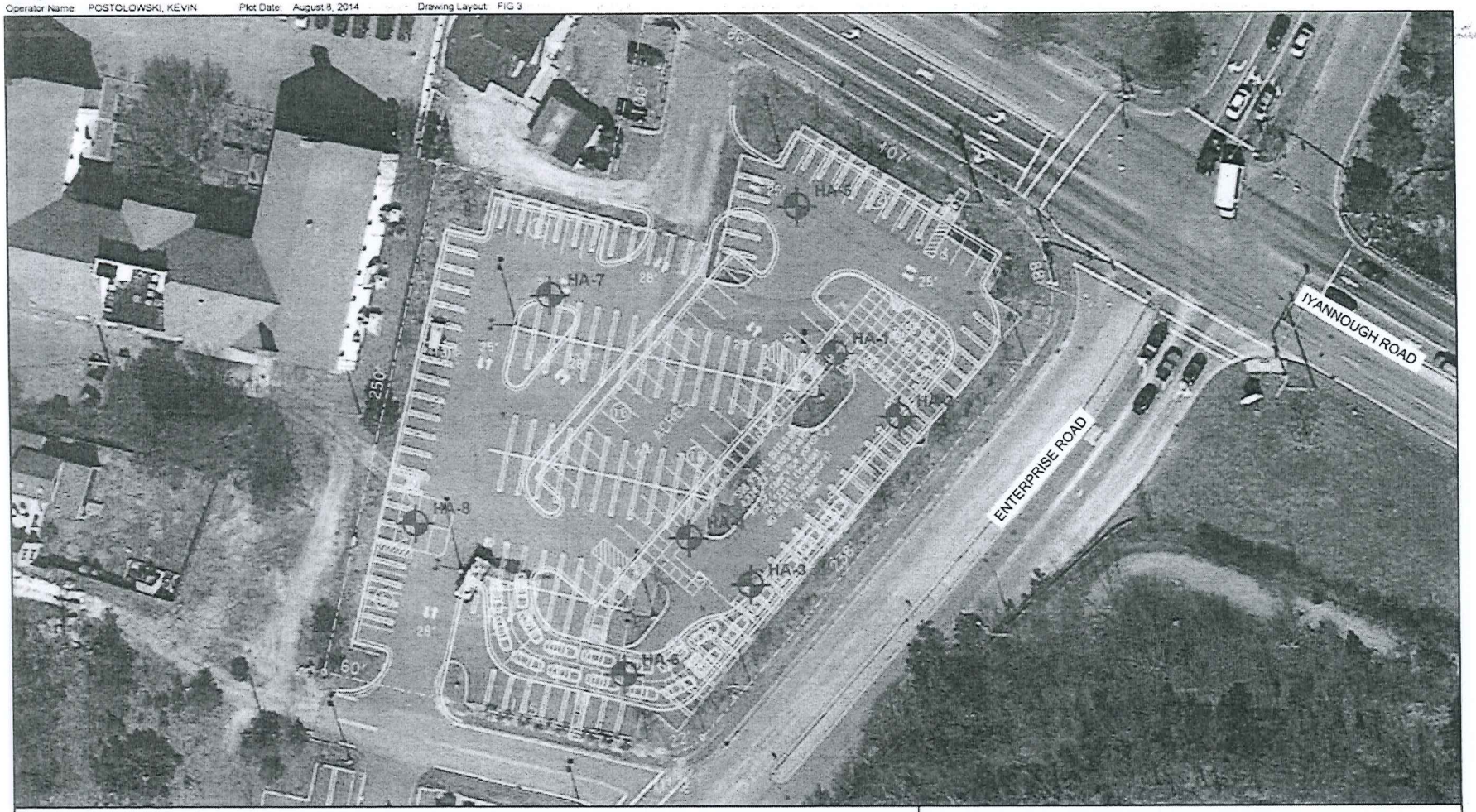
NOTE: The owner is responsible for maintaining an accurate and complete log of inspection & maintenance activities, including but not limited to, inspections, cleanings & repairs.

Inspection / Maintenance Activity	Contractor Name	Date	Observation / Action

APPENDIX D

BORING LOGS

Drawing Name: G:\41261 CHICK-FIL-A HYANNIS MA\GLOBAL\CAD\41261-001-0002 SITE-ELP.DWG
Operator Name: POSTOLOWSKI, KEVIN Plot Date: August 8, 2014 Drawing Layout: FIG 3



LEGEND

HA-6 DESIGNATION AND APPROXIMATE LOCATION OF TEST BORINGS DRILLED ON 23 JULY 2014 BY GEOLOGIC-EARTH EXPLORATION, INC. OF NORFOLK, MASSACHUSETTS.

NOTE

1. AERIAL IMAGE, DATED 11 MARCH 2012, TAKEN ELECTRONICALLY FROM GOOGLE EARTH.

N
W E
S

0 60 120
SCALE IN FEET

HALEY & ALDRICH

PROPOSED CHICK-FIL-A STORE # 03545
IYANNOUGH ROAD ROUTE 132 AND ENTERPRISE ROAD
HYANNIS, MASSACHUSETTS

EXPLORATION LOCATION PLAN

SCALE AS SHOWN
AUGUST 2014

FIGURE 3

HALEY & ALDRICH

TEST BORING REPORT

Boring No. HA-1

Project Proposed Chick-fil-A #3545 Iyannough Road (Route 132) & Enterprise Road, Hyannis, MA
Client Chick-fil-A, Inc.
Contractor Geologic-Earth Exploration, Inc.

File No. 41261-001
Sheet No. 1 of 1
Start 23 July 2014
Finish 23 July 2014
Driller M. Ferreria
H&A Rep. B. Govoni
Elevation 47.0 (est.)
Datum NAVD 88
Location Refer to Figure 3

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HSA	S	--	Rig Make & Model: CME 75 Truck
Inside Diameter (in.)	3 1/4	1 3/8	--	Bit Type: Cutting Head
Hammer Weight (lb)	-	140	-	Drill Mud: None
Hammer Fall (in.)	-	30	-	Casing: HSA
				Hoist/Hammer: Cat-Head Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				46.7		-BITUMINOUS PAVEMENT-										
	6 8 15 19	S1 12	0.3 2.3	46.2 0.8	SP SW	Medium dense dark brown poorly graded SAND (SP) -FILL- PID = ND ppm	15	5	10	40	25	5				
	12 14 12 16	S2 14	2.3 4.3			Medium dense light orange-brown well-graded SAND (SW), no structure, no odor, moist PID = ND ppm Similar to above (from 1 ft-2.3 ft) PID = ND ppm	5	5	30	40	20	-				
5	12 6 8 7	S3 14	4.3 6.3			Medium dense light orange-brown poorly graded SAND with gravel (SP), no structure, no odor, moist PID = ND ppm	5	10	30	40	15	-				
				39.0 8.0												
	9 6 6 6	S4 12	9.0 11.0		SP	Medium dense tan poorly-graded SAND (SP), no structure, no odor, moist PID = ND ppm	5	-	40	45	10	-				
10						Note: Running sands encountered, approximately 21-in. of blow-in occurred											
	1 3 8 12	S5	14.0 16.0		SP	Similar to above, except wet -GLACIAL OUTWASH- PID = ND ppm	5	-	40	45	10	-				
15				28.5 18.5		BOTTOM OF EXPLORATION 18.5 FT										
						Backfilled with cuttings. Installed cold patch at surface.										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
07/23/2014		Not Measured			

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 18.5
Rock Cored (ft) -
Samples 7S
Boring No. HA-1

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

*Note: Maximum particle size is determined by direct observation within the limitations of sampler size.

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-JB07-1.GLB HA-TB+CORE+WELL-07-1.GDT \\HAR\COMMON\41261-CFA-HYANNIS\GINT\41261-001 LOGS.GPJ 25 Feb 15

HALEY & ALDRICH

TEST BORING REPORT

Boring No. HA-2

Project Proposed Chick-fil-A #3545 Iyannough Road (Route 132) & Enterprise Road, Hyannis, MA
Client Chick-fil-A, Inc.
Contractor Geologic-Earth Exploration, Inc.

File No. 41261-001
Sheet No. 1 of 1
Start 23 July 2014
Finish 23 July 2014
Driller M. Ferreria
H&A Rep. B. Govoni
Elevation 46.0 (est.)
Datum NAVD 88
Location Refer to Figure 3

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HSA	S	--	Rig Make & Model: CME 75 Truck
Inside Diameter (in.)	3 1/4	1 3/8	--	Bit Type: Cutting Head
Hammer Weight (lb)	-	140	-	Drill Mud: None
Hammer Fall (in.)	-	30	-	Casing: HSA
				Hoist/Hammer: Cat-Head Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				45.7		BITUMINOUS PAVEMENT-										
	19 13 17 14	S1 20	0.5 2.5	0.3	SP-SM	Medium dense yellow-brown poorly-graded SAND with silt (SP-SM), no structure, no odor, moist to dry	-	5	5	70	10	10				
						-FILL- PID = ND ppm										
	13 13 12 12	S2 16	2.5 4.5	43.5 2.5	SW	Medium dense yellow-brown to light brown well-graded SAND with gravel (SW), no structure, no odor, moist to dry PID = ND ppm	10	10	20	25	30	5				
5	4 7 8 9	S3 14	4.5 6.5		SW	Similar to above, except with faint stratification, occasional thin layers of coarse SAND, no odor, moist PID = ND ppm	-	15	25	35	20	5				
	7 6 7 8	S4 24	6.5 8.5	39.5 6.5	SW	Similar to above, except well-graded SAND (SW) PID = ND ppm	-	5	20	35	35	5				
10	5 6 6 6	S5 12	9.0 11.0		SW	Similar to above, except tan PID = ND ppm	-	5	20	35	35	5				
15	1 4 3 3	S6 14	14.0 16.0		SW	Similar to above, except loose and wet -GLACIAL OUTWASH- PID = ND ppm	-	-	35	40	20	5				
				30.0 16.0		BOTTOM OF EXPLORATION 16.0 FT										
						Backfilled with cuttings. Installed cold patch at surface.										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
07/23/2014	0935	0	14	16	13.42

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 16
Rock Cored (ft) -
Samples 6S
Boring No. HA-2

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

*Note: Maximum particle size is determined by direct observation within the limitations of sampler size.

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB17-1.GLB HA-TB+CORE+WELL-07-1.GDT @HARDCOMMON\41261-CFA-HYANNIS\GINT\41261-001 LOGS.GPJ 25 Feb 15

HALEY & ALDRICH

TEST BORING REPORT

Boring No. HA-3

Project Proposed Chick-fil-A #3545 Iyannough Road (Route 132) & Enterprise Road, Hyannis, MA
Client Chick-fil-A, Inc.
Contractor Geologic-Earth Exploration, Inc.

File No. 41261-001
Sheet No. 1 of 1
Start 23 July 2014
Finish 23 July 2014
Driller M. Ferreria
H&A Rep. B. Govoni
Elevation 46.0 (est.)
Datum NAVD 88
Location Refer to Figure 3

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HSA	S	--	Rig Make & Model: CME 75 Truck
Inside Diameter (in.)	3 1/4	1 3/8	--	Bit Type: Cutting Head
Hammer Weight (lb)	-	140	-	Drill Mud: None
Hammer Fall (in.)	-	30	-	Casing: HSA
				Hoist/Hammer: Cat-Head Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				45.7 / 0.3	SP	-BITUMINOUS PAVEMENT-										
	12 19 18 20	S1 22	0.5 2.5	45.0 / 1.0	SW	Medium dense dark brown to orange-brown poorly-graded SAND with gravel (SP), no odor, dry	10	5	20	40	20	5				
						-FILL-	10	10	25	30	20	5				
						PID = ND ppm										
	13 13 18 13	S2 8	2.5 4.5			Dense orange-brown well-graded SAND with gravel (SW), no odor, dry										
						PID = ND ppm										
				41.5 / 4.5												
5	8 7 8 7	S3 14	4.5 6.5		SW	Medium dense orange-brown to tan well-graded SAND with gravel (SW), faint stratification, no odor, moist to dry	10	5	30	30	20	5				
						PID = ND ppm										
				38.0 / 8.0												
	4 4 4 5	S4	9.0 11.0		SP	Loose light orange-brown poorly-graded SAND (SP), faint stratification, no odor, moist	-	-	30	50	15	5				
10						PID = ND ppm										
	4 7 9 9	S5 14	14.0 16.0		SP	0.2 in. layer of silt on top of sample Medium dense tan to light orange-brown poorly-graded SAND (SP), no structure, no odor, wet	-	-	60	20	15	5				
15				30.0 / 16.0		-GLACIAL OUTWASH-										
						PID = ND ppm										
						BOTTOM OF EXPLORATION 16.0 FT										
						Backfilled with cuttings. Installed cold patch at surface.										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
07/23/2014	1041	0	14	16	13.46

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 16
Rock Cored (ft) -
Samples 7S
Boring No. HA-3

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

*Note: Maximum particle size is determined by direct observation within the limitations of sampler size.

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-*: H&A_1607-1.GLB HA-TB+CORE+WELL-07-1.GDT \\HAR\COMMON\41261-CF\H+HYANNIS\GINT\41261-001 LOGS.GPJ 25 Feb 15

HALEY & ALDRICH

TEST BORING REPORT

Boring No. HA-4

Project Proposed Chick-fil-A #3545 Iyannough Road (Route 132) & Enterprise Road, Hyannis, MA
Client Chick-fil-A, Inc.
Contractor Geologic-Earth Exploration, Inc.

File No. 41261-001
Sheet No. 1 of 1
Start 23 July 2014
Finish 23 July 2014
Driller M. Ferreria
H&A Rep. B. Govoni
Elevation 47.0 (est.)
Datum NAVD 88
Location Refer to Figure 3

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HSA	S	--	Rig Make & Model: CME 75 Truck
Inside Diameter (in.)	3 1/4	1 3/8	--	Bit Type: Cutting Head
Hammer Weight (lb)	-	140	-	Drill Mud: None
Hammer Fall (in.)	-	30	-	Casing: HSA
				Hoist/Hammer: Cat-Head Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				46.7		-BITUMINOUS PAVEMENT-	10	5	20	40	20	5				
				0.3	SP											
	11 13 15 13	S1 18	0.5 2.5	46.2 0.8	SW	Medium dense dark brown poorly-graded SAND with gravel (SP), no odor, dry -FILL (PROBABLE BASE COURSE)- PID = ND ppm	-	5	30	35	25	5				
	28 13 10 10	S2 24	2.5 4.5		SW	Medium dense orange-brown well-graded SAND (SW), no structure, no odor, moist PID = ND ppm	-	5	30	35	25	5				
						Similar to above PID = ND ppm										
5	7 9 7 7	S3 18	4.5 6.5		SW	Similar to above PID = ND ppm	-	5	30	35	20	5				
10	6 6 7 14	S4	9.0 11.0		SW	Medium dense tan well-graded SAND (SW), faint stratification, no odor, moist PID = ND ppm	-	5	10	20	60	5				
				33.5 13.5												
15	1 2 4 4	S5	14.0 16.0		SP	Loose light orange-brown poorly-graded SAND (SP), no structure, no odor, wet, coarsening with depth -GLACIAL OUTWASH- PID = ND ppm	-	-	30	50	15	5				
				31.0 16.0		BOTTOM OF EXPLORATION 16.0 FT										
						Backfilled with cuttings. Installed cold patch at surface.										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
07/23/2014	1145	0	14	16	13.42

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 16
Rock Cored (ft) -
Samples 6S
Boring No. HA-4

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

*Note: Maximum particle size is determined by direct observation within the limitations of sampler size.

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB07-1.GLB H&A-TB+CORE+WELL-07-1.GDT \\HAR\COMMON\41261-CFA-HYANNIS\GIN\41261-001 LOGS.GPJ 25 Feb 15

HALEY & ALDRICH

TEST BORING REPORT

Boring No. HA-5

Project Proposed Chick-fil-A #3545 Iyannough Road (Route 132) & Enterprise Road, Hyannis, MA
Client Chick-fil-A, Inc.
Contractor Geologic-Earth Exploration, Inc.

File No. 41261-001
Sheet No. 1 of 1
Start 23 July 2014
Finish 23 July 2014
Driller M. Ferreria
H&A Rep. B. Govoni
Elevation 47.0 (est.)
Datum NAVD 88
Location Refer to Figure 3

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HSA	S	--	Rig Make & Model: CME 75 Truck
Inside Diameter (in.)	3 1/4	1 3/8	--	Bit Type: Cutting Head
Hammer Weight (lb)	-	140	-	Drill Mud: None
Hammer Fall (in.)	-	30	-	Casing: HSA
				Hoist/Hammer: Cat-Head Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				46.7		-BITUMINOUS PAVEMENT-										
	9	S1	0.3	0.3	SP	Medium dense dark brown poorly-graded SAND with gravel (SP), no	5	5	20	40	15	5				
	15	14	2.3	46.5	SM	structure, no odor, moist to dry	5	10	20	35	15	15				
	16			0.5		-FILL (PROBABLE BASE COURSE)-										
	18					Medium dense brown silty SAND with gravel (SM), no structure, no odor,										
	7	S2	2.3		SM	moist	5	10	20	35	15	15				
	11	16	4.3			Similar to above										
	13															
	10															
	4	S3	4.3		SM	Loose dark brown silty SAND (SM) grading into poorly-graded orange-	-	-	20	30	25	25				
5	3		6.3		SP	brown SAND (SP), no structure, no odor, moist										
	5					-GLACIAL OUTWASH-	-	-	40	50	10	-				
	4			40.7												
				6.3		BOTTOM OF EXPLORATION 6.3 FT										
						Backfilled with cuttings. Installed cold patch at surface.										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
07/23/2014		Not Encountered			

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 6.3
Rock Cored (ft) -
Samples 2S
Boring No. HA-5

Field Tests:
Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

*Note: Maximum particle size is determined by direct observation within the limitations of sampler size.
Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB07-1.GLB HA-TB-CORE-WELL-07-1.GDT \\HAR\COMMON\41261-CFA-HYANNIS\GINT\41261-001 LOGS.GPJ 25 Feb 15

HALEY & ALDRICH — TEST BORING REPORT

Boring No. HA-6

Project: Proposed Chick-fil-A #3545 Iyannough Road (Route 132) & Enterprise Road, Hyannis, MA
Client: Chick-fil-A, Inc.
Contractor: Geologic-Earth Exploration, Inc.

File No. 41261-001
Sheet No. 1 of 1
Start 23 July 2014
Finish 23 July 2014
Driller M. Ferreria
H&A Rep. B. Govoni
Elevation 47.0 (est.)
Datum NAVD 88
Location Refer to Figure 3

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HSA	S	--	Rig Make & Model: CME 75 Truck
Inside Diameter (in.)	3 1/4	1 3/8	--	Bit Type: Cutting Head
Hammer Weight (lb)	-	140	-	Drill Mud: None
Hammer Fall (in.)	-	30	-	Casing: HSA
				Hoist/Hammer: Cat-Head Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				46.7		-BITUMINOUS PAVEMENT-										
				0.3	SP		10	5	30	30	20	5				
	11	S1	0.5	46.3	SW	Medium dense dark brown poorly-graded SAND (SP), no structure, no odor, moist	10	5	25	30	25	5				
	12	16	2.5	0.7		-FILL-										
	19															
	12					Medium dense orange-brown well-graded SAND with gravel (SW), no structure, no odor, moist										
	10	S2	2.5		SW	Medium dense tan to orange-brown well-graded SAND (SW), no structure, no odor, moist	-	5	25	40	25	5				
	11	14	4.5													
	12															
	16															
5	10	S3	4.5		SW	Similar to above, except with gravel	10	5	25	30	25	5				
	10		6.5			-GLACIAL OUTWASH-										
	10															
	8															
				40.5												
				6.5		BOTTOM OF EXPLORATION 6.5 FT										
						Backfilled with cuttings. Installed cold patch at surface.										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
07/23/2014		Not Encountered			

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 6.5
Rock Cored (ft) -
Samples 3S
Boring No. HA-6

Field Tests: Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

*Note: Maximum particle size is determined by direct observation within the limitations of sampler size.
Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-1B07-1.GLB HA-TB+CORE+WELL-07-1.GDT \\HARICOMMON\41261-ICFA-HYANNIS\GINT\41261-001.LOGS.GPJ 25 Feb 15

HALEY & ALDRICH

TEST BORING REPORT

Boring No. HA-7

Project Proposed Chick-fil-A #3545 Iyannough Road (Route 132) & Enterprise Road, Hyannis, MA
Client Chick-fil-A, Inc.
Contractor Geologic-Earth Exploration, Inc.

File No. 41261-001
Sheet No. 1 of 1
Start 23 July 2014
Finish 23 July 2014
Driller M. Ferreria
H&A Rep. B. Govoni
Elevation 47.0 (est.)
Datum NAVD 88
Location Refer to Figure 3

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HSA	S	--	Rig Make & Model: CME 75 Truck
Inside Diameter (in.)	3 1/4	1 3/8	--	Bit Type: Cutting Head
Hammer Weight (lb)	-	140	-	Drill Mud: None
Hammer Fall (in.)	-	30	-	Casing: HSA
				Hoist/Hammer: Cat-Head Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				46.7		-BITUMINOUS PAVEMENT-										
	17	S1	0.3	0.3	SP	Dense dark brown poorly graded SAND with gravel (SP), likely drove	25	5	20	30	15	5				
	20	10	2.3	46.4	SW	sampler into a cobble, no structure, no odor, dry to moist	-	10	35	35	20	-				
	25			0.6		-FILL (PROBABLE BASE COURSE)-										
	17					Medium dense tan to orange-brown well-graded SAND with gravel (SW), no structure, no odor, moist										
	19	S2	2.3													
	16	14	4.3													
	13															
	12				SW	Similar to above, except fining with depth	-	5	35	35	25					
	8	S3	4.3													
5	5	16	6.3													
	6			41.5												
	8			5.5	SP	Medium dense orange-brown poorly-graded SAND (SP), no structure, no odor, moist	-	-	30	60	10					
				40.7												
				6.3		-GLACIAL OUTWASH-										
						BOTTOM OF EXPLORATION 6.5 FT										
						Backfilled with cuttings. Installed cold patch at surface.										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
07/23/2014		Not Encountered			

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 6.3
Rock Cored (ft) -
Samples 3S
Boring No. HA-7

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity** N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

*Note: Maximum particle size is determined by direct observation within the limitations of sampler size.
Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HA-TEST BORING-07-1 HA-LIB07-1.GLB HA-TB+CORE+WELL-07-1.GDT \\HARCOMMON\41261-GFA-HYANNIS\GINT\41261-001 LOGS.GPJ 25 Feb 15

HALEY & ALDRICH

TEST BORING REPORT

Boring No. HA-8

Project Proposed Chick-fil-A #3545 Iyannough Road (Route 132) & Enterprise Road, Hyannis, MA
Client Chick-fil-A, Inc.
Contractor Geologic-Earth Exploration, Inc.

File No. 41261-001
Sheet No. 1 of 1
Start 23 July 2014
Finish 23 July 2014
Driller M. Ferreria
H&A Rep. B. Govoni
Elevation 48.0 (est.)
Datum NAVD 88
Location Refer to Figure 3

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HSA	S	--	Rig Make & Model: CME 75 Truck
Inside Diameter (in.)	3 1/4	1 3/8	--	Bit Type: Cutting Head
Hammer Weight (lb)	-	140	-	Drill Mud: None
Hammer Fall (in.)	-	30	-	Casing: HSA
				Hoist/Hammer: Cat-Head Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				47.7		-BITUMINOUS PAVEMENT-										
	12	S1	0.3	0.3	SP	Medium dense dark brown poorly-graded SAND with gravel (SP), no	15	5	20	40	15	5				
	12	16	2.3	47.5	SP	structure, no odor, moist to dry	-	-	10	70	20	-				
	13			0.5		-FILL (PROBABLE BASE COURSE)-										
	18					Medium dense tan to light orange-brown poorly-graded SAND (SP), faint										
	13	S2	2.3		SP	stratification, no odor, moist	-	-	10	70	20	-				
	12	18	4.3			Similar to above										
	11															
	12															
	12	S3	4.3		SP	Medium dense tan poorly-graded SAND (SP), occasional layering, no odor,	-	-	10	65	25	-				
5	13	18	6.3			moist										
	13															
	14					-GLACIAL OUTWASH-										
				41.7												
				6.3		BOTTOM OF EXPLORATION 6.3 FT										
						Backfilled with cuttings. Installed cold patch at surface.										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
07/23/2014		Not Encountered			

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 6.3
Rock Cored (ft) -
Samples 3S
Boring No. HA-8

Field Tests: Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

*Note: Maximum particle size is determined by direct observation within the limitations of sampler size.
Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB07-1.GLB HA-TB+CORE+WELL-07-1.GDT 9/HAR/COMMON/41261-CFA-HYANNIS/GINT/41261-021 LOGS.GPJ 25 Feb 15

APPENDIX E

BARNSTABLE TOWN CLERK

2015 DEC 22 PM 2:50

Town of Barnstable
Zoning Board of Appeals
Decision and Notice

Special Permit No. 2015-057 – Chick-Fil-A, Inc.
Section 240-39(M) or Modification of Special Permit No. 1998-31
To construct a sit-down restaurant with drive-through

Summary:	**Granted with Conditions**
Petitioner:	Chick-Fil-A, Inc.
Property Owner:	Mayflower Cape Cod, LLC & Cape Cod Mall, LLC c/o First American Comm Realty Service, PO Box 167928, Irving TX
Property Addresses:	104 Enterprise Drive, 0 Enterprise Drive, 921 Iyannough Rd
Assessor's Map/Parcel:	Map 294 Parcels 018, 019, 023
Zoning:	Highway Business & Business Shopping Center Redevelopment Overlay District – Drive-Through Restaurant Sub-Zone
Hearing Dates:	November 18, 2015; December 9, 2015
Recording Information:	**Land Court Certificates:** 154620 & 152549

Background

With Application No. 2015-057, Chick-Fil-A, Inc. sought a special permit to redevelop a property with g a 5,219 square foot restaurant with 148 seats and a double drive-through. Associated improvements include 62 on-site parking spaces, perimeter landscaping, lighting, pedestrian improvements, an outdoor dining area, and other associated site improvements. To the extent necessary, the Applicant also sought to modify Special Permit No. 1998-31 to allow for the redevelopment of the site consistent with the plans submitted.

The subject property is 1.74 acres (75,947 sq.ft), located at the corner of Route 132/Iyannough Road and Enterprise Road in Hyannis. It is comprised of three lots, the current configuration of which resulted from the 1999 relocation of Enterprise Road to the west. The lot remains bisected by a former private way, which contains sewer and water lines. The property was improved with a 161 space asphalt parking lot and landscaping, developed in conjunction with the mall expansion. The parking lot was permitted under Special Permit No. 1998-31 (modified by No. 2008-71), issued under the Shopping Center Redevelopment Overlay District (SCROD) ordinance.

In February 2015, the Town Council voted to amend the SCROD ordinance and boundaries with a "Drive-Through Restaurant Sub-Zone" to allow the development of a restaurant with drive-through with the grant of a Special Permit from the Zoning Board. The property is also subject to a Cape Cod Commission Development of Regional Impact (DRI) issued for the Cape Cod Mall. The DRI, originally issued January 29, 1998 and modified nine times, regulates the use and development of the enclosed mall and surrounding outbuildings.

Jurisdiction for local review of the project was provided by the Cape Cod Commission to allow the Town to take into greater consideration the project's consistency with the municipality's goals, objectives and requirements.

Procedural & Hearing Summary

Special Permit application No. 2015-057 for a drive-through restaurant was filed at the Town Clerk's office and office of the Zoning Board of Appeals on October 26, 2015. A public hearing before the Zoning Board of Appeals was duly advertised and notice sent to all abutters and interested parties in accordance with MGL Chapter 40A. The hearing was opened on November 18, 2015 and continued to December 9, 2015 at which time the Board found to grant the special permit subject to conditions. Board Members deciding this appeal were Brian Florence, George Zevitas, David A. Hirsch, Herbert K. Bodensiek, and Robin Young.

Attorney Michael Ford represented the Applicant before the Board. Also present were Josh Swerling, Bohler Engineering and Scott Goodson, Chick-fil-A. Attorney provided an overview of the existing conditions and history of the

parking lot on the site, noting that the Applicant would be a long-term lessee. Scott Goodson provided background on the Chick-fil-A company. Attorney Ford provided a summary of the recent zoning amendment allowing the drive-through restaurant and the need for a modification of a Development of Regional Impact through the Cape Cod Commission. Attorney Ford discussed the ongoing process to prepare and peer review a traffic study. Josh Swerling provided an overview of the site redevelopment plans.

The Board requested public comment and Stuart Bornstien spoke about concerns regarding smells from the restaurant. Mark Thompson, CEO of Independence Parking and chair of the Paul Lorusso Foundation, discussed concerns about vehicles cutting through on the private way and landscape screening. Andrew Court reiterated these concerns. Nelly Sheehan, owner of Suits You Swimwear, supported the proposal, but was concerned about access to her property. The Board granted the Applicant a continuance to December 9, 2015.

The public hearing was reopened on December 9, 2015 and Attorney Ford summarized a list of concerns presented at the last hearing. Randy Hart, VHB, consultant for the Town reviewed the findings of his peer review, noting the study was does in a professional manner, meeting industry standards, and the mitigation plan was responsive to the project. He reviewed the highlights of his report, noting a recommendation for additional crash data; reporting on additional information provided by VAI prior to the hearing; and noting changes to the site plan that had been made in response to his concerns. Jeff Dirk, VAI, reviewed the mitigation package and its responsiveness to the impacts of the project and beyond.

Attorney Ford noted the project had received Site Plan approval. He reviewed past permitting of the site in conjunction with the mall renovation and expansion. He discussed the ongoing negotiations with Nelly Sheehan, noting a private agreement had been reached. He reviewed a document from Chick-fil-A reporting on odor concerns, noting the chain had no record of complaints on the issue. He reviewed the screening proposed along the westerly property line. Attorney Ford reviewed the proposed conditions and it was agreed that a $20,000 cap be placed on the contributions to be made, noted in Condition No. 8.

In response to concerns of the Board, the impacts of the project on the Corporation Drive and Enterprise Road intersection were reviewed. Jeff Dirk provided an overview of the MassDOT project to improve the Route 28 and Bearses Way intersection, which would likely redirect traffic from the Corporation/Enterprise intersection.

Public comment was requested and Mark Thompson reviewed a private agreement made with Chick-fil-A for a gate and requested 20 green giant arborvitaes along the property line. Nelly Sheehan indicated she had worked out most of her concerns with Chick-fil-A, but said that documents had yet to be fully executed. It was noted that the parking spaces and cross access with her property were shown on the approved site plans.

Findings of Fact

At the hearing on December 9, 2015, the Board unanimously made the following findings of fact in Special Permit Application No. 2015-057, a request for a drive-through restaurant at 921 Iyannough Road/Route 132 and 0 & 104 Enterprise Road, Hyannis:

1. Chick-Fil-A, Inc. ("the Applicant"), as lessee, has applied for a Special Permit pursuant to Section 240-39(M) or, in the alternative, a modification of Special Permit Nos. 1998-31. The proposed project is a site redevelopment consisting of the removal of an existing parking lot and the construction of a new 5,219 (+/-) square foot restaurant with drive-through and installation of new parking lot, landscaping, and utilities.

2. The subject properties are located at 921 Iyannough Road/Route 132, 0 and 104 Enterprise Road Hyannis, MA as shown on Assessor's Map 294 as Parcels 018, 019 and 023 ("the Property"). They are in the Highway Business (HB), Business (B) and Shopping Center Redevelopment Overlay – Drive-Through Restaurant Sub Zone Zoning Districts.

3. Zoning Code Section 240-39(M), the Shopping Center Redevelopment Overlay District and Drive-Through Restaurant Sub Zone Zoning District allows for the development of a restaurant with a drive-through subject to the grant of a Special Permit. The existing parking lot on the subject Property was subject to Special Permit No. 1998-31 and the Applicant seeks to amend that permit to the extent necessary to allow the development proposed herein.

4. The Site Plan Review Committee reviewed and approved the proposed development plans, as substantiated by the approval letter dated December 8, 2015.

Purposes

5. All development activities associated with the proposed development will be carried out so as to provide for and maintain:

   a. Protection of neighboring properties against harmful effects of uses on the development site;

      i. Landscape screening has been provided at the perimeter of the Property to screen neighboring properties and the public right-of-way from the impacts of vehicular traffic within the site.

      ii. The Applicant has incorporated an off-street parking area serving the adjoining property to the east into the proposed site plan and provided cross-access necessary to ensure full accessibility to that property.

   b. Convenient and safe access for fire-fighting and emergency rescue vehicles within the development site and in relation to adjacent streets;

      i. The Hyannis Fire Department has reviewed and approved the proposed site plan, as reflected by the Site Plan Review approval letter, submitted for the record.

   c. Convenience and safety of vehicular and pedestrian movement within the development site and in relation to adjacent streets, properties or improvements.

      i. The Applicant provided a Transportation Impact Assessment, prepared by Vanasse & Associates, Inc. dated September 2015 detailing the traffic impacts of the proposed redevelopment. This study was peer reviewed for the Town by VHB, the results of which were presented in a memorandum to the Town dated November 30, 2015. These studies conclude that, subject to implementation of measures to address vehicular and pedestrian safety on adjoining roadways, improve or maintain levels-of-service at study area intersections, reduce trip reduction, and provide internal traffic calming measures, the proposed project can be accommodated within the confines of the existing transportation infrastructure in a safe and efficient manner.

      ii. Traffic calming measures, including textured pavement (or material as approved by the Town Engineer), speed humps and raised crosswalks have been provided to help ensure safe vehicular and pedestrian movement through the site and to vigorously discourage "cut-through" traffic.

   d. Satisfactory methods of stormwater management and groundwater recharge have been provided with due regard to the protection of the Town's groundwater resources;

      i. The proposed site plan incorporates bioretention areas to treat stormwater and promote groundwater recharge.

      ii. Satisfactory methods of stormwater management have been provided, as substantiated by the approval letter dated December 8, 2015.

   e. Satisfactory methods for storage, handling and disposal of sewage, refuse and other wastes resulting from the normal operations of the establishments on the development site;

      i. Such methods have been provided, as substantiated by the approval letter dated December 8, 2015.

   f. Convenience and safety of off-street loading and unloading of vehicles, goods, products, materials and equipment incidental to the normal operation of the establishments on the development site;

      i. Chick-fil-A receives daily deliveries from a small box truck and deliveries 2-3 times per week from larger trucks. The Applicant has demonstrated the proposed delivery vehicles can be accommodated on the Property without traversing landscaped islands within the site or impacting public ways or other areas of public travel. Subject to compliance with conditions, the proposed

delivery plan should not interfere with on-site circulation to the satisfaction of the Hyannis Fire Department and the Department of Public Works.

g. Adequate off-street parking and traffic mitigation measures that will enhance the efficiency of the transportation system taking into consideration the overall Town traffic needs identified in the Barnstable/Yarmouth Transportation Study prepared by the Town in conjunction with the Town Local Comprehensive Plan;

i. Adequate off-street parking has been provided as required by the Town Zoning Ordinance, as substantiated by the approval letter dated December 8, 2015.

ii. The Transportation Impact Assessment, prepared for the Applicant by Vanasse & Associates, Inc. dated September 2015, as peer reviewed for the Town by VHB (reference memorandum to the Town dated November 30, 2015), evaluate the transportation impacts of the proposed project based on standard engineering practice and for conformance with Town of Barnstable requirements. These studies conclude that, subject to implementation of measures to address vehicular and pedestrian safety on adjoining roadways, improve or maintain levels-of-service at study area intersections, reduce trip reduction, and provide internal traffic calming measures, the proposed project can be accommodated within the confines of the existing transportation infrastructure in a safe and efficient manner.

h. Harmonious relationship to the terrain and to existing buildings in the vicinity of the development site; and

i. The proposed project is a reuse of an existing underutilized paved parking area. The proposed buildings and site have been designed to function with the surrounding commercial uses in the area.

i. Attractive and functional design with due regard to the existing conditions of the development site and the use thereof for a regional shopping center, in order to promote the interests of the community.

i. The proposed project enhances the use and value of the land within the regional shopping center and provides a substantial improvement over existing, underutilized conditions.

Site Development Standards

6. The proposed development is consistent with the required site development standards:

a. A reasonable effort shall be made to improve, conserve and protect natural features that are of some lasting benefit to the site, its environs and the community at large.

i. The proposed project is a redevelopment of an existing paved parking area and the proposed plan will improve the appearance and natural condition of the Property.

b. The placement of buildings, structures, fences, lighting and fixtures on each site shall not interfere with traffic circulation, safety, appropriate use and enjoyment of adjacent properties.

i. The placement of the buildings on the site enhances the visibility of the buildings and minimizes the appearance of surface parking areas. The proposed site plan and transportation improvements, subject to compliance with conditions, will account for all traffic impacts of the project and will not negatively impact traffic circulation or vehicular or pedestrian safety.

ii. The Applicant has incorporated an off-street parking area serving the adjoining property to the east into the proposed site plan and provided cross-access necessary to ensure full accessibility to that property. The Applicant has also provided landscape screening around the perimeter of the site to screen adjoining and nearby properties from the impacts of the proposed development.

c. At any driveway, a visibility triangle shall be provided in which nothing shall be erected, placed, planted or allowed to grow so as to materially impede vision from within motor vehicles between a height of three feet and eight feet above the average center-line grades of the intersecting street and driveway, said

triangle being bounded by the intersection of the street line and the edges of a driveway and a line joining points along said lines 20 feet distant from their projected intersection.

i. The Transportation Impact Assessment, prepared for the Applicant by Vanasse & Associates, Inc. dated September 2015, as peer reviewed for the Town by VHB (reference memorandum to the Town dated November 30, 2015) confirm there are no encroachments in required site visibility triangles, subject to compliance with the condition that plantings be properly maintained.

d. Adequate illumination shall be provided to parking lots and other areas for vehicular and pedestrian circulation. All illumination shall be directed and/or shielded so as not to interfere with traffic beyond the perimeter of the site.

i. Adequate on-site illumination has been provided and meets all requirements of the ordinance, as substantiated by the approval letter dated December 8, 2015.

e. All areas designed for vehicular use shall be paved with a minimum of either 2 1/2 inches bituminous asphalt concrete, six-inch portland cement concrete pavement, or other surface, such as brick or cobblestone, as approved by the Town Engineer.

i. All areas designed for vehicular use meet all paving requirements and have been approved by the Department of Public Works, as substantiated by the approval letter dated December 8, 2015.

f. All parking spaces shall be arranged and clearly marked in accordance with the parking lot design standards contained in § 240-39J herein. Signs and pavement markings shall be used as appropriate to control approved traffic patterns.

i. All parking spaces are in compliance with the requirements of the Zoning Ordinance and traffic markings and controls are proposed to accommodate the on-site traffic patterns. The site plan provides controls, including stamped concrete paving (or other material as approved by the Town Engineer) and speed humps and raised crosswalks to strongly discourage cut-through traffic. Raised crosswalks and pavement markings are provided to promote pedestrian safety on the site.

g. All utility service transmission systems, including but not limited to water, sewer, natural gas, electrical and telephone lines, shall, whenever practicable, be placed underground. Electric, telephone, cable TV, and other such utilities shall be underground, except for transformers, electric switching boxes or similar equipment and gas meters, which may be above ground.

i. All utility service transmission systems are underground as required.

h. All drainage shall be designed so that all runoff shall be disposed of on site, groundwater recharge is maximized, and neighboring properties will not be adversely affected.

i. Stormwater and drainage plans for the Property have been approved by the Town Engineer, as substantiated by the approval letter dated December 8, 2015. Approvals for stormwater connections currently in force authorize the proposed form of drainage, specifically discharge of stormwater to pond(s) to the west of the Property under common ownership.

ii. The proposed site plan incorporates bioretention areas to treat stormwater and promote groundwater recharge.

l. The materials submitted shall describe estimated average daily and peak hour vehicle trips to be generated by the site and traffic flow showing adequate access to and from the site and adequate circulation within the site taking into account the Barnstable/Yarmouth Transportation Study. The proponent of a regional shopping center will include in such materials reasonable measures to lower traffic demand to the regional shopping center. Reasonable efforts shall be made to provide vehicular and pedestrian connections within the redevelopment area to adjoining properties devoted to retail use.

iii. The Transportation Impact Assessment, prepared for the Applicant by Vanasse & Associates, Inc. dated September 2015, as peer reviewed for the Town by VHB (reference memorandum to the Town dated November 30, 2015) describe the anticipated trip generation of the project and the

proposed traffic circulation patterns and access. The Applicant has proposed measures to reduce the trip generation of the proposed project, including sidewalks within the project site that connect to the pedestrian infrastructure on Route 132 and Enterprise Road; adequate site lighting for pedestrians; full handicap access; two bicycle racks; and information and information on nearby public transportation provided by the RTA. Additionally, the Applicant has proposed measures to discourage cut-through traffic on the Property.

7. The proposed property redevelopment will require modification of an existing Development of Regional Impact (TR96025) by the Cape Cod Commission. In coordination with the Commission, local review and permitting of the proposed development as required by the Barnstable Zoning Ordinance is being conducted and will be completed prior to Cape Cod Commission consideration of the DRI modification.

8. Design of the building and site has been completed taking into consideration the Design Guidelines for Cape Cod prepared by the Cape Cod Commission, in addition to all Site Plan Review requirements.

9. After an evaluation of all the evidence presented, the proposal fulfills the spirit and intent of the Zoning Ordinance and would not represent a substantial detriment to the public good or the neighborhood affected. The project is in keeping with the commercial character of the area and the Applicant has presented a site plan that ensures safe and convenient vehicular and pedestrian circulation within the site. The Applicant is providing measures that will account for the traffic generated by the use and will improve the overall safety of the roadways and walkways in the area. The applicant has provided landscape screening, cross-access and other measures to screen and protect neighboring properties from the impacts of the development.

The vote to accept the findings was:
AYE: Brian Florence, George Zevitas, Herbert Bodensiek, Robin Young
NAY: David A. Hirsch

Decision

1. Special Permit No. 2015-057 is granted to Chick-fil-A, Inc. ("the Applicant") for the use and development of a 5,219 (+/-) square foot restaurant with drive-through and associated site features at 921 Iyannough Road/Route 132, 0 and 104 Enterprise Road Hyannis, MA as shown on Assessor's Map 294 as Parcels 018, 019 and 029 ("the Property").

2. The Property shall be redevelopment in substantial compliance with the following site plans entitled "Chick-fil-A Store #03545, 104 Enterprise Road" drawn by Bohler Engineering, specifically as follows:

    a. Site Plan, sheet C-2.0, last revised 12/2/15

    b. Landscape Plan, sheet L-1.0, last revised 12/2/15 and sheet L-1.1 dated 10/22/15. A further revised landscape plan shall be submitted to the Director of the Growth Management Department including twenty (20) green giant arborvitaes on the westerly property line.

    c. Sheets C-1.4; C-3.0 through C-3-2, C-4.0 through C-4.2; C-5.0; and ES-1.0 dated 10/22/15

3. The building shall be constructed in substantial compliance with the elevations entitled "Chick-fil-A Schematic Design Package – Cape Cod FSU, Hyannis, MA" dated 10/27/1, eleven (11) sheets.

4. The proposed development shall conform to all requirements of the Site Plan Review approval issued December 8, 2015.

Safety Improvements

5. This condition addresses efforts to reduce the frequency of occurrence of motor vehicle crashes at the intersections of Route 132 at Bearses Way and Route 132 at Enterprise Road and Independence Drive.

    a. The following improvements shall be implemented by the Applicant:

        i. Existing signs and pavement markings at said intersections shall be reviewed, upgraded and/or replaced;

ii. Traffic signal timing and clearance times shall be reviewed and adjusted as necessary;

iii. Traffic signal indicators shall be cleaned, relamped and adjusted as necessary to improve the visibility of the signal indications;

iv. Reflectorized tape shall be added to the perimeter of backplates, where available, to enhance the visibility of the signal indications; and

v. The vehicle detection system shall be tested and repaired/replaced or adjusted as necessary.

b. Design plans for the safety improvements shall be provided to the Town of Barnstable Department of Public Works. The Applicant shall provide the Department of Public Works with collision diagrams and associated analysis of said data as a part of a technical memorandum based on additional review of motor vehicle crash records for the most recent five year available period; this analysis will be used to inform the design of the proposed safety improvements listed above.

c. These improvements shall be completed by the Applicant prior to the issuance of a Certificate of Occupancy for the Project and subject to receipt of all necessary rights, permits and approvals.

6. The Applicant shall escrow $15,000 for use by the Town to implement traffic signal timing changes at the intersections of Route 132 at Bearses Way and Route 132 at Enterprise Road and Independence Drive to reduce motorist delays and vehicle queueing that may be associated with the Project. Said funds shall be provided to the Town prior to the issuance of a Building Permit for the project.

7. The Applicant shall complete improvements to the emergency vehicle pre-emption (OPTICOM™) system at the following intersections along the Route 132 corridor to improve regional emergency response and travel times.

a. Improvements shall be completed as specified at the following intersections with Route 132:

i. Route 6 On-ramp (North Burger King) – Adjust/replace receivers; replace circuit board

ii. Route 6 On-ramp (South) - Adjust/replace receivers; replace circuit board

iii. Shootflying Hill Road - Adjust/replace receivers; replace circuit board

iv. Attucks Way – Adjust/replace receivers; replace circuit board

v. Phinney's Lane - Adjust/replace receivers; replace circuit board

vi. Bearses Way - Adjust/replace receivers; replace circuit board

vii. Festival Plaza - Install OPTICOM™ system

viii. Enterprise Road - Adjust/replace receivers; replace circuit board, as necessary

ix. Capetown Plaza/Cape Cod Mall - Install OPTICOM™ system

b. All OPTICOM equipment to be installed shall be GTT OPTICOM Equipment only.

c. The emergency vehicle pre-emption system improvements will be completed by the Applicant prior to the issuance of the Certificate of Occupancy for the Project and subject to receipt of all necessary rights, permits and approvals.

d. The stated improvements are limited to the pre-emption system and shall not include the replacement, repair or upgrade of any other appurtenances associated with the traffic signal system.

8. To improve the safety of pedestrian travel within the study area, the Applicant shall escrow funds, not to exceed a maximum of $20,000, necessary for the installation of pedestrian crossing facility at Bearses Way and Corporation Drive (including, but not limited to pedestrian signals, buttons, and sidewalk ramps). The Department of Public Works shall develop and provided to the Applicant a budget for the proposed work as soon as possible. Such funds shall be provided to the Town prior to the issuance of a Building Permit for the project.

9. Specific traffic calming measures shall be implemented internal to the Project site to reduce travel speeds within the parking field and to vigorously discourage cut-through traffic. These measures shall include the use of

textured pavement (or a material to be approved by the Town Engineer) entering the Project site from Route 132, installation of a raised crosswalk with textured pavement across the primary circulating aisle and a speed "hump" across the full access driveway to the private way, as shown on the Site Plan referenced in Condition No. 2. The applicant shall conduct a study of actual cut-through activity, conducted during peak hour periods (peak summer conditions) to quantify the actual cut- through movements in the first year after the restaurant is open. Should the study suggest that cut-through is prevalent, additional measures to further discourage this movement shall be considered and implemented as necessary, in consultation with the Director of the Growth Management Department and the Town Engineer.

Trip Reduction

10. In an effort to reduce the overall volume of traffic that is expected to be generated by the Project and to encourage use of alternative modes of transportation to single-occupant vehicles, the Applicant shall implement the following trip reduction measures:

    a. A "commuting alternatives packet" shall be made available to employees detailing available public transportation services, bicycle and walking alternatives, and commuter options available through MassRIDES and their NuRide program which rewards individuals that choose to walk, bicycle, carpool, or that use public transportation to travel to and from work, and the RTA.

    b. Sidewalks shall be provided within the Project site that will link the proposed building to the sidewalk infrastructure along Route 132 and Enterprise Road as shown on the site plan referenced in Condition No. 2. Lighting shall be provided within the Project site and around the building perimeter to provide a safe an inviting pedestrian environment.

    c. Full handicapped access shall be provided within the Project site and along proposed internal circulating roadways.

    d. Two bicycle racks shall be provided at a convenient location within the Project site proximate to the building entrances.

11. Signs and landscaping internal to the project site and at the project site driveway intersections with Route 132 and Enterprise Road will be designed and maintained so as not to restrict lines of sight and so as not to interfere with emergency vehicles as defined by the Town and the Hyannis Fire Department.

12. Deliveries from large trucks (tractor semi-trailer combinations) shall be scheduled to occur during off-peak customer hours so as to avoid conflicts within the project site.

13. Nothing in this decision shall preclude the Town to enter into any appropriate agreement with the Property owner, as legislated by federal, state, and local stormwater regulations, to make modifications to the drainage system, including road drainage, as may be necessary in the future.

14. This permit shall be subject to the approval of a modification of Development of Regional Impact Decision by the Cape Cod Commission (Project No. TR96025, as modified).

15. This decision shall be recorded at the Barnstable County Registry of Deeds and copies of the recorded decision shall be submitted to the Zoning Board of Appeals Office and the Building Division prior to issuance of a building permit. The rights authorized by this special permit must be exercised within two years, unless extended.

The vote was:
AYE: Brian Florence, George T. Zevitas, David A. Hirsch, Herbert K. Bodensiek, Robin Young
NAY: None

Ordered
Special Permit No. 2015-057 for the redevelopment of an existing parking area into a drive-through restaurant at Iyannough Road/Route 132 and Enterprise Road, Hyannis, and modifying Special Permit 1998-31, has been granted subject to conditions. This decision must be recorded at the Barnstable Registry of Deeds for it to be in effect and notice of that recording submitted to the Zoning Board of Appeals Office. The relief authorized by this decision must be exercised within two years unless extended. Appeals of this decision, if any, shall be made pursuant to MGL Chapter

40A, Section 17, within twenty (20) days after the date of the filing of this decision, a copy of which must be filed in the office of the Barnstable Town Clerk.

Brian Florence, Chair

12/22/15
Date Signed

I, Ann Quirk, Clerk of the Town of Barnstable, Barnstable County, Massachusetts, hereby certify that twenty (20) days have elapsed since the Zoning Board of Appeals filed this decision and that no appeal of the decision has been filed in the office of the Town Clerk.

Signed and sealed this _____ day of _____ under the pains and penalties of perjury.

Ann Quirk, Town Clerk

APPENDIX F

SITE DEVELOPMENT PLANS

FOR:

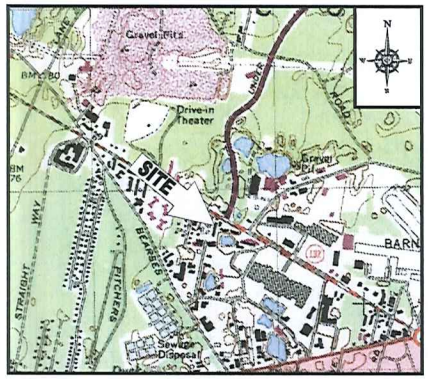
PROPOSED

Chick-fil-A

WITH DRIVE-THRU

LOCATION OF SITE:

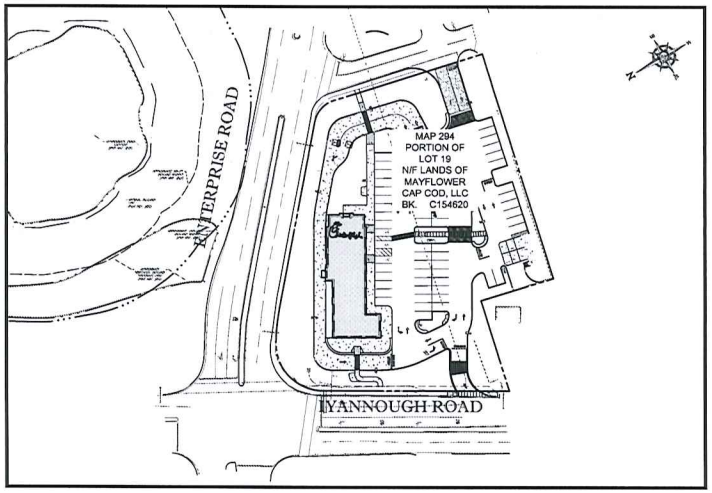
104 ENTERPRISE ROAD
VILLAGE OF HYANNIS
TOWN OF BARNSTABLE
BARNSTABLE COUNTY, MASSACHUSETTS
MAP #294, LOT #18,19, 23



LOCATION MAP

SCALE: 1"=1000'

PLAN REFERENCE: BANGOR MAINE USGS QUADRANGLE



AREA PLAN

SCALE: 1"=80'

SHEET TITLE	SHEET NUMBER
COVER SHEET	C-0.0 OF 18
GENERAL NOTES SHEET	C-1.0 OF 18
ALTA/ACSM LAND TITLE SURVEY (BY OTHERS)	C-1.1 OF 18
ALTA/ACSM LAND TITLE SURVEY (BY OTHERS)	C-1.2 OF 18
ALTA/ACSM LAND TITLE SURVEY (BY OTHERS)	C-1.3 OF 18
DEMOLITION PLAN	C-1.4 OF 18
SITE PLAN	C-2.0 OF 18
GRADING & DRAINAGE PLAN	C-3.0 OF 18
SOIL EROSION & SEDIMENT CONTROL PLAN	C-3.1 OF 18
SOIL EROSION CONTROL NOTES & DETAILS SHEET	C-3.2 OF 18
CHICK-FIL-A STANDARD DETAILS	C-4.0 OF 18
CHICK-FIL-A STANDARD DETAILS	C-4.1 OF 18
CHICK-FIL-A STANDARD DETAILS	C-4.2 OF 18
CONSTRUCTION DETAIL SHEET	C-5.0 OF 18
PLUMBING SITE PLAN	PS-1.0 OF 18
LIGHTING PLAN (BY OTHERS)	ES-1.0 OF 18
LANDSCAPE PLAN	L-1.0 OF 18
LANDSCAPE NOTES & DETAILS SHEET	L-1.1 OF 18

SHEET INDEX

PREPARED BY

BOHLER ENGINEERING

Chick-fil-A
5200 Buffington Rd
Atlanta Georgia, 30349-2998

REVISIONS

#	DATE	COMMENT	BY
1	9/15/15	INITIAL SP REVIEW COMMENTS	JNF
2	10/22/15	GMP MEETING COMMENTS	JNF
3	12/2/15	ZBA & VHB COMMENTS	JNF
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

W.D. GOEBEL

PROFESSIONAL ENGINEER

BOHLER ENGINEERING

BOHLER ENGINEERING
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (774) 759-3000
Fax: (774) 759-3010
www.BohlerEngineering.com

STORE #03545
S08H-MODIFIED-N-L
104 ENTERPRISE ROAD
VILLAGE OF HYANNIS
BARNSTABLE COUNTY
MASSACHUSETTS
MAP #294, LOT #18,19,23

SHEET TITLE

COVER SHEET

DWG EDITION 02.4

☒ Preliminary
☐ 80% Submittal
☐ For Construction

Job No.	W141096
Store	03545
Date	08/27/15
Drawn By	CFD/JNF
Checked By	DML/JGS

Sheet

C-0.0

GENERAL NOTES

GENERAL GRADING & UTILITY PLAN NOTES

GENERAL DEMOLITION NOTES

ADA INSTRUCTIONS TO CONTRACTOR:

TYPICAL ABBREVIATIONS

KEY	DESCRIPTION	KEY	DESCRIPTION
BC	BOTTOM CURB	PROP.	PROPOSED
TC	TOP CURB	TBR/R	TO BE REMOVED AND REPLACED
BOC	BACK OF CURB	TBR	TO BE REMOVED
BW	BOTTOM OF WALL GRADE	TPF	TREE PROTECTION FENCE
TW	TOP OF WALL	BLDG.	BUILDING
EXIST	EXISTING	SF	SQUARE FEET
BM	BENCHMARK	SMH	SEWER MANHOLE
EOP	EDGE OF PAVEMENT	DMH	DRAIN MANHOLE
℄	CENTERLINE	STM	STORM
FF	FINISHED FLOOR	SAN	SANITARY
VIF	VERIFY IN FIELD	CONC.	CONCRETE
GC	GENERAL CONTRACTOR	ARCH.	ARCHITECTURAL
HP	HIGH POINT	DEP	DEPRESSED
LP	LOW POINT	H'CAP.	HANDICAP
TYP	TYPICAL	MIN	MINIMUM
INT	INTERSECTION	MAX	MAXIMUM
PC	POINT OF CURVATURE	No. / #	NUMBER
PT	POINT OF TANGENCY	W	WIDE
PI	POINT OF INTERSECTION	DEC	DECORATIVE
PVI	POINT OF VERTICAL INTERSECTION	ELEV	ELEVATION
STA	STATION	UNG	UNDERGROUND
GRT	GRATE	R.O.W.	RIGHT OF WAY
INV	INVERT	LF	LINEAR FOOT
DIP	DUCTILE IRON PIPE	LOD	LIMIT OF DISTURBANCE
PVC	POLYVINYL CHLORIDE PIPE	LOW	LIMIT OF WORK
HDPE	HIGH DENSITY POLYETHYLENE PIPE	L.S.A.	LANDSCAPED AREA
RCP	REINFORCED CONCRETE PIPE	±	PLUS OR MINUS
S	SLOPE	°	DEGREE
ME	MEET EXISTING	Ø/DIA	DIAMETER
		R	RADIUS

TYPICAL LEGEND

EXISTING		PROPOSED
	PROPERTY LINE	
	SETBACK	
	EASEMENT	
	CURB	
	STORM MANHOLE	
	SEWER MANHOLE	
	CATCH BASIN	
	WETLAND FLAG	
	WETLAND LINE	
	SPOT ELEVATION	
	TOP & BOTTOM OF CURB	
	CONTOUR	
	FLOW ARROW	
	PAINTED ARROW	
	RIDGE LINE	
	GAS LINE	
	TELEPHONE LINE	
	ELECTRIC LINE	
	WATER LINE	
	OVERHEAD WIRE	
	STORM PIPE	
	SANITARY LINE	
	PARKING COUNT	
	SIGN	
	LIGHT POLE	
	GUIDE RAIL	
	UTILITY POLE	

REFER TO SITE PLAN FOR ZONING ANALYSIS TABLE AND LAND USE/ ZONING INFORMATION & NOTES

REFER TO SOIL EROSION CONTROL NOTES & DETAILS FOR TYPICAL EROSION NOTES AND DETAILS

REFER TO LANDSCAPE NOTES & DETAILS FOR TYPICAL LANDSCAPE NOTES AND DETAILS

REFER TO LIGHTING PLAN PLAN FOR TYPICAL LIGHTING NOTES AND TABLES

Chick-fil-A
5200 Buffington Rd.
Atlanta Georgia, 30349-2998

REVISIONS

#	DATE	COMMENT	BY
1	9/15/15	INITIAL SP REVIEW COMMENTS	JNF
2	10/22/15	GMP MEETING COMMENTS	JNF
3	12/2/15	ZBA & VHB COMMENTS	JNF
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

W.D. GOEBEL
PROFESSIONAL ENGINEER

BOHLER ENGINEERING
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
www.BohlerEngineering.com

STORE #03545
S08H-MODIFIED-N-L
104 ENTERPRISE ROAD
VILLAGE OF HYANNIS
BARNSTABLE COUNTY
MASSACHUSETTS
MAP #294, LOT #18,19,23

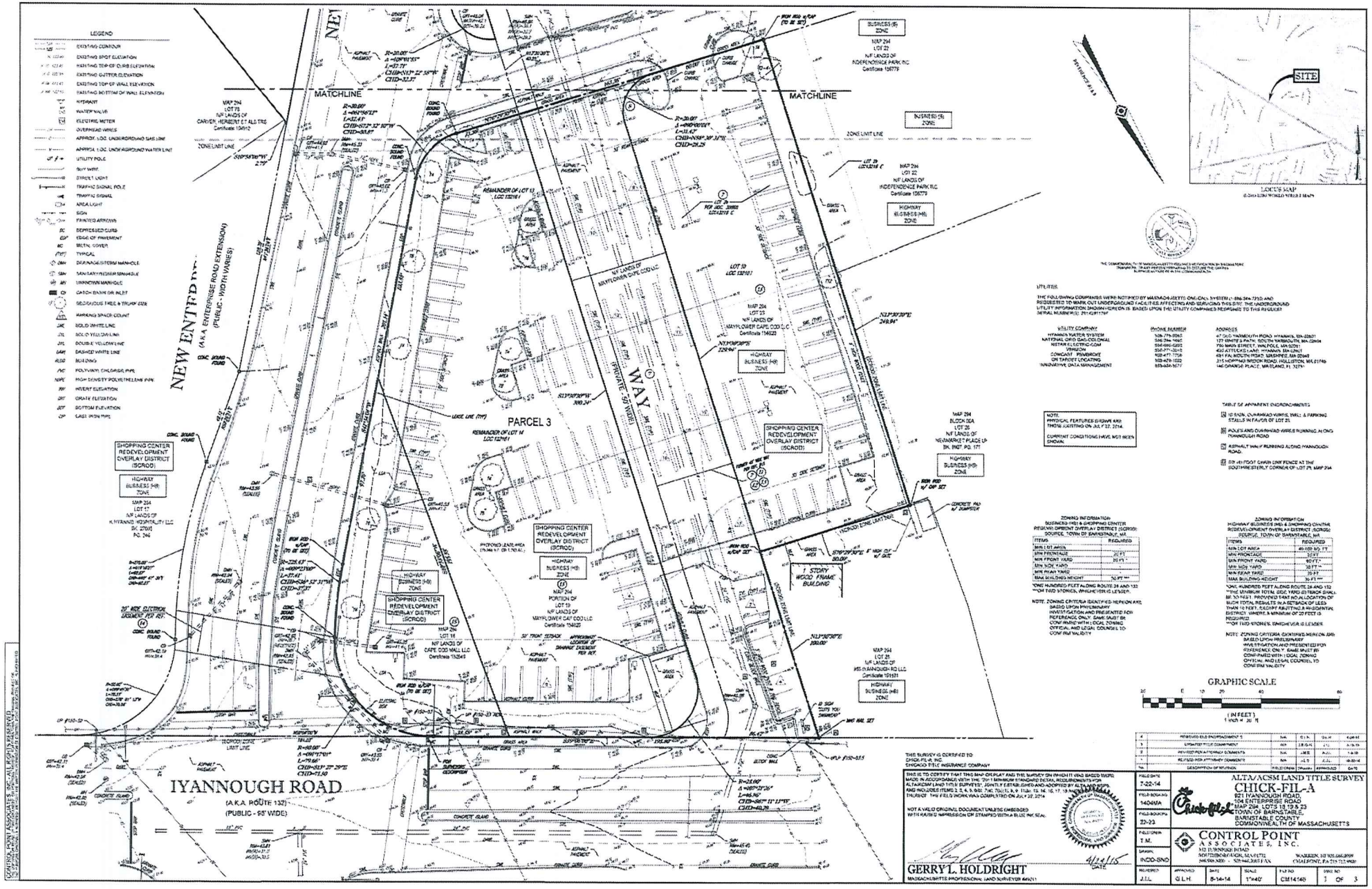
SHEET TITLE
GENERAL NOTES SHEET

DWG EDITION 02.4

☒ Preliminary
☐ 80% Submittal
☐ For Construction

Job No. : W141096
Store : 03545
Date : 08/27/15
Drawn By : CFD/JNF
Checked By : DML/JGS

Sheet
C-1.0



UTILITIES

THE FOLLOWING COMPANIES WERE NOTIFIED BY MASSACHUSETTS ONE-CALL SYSTEM (1-888-344-7233) AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST. SERIAL NUMBER(S): 291-4291797

UTILITY COMPANY	PHONE NUMBER	ADDRESS
HYANNIS WATER SYSTEM	508-775-0095	47 OLD YARMOUTH ROAD, HYANNIS, MA 02601
NATIONAL GRID GAS-COLONIAL	508-284-1665	127 WHITE'S PATH, SOUTH YARMOUTH, MA 02664
NSTAR ELECTRIC-COM	508-690-6202	780 MAIN STREET, WALPOLE, MA 02081
VERIZON	508-771-2616	450 ATTUCKS LANE, HYANNIS, MA 02601
COMCAST PINEBROOK	508-477-7756	691 PA SOUTH ROAD, MASHPEE, MA 02649
ON TARGET LOCATING	508-428-1022	315 HOPPING BROOK ROAD, HOLLISTON, MA 01746
INNOVATIVE DATA MANAGEMENT	508-626-1677	146 ORANGE PLACE, MAITLAND, FL 32751

NOTE:
PHYSICAL FEATURES SHOWN ARE THOSE EXISTING ON JULY 22, 2014.
CURRENT CONDITIONS HAVE NOT BEEN SHOWN.

TABLE OF APPARENT ENCROACHMENTS

- 10 SIGN, OVERHEAD WIRES, WALL & PARKING STALLS IN FAVOR OF LOT 25
- POLES AND OVERHEAD WIRES RUNNING ALONG IYANNOUGH ROAD
- ASPHALT WALK RUNNING ALONG IYANNOUGH ROAD.
- 50' (4) FOOT CHAIN LINK FENCE AT THE SOUTHWESTERLY CORNER OF LOT 25, MAP 294

ZONING INFORMATION
BUSINESS (HB) & SHOPPING CENTER REDEVELOPMENT OVERLAY DISTRICT (SCROD)
SOURCE: TOWN OF BARNSTABLE, MA

ITEMS	REQUIRED
MIN LOT AREA	
MIN FRONTAGE	20 FT
MIN FRONT YARD	20 FT *
MIN SIDE YARD	
MIN REAR YARD	
MAX BUILDING HEIGHT	30 FT **

*ONE HUNDRED FEET ALONG ROUTE 28 AND 132
**OR TWO STORIES, WHICHEVER IS LESSER.

NOTE: ZONING CRITERIA IDENTIFIED HEREON ARE BASED UPON PRELIMINARY INVESTIGATION AND PRESENTED FOR REFERENCE ONLY. SAME MUST BE CONFIRMED WITH LOCAL ZONING OFFICIAL AND LEGAL COUNSEL TO CONFIRM VALIDITY

ZONING INFORMATION
HIGHWAY BUSINESS (HB) & SHOPPING CENTER REDEVELOPMENT OVERLAY DISTRICT (SCROD)
SOURCE: TOWN OF BARNSTABLE, MA

ITEMS	REQUIRED
MIN LOT AREA	40,000 SQ. FT.
MIN FRONTAGE	20 FT
MIN FRONT YARD	40 FT *
MIN SIDE YARD	30 FT *
MIN REAR YARD	30 FT
MAX BUILDING HEIGHT	30 FT **

*ONE HUNDRED FEET ALONG ROUTE 28 AND 132
**THE MINIMUM TOTAL SIDE YARD ISTBACK SHALL BE 30 FEET. PROVIDED THAT NO ALLOCATION OF SUCH TOTAL RESULTS IN A SETBACK OF LESS THAN 10 FEET. EXCEPT ABUTTING A RESIDENTIAL DISTRICT, WHERE A MINIMUM OF 20 FEET IS REQUIRED
**OR TWO STORIES, WHICHEVER IS LESSER

NOTE: ZONING CRITERIA IDENTIFIED HEREON ARE BASED UPON PRELIMINARY INVESTIGATION AND PRESENTED FOR REFERENCE ONLY. SAME MUST BE CONFIRMED WITH LOCAL ZONING OFFICIAL AND LEGAL COUNSEL TO CONFIRM VALIDITY

THIS SURVEY IS CERTIFIED TO:
CHICK-FIL-A, INC.
CHICAGO TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT WAS BASED WERE MADE IN ACCORDANCE WITH THE "2011 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS", JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 5, 6(b), 7(a), 7(b), 8, 9, 11(b), 13, 14, 16, 17, 18 AND 19 THEREOF. THE FIELD WORK WAS COMPLETED ON JULY 22, 2014.

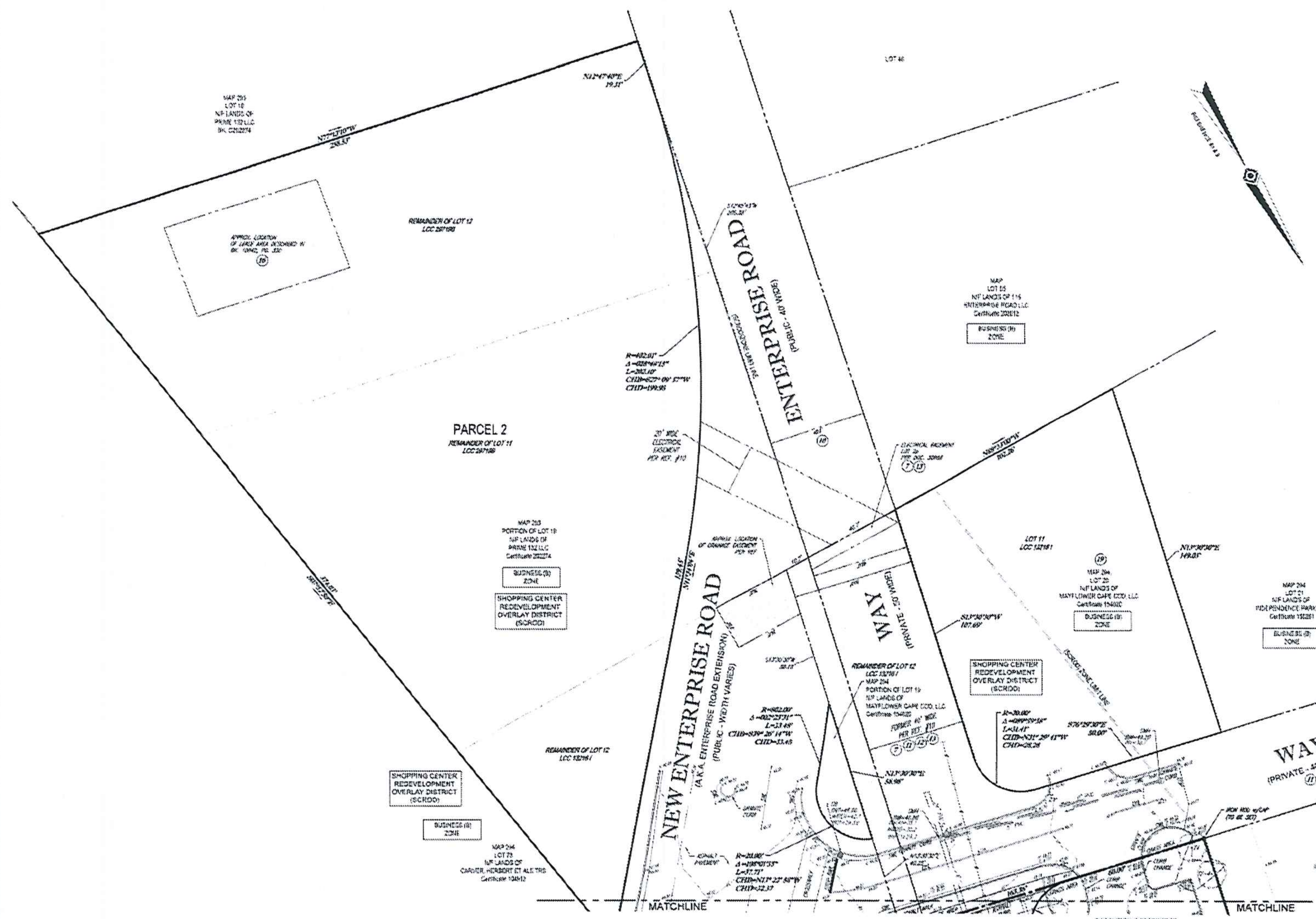
NOT A VALID ORIGINAL DOCUMENT UNLESS EMBOSSED WITH RAISED IMPRESSION OR STAMPED WITH A BLUE INK SEAL.

4/24/15
DATE

GERRY L. HOLDRIGHT
MASSACHUSETTS PROFESSIONAL LAND SURVEYOR 44021

No.	DESCRIPTION OF REVISION	FIELD DRAW	DRAWN	APPROVED	DATE
4	REVISED FIELD ENCROACHMENT 5	NA	G.L.H.	G.L.H.	4-24-15
3	UPDATED TITLE COMMITMENT	NA	J.B.G.R.	J.L.	4-16-15
2	REVISED PER ATTORNEY COMMENTS	NA	J.M.S.	A.J.L.	1-8-15
1	REVISED PER ATTORNEY COMMENTS	NA	J.L.S.	A.J.L.	10-30-14

FIELD DATE: 7-22-14	ALTA/ACSM LAND TITLE SURVEY CHICK-FIL-A 921 IYANNOUGH ROAD, 104 ENTERPRISE ROAD MAP 294, LOTS 18,19 & 23 TOWN OF BARNSTABLE, BARNSTABLE COUNTY COMMONWEALTH OF MASSACHUSETTS				
FIELD BOOK NO: 1404MA					
FIELD BOOK PG: 22-23					
FIELD DRAW: T.M.	CONTROL POINT ASSOCIATES, INC. 112 TURNPIKE ROAD SOUTHBOROUGH, MA 01772 508-948-3000 • 508-948-3003 FAX				
DRAWN: INCO-SNO					
REVIEWED: J.L.L.	APPROVED: G.L.H.	DATE: 8-14-14	SCALE: 1"=40'	FILE NO: CM14146	SHEET NO: 1 OF 3



LEGEND

EXISTING CONTOUR
EXISTING SPOT ELEVATION
EXISTING TOP OF CURB ELEVATION
EXISTING GUTTER ELEVATION
EXISTING TOP OF WALL ELEVATION
EXISTING BOTTOM OF WALL ELEVATION
HYDRANT
WATER VALVE
ELECTRIC METER
OVERHEAD WIRES
APPROX. LOC. UNDERGROUND GAS LINE
APPROX. LOC. UNDERGROUND WATER LINE
UTILITY POLE
GUY WIRE
STREET LIGHT
TRAFFIC SIGNAL POLE
TRAFFIC SIGNAL
AREA LIGHT
SIGN
PAINTED ARROWS
DEPRESSED CURB
EDGE OF PAVEMENT
METAL COVER
TYPICAL
DRAINAGE/STORM MANHOLE
SANITARY/SEWER MANHOLE
UNKNOWN MANHOLE
CATCH BASIN OR INLET
DECIDUOUS TREE & TRUNK SIZE
PARKING SPACE COUNT
SOLID WHITE LINE
SOLID YELLOW LINE
DOUBLE YELLOW LINE
DASHED WHITE LINE
BUILDING
POLYVINYL CHLORIDE PIPE
HIGH DENSITY POLYETHYLENE PIPE
INVERT ELEVATION
GRATE ELEVATION
BOTTOM ELEVATION
CAST IRON PIPE

UTILITIES

THE FOLLOWING COMPANIES WERE NOTIFIED BY MASSACHUSETTS ONE-CALL SYSTEM (1-888-344-7233) AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST. SERIAL NUMBER(S): 20142911797

UTILITY COMPANY	PHONE NUMBER	ADDRESS
HYANNIS WATER SYSTEM	[illegible]	47 OLD YARMOUTH ROAD, HYANNIS, MA 02601
NATIONAL GRID GAS-COLONIAL	[illegible]	127 WHITES PATH, SOUTH YARMOUTH, MA 02664
NSTAR ELECTRIC-COM	[illegible]	740 MAIN STREET, WALPOLE, MA 02081
VERIZON	[illegible]	435 ATTUCKS LANE, HYANNIS, MA 02601
COMCAST - PEMBROKE	[illegible]	961 FALMOUTH ROAD, MASHPEE, MA 02649
ON TARGET LOCATING	[illegible]	215 HOPPING BROOK ROAD, HOLLISTON, MA 01746
INNOVATIVE DATA MANAGEMENT	[illegible]	140 ORANGE PLACE, MAITLAND, FL 32751

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft

THIS SURVEY IS CERTIFIED TO:
CHICK-FIL-A, INC.
CHICAGO TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT WAS BASED WERE MADE IN ACCORDANCE WITH THE "2011 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS", JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 6, 7, 8, 9, 11, 13, 14, 16, 17, 18 AND 19 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON JULY 22, 2014.

NOT A VALID ORIGINAL DOCUMENT UNLESS EMBOSSED WITH RAISED IMPRESSION OR STAMPED WITH A BLUE INK SEAL.

GERRY L. HOLDRIGHT
MASSACHUSETTS PROFESSIONAL LAND SURVEYOR #46211

DATE 4/2/15

No.	DESCRIPTION OF REVISION	FIELD CREW	DRAWN	APPROVED	DATE
4	REMOVED OLD ENCROACHMENT	N/A		G.L.H.	
3	UPDATED TITLE COMMITMENT	N/A			
2	REVISED PER ATTORNEY COMMENTS	N/A			
1	REVISED PER ATTORNEY COMMENTS	N/A			

ALTA/ACSM LAND TITLE SURVEY
CHICK-FIL-A
921 IYANNOUGH ROAD
104 ENTERPRISE ROAD
MAP 294, LOTS 18, 19 & 23
TOWN OF BARNSTABLE,
BARNSTABLE COUNTY
COMMONWEALTH OF MASSACHUSETTS

CONTROL POINT
ASSOCIATES, INC.
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
WARREN, NJ
CHALFONT, PA

FIELD DATE	FIELD BOOK NO.	FIELD BOOK PG.	FIELD CREW	DRAWN	REVIEWED	APPROVED	DATE	SCALE	FILE NO.	DWG. NO.
7-22-14	1404MA	22-23	T.M.	INDO-SND	J.I.L.	G.L.H.	8-14-14	1"=40'	CM14146	2 OF 3

CONTROL POINT ASSOCIATES, INC. - ALL RIGHTS RESERVED

NOTES.

1. PROPERTY KNOWN AS LOTS 18, 19, & 23 ON THE VILLAGE OF HYANNIS, TOWN OF BARNSTABLE, BARNSTABLE COUNTY, MASSACHUSETTS TAX ASSESSORS MAP.
2. AREA OF PROPOSED LEASE = 75,946 SQUARE FEET OR 1.743 ACRES.
3. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE AS-BUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES. CONTROL POINT ASSOCIATES, INC. DOES NOT GUARANTEE THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED.
4. THIS PLAN IS BASED ON INFORMATION PROVIDED BY A SURVEY PREPARED IN THE FIELD BY CONTROL POINT ASSOCIATES, INC. AND OTHER REFERENCE MATERIAL AS LISTED HEREON.
5. THIS SURVEY IS PREPARED WITH REFERENCE TO A TITLE REPORT PREPARED BY CHICAGO TITLE INSURANCE COMPANY, FILE NO. 1521-0013, WITH AN EFFECTIVE DATE OF JANUARY 22, 2015, WHERE THE FOLLOWING SURVEY RELATED EXCEPTIONS APPEAR IN SCHEDULE B, SECTION II:

   EXCEPTIONS 1-6, 9, 15-16 & 21-27 ARE NOT SURVEY RELATED & HAVE NOT BEEN COMMENTED ON AS PART OF THIS SURVEY.

   (7) RIGHTS AND EASEMENTS GRANTED TO CAPE & VINEYARD ELECTRIC COMPANY AND NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY DATED JULY 23, 1951 FILED AS DOCUMENT NO. 30886 (AS TO A PORTION OF LOT 16 IN PARCEL 3) (AFFECTS PARCEL 3) - AFFECTS CFA LEASE AREA, ELECTRICAL EASEMENT WITHIN 40' RIGHT OF WAYS AND OVER LOTS 2e, 2e & SOUTHEAST CORNER OF LOT 2e SHOWN ON PLAN.

   (8) EASEMENT TO THE BARNSTABLE WATER COMPANY DATED AUGUST 8, 1969 AND FILED AS DOCUMENT NO. 132413. - UNABLE TO COMMENT, LOCATION OF 20' WIDE WATER EASEMENT, PLAN REFERENCE IN DOCUMENT NOT PROVIDED.

   (10) ORDER OF TAKING FOR ENTERPRISE ROAD DATED AUGUST 11, 1994, FILED WITH SAID REGISTRY DISTRICT AS DOCUMENT NO. 778062. - DOES NOT AFFECT PARCEL 6, NEW ENTERPRISE ROAD & TWO 20' WIDE ELECTRIC EASEMENTS SHOWN ON PLAN.

   (11) WATER EASEMENT TO BARNSTABLE WATER COMPANY DATED OCTOBER 10, 1974, FILED AS DOCUMENT NO. 192246 (AFFECTS PARCEL 3) - AFFECTS SURVEYED AREA, WATER EASEMENT OVER 40' WIDE WAY (PER REFERENCE 7) SHOWN ON PLAN.

   (12) WATER EASEMENT TO BARNSTABLE WATER COMPANY DATED OCTOBER 10, 1974, FILED AS DOCUMENT NO. 192246 (AFFECTS PARCEL 3) - AFFECTS SURVEYED AREA, WATER EASEMENT OVER 40' WIDE WAY (PER REFERENCE 7) SHOWN ON PLAN.

   (13) WATER EASEMENT TO BARNSTABLE WATER COMPANY DATED OCTOBER 10, 1974, FILED AS DOCUMENT NO. 192247 (AFFECTS PARCEL 3) - AFFECTS SURVEYED AREA, WATER EASEMENT OVER 40' WIDE WAY (PER REFERENCE 7) SHOWN ON PLAN.

   (14) EASEMENT TO NEW BEDFORD GAS AND ELECTRIC COMPANY DATED OCTOBER 24, 1977, FILED AS DOCUMENT NO. 250296. - UNABLE TO COMMENT; LOCATION OF ELECTRICAL FACILITIES, PLAN REFERENCE IN DOCUMENT NOT PROVIDED.

   (15) TERMS AND PROVISIONS OF PERMANENT AGREEMENT AS AMENDED IN BOOK 13909, PAGE 171 AFFECTS CFA LEASE AREA, BLANKET IN NATURE.

   (16) RIGHTS OF TENNANTS AS TENANT ONLY, UNDER THAT CERTAIN INDENTURE OF LEASE BETWEEN DAVID L. MCCARTHY, TRUSTEE OF ACORN REALTY TRUST AND JHL ASSOCIATES, INC. D/B/A ALL PRO TRANSMISSIONS, DATED MAY 1, 1982 RECORDED IN BOOK 13942, PAGE 236.

   (17) ORDER OF BETTERMENT ASSESSMENTS HYANNIS COMMERCIAL ZONE MUNICIPAL SEWER PROJECT DATED DECEMBER 24, 1994, RECORDED IN BOOK 5491, PAGE 330. - AFFECTS PARCEL 1, LOCATION OF SEWER UNCLEAR, PLAN REFERENCE IN DOCUMENT NOT PROVIDED.

   (18) ORDER OF BETTERMENT ASSESSMENTS BY THE TOWN OF BARNSTABLE DATED DECEMBER 21, 1994 AND FILED AS DOCUMENT NO. 630084 (AFFECTS PARCEL 3) - AFFECTS PARCEL, LOCATION OF SEWER UNCLEAR, PLAN REFERENCE IN DOCUMENT NOT PROVIDED.

   (19) GRANT OF EASEMENT DATED AUGUST 28, 1998 BY COM IYANNOUGH ROAD LLC TO DAVID L. MCCARTHY, AS TRUSTEE, RECORDED IN BOOK 11690, PAGE 190 AND FILED AS DOCUMENT NO. 726183 (AFFECTS PARCEL 3) - DOES NOT AFFECT CFA LEASE AREA, PARKING RIGHTS WITHIN LOT 28, BLANKET IN NATURE.

   (20) ORDER OF TAKING BY THE TOWN OF BARNSTABLE OF AN EASEMENT FOR HIGHWAY PURPOSES IN CORPORATION STREET DATED OCTOBER 13, 1998 FILED AS DOCUMENT NO. 743969 (AS TO APPURTENANT RIGHT OF WAY FORMING A PART OF PARCEL 2) (AFFECTS PARCEL 2) NOT LOCUS.

6. BY GRAPHIC PLOTTING ONLY PROPERTY IS LOCATED IN FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE ANNUAL 0.2% CHANCE FLOODPLAIN) PER REF. #2.
7. ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), BASED ON GPS OBSERVATIONS UTILIZING THE KEYSTONE VRS NETWORK (KEYNETGPS).
8. THE OFFSETS SHOWN ARE NOT TO BE USED FOR THE CONSTRUCTION OF ANY STRUCTURE, FENCE, PERMANENT ADDITION, ETC.
9. ALL MATTERS AFFECTING THE PROPOSED CHICK-FIL-A LEASE AREA SHOWN ON RECORDED PLATS AS DISCLOSED IN EITHER THE TITLE REVIEW OR RECORD RESEARCH HAVE BEEN SHOWN ON THIS SURVEY.
10. AT THE TIME OF THIS SURVEY THERE ARE NO BUILDINGS EXISTING WITHIN THE PROPOSED CHICK-FIL-A LEASE AREA.
11. ZONING LINES ARE BASED ON PROPOSED ENGINEERING PLANS AND MAY NOT DEPICT CURRENT SITE CONDITIONS.

REFERENCES.

1. THE TAX ASSESSOR'S MAP OF TOWN OF BARNSTABLE, BARNSTABLE COUNTY, MASSACHUSETTS, MAP 294.
2. MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, BARNSTABLE COUNTY, MASSACHUSETTS (ALL JURISDICTIONS), PANEL 568 OF 870", MAP NUMBER 25001C0568J, EFFECTIVE DATE JULY 16, 2014.
3. MAP ENTITLED "SUBDIVISION PLAN OF LAND IN BARNSTABLE (HYANNIS)," PREPARED BY E.D. KELLOGG, DATED DECEMBER 9, 1963, FILED IN THE BARNSTABLE COUNTY LAND REGISTRATION OFFICE AS PLAN NO. 29719B.
4. MAP ENTITLED "SUBDIVISION PLAN OF LAND IN BARNSTABLE," PREPARED BY DOWN CAP ENGINEERING, INC., DATED SEPTEMBER 17, 1965, FILED IN THE BARNSTABLE COUNTY LAND REGISTRATION OFFICE AS PLAN NO. 29719D.
5. MAP ENTITLED "TOWN OF BARNSTABLE, PLAN SHOWING LAYOUT OF ENTERPRISE ROAD, AS LAID OUT BY THE TOWN MANAGER, ACTING UNDER CHAPTER III, ARTICLE VII, SECTION 3 GENERAL ORDINANCES," PREPARED BY COLEMAN ENGINEERING, DATED MARCH 31, 1995, FILED IN THE BARNSTABLE COUNTY REGISTRY OF DEEDS AS PLAN BOOK 501, PAGE 13.
6. MAP ENTITLED "PLAN OF LAND IN BARNSTABLE," PREPARED BY WHITNEY & BASSETT, ENGINEERS, DATED JUNE 1956, FILED IN THE BARNSTABLE COUNTY LAND REGISTRATION OFFICE AS PLAN NO. 28463A.
7. MAP ENTITLED "SUBDIVISION PLAN OF LAND IN BARNSTABLE," PREPARED BY CMS ASSOCIATES, INC., DATED JUNE 16, 1977, FILED IN THE BARNSTABLE COUNTY LAND REGISTRATION OFFICE AS PLAN NO. 29952R.
8. MAP ENTITLED "PLAN OF LAND IN BARNSTABLE," PREPARED BY NELSON BEARSE & RICHARD LAW, DATED MARCH 1960, FILED IN THE BARNSTABLE COUNTY LAND REGISTRATION OFFICE AS PLAN NO. 29952A.
9. MAP ENTITLED "SUBDIVISION PLAN OF LAND IN BARNSTABLE," PREPARED BY BAXTER & NYE, INC., DATED SEPTEMBER 22, 1958, FILED IN THE BARNSTABLE COUNTY LAND REGISTRATION OFFICE AS PLAN NO. 13216.
10. MAP ENTITLED "PLAN OF LAND IN BARNSTABLE (HYANNIS) MASS., FOR JOHN L. SCHULENBURG, TR., NEW ADVENTURES REALTY TRUST," PREPARED BY BAXTER & NYE, INC., FILED IN THE BARNSTABLE COUNTY REGISTRY OF DEEDS AS PLAN BOOK 402, PAGE 15.
11. MAP ENTITLED "PLAN OF LAND BARNSTABLE, MASS., PREPARED FOR ATLANTIC CORPORATION," PREPARED BY ROBERT G. MALONE, DATED MARCH 14, 1967, FILED IN THE BARNSTABLE COUNTY REGISTRY OF DEEDS AS PLAN BOOK 219, PAGE 56.
12. MAP ENTITLED "PLAN OF LAND IN BARNSTABLE, MA (HYANNIS), PREPARED FOR: SHIELDS MANAGEMENT CORP.," PREPARED BY THE BSC GROUP, DATED NOVEMBER 26, 1990, FILED IN THE BARNSTABLE COUNTY REGISTRY OF DEEDS AS PLAN BOOK 426, PAGE 45.
13. MAP ENTITLED "SUBDIVISION PLAN OF LAND IN BARNSTABLE," PREPARED BY WHITNEY & BASSETT, DATED OCTOBER 11, 1948, FILED IN THE BARNSTABLE COUNTY LAND REGISTRATION OFFICE AS PLAN NO. 13216C.
14. MAP ENTITLED "SUBDIVISION PLAN OF LAND IN BARNSTABLE," PREPARED BY WHITNEY & BASSETT, DATED JANUARY 1960, FILED IN THE BARNSTABLE COUNTY LAND REGISTRATION OFFICE AS PLAN NO. 13216C.
15. MAP ENTITLED "SUBDIVISION PLAN OF LAND IN BARNSTABLE," PREPARED BY WHITNEY & BASSETT, DATED JANUARY 1970, FILED IN THE BARNSTABLE COUNTY LAND REGISTRATION OFFICE AS PLAN NO. 13216H.
16. MAP ENTITLED "ALTA/ACSM LAND TITLE SURVEY PREPARED FOR SIMON PROPERTY GROUP, IYANNOUGH ROAD, BARNSTABLE, MASSACHUSETTS", PREPARED BY COLEMAN ENGINEERING, DATED FEBRUARY 20, 2001, LAST REVISED FEBRUARY 20, 2001.
17. MAP ENTITLED "PARCELIZATION PLAN, ALTA/ACSM LAND TITLE SURVEY, CAPE COD MALL, IYANNOUGH ROAD AND STATE HWY. RT. 28, BARNSTABLE (HYANNIS), MASSACHUSETTS, PREPARED FOR: MAYFLOWER CAPE COD, LLC, A DELAWARE LIMITED LIABILITY COMPANY," PREPARED BY A.E. ELLIOTT ASSOCIATES, DATED NOVEMBER 10, 2010, LAST REVISED FEBRUARY 9, 2011.
18. MAP ENTITLED "SITE PREPARATION PLANS, CAPE COD MALL RENOVATION, PHASE III EAST ADDITION, HYANNIS, MA., NEW ENGLAND DEVELOPMENT," PREPARED BY ANDERSON & NICHOLS COMPANY, INC., DATED AUGUST 10, 1988, LAST REVISED AUGUST 21, 1998.
19. GAS FACILITY MAPPING PROVIDED BY NATIONAL GRID, DATED JULY 18, 2014.
20. SEWER FACILITY MAPPING PROVIDED BY THE TOWN OF BARNSTABLE.
21. ELECTRIC FACILITY MAPPING PROVIDED BY NSTAR, DATED JUNE 23, 2014.

EXHIBIT "A" DESCRIPTIONS

PARCEL 2:

THOSE CERTAIN PARCELS OF LAND WITH THE IMPROVEMENTS THEREON IN HYANNIS, BARNSTABLE COUNTY, MASSACHUSETTS AND SHOWN AS LOT 11 AND LOT 12 ON SUBDIVISION PLAN NO. 29719B, DATED DECEMBER 9, 1963, DRAWN BY E. KELLOGG, SURVEYOR AND FILED IN THE LAND REGISTRATION OFFICE AT BOSTON, A COPY OF WHICH IS FILED IN BARNSTABLE COUNTY REGISTRY OF DEEDS IN LAND REGISTRATION BOOK 371, PAGE 35, CERTIFICATE OF TITLE NO. 54825, BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

LOT 11

NORTHWESTERLY:	BY ENTERPRISE ROAD, ONE HUNDRED TWENTY-FIVE (125) FEET;
NORTHERLY:	BY A PORTION OF LAND NOW OR FORMERLY OF THOMAS K. HURST, ONE HUNDRED SIXTY-FOUR AND 63/100 (164.63) FEET;
NORTHEASTERLY:	BY A PORTION OF LAND NOW OR FORMERLY OF SAMUEL E. HURST, ONE HUNDRED SIXTY-EIGHT AND 20/100 (168.20) FEET; AND
SOUTHWESTERLY:	BY LOT 12, TWO HUNDRED TWENTY AND 76/100 (220.76) FEET.

LOT 12:

NORTHWESTERLY:	BY ENTERPRISE ROAD, ONE HUNDRED (100) FEET;
NORTHERLY:	BY LOT 11, TWO HUNDRED TWENTY AND 79/100 (220.79) FEET;
NORTHEASTERLY:	BY A PORTION OF LAND NOW OR FORMERLY OF SAMUEL E. HURST, ONE HUNDRED SIX AND 87/100 (106.87) FEET; AND
SOUTHERLY:	BY LOTS 14 AND 13, TWO HUNDRED FIFTY-EIGHT AND 47/100 (258.47) FEET.

TOGETHER WITH APPURTENANT RIGHT OF WAY OVER ENTERPRISE ROAD AND CORPORATION STREET IN COMMON WITH OTHERS ENTITLED THERETO; ALSO A FORTY FOOT WAY ADJACENT TO LOTS 15 AND 16 IN COMMON WITH ALL OTHERS LEGALLY ENTITLED THERETO.

PARCEL 3:

THE LAND WITH THE IMPROVEMENTS THEREON, KNOWN AND NUMBERED AS 937, 939, 943 AND 947, ROUTE 132, SITUATED IN BARNSTABLE (HYANNIS), BARNSTABLE COUNTY, MASSACHUSETTS, AND SHOWN AS LOTS 10, 11, 12, 13 AND 14 ON LAND COURT PLAN NO. 13216I, SEE CERTIFICATE OF TITLE NO. 149781.

NOTE: PARCELS 1 & 4-13 ARE OUTSIDE THE SCOPE OF THIS SURVEY AND HAVE NOT BEEN SHOWN.

SURVEYOR'S DESCRIPTION
LEASE AREA
LOTS 18, 19 & 23 AND A 60' WIDE PRIVATE WAY
MAP 294
TOWN OF BARNSTABLE
BARNSTABLE COUNTY, COMMONWEALTH OF MASSACHUSETTS

BEGINNING AT A POINT ON THE SOUTHERLY LINE OF IYANNOUGH ROAD (A.K.A. ROUTE 132, PUBLIC - 96' WIDE) AT THE INTERSECTION WITH THE WESTERLY LINE OF NEW ENTERPRISE ROAD (A.K.A. ENTERPRISE ROAD EXTENSION, PUBLIC - VARIABLE WIDTH), THENCE ALONG SAID NEW ENTERPRISE ROAD THE FOLLOWING THREE (3) COURSES:

1. ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 50.00 FEET, A CENTRAL ANGLE OF 91 DEGREES - 17 MINUTES - 31 SECONDS, AN ARC LENGTH OF 79.66 FEET, ALSO BEARING A CHORD OF SOUTH 13 DEGREES - 27 MINUTES - 28 SECONDS EAST WITH A CHORD DISTANCE OF 71.50 FEET TO A POINT OF COMPOUND CURVATURE, THENCE
2. ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 229.45 FEET, A CENTRAL ANGLE OF 9 DEGREES - 23 MINUTES - 30 SECONDS, AN ARC LENGTH OF 37.41 FEET, ALSO BEARING A CHORD OF SOUTH 36 DEGREES - 52 MINUTES - 31 SECONDS WEST WITH A CHORD DISTANCE OF 37.37 FEET TO A POINT OF TANGENCY, THENCE
3. SOUTH 41 DEGREES - 34 MINUTES - 26 SECONDS WEST, A DISTANCE OF 231.14 FEET TO A POINT OF CURVATURE, THENCE ALONG A WAY (PRIVATE - 40' WIDE) THE FOLLOWING TWO (2) COURSES:
4. ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 20.00 FEET, A CENTRAL ANGLE OF 61 DEGREES - 50 MINUTES - 12 SECONDS, AN ARC LENGTH OF 32.43 FEET, ALSO BEARING A CHORD OF SOUTH 72 DEGREES - 30 MINUTES - 12 SECONDS WEST WITH A CHORD DISTANCE OF 30.97 FEET TO A POINT, THENCE
5. NORTH 79 DEGREES - 25 MINUTES - 30 SECONDS WEST, A DISTANCE OF 163.36 FEET TO A POINT, THENCE DEPARTING SAID WAY ALONG THE DIVIDING LINE OF LOT 23, MAP 294 AND LOT 22, MAP 294 (N/F LANDS OF INDEPENDENCE PARK INC.) WITH LOT 29, BLOCK 30A, MAP 294 (N/F LANDS OF NEWMARKET PLACE LP);
6. NORTH 10 DEGREES - 30 MINUTES - 30 SECONDS EAST, A DISTANCE OF 240.94 FEET TO A POINT, THENCE ALONG THE DIVIDING LINE BETWEEN LOT 23, MAP 294 AND LOT 25, MAP 294 (N/F LANDS OF 953 IYANNOUGH RD LLC);
7. SOUTH 79 DEGREES - 29 MINUTES - 30 SECONDS EAST, A DISTANCE OF 50.00 FEET TO A POINT, THENCE ALONG THE DIVIDING LINE BETWEEN A WAY (PRIVATE - 60' WIDE) AND LOT 25, MAP 294;
8. NORTH 10 DEGREES - 30 MINUTES - 30 SECONDS EAST, A DISTANCE OF 150.00 FEET TO A POINT AT THE SOUTHERLY LINE OF SAID IYANNOUGH ROAD, THENCE ALONG SAID IYANNOUGH ROAD;
9. SOUTH 69 DEGREES - 09 MINUTES - 50 SECONDS EAST, A DISTANCE OF 199.30 FEET TO THE POINT AND PLACE OF BEGINNING.

CONTAINING 75,946 SQUARE FEET OR 1.743 ACRES.

THIS SURVEY IS CERTIFIED TO:
CHICK-FIL-A, INC.
CHICAGO TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT WAS BASED WERE MADE IN ACCORDANCE WITH THE "2011 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS," JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 6(b), 7(a), 7(b)(1), 8, 9, 11(b), 13, 14, 16, 17, 18 AND 20 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON JULY 22, 2014.

NOT A VALID ORIGINAL DOCUMENT UNLESS EMBOSSED WITH RAISED IMPRESSION OR STAMPED WITH A BLUE INK SEAL.

GERRY L. HOLDRIGHT
MASSACHUSETTS PROFESSIONAL LAND SURVEYOR #46211

DATE

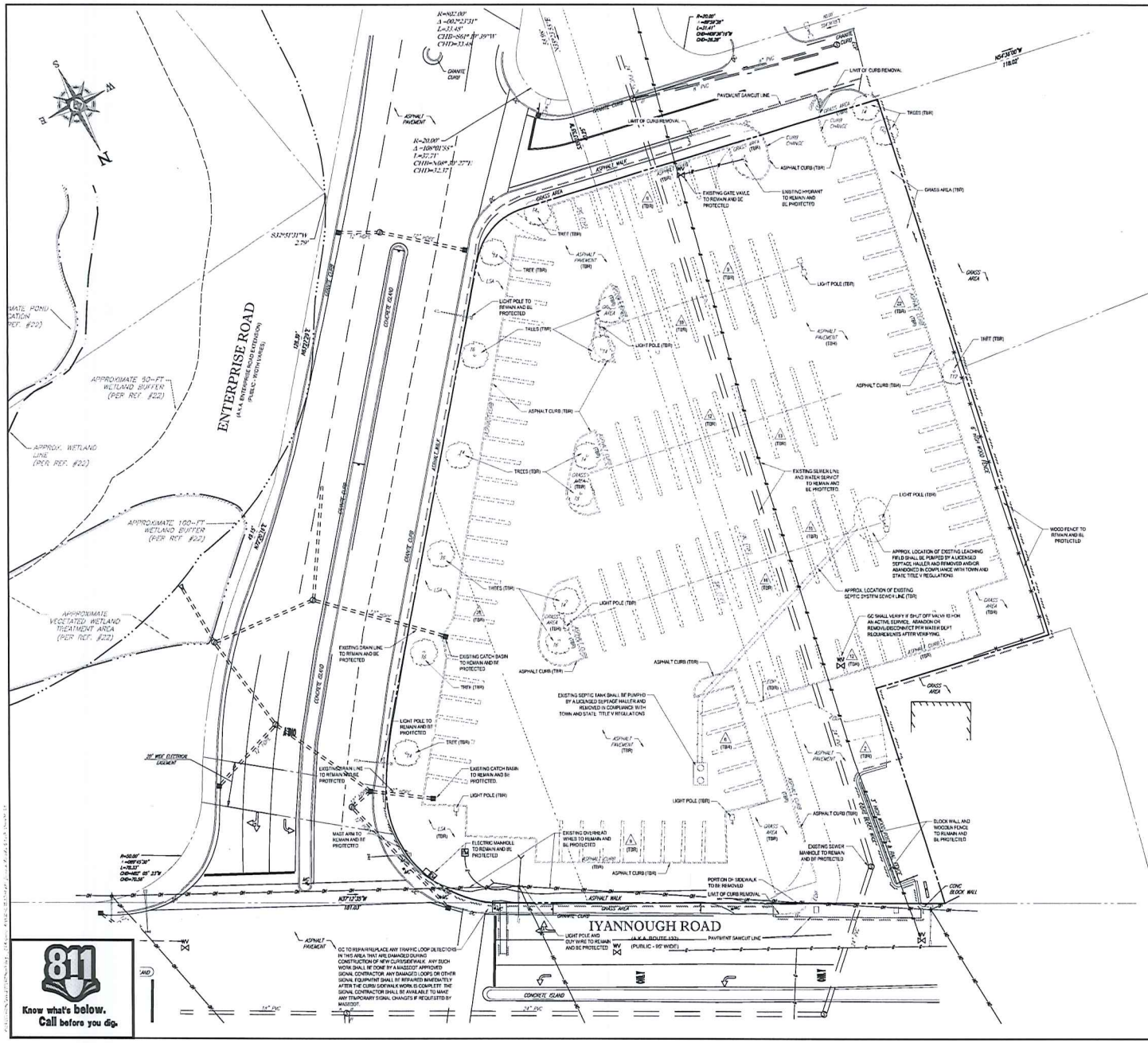
NO.	DESCRIPTION OF REVISION	FIELD CREW	DRAWN	APPROVED	DATE
4	REVISED PER ENCROACHMENTS	N/A	G.L.K.	R.L.P.	4-24-15
3	UPDATED TITLE COMMITMENT	N/A	JRG/A	J.T.L.	2-19-15
2	REVISED PER ATTORNEY COMMENTS	N/A	J.M.K.	A.J.L.	1-6-15
1	REVISED PER ATTORNEY COMMENTS	N/A	J.A.B.	A.J.L.	10-9-14

ALTA/ACSM LAND TITLE SURVEY
CHICK-FIL-A
921 IYANNOUGH ROAD
104 ENTERPRISE ROAD
MAP 294, LOTS 18, 19 & 23
TOWN OF BARNSTABLE
BARNSTABLE COUNTY
COMMONWEALTH OF MASSACHUSETTS

CONTROL POINT ASSOCIATES, INC.
217 TURNPIKE ROAD, SOUTHBOROUGH, MA 01772
WARREN, NJ · CHALFONT, PA

FIELD DATE	FIELD BOOK NO.	FIELD BOOK PG.	FIELD CREW	DRAWN	REVIEWED	APPROVED	DATE	SCALE	FILE NO.	DWG. NO.
7-22-14	1404MA	22-23	T.M.	INDO-SND	J.T.L.	G.L.H.	8-14-14	1"=40'	CM14146	3 OF 3

CONTROL POINT ASSOCIATES, INC. - ALL RIGHTS RESERVED
THE COPYING OR REUSE OF THIS DOCUMENT, OR PORTIONS THEREOF, FOR OTHER THAN THE ORIGINAL PROJECT OR THE PURPOSE ORIGINALLY INTENDED, WITHOUT THE WRITTEN PERMISSION OF CONTROL POINT ASSOCIATES, INC. IS PROHIBITED.



REFER TO GENERAL NOTES SHEET FOR DEMOLITION NOTES

THIS PLAN TO BE UTILIZED FOR DEMOLITION/ REMOVAL PURPOSES ONLY

811 Know what's below. Call before you dig.

Chick-fil-A
5200 Buffington Rd
Atlanta, Georgia 30349-2998

REVISIONS

#	DATE	COMMENT	BY
1	9/15/15	INITIAL SP REVIEW COMMENTS	JNF
2	10/22/15	GMP MEETING COMMENTS	JNF
3	12/2/15	ZBA & VHB COMMENTS	JNF

W.D. GOEBEL
PROFESSIONAL ENGINEER
MASSACHUSETTS LICENSE No. 47643
RHODE ISLAND LICENSE No. 7234
CONNECTICUT LICENSE No. 21854
NEW HAMPSHIRE LICENSE No. 11200
MAINE LICENSE No. EE8244
NEW YORK LICENSE No. 075344-1
FLORIDA LICENSE No. 81424

BOHLER ENGINEERING
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
PHONE: (508) 480-9900
FAX: (508) 486-8200
www.BohlerEngineering.com

STORE #03545
S08H-MODIFIED-N-L
104 ENTERPRISE ROAD
VILLAGE OF HYANNIS
BARNSTABLE COUNTY
MASSACHUSETTS
MAP #294, LOT #18,19,23

SHEET TITLE

DEMOLITION PLAN

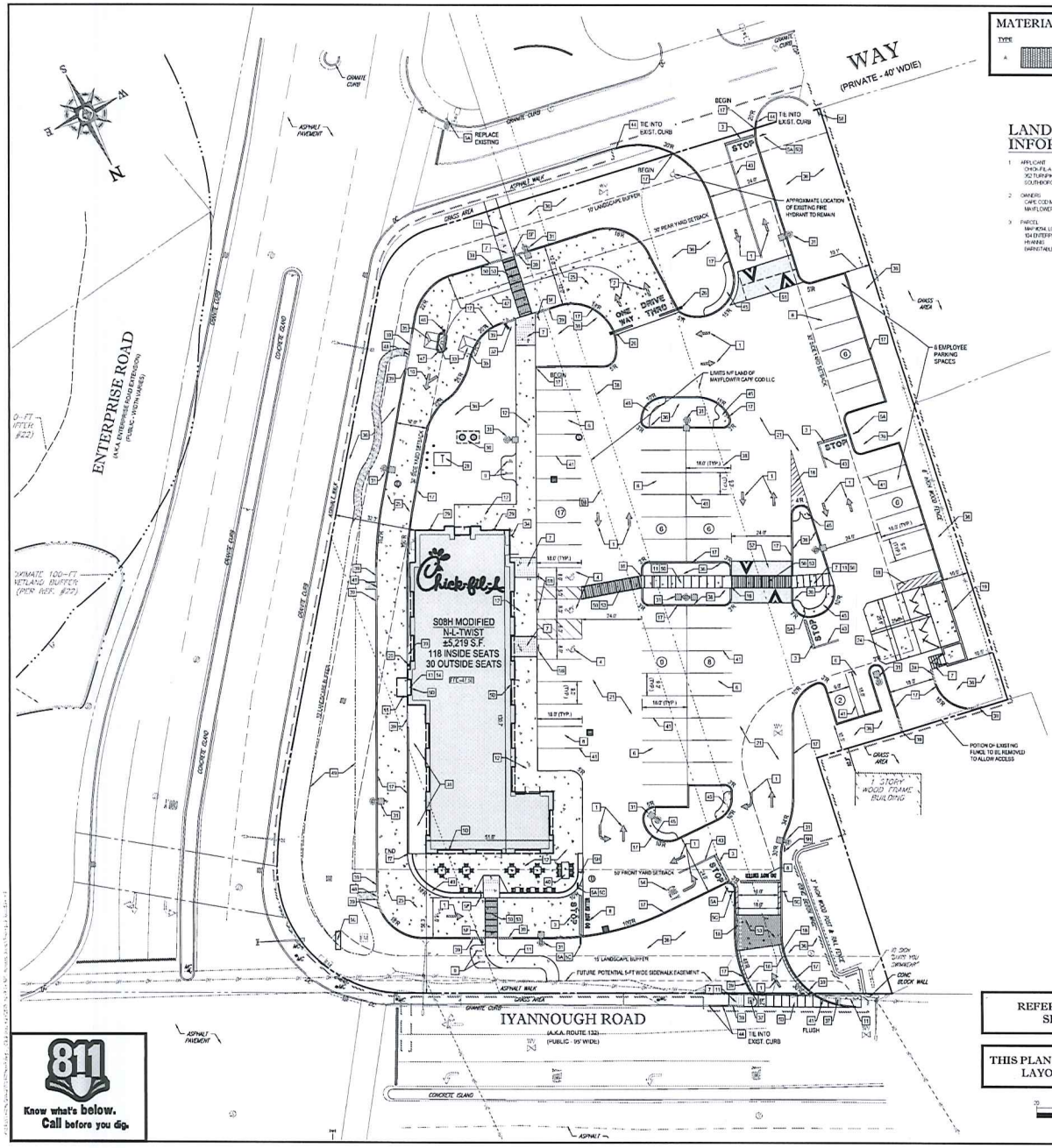
DWG EDITION 02.4

☒ Preliminary
☐ 80% Submittal
☐ For Construction

Job No.	: W141096
Store	: 03545
Date	: 08/27/15
Drawn By	: CFD/JNF
Checked By	: DML/JGS

Sheet

C-1.4



MATERIALS LEGEND:

TYPE	COLOR	STAMP PATTERN
A	DARK GRAY	CLASSIC COBBLE

LAND USE / ZONING INFORMATION & NOTES

1. APPLICANT
   CHICK-FIL-A / 200 BOHLER ENGINEERING
   352 TURNPIKE ROAD
   SOUTHBOROUGH, MA 01772
2. OWNERS:
   CAPE COD MALL LLC (LOT #18)
   MAYFLOWER CAPE COD LLC (LOTS #19,23)
3. PARCEL
   MAP #294, LOT #18,19,23
   104 ENTERPRISE ROAD
   HYANNIS
   BARNSTABLE COUNTY, MASSACHUSETTS

ZONING ANALYSIS TABLE

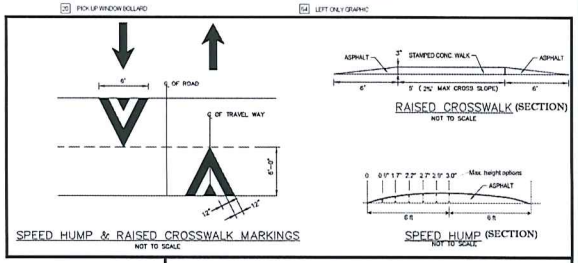
ZONING DISTRICT	SHOPPING CENTER REDEVELOPMENT OVERLAY DISTRICT (SCROD) SUPERCEDES UNDERLYING HIGHWAY BUSINESS DISTRICT. DT RESTAURANTS PROHIBITED WITHIN SCROD		
ZONE CRITERIA	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA OF INDIVIDUAL LOTS	NONE	75,547 SF	NO CHANGE
MINIMUM LOT WIDTH	20'	> 20'	NO CHANGE
MAX BUILDING COVERAGE OF SCROD AREA	50%	< 50%	< 50%
MIN FRONT SETBACK	100' ALONG ROUTE 132 30' ALONG ENTERPRISE	N/A	50.7' TO ROUTE 132 30.3' TO ENTERPRISE
MIN SIDE SETBACK	10'	N/A	> 10'
MIN REAR SETBACK	10'	N/A	> 10'
MAX BUILDING HEIGHT	2 STORIES / 40'±	N/A	1 STORY / 25'
IMPERVIOUS COVERAGE OF SCROD AREA	70%	74% (20,414 S.F.)	66% (18,162 S.F.) *
PARKING SPACES	26	161	68
PARKING CRITERIA (5+1/4)	4.3 SPACES REQUIRED PER 1,000 SF GLA (SCROD) ±4,764 SF / 1,000 X 4.3 = 20.44 SAY 20 PARKING SPACES REQUIRED 1 SPACE REQUIRED PER 3 SEATS + 1 SPACE PER 2 EMPLOYEES (LARGEST SHIFT) (118 SEATS / 3) + (6 EMPLOYEES / 2) = 42.33 SAY 68 PARKING SPACES REQUIRED		
ACCESSIBLE PARKING SPACES	3	N/A	3
ACCESSIBLE PARKING CRITERIA (STANDARD SPACE: 8'+5' WIDE ACCESS AISLE) (VAN ACCESSIBLE SPACE: 8'+8' WIDE ACCESS AISLE)	TOTAL PARKING 51 TO 75 = 3 ACCESSIBLE SPACES VAN ACCESSIBLE SPACES= 1 / 6 SPACES		

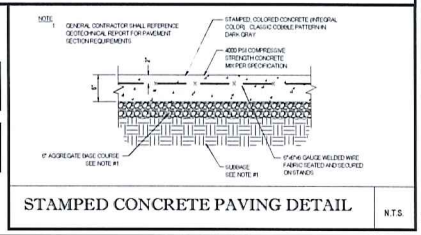
* THE PROPOSED DEVELOPMENT WILL RESULT IN A REDUCTION OF IMPERVIOUS SURFACES BY 0.504 S.F.

SITE PLAN DESIGN NOTES & KEY PLAN

1. DIRECTIONAL ARROW
2. DRIVE-THRU GRAPHICS
3. STOP LINE GRAPHIC
4. PAINTED HANDICAP PARKING SYMBOL
5. DIRECTIONAL SIGNAGE
   ALL SIGNS SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" BY THE U.S. DEPARTMENT OF TRANSPORTATION
   - 5A. STOP SIGN
   - 5B. HANDICAP SIGN WITH BOLLARD BASE
   - 5C. "DO NOT ENTER" SIGN
   - 5D. "NO RIGHT TURN" SIGN
   - 5E. "PRIVATE DRIVE NO TRESPASSING" SIGN

   IDENTITY SIGNAGE
   ALL SIGNS SHALL CONFORM TO PLANS ENTITLED: "SIGN SUPPLY GRAPHIX HYANNIS, MA STORE #03545 PREPARED BY ANCHOR SIGN DATED 09/05/14
   - 5F. CHANNEL LETTER SIGN (ILLUMINATED) 44" "CHICK-FIL-A" - 23.33 SF
   - 5G. MONUMENT SIGN (ILLUMINATED) - "CHICK-FIL-A" - 23.33 SF
   - 5H. PEDESTRIAN CROSSWALK SIGN
   - 5I. "NO RIGHT TURN" SIGN
6. STANDARD PARKING STALL (9'x18')
7. SIDEWALK ACCESSIBLE RAMP
8. STOP LINE / DO NOT ENTER GRAPHIC
9. BIKE RACK
10. DRIVE-THRU DIRECTIONAL GRAPHICS
11. TYPICAL 6' WIDE CONCRETE SIDEWALK
12. MONOLITHIC CURB & SIDEWALK
13. DRIVE-THRU PLAN (SEE DETAIL)
14. DRIVE-THRU ISOMETRIC (SEE DETAIL)
15. CANOPY / AWNING
16. 5' WIDE CURB BREAK
17. PRE-CAST CONCRETE CURB
18. STRIPED ISLAND 4" SWGL 2 O.C. @ 45°
19. REFUSE ENCLOSURE FOUNDATION (REFER TO ARCHITECTURAL PLANS)
20. PICK UP WINDOW BOLLARD
21. TYPICAL PAVEMENT SECTION (SEE DETAIL)
22. TRANSVERSE & LONGITUDINAL CONTRACTION JOINT (NOT SHOWN)
23. TRANSVERSE & LONGITUDINAL DOWELED CONST. JOINT (NOT SHOWN)
24. CONCRETE APRON @ TRASH ENCLOSURE
25. CONCRETE PAVING @ DRIVE THRU LANE
26. CLEARANCE BAR
27. (NOT USED)
28. TRANSFORMER WITH BOLLARDS
29. ROOF DOWNSPOUT (TO CONNECT TO SITE DRAINAGE SYSTEMS)
30. GREASE TRAP
31. AREA LIGHT
32. PRE-SELL MENUBOARD
33. MENUBOARD & CANOPY ORDERING STATION
34. FIRE DEPARTMENT CONNECTION
35. MENUBOARD LOOP DETECTOR SYSTEM
36. LANDSCAPED AREA
37. DETECTABLE WARNING PANEL
38. INTERIOR PROPERTY LINE
39. TRANSITION CURB
40. SEASONAL OUTDOOR SEATING AREA (REFER TO ARCHITECTURAL PLANS)
41. 4" WIDE WHITE STRIPE
42. 4" WIDE YELLOW STRIPE
43. 4" WIDE DOUBLE YELLOW LANE
44. GRANITE CURB
45. LANDSCAPE AND IRRIGATION PROTECTION
46. DRIVE-THRU ORDER POINT BOLLARD
47. DRIVE-THRU ORDER POINT ISLAND CURB
48. 3' WIDE CURB BREAK
49. SEATING WALL (REFER TO ARCHITECTURAL PLANS)
50. 5' WIDE PAINTED CROSSWALK
51. ASPHALT SPEED HUMP
52. RAISED 5' WIDE CROSSWALK (SEE DETAIL)
53. STAMPED CONCRETE (SEE DETAIL)
54. LEFT ONLY GRAPHIC





STAMPED CONCRETE PAVING DETAIL — N.T.S.

REFER TO GENERAL NOTES SHEET FOR NOTES

THIS PLAN TO BE UTILIZED FOR SITE LAYOUT PURPOSES ONLY

20 10 5 0 20
1" = 20'

811 Know what's below. Call before you dig.

Chick-fil-A
5200 Buffington Rd
Atlanta, Georgia 30349-2998

REVISIONS

#	DATE	COMMENT	BY
1	9/15/15	INITIAL SP REVIEW COMMENTS	JNF
2	10/22/15	GMP MEETING COMMENTS	JNF
3	12/2/15	ZBA & VHB COMMENTS	JNF
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

W.D. GOEBEL
PROFESSIONAL ENGINEER
MASSACHUSETTS LICENSE No. 42464
RHODE ISLAND LICENSE No. 7314
CONNECTICUT LICENSE No. 21795
NEW HAMPSHIRE LICENSE No. 11200
MAINE LICENSE No. 9746
NOT FOR LICENSE No. 57041
FLORIDA LICENSE No. 69606

BOHLER ENGINEERING
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
Fax: (508) 480-9899
www.BohlerEngineering.com

STORE #03545
S08H-MODIFIED-N-L
104 ENTERPRISE ROAD
VILLAGE OF HYANNIS
BARNSTABLE COUNTY
MASSACHUSETTS
MAP #294, LOT #18,19,23

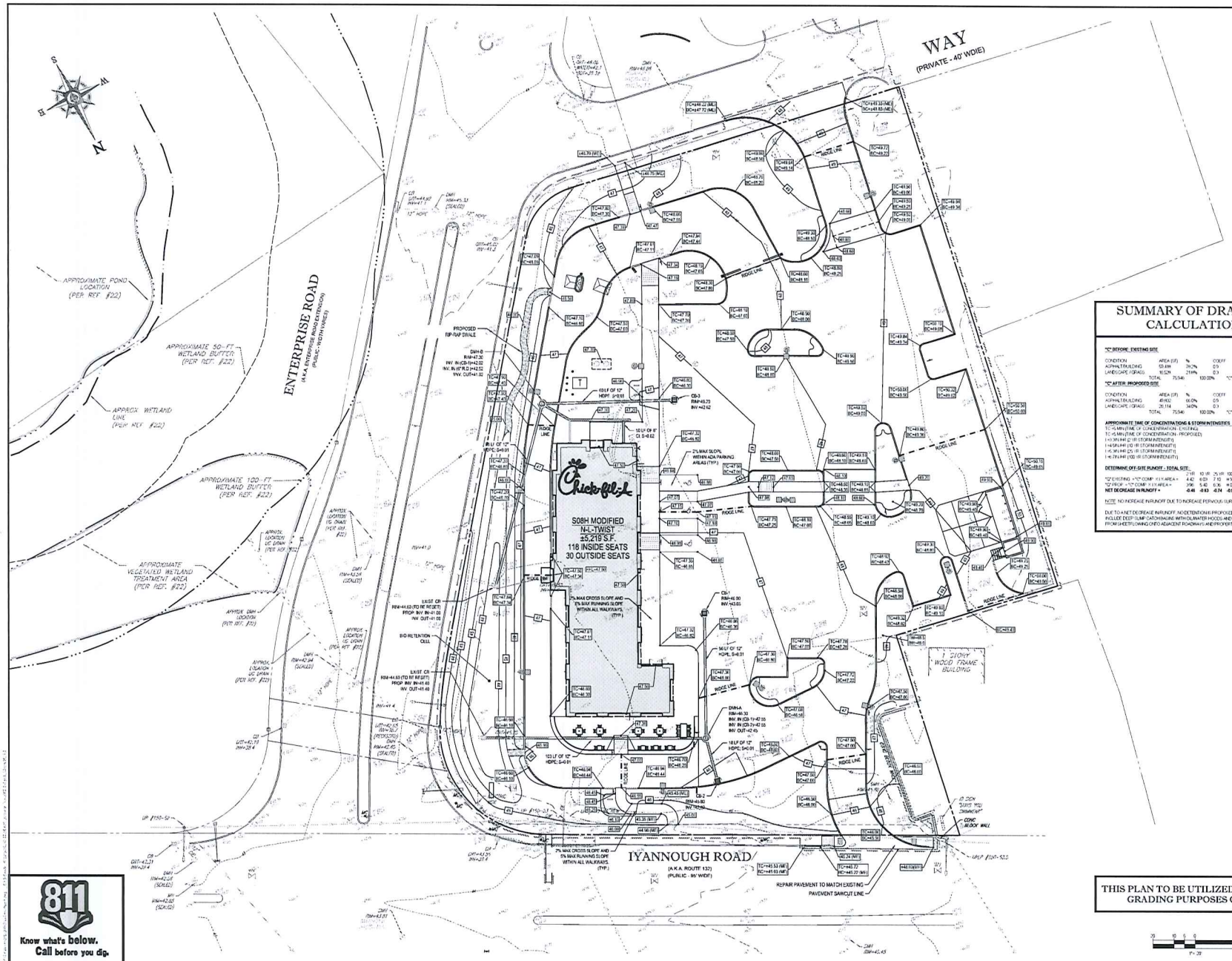
SHEET TITLE
SITE PLAN

DWG EDITION 02.4

☒ Preliminary
☐ 80% Submittal
☐ For Construction

Job No.	W141096
Store	03545
Date	08/27/15
Drawn By	CFD/JNF
Checked By	DML/JGS

Sheet
C-2.0



SUMMARY OF DRAINAGE CALCULATIONS

"C" BEFORE EXISTING SITE

CONDITION	AREA (SF)	%	COEFF	FRACT COMP
ASPHALT BUILDING	50,418	28.2%	0.9	0.70
LANDSCAPE / GRASS	16,521	21.6%	0.3	0.07
TOTAL	75,940	100.00%	"C" COMPOS	=0.77

"C" AFTER PROPOSED SITE

CONDITION	AREA (SF)	%	COEFF	FRACT COMP
ASPHALT BUILDING	40,802	66.0%	0.9	0.59
LANDSCAPE / GRASS	26,114	34.0%	0.3	0.10
TOTAL	75,940	100.00%	"C" COMPOS	=0.69

APPROXIMATE TIME OF CONCENTRATIONS & STORM INTENSITIES

TC =5 MIN (TIME OF CONCENTRATION - EXISTING)
TC =5 MIN (TIME OF CONCENTRATION - PROPOSED)
I =3.36 IN/HR (2 YR STORM INTENSITY)
I =4.58 IN/HR (10 YR STORM INTENSITY)
I =5.36 IN/HR (25 YR STORM INTENSITY)
I =6.78 IN/HR (100 YR STORM INTENSITY)

DETERMINE OFF-SITE RUNOFF - TOTAL SITE

	2 YR	10 YR	25 YR	100 YR	
"Q" EXISTING =*"C" COMP. X I X AREA =	4.42	6.03	7.10	8.94	CFS
"Q" PROP. =*"C" COMP. X I X AREA =	3.96	5.40	6.36	8.04	CFS
NET DECREASE IN RUNOFF =	**-0.46**	**-0.63**	**-0.74**	**-0.94**	**CFS**

NOTE: NO INCREASE IN RUNOFF DUE TO INCREASE PERVIOUS SURFACES (0.295 SF)

DUE TO A NET DECREASE IN RUNOFF, NO DETENTION IS PROPOSED. DRAINAGE IMPROVEMENTS INCLUDE DEEP SUMP CATCH BASINS WITH OILWATER HOODS AND PREVENTING STORMWATER FROM SHEETFLOWING ONTO ADJACENT ROADWAYS AND PROPERTIES.

THIS PLAN TO BE UTILIZED FOR SITE GRADING PURPOSES ONLY

1" = 20'

Chick-fil-A
5200 Buffington Rd
Atlanta Georgia, 30349-2998

REVISIONS

#	DATE	COMMENT	BY
1	9/15/15	INITIAL SP REVIEW COMMENTS	JNF
2	10/22/15	CMP MEETING COMMENTS	JNF
3	12/2/15	ZBA & VHB COMMENTS	JNF
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

W.D. GOEBEL
PROFESSIONAL ENGINEER
MASSACHUSETTS LICENSE No. 42044
RHODE ISLAND LICENSE No. 7759
CONNECTICUT LICENSE No. 21484
NEW HAMPSHIRE LICENSE No. 16250
MAINE LICENSE No. 9437
NEW YORK LICENSE No. 071394-1
FLORIDA LICENSE No. 44474

BOHLER ENGINEERING

BOHLER ENGINEERING
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone (508) 480-9900
Fax (508) 480-9900
www.BohlerEngineering.com

STORE #03545
S08H-MODIFIED-N-L
104 ENTERPRISE ROAD
VILLAGE OF HYANNIS
BARNSTABLE COUNTY
MASSACHUSETTS
MAP #294, LOT #18,19,23

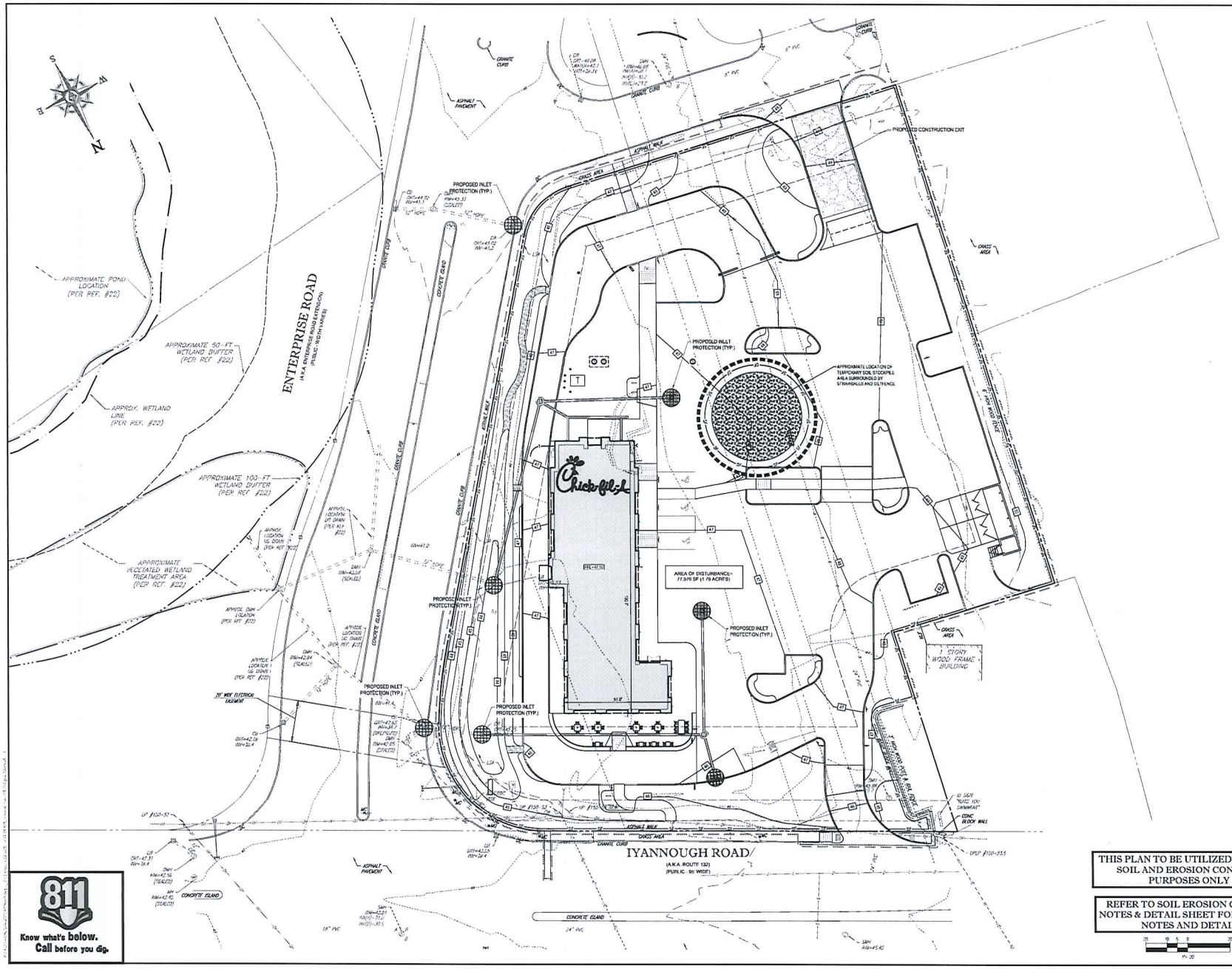
SHEET TITLE
GRADING & DRAINAGE PLAN

DWG EDITION 02.4

☒ Preliminary
☐ 80% Submittal
☐ For Construction

Job No.	: W141096
Store	: 03545
Date	: 08/27/15
Drawn By	: CFD/JNF
Checked By	: DML/JGS

Sheet
C-3.0



THIS PLAN TO BE UTILIZED FOR SITE SOIL AND EROSION CONTROL PURPOSES ONLY

REFER TO SOIL EROSION CONTROL NOTES & DETAIL SHEET FOR EROSION NOTES AND DETAILS

1" = 20'

Chick-fil-A
5200 Buffington Rd.
Atlanta, Georgia 30349-2998

REVISIONS

#	DATE	COMMENT	BY
1	9/15/15	INITIAL SP REVIEW COMMENTS	JNF
2	10/22/15	GMP MEETING COMMENTS	JNF
3	12/2/15	ZHA & VHB COMMENTS	JNF
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

W.D. GOEBEL
PROFESSIONAL ENGINEER
MASSACHUSETTS LICENSE No. 42642
RHODE ISLAND LICENSE No. 7234
CONNECTICUT LICENSE No. 21954
NEW HAMPSHIRE LICENSE No. 11200
MAINE LICENSE No. 9000
NEW YORK LICENSE No. 072647
FLORIDA LICENSE No. 69455

BOHLER ENGINEERING
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
(508) 480-9900
Fax (508) 480-9020
www.BohlerEngineering.com

STORE #03545
S08H-MODIFIED-N-L
104 ENTERPRISE ROAD
VILLAGE OF HYANNIS
BARNSTABLE COUNTY
MASSACHUSETTS
MAP #294 , LOT #18,19,23

SHEET TITLE
SOIL EROSION & SEDIMENT CONTROL PLAN

DWG EDITION 02.4

☒ Preliminary
☐ 80% Submittal
☐ For Construction

Job No.	W141096
Store	03545
Date	08/27/15
Drawn By	CFD/JNF
Checked By	DML/JGS

Sheet
C-3.1

EROSION & SEDIMENT CONTROL NOTES

1. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE AS SET FORTH IN THE "EROSION AND SEDIMENT CONTROL HANDBOOK" PUBLISHED BY THE U.S.D.A. SOIL CONSERVATION SERVICE, STORRS, CONNECTICUT, 1972, AS AMENDED.
2. THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE LEFT IN AN UNTREATED OR UNVEGETATED CONDITION FOR A MINIMUM TIME. AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF THE SOIL. IF THE DISTURBANCE IS WITHIN 100 FEET OF A STREAM OR POND, THE AREA SHALL BE STABILIZED WITHIN 7 DAYS OR PRIOR TO ANY STORM EVENT (THIS WOULD INCLUDE WETLANDS).
3. SEDIMENT BARRIERS (SILT FENCE, STRAW BARRIERS, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15% AFTER OCTOBER 1ST. THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.
4. INSTALL SILT FENCE AT TOE OF SLOPE TO FILTER SILT FROM RUNOFF. SEE SILT FENCE DETAIL FOR PROPER INSTALLATION. SILT FENCE WILL REMAIN IN PLACE PER NOTE #5.
5. ALL EROSION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSURE. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE STABILIZED BY TURF.
6. NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO TO ONE (2:1).
7. IF FINAL SEEDING OF THE DISTURBED AREAS IS NOT COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST, USE TEMPORARY MULCH (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
8. TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINAL GRADED SHALL BE COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST TO PROTECT FROM SPRING RUNOFF PROBLEMS.
9. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO THE SITE AND REGRADED ONTO OPEN AREAS.
10. REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED, AND PREPARED FOR FINAL SEEDING AS FOLLOWS:

    10.1 SIX INCHES OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND SMOOTHED TO A UNIFORM SURFACE.

    10.2 APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 800 LB PER ACRE OR 18.4 LB PER 1,000 SF USING 10-20-20 OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB PER 1,000 SF).

    10.3 FOLLOWING SEEDBED PREPARATION, DITCHES AND BACK SLOPES WILL BE SEEDED TO A MIXTURE OF 47% CREEPING RED FESCUE, 5% REDTOP, AND 48% TALL FESCUE. THE LAWN AREAS WILL BE SEEDED TO A PREMIUM TURF MIXTURE OF 44% KENTUCKY BLUE-GRASS, 44% CREEPING RED FESCUE, AND 12% PERENNIAL RYEGRASS. SEEDING RATE IS 1.03 LBS PER 1,000 SF. LAWN QUALITY SOD MAY BE SUBSTITUTED FOR SEED.

    10.4 HAY MULCH AT THE RATE OF 70-90 LBS PER 1,000 SF. A HYDRO-APPLICATION OF WOOD OR PAPER FIBER SHALL BE APPLIED FOLLOWING SEEDING. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS WILL BE USED ON HAY MULCH FOR WIND CONTROL.
11. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE IS STABILIZED.
12. WETLANDS WILL BE PROTECTED W/STRAW BALES AND/OR SILT FENCE INSTALLED AT THE EDGE OF THE WETLAND OR THE BOUNDARY OF WETLAND DISTURBANCE.
13. ALL AREAS WITHIN 100 FEET OF A FLAGGED WETLAND OR STREAM SHALL HAVE AN EXPOSURE WINDOW OF NOT MORE THAN 7 DAYS.
14. ALL AREAS WITHIN 100 FEET OF A FLAGGED WETLAND OR STREAM SHALL FOLLOW APPROPRIATE EROSION CONTROL MEASURES PRIOR TO EACH STORM IF NOT BEING ACTIVELY WORKED.

MULCH

LOCATION	MULCH	RATE (1000 SF)
PROTECT AREA	STRAW OR HAY	100 POUNDS
WINDY AREA	SHREDDED OR CHOPPED CORNSTALKS STRAW OR HAY (ANCHORED)*	185-275 POUNDS 100 POUNDS
MODERATE TO HIGH VELOCITY AREAS OR STEEP SLOPES GREATER THAN 3:1	JUTE MESH OR EXCELSIOR MAT	AS REQUIRED
GREATER THAN 3:1	(REFER TO GEOTECHNICAL REPORT FOR FINAL DESIGN REQUIREMENT)	

* A HYDRO-APPLICATION OF WOOD, OR PAPER FIBER MAY BE APPLIED FOLLOWING SEEDING. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS SHALL BE USED ON HAY MULCH FOR WIND CONTROL.

MULCH ANCHORING
ANCHOR MULCH WITH PEG AND TWINE (1 SQ. YD/BLOCK), MULCH NETTING (AS PER MANUFACTURER), WOOD CELLULOSE FIBER (750 LBS/ACRE), CHEMICAL TACK (AS PER MANUFACTURER'S SPECIFICATIONS), USE OF A SERRATED STRAIGHT DISK. WETTING FOR SMALL AREAS AND ROAD DITCHES MAY BE PERMITTED.

EROSION CONTROL NOTES DURING WINTER CONSTRUCTION

1. WINTER CONSTRUCTION PERIOD: NOVEMBER 1 THROUGH APRIL 15.
2. WINTER EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
3. EXPOSED AREA SHOULD BE LIMITED TO THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT.
4. CONTINUATION OF EARTHWORK OPERATION ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED SUCH THAT NO LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 2 ABOVE.
5. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR HAY AT A RATE OF 100 LB PER 1,000 SQUARE FEET (WITH OR WITHOUT SEEDING) OR DORMANT SEEDED, MULCHED AND ADEQUATELY ANCHORED BY AN APPROVED ANCHORING TECHNIQUE.
6. BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1ST, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES THE SLOPES SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS BEEN LOAMED, FINAL GRADED AND IS SMOOTH, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 200 - 300% HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, ALL EXPOSED AREAS SHALL BE CONTINUOUSLY GRADED BEFORE FREEZING AND THE SURFACE TEMPORARILY PROTECTED FROM EROSION BY THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT UNEXPOSED OVER THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT, EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF BALES OF HAY OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS.
7. MULCHING REQUIREMENTS

    7.1 BETWEEN THE DATES OF NOVEMBER 1ST AND APRIL 15TH ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING OR WOOD CELLULOSE FIBER.

    7.2 MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPE EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8%.

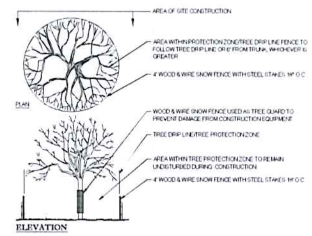
    7.3 MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15% AFTER OCTOBER 1ST. THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.
8. AFTER NOVEMBER 1ST THE CONTRACTOR SHALL APPLY DORMANT SEEDING OR MULCH AND ANCHORING ON ALL BARE EARTH AT THE END OF EACH WORKING DAY.
9. DURING THE WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.
10. STOCKPILING OF MATERIALS (DIRT, WOOD, CONSTRUCTION MATERIALS, ETC.) MUST REMAIN COVERED AT ALL TIMES TO MINIMIZE ANY DUST PROBLEMS THAT MAY OCCUR WITH ADJACENT PROPERTIES AND TO PROVIDE MAXIMUM PROTECTION AGAINST EROSION RUNOFF.
11. EXISTING CATCH BASIN STRUCTURES SHALL BE PROTECTED UNTIL SUCH TIME AS THEY ARE REMOVED.

811
Know what's below.
Call before you dig.

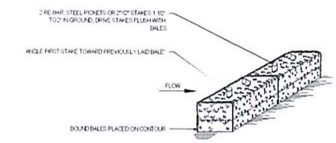
CONSTRUCTION SEQUENCE

THE FOLLOWING CONSTRUCTION SEQUENCE IS RECOMMENDED:

- INSTALLATION OF STABILIZED CONSTRUCTION ENTRANCE/EXIT (AS SHOWN)
- INSTALLATION OF EROSION CONTROL BARRIER (STRAW BALES AND SILT FENCE) (AS SHOWN)
- INSTALLATION OF INLET PROTECTION (AS REQUIRED TO KEEP SEDIMENT OUT OF DEVELOPMENT SYSTEM)
- DEMOLITION OF EXISTING SITE PAVEMENT AND AMENITIES (SEE DEMOLITION PLAN)
- CLEARING AND REMOVAL OF TREES AND TOPSOIL
- INSTALLATION OF TEMPORARY SWALES AND SEDIMENT BASINS (AS NECESSARY)
- EARTHWORK AND EXCAVATION/FILLING AS NECESSARY
- CONSTRUCTION OF UTILITIES
- STABILIZE PERMANENT LAWN AREAS AND SLOPES WITH TEMPORARY SEEDING
- INSTALLATION OF INLET PROTECTION ON ON-SITE UTILITIES (AS SHOWN)
- CONSTRUCTION OF BUILDING
- CONSTRUCTION OF ALL CURBING AND LANDSCAPE ISLANDS AS INDICATED ON THE PLANS
- SPREAD TOPSOIL ON SLOPED AREAS AND SEED AND MULCH
- FINAL GRADING OF ALL SLOPED AREAS PER GRADING PLAN
- PLACE 6" TOPSOIL ON SLOPES AFTER FINAL GRADING COMPLETED. FERTILIZE, SEED AND MULCH SEED MIXTURE TO BE INSTALLED REQUIRED
- REMOVAL OF THE TEMPORARY SEDIMENT BASINS
- PAVE PARKING LOT
- LANDSCAPING PER LANDSCAPING PLAN
- REMOVE EROSION CONTROLS AS DISTURBED AREAS BECOME STABILIZED TO 70% STABILIZATION OR GREATER



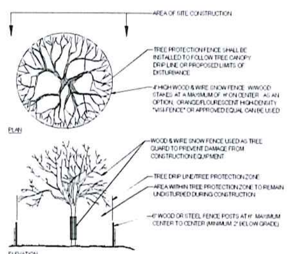
TREE PROTECTION DURING CONSTRUCTION
N.T.S.



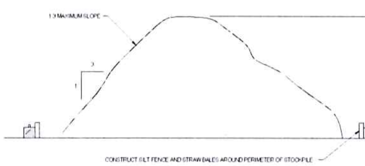
DRAINAGE AREA NO MORE THAN 1/4 AC. PER 100 FEET OF STRAW BALE DIKE FOR SLOPES LESS THAN 25%

NOTES:
1. BALES SHALL BE PLACED AT THE TOP OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

STRAW BALE DETAIL
N.T.S.

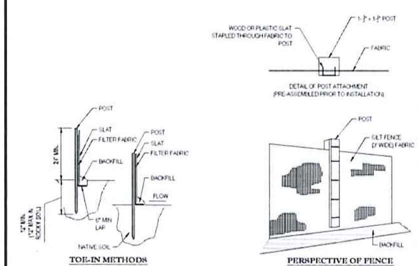


TREE PROTECTION DURING SITE CONSTRUCTION
N.T.S.



TEMPORARY STOCKPILE DETAIL
N.T.S.

INSTALLATION
1. EXCAVATE A 6"x6" TRENCH ALONG THE LINE OF EROSION CONTROL OF THE SITE.
2. UNROLL SILTATION FENCE AND POSITION THE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH (NET SIDE AWAY FROM FLOW DIRECTION).
3. DRIVE THE POST INTO THE GROUND UNTIL THE NETTING IS LAYING ACROSS THE TRENCH BOTTOM.
4. LAY THE TOE-IN FLAP OF THE FABRIC ONTO THE UNDISTURBED BOTTOM OF THE TRENCH, BACKFILL THE TRENCH AND TAMP THE SOIL. TOE-IN CAN ALSO BE ACCOMPLISHED BY LAYING FABRIC FLAP ON UNDISTURBED GROUND AND PILING & TAMPING FILL AT THE BASE.



TYP. SILTATION FENCE DETAIL
N.T.S.

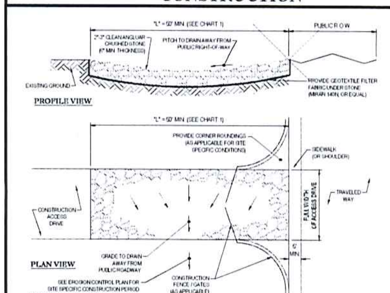


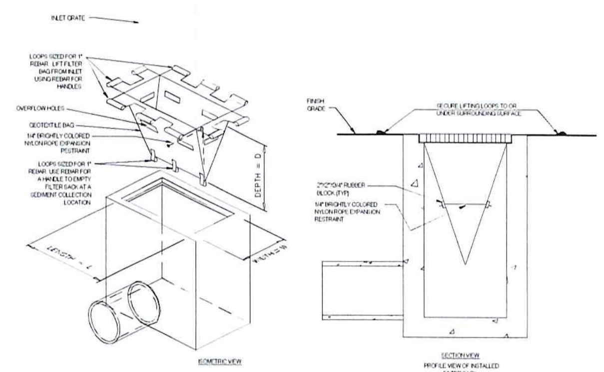
CHART 1

PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED: COARSE GRAINED SOILS	LENGTH OF STONE REQUIRED: FINE GRAINED SOILS
0 TO 2%	50 FT	100 FT
2% TO 5%	100 FT	200 FT
>5%	ENTIRE ENTRANCE STABILIZED WITH FABC BASE COURSE (1)	

(1) AS PRESCRIBED BY LOCAL ORDINANCE OR OTHER GOVERNING AUTHORITY

MAINTENANCE NOTES
1. INSPECT STABILIZED CONSTRUCTION ENTRANCE / ANTI-TRACKING PAD AND SEDIMENT DISPOSAL AREA WEEKLY OF AFTER EVERY MAJOR RAIN STORM EVENT.
2. WASH WATER (IF USED) SHALL BE DIRECTED TOWARD A SEDIMENT TRAP SUFFICIENTLY SIZED FOR SPECIFIC SITE CONDITIONS.
3. EXCESSIVELY MUD-CLOGGED STONE SHALL BE REMOVED AND REPLACED, AS NEEDED.

STABILIZED CONSTRUCTION EXIT
N.T.S.



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	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC-1

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.

DO NOT USE IN PAVED AREAS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

TO BE USED IN EXISTING RIGHT OF WAY.

FILTER SACKS (GRATED INLETS)
N.T.S.

Chick-fil-A
5200 Buffington Rd.
Atlanta, Georgia, 30349-2998

REVISIONS

#	DATE	COMMENT	BY
1	9/15/15	INITIAL SP REVIEW COMMENTS	JNF
2	10/22/15	GMP MEETING COMMENTS	JNF
3	12/2/15	ZBA & VHB COMMENTS	JNF
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

W.D. GOEBEL
PROFESSIONAL ENGINEER

BOHLER ENGINEERING
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
www.BohlerEngineering.com

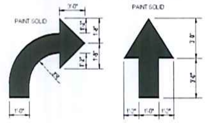
STORE #03545
S08H-MODIFIED-N-L
104 ENTERPRISE ROAD
VILLAGE OF HYANNIS
BARNSTABLE COUNTY
MASSACHUSETTS
MAP #294, LOT #18,19,23

SHEET TITLE
SOIL EROSION CONTROL NOTES & DETAILS SHEET
DWG EDITION 02.4

☒ Preliminary
☐ 80% Submittal
☐ For Construction

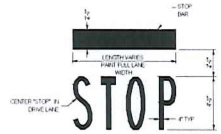
Job No.	W141096
Store	03545
Date	08/27/15
Drawn By	CFD/JNF
Checked By	DML/JGS

Sheet
C-3.2



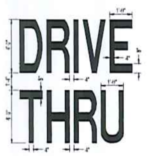
NOTES
1. GENERAL CONTRACTOR SHALL REFER TO CHICK-FIL-A PARKING LOT STRIPING SPECIFICATIONS. SEE DETAIL (5/C4.0)
2. CONTRACTOR SHALL USE WHITE REFLECTIVE PAINT ON ASPHALT & YELLOW REFLECTIVE PAINT ON CONCRETE.

(1/C4.0) DIRECTIONAL ARROW — N.T.S.



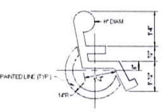
NOTES
1. GENERAL CONTRACTOR SHALL REFER TO CHICK-FIL-A PARKING LOT STRIPING SPECIFICATIONS. SEE DETAIL (5/C4.0)
2. CONTRACTOR SHALL USE WHITE REFLECTIVE PAINT ON ASPHALT & YELLOW REFLECTIVE PAINT ON CONCRETE.

(3/C4.0) STOP LINE GRAPHIC — N.T.S.



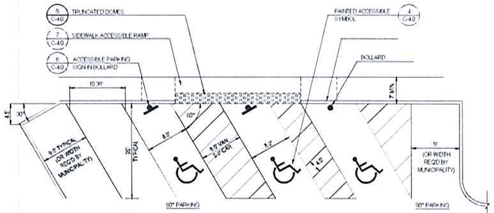
NOTES
1. GENERAL CONTRACTOR SHALL REFER TO CHICK-FIL-A PARKING LOT STRIPING SPECIFICATIONS. SEE DETAIL (5/C4.0)
2. CONTRACTOR SHALL USE WHITE REFLECTIVE PAINT ON ASPHALT & YELLOW REFLECTIVE PAINT ON CONCRETE.

(2/C4.0) DRIVE-THRU GRAPHICS — N.T.S.



NOTES
1. GENERAL CONTRACTOR SHALL REFER TO CHICK-FIL-A PARKING LOT STRIPING SPECIFICATIONS. SEE DETAIL (5/C4.0)
2. CONTRACTOR SHALL USE WHITE REFLECTIVE PAINT ON ASPHALT & YELLOW REFLECTIVE PAINT ON CONCRETE, UNLESS UPON VERIFICATION BY THE GENERAL CONTRACTOR IT IS DETERMINED THAT LOCAL, STATE, OR ADA CODES DIFFER, IN WHICH CASE THESE CODES SHALL GOVERN.

(4/C4.0) PAINTED ACCESSIBLE SYMBOL — N.T.S.



NOTES
1. ACCESSIBLE PARKING AND ACCESSIBLE AISLES SHALL NOT EXCEED 1:50 IN SLOPE IN ANY DIRECTION. IF ONLY ONE ACCESS AISLE IS INSTALLED, IT IS TO BE A VAN SIZE.
2. PARKING STALL DIMENSIONING SHALL BE IN ACCORDANCE WITH APPLICABLE GOVERNING AUTHORITY'S AND ADA STANDARDS AND IF DIFFERENT THAN THIS DETAIL SHALL BE THE DIMENSIONING SHOWN ON THE SITE LAYOUT PLAN.
3. GENERAL CONTRACTOR SHALL REFER TO CHICK-FIL-A PARKING LOT STRIPING SPECIFICATIONS.
4. CONTRACTOR SHALL USE 4" WIDE WHITE REFLECTIVE PAINT FOR STRIPING ON ASPHALT PARKING LOTS.
5. CONTRACTOR SHALL USE 4" WIDE YELLOW REFLECTIVE PAINT FOR STRIPING ON CONCRETE PARKING LOTS.
6. NO WHEEL STOPS TO BE INSTALLED WHEN PARKING IS ADJACENT TO SIDEWALK.
7. ADA SIGNS IN BOLLARDS AND BOLLARDS SHALL BE INSTALLED WHEN PARKING IS ADJACENT TO FLUSH CURB OR A RAMP.

PARKING LOT STRIPING SPECIFICATIONS

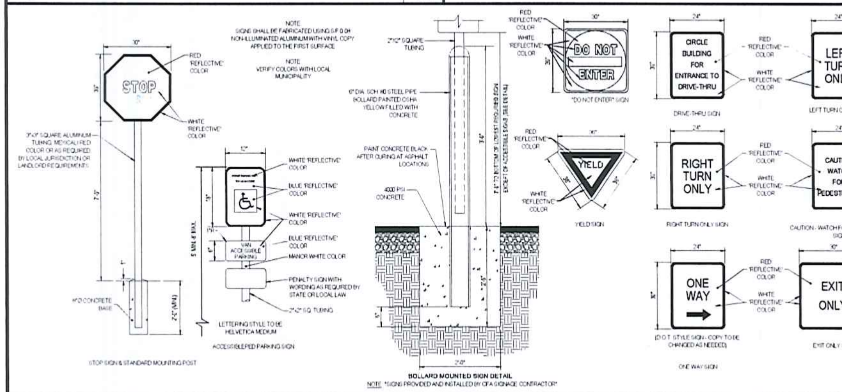
STANDARDS
1. ALWAYS FOLLOW ALL APPLICABLE GOVERNING AUTHORITY'S STANDARDS.
2. SURFACES SHOULD BE CLEAN, DRY, AND FREE FROM LOOSE OR PEELING PAINT. REMOVE ALL OIL, DUST, GREASE, DIRT, AND OTHER FOREIGN MATERIAL TO ENSURE ADEQUATE ADHESION. DO NOT APPLY WHEN AIR OR SURFACE TEMPERATURES ARE BELOW 40°F.
3. APPLY SHERWIN-WILLIAMS SETFAST PREMIUM ALKYD ZONE MARKING PAINT A300 WHITE OR A300 YELLOW USING EITHER AIRLESS OR CONVENTIONAL LINE STRIPING EQUIPMENT. USE THE FOLLOWING SETTINGS AS A GUIDE-ACTUAL SETTINGS DEPEND ON ATMOSPHERIC CONDITIONS AT THE TIME OF APPLICATION.

AIRLESS
- PRESSURE: 1800-2700 PSI
- HOSE: ¼"-⅜" ID
- TIP: 0.015"-0.017"
- FILTER: 60 MESH
- REDUCTION: ONLY IF NECESSARY, UP TO 1PT/GAL VM&P NAPTHA R1K3

CONVENTIONAL
- GUN: BINKS 21 (BLEEDER) OR EQUIVALENT
- FLUID NOZZLE: #6H
- AIR NOZZLE: INTERNAL MIX, #709
- ATOMIZATION PRESSURE: 45-60 PSI
- FLUID PRESSURE: 40-70 PSI
- REDUCTION: ONLY IF NECESSARY, UP TO 1PT/GAL VM&P NAPTHA R1K3

- MIX PAINT THOROUGHLY BY BOXING, STIRRING, OR POWER AGITATION BEFORE USE. APPLY AT 15 MILS WET TO ACHIEVE A SPREAD RATE OF 400-500 LINEAL FEET OF STANDARD 4" STRIPE PER GALLON. APPLIED AT THIS RATE AT 70 DEGREES F AND 50% RELATIVE HUMIDITY, PAINT WILL DRY WITH NO TRAFFIC PICKUP AFTER 20 MINUTES.
- GENERAL CONTRACTOR TO RE-STRIPE THE LOT 45 DAYS AFTER OPENING.

(5/C4.0) STANDARD PARKING STALL — N.T.S.

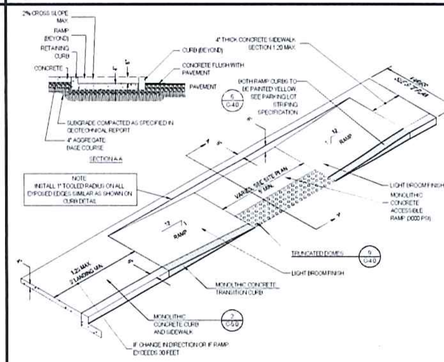


NOTE: SIGNS SHALL BE FABRICATED USING S.F.0.0# NON-ILLUMINATED ALUMINUM WITH VINYL COPY APPLIED TO THE FIRST SURFACE.

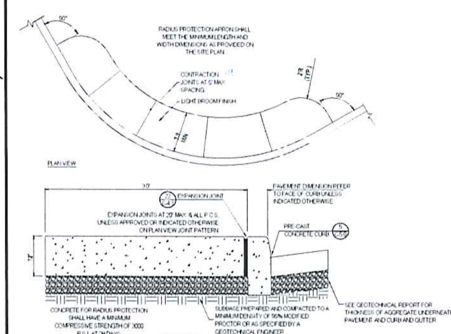
NOTE: VERIFY COLORS WITH LOCAL MUNICIPALITY.

NOTE: *SIGNS PROVIDED AND INSTALLED BY CFA SIGNAGE CONTRACTOR*

(6/C4.0) DIRECTIONAL SIGNAGE — N.T.S.

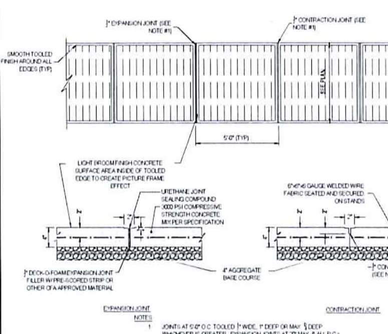


(7/C4.0) SIDEWALK ACCESSIBLE RAMP — N.T.S.



NOTE: GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.

(8/C4.0) LANDSCAPE & IRRIGATION PROTECTOR — N.T.S.



NOTES
1. JOINTS AT 5'-0" O.C. TOOLED ⅛" WIDE, 1" DEEP OR MAX ¼ DEEP WHICHEVER IS GREATER. EXPANSION JOINTS AT 20' MAX. & ALL P.C.s UNLESS APPROVED OR INDICATED OTHERWISE ON PLAN VIEW JOINT PATTERN.

(9/C4.0) TYPICAL CONCRETE SIDEWALK — N.T.S.

NOTE:

THE INFORMATION SHOWN ON THIS DETAIL SHEET REPRESENTS PROTOTYPICAL DESIGN DETAILS PROVIDED TO OUR OFFICE BY CHICK-FIL-A. THE DETAILED INFORMATION SHOWN HEREON IS INCLUDED WITHIN THIS PLAN PACKAGE AT CHICK-FIL-A'S REQUEST AND IS PRESENTED BY BOHLER ENGINEERING AS BEING FOR INFORMATIONAL PURPOSES ONLY. THE ADEQUACY OF THE DESIGN OF THESE DETAILS HAS NOT BEEN CONFIRMED BY BOHLER ENGINEERING. BOHLER ENGINEERING HAS NOT PREPARED, RECEIVED NOR REVIEWED ANY SITE SPECIFIC DESIGN INFORMATION AS IT RELATES TO THE DEVELOPMENT OF THESE DETAILS NOR CONFIRMED THE ADEQUACY OF SAME FOR USE IN CONSTRUCTION OR COMPLIANCE WITH APPLICABLE CODES. BOHLER ENGINEERING SHALL BE HELD HARMLESS FOR THE USE AND IMPLEMENTATION OF THESE DETAILS AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE GENERAL DESIGN INTENT SHOWN IS CONSTRUCTED IN SUCH A MANNER AS TO CONFORM WITH ALL APPLICABLE CODES, REQUIREMENTS, INDUSTRY STANDARDS AND THAT THE INSTALLATION OF SAME IS ADEQUATE FOR SITE, SOIL AND/OR CONSTRUCTION CONDITIONS. SHOULD CONDITIONS OR CODE REQUIREMENTS WARRANT, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE A LICENSED REGISTERED PROFESSIONAL PREPARE SITE SPECIFIC DESIGNS AND DETAILS PRIOR TO COMMENCING WORK.

Chick-fil-A
5200 Buffington Rd.
Atlanta Georgia, 30349-2998

REVISIONS

#	DATE	COMMENT	BY
1	9/15/15	INITIAL SP REVIEW COMMENTS	JNF
2	10/22/15	GMP MEETING COMMENTS	JNF
3	12/2/15	ZBA & VHB COMMENTS	JNF
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

W.D. GOEBEL
PROFESSIONAL ENGINEER

BOHLER ENGINEERING
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
www.BohlerEngineering.com

STORE #03545
S08H-MODIFIED-N-L
104 ENTERPRISE ROAD
VILLAGE OF HYANNIS
BARNSTABLE COUNTY
MASSACHUSETTS
MAP #294, LOT #18,19,23

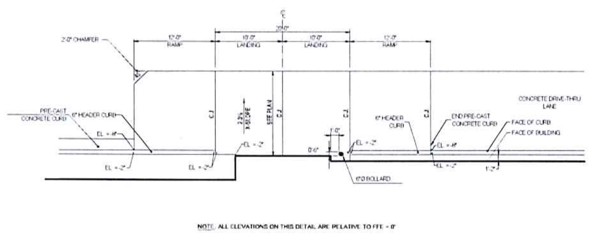
SHEET TITLE
CHICK-FIL-A STANDARD DETAILS

DWG EDITION 02.4

☒ Preliminary
☐ 80% Submittal
☐ For Construction

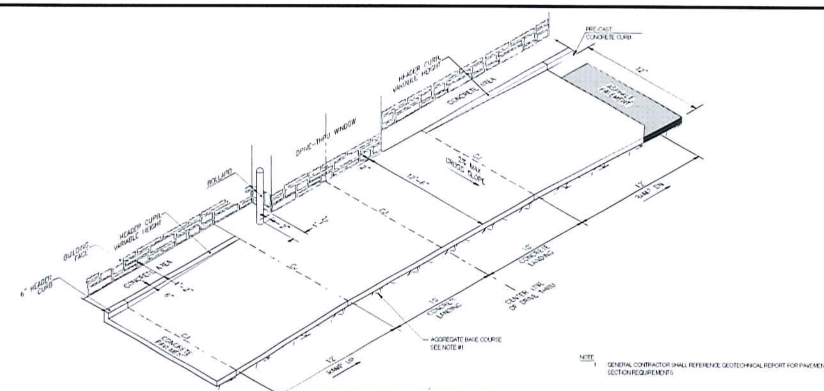
Job No.	W141096
Store	03545
Date	08/27/15
Drawn By	CFD/JNF
Checked By	DML/JGS

Sheet
C-4.0



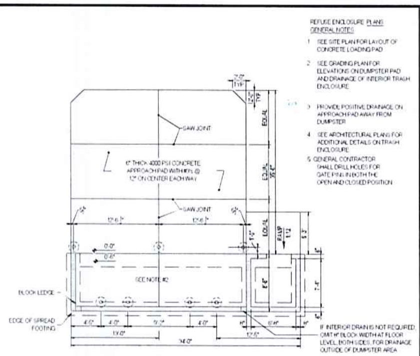
NOTE: ALL ELEVATIONS ON THIS DETAIL ARE RELATIVE TO FFE = 0'

(10 / C4.1) DRIVE-THRU PLAN — N.T.S.



NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS

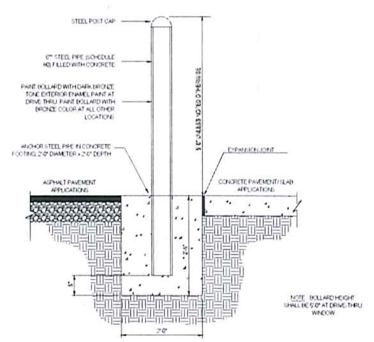
(11 / C4.1) DRIVE-THRU ISOMETRIC — N.T.S.



REFUSE ENCLOSURE PLAN GENERAL NOTES:

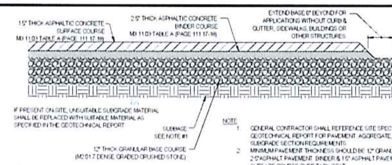
1. SEE SITE PLAN FOR LAYOUT OF CONCRETE LOADING PAD
2. SEE GRADING PLAN FOR ELEVATIONS ON DUMPSTER PAD AND DRAINAGE OF INTERIOR TRASH ENCLOSURE
3. PROVIDE POSITIVE DRAINAGE ON APPROACH PAD AWAY FROM DUMPSTER
4. SEE ARCHITECTURAL PLANS FOR ADDITIONAL DETAILS ON TRASH ENCLOSURE
5. GENERAL CONTRACTOR SHALL DRILL HOLES FOR GATE PINS IN BOTH THE OPEN AND CLOSED POSITION

(12 / C4.1) REFUSE ENCLOSURE FOUNDATION PLAN



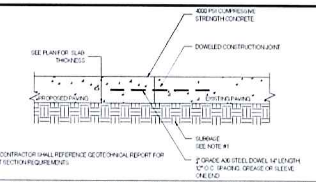
NOTE: BOLLARD HEIGHT SHALL BE 5'-0" AT DRIVE-THRU WINDOW

(13 / C4.1) PICK UP WINDOW BOLLARD — N.T.S.



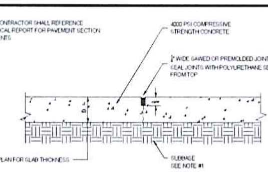
NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE SITE SPECIFIC GEOTECHNICAL REPORT FOR PAVEMENT AGGREGATE, AND SUBGRADE SECTION REQUIREMENTS.
2. MINIMUM PAVEMENT THICKNESS SHOULD BE 12" GRANULAR BASE, 2.5" ASPHALT PAVEMENT BINDER & 1.5" ASPHALT PAVEMENT SURFACE COURSE OVER TACK COAT

(14 / C4.1) TYPICAL PAVEMENT SECTION — N.T.S.



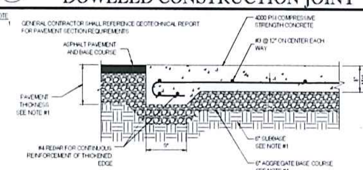
NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS

(16 / C4.1) TRANSVERSE AND LONGITUDINAL DOWELED CONSTRUCTION JOINT — N.T.S.



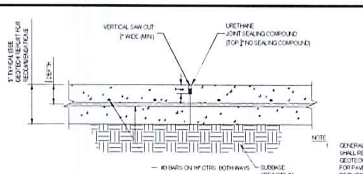
NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS

(15 / C4.1) TRANSVERSE AND LONGITUDINAL CONTRACTION JOINT — N.T.S.



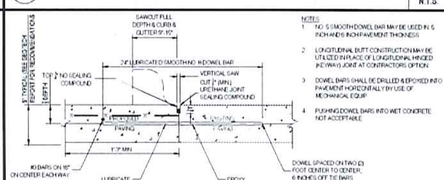
NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS

(17 / C4.1) CONCRETE APRON @ TRASH ENCLOSURE — N.T.S.



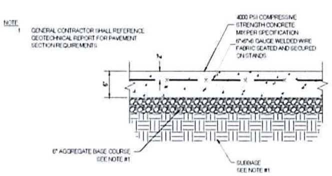
NOTE:
GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS

(18 / C4.1) CONTRACTION JOINT — N.T.S.
THIS DETAIL APPLIES TO CONCRETE PAVED LOTS



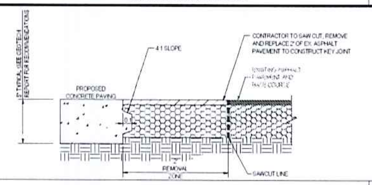
NOTES:
1. NO. 5 SMOOTH DOWEL BAR MAY BE USED IN 5 INCH AND 6 INCH PAVEMENT THICKNESS
2. LONGITUDINAL BUTT CONSTRUCTION MAY BE UTILIZED IN PLACE OF LONGITUDINAL HINGED (KEYWAY) JOINT AT CONTRACTORS OPTION
3. DOWEL BARS SHALL BE DRILLED & EPOXIED INTO PAVEMENT HORIZONTALLY BY USE OF MECHANICAL EQUIP.
4. PUSHING DOWEL BARS INTO WET CONCRETE NOT ACCEPTABLE

(20 / C4.1) LONGITUDINAL BUTT JOINT — N.T.S.
THIS DETAIL APPLIES TO CONCRETE PAVED LOTS

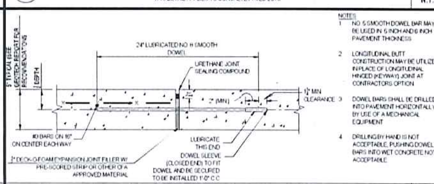


NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS

(22 / C4.1) CONCRETE PAVING DRIVE-THRU LANE — N.T.S.



(19 / C4.1) KEYED CONSTRUCTION JOINT — N.T.S.
THIS DETAIL APPLIES TO CONCRETE PAVED LOTS



NOTES:
1. NO. 5 SMOOTH DOWEL BAR MAY BE USED IN 5 INCH AND 6 INCH PAVEMENT THICKNESS
2. LONGITUDINAL BUTT CONSTRUCTION MAY BE UTILIZED IN PLACE OF LONGITUDINAL HINGED (KEYWAY) JOINT AT CONTRACTORS OPTION
3. DOWEL BARS SHALL BE DRILLED INTO PAVEMENT HORIZONTALLY BY USE OF A MECHANICAL EQUIPMENT
4. DRILLING BY HAND IS NOT ACCEPTABLE, PUSHING DOWEL BARS INTO WET CONCRETE NOT ACCEPTABLE.

(21 / C4.1) EXPANSION JOINT — N.T.S.
THIS DETAIL APPLIES TO CONCRETE PAVED LOTS

NOTE:

THE INFORMATION SHOWN ON THIS DETAIL SHEET REPRESENTS PROTOTYPICAL DESIGN DETAILS PROVIDED TO OUR OFFICE BY CHICK-FIL-A. THE DETAILED INFORMATION SHOWN HEREON IS INCLUDED WITHIN THIS PLAN PACKAGE AT CHICK-FIL-A'S REQUEST AND IS PRESENTED BY BOHLER ENGINEERING AS BEING FOR INFORMATIONAL PURPOSES ONLY. THE ADEQUACY OF THE DESIGN OF THESE DETAILS HAS NOT BEEN CONFIRMED BY BOHLER ENGINEERING. BOHLER ENGINEERING HAS NOT PREPARED, RECEIVED NOR REVIEWED ANY SITE SPECIFIC DESIGN INFORMATION AS IT RELATES TO THE DEVELOPMENT OF THESE DETAILS NOR CONFIRMED THE ADEQUACY OF SAME FOR USE IN CONSTRUCTION OR COMPLIANCE WITH APPLICABLE CODES. BOHLER ENGINEERING SHALL BE HELD HARMLESS FOR THE USE AND IMPLEMENTATION OF THESE DETAILS AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE GENERAL DESIGN INTENT SHOWN IS CONSTRUCTED IN SUCH A MANNER AS TO CONFORM WITH ALL APPLICABLE CODES, REQUIREMENTS, INDUSTRY STANDARDS AND THAT THE INSTALLATION OF SAME IS ADEQUATE FOR SITE, SOIL AND/OR CONSTRUCTION CONDITIONS. SHOULD CONDITIONS OR CODE REQUIREMENTS WARRANT, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE A LICENSED REGISTERED PROFESSIONAL PREPARE SITE SPECIFIC DESIGNS AND DETAILS PRIOR TO COMMENCING WORK.

Chick-fil-A
5200 Buffington Rd.
Atlanta Georgia, 30349-2998

REVISIONS

#	DATE	COMMENT	BY
1	9/15/15	INITIAL SP REVIEW COMMENTS	JNF
2	10/22/15	GMP MEETING COMMENTS	JNF
3	12/2/15	ZBA & VHB COMMENTS	JNF
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

W.D. GOEBEL
PROFESSIONAL ENGINEER

BOHLER ENGINEERING

BOHLER ENGINEERING
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
www.BohlerEngineering.com

STORE #03545
S08H-MODIFIED-N-L
104 ENTERPRISE ROAD
VILLAGE OF HYANNIS
BARNSTABLE COUNTY
MASSACHUSETTS
MAP #294, LOT #18,19,23

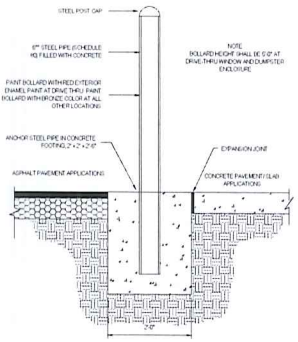
SHEET TITLE
CHICK-FIL-A STANDARD DETAILS

DWG EDITION 02.4

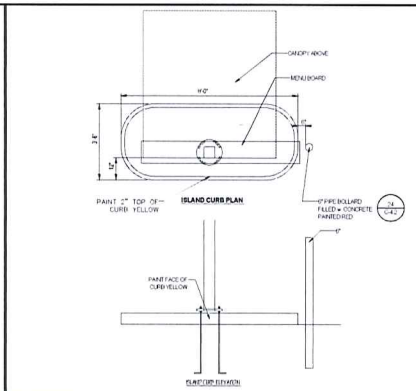
☒ Preliminary
☐ 80% Submittal
☐ For Construction

Job No.	W141096
Store	03545
Date	08/27/15
Drawn By	CFD/JNF
Checked By	DML/JGS

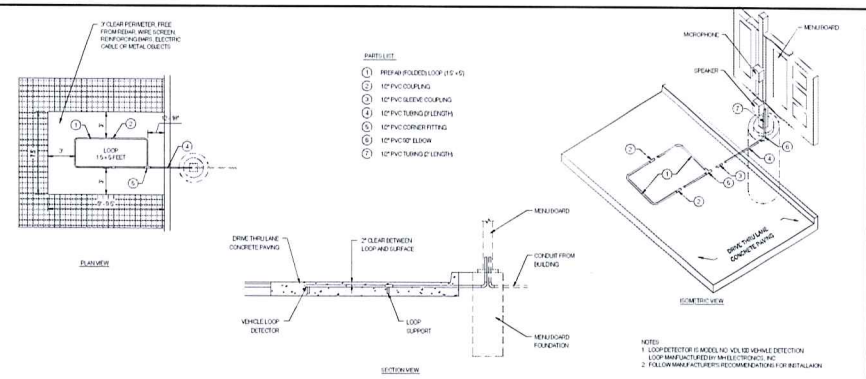
Sheet
C-4.1



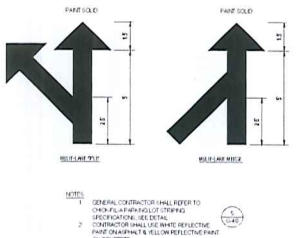
23 C-4.2 DRIVE THRU ORDER POINT BOLLARD N.T.S.



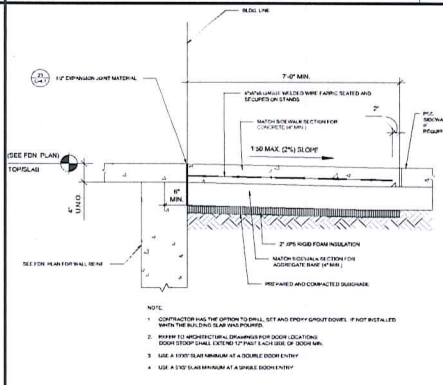
24 C-4.2 DRIVE THRU ORDER POINT ISLAND CURB N.T.S.



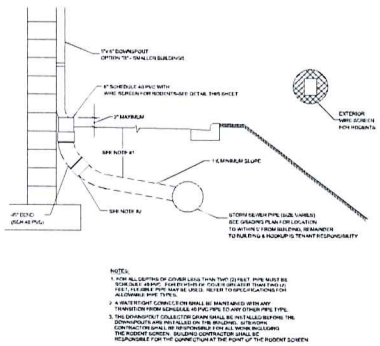
25 C-4.2 MENU BOARD LOOP DETECTION SYSTEM N.T.S.



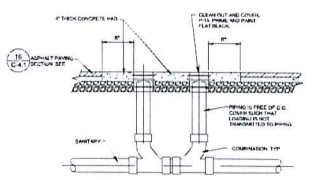
26 C-4.2 DRIVE-THRU DIRECTIONAL GRAPHICS N.T.S.



27 C-4.3 ENTRY DOOR FROST SLAB DETAIL N.T.S.



28 C-4.3 BUILDING DOWNSPOUT CONNECTION DETAIL N.T.S.



29 C-4.3 SAN. C.O. OUTSIDE BUILDING N.T.S.

NOTE:

THE INFORMATION SHOWN ON THIS DETAIL SHEET REPRESENTS PROTOTYPICAL DESIGN DETAILS PROVIDED TO OUR OFFICE BY CHICK-FIL-A. THE DETAILED INFORMATION SHOWN HEREON IS INCLUDED WITHIN THIS PLAN PACKAGE AT CHICK-FIL-A'S REQUEST AND IS PRESENTED BY BOHLER ENGINEERING AS BEING FOR INFORMATIONAL PURPOSES ONLY. THE ADEQUACY OF THE DESIGN OF THESE DETAILS HAS NOT BEEN CONFIRMED BY BOHLER ENGINEERING. BOHLER ENGINEERING HAS NOT PREPARED, RECEIVED NOR REVIEWED ANY SITE SPECIFIC DESIGN INFORMATION AS IT RELATES TO THE DEVELOPMENT OF THESE DETAILS NOR CONFIRMED THE ADEQUACY OF SAME FOR USE IN CONSTRUCTION OR COMPLIANCE WITH APPLICABLE CODES. BOHLER ENGINEERING SHALL BE HELD HARMLESS FOR THE USE AND IMPLEMENTATION OF THESE DETAILS AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE GENERAL DESIGN INTENT SHOWN IS CONSTRUCTED IN SUCH A MANNER AS TO CONFORM WITH ALL APPLICABLE CODES, REQUIREMENTS, INDUSTRY STANDARDS AND THAT THE INSTALLATION OF SAME IS ADEQUATE FOR SITE, SOIL AND/OR CONSTRUCTION CONDITIONS. SHOULD CONDITIONS OR CODE REQUIREMENTS WARRANT, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE A LICENSED REGISTERED PROFESSIONAL PREPARE SITE SPECIFIC DESIGNS AND DETAILS PRIOR TO COMMENCING WORK.

Chick-fil-A
3200 Wellington Rd
Atlanta, Georgia 30349-2998

REVISIONS

#	DATE	COMMENT	BY
1	9/15/15	INITIAL SP REVIEW COMMENTS	JNF
2	10/22/15	DRP MEETING COMMENTS	JNF
3	12/2/15	ZBA & VHB COMMENTS	JNF
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

W.D. GOEBEL
PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS LICENSE No. 42844
STATE OF RHODE ISLAND LICENSE No. 7268
COMMONWEALTH OF VIRGINIA LICENSE No. 21-0844
STATE OF NEW HAMPSHIRE LICENSE No. 15285
STATE OF MAINE LICENSE No. 9430
STATE OF NEW YORK LICENSE No. 075784-1
STATE OF FLORIDA LICENSE No. 84252
BOHLER ENGINEERING
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
Fax: (508) 480-9090
www.BohlerEngineering.com

STORE #03545
S08H-MODIFIED-N-L
104 ENTERPRISE ROAD
VILLAGE OF HYANNIS
BARNSTABLE COUNTY
MASSACHUSETTS
MAP #294, LOT #18,19,23

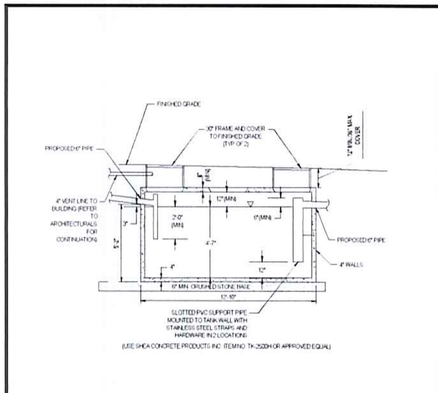
SHEET TITLE
CHICK-FIL-A STANDARD DETAILS

DWG EDITION 02.4

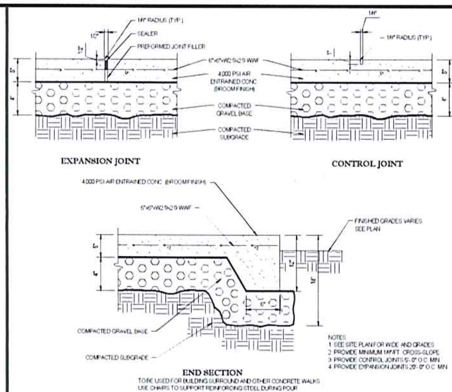
☒ Preliminary
☐ 80% Submittal
☐ For Construction

Job No.	W141096
Store	03545
Date	08/27/15
Drawn By	CFD/JNF
Checked By	DMJ/JGS

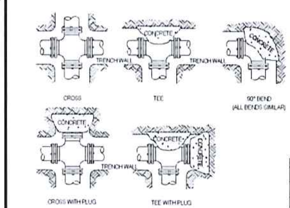
Sheet
C-4.2



1 / C-5.0 — 2500 GALLON GREASE TRAP DETAIL — N.T.S.



2 / C-5.0 — MONOLITHIC CONC. SIDEWALK DETAILS — N.T.S.

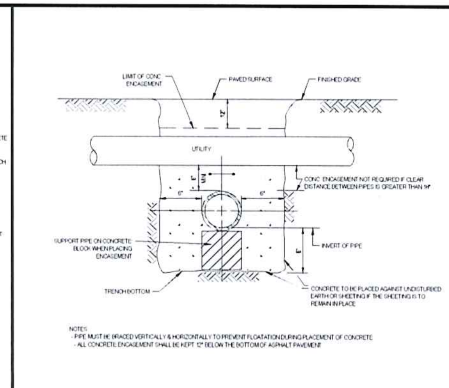


NOTES:
1. DO NOT COVER BELLS OR FLANGES WITH CONCRETE
2. WRAP ALL FITTINGS WITH VISQUEEN
3. BACK ALL TEES ACCORDING TO SIZE OF BRANCH
4. BACKING FUTURE LINE EXTENSIONS SHALL BE SUCH THAT LATER REMOVAL IS POSSIBLE
5. ALL BENDS WHERE FITTINGS ARE USED, BOTH HORIZONTAL OR VERTICAL SHALL BE BACKED
6. REACTION BACKING TABLE IS BASED ON 100 P.S.I. AND SOIL BEARING PRESSURE OF 2000 LB/SQ.FT. ADDITIONAL BACKING MAY BE REQUIRED IN SOME AREAS AS DIRECTED BY ENGINEERS
7. ALL CONCRETE SHALL BE 2500 P.S.I.
8. 16" AND LARGER REQUIRES SPECIFIC ANTI-THRUST DESIGN

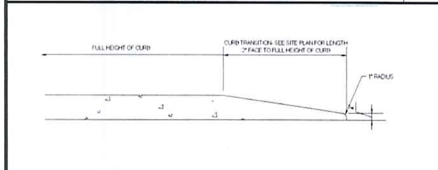
HORIZONTAL THRUST BLOCKING
(BLOCKING HEIGHT GREATER THAN PIPE O.D.) (BLOCKING WIDTH BETWEEN 1 & 2 TIMES HEIGHT)
REQUIRED SQ. FT. OF UNDISTURBED EARTH WALL FOR REACTION BACKING

PIPE SIZE	TEE & PLUG	90°	45°	22½°	11¼°
3"	10	10	10	10	10
4"	10	10	10	10	10
6"	15	20	10	10	10
8"	25	35	18	10	10

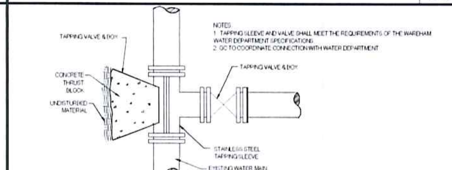
3 / C-5.0 — THRUST BLOCKING — N.T.S.



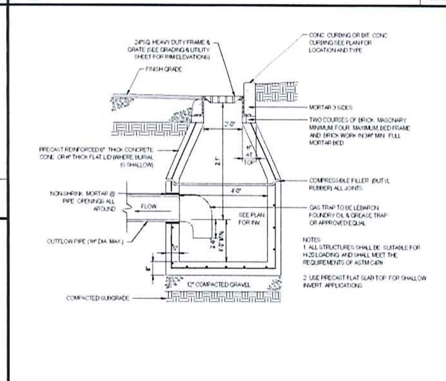
4 / C-5.0 — CONCRETE ENCASEMENT DETAIL AT UTILITY CROSSING — N.T.S.



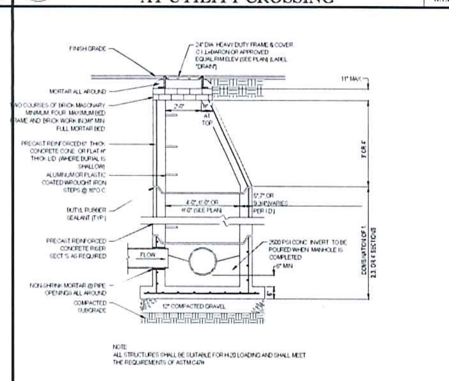
5 / C-5.0 — TRANSITION CURB DETAIL — N.T.S.



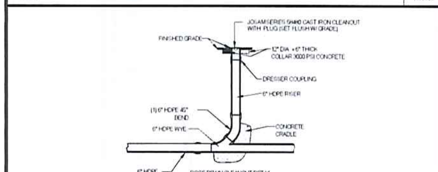
7 / C-5.0 — TAPPING SLEEVE & GATE VALVE DETAIL — N.T.S.



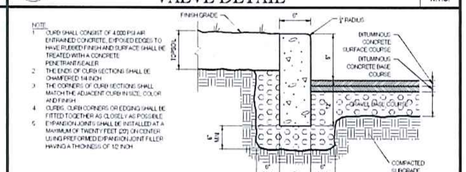
9 / C-5.0 — PRECAST CONCRETE DEEP SUMP CATCH BASIN DETAIL — N.T.S.



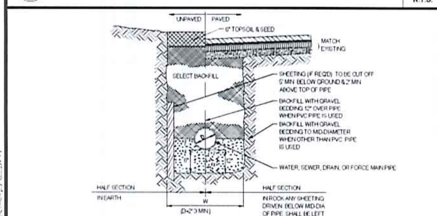
10 / C-5.0 — TYP. PRECAST CONCRETE MANHOLE STORM DRAIN — N.T.S.



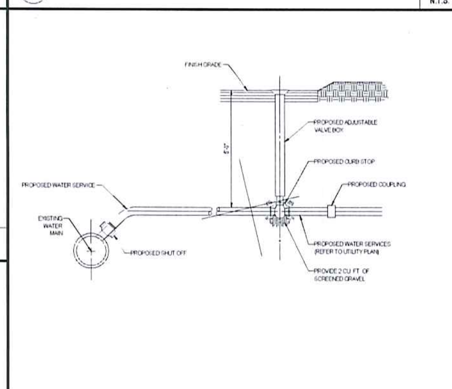
6 / C-5.0 — CLEANOUT DETAIL — N.T.S.



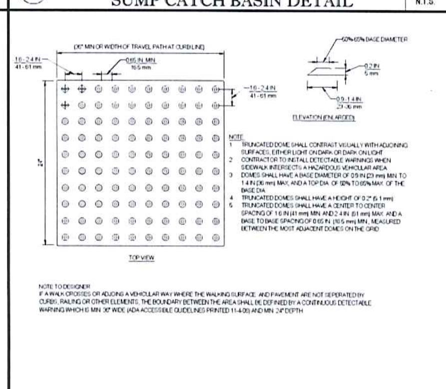
8 / C-5.0 — PRECAST CONCRETE CURB DETAIL — N.T.S.



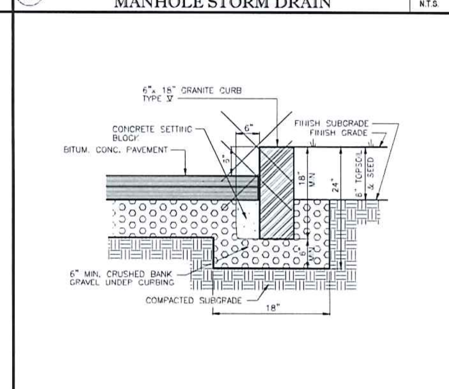
11 / C-5.0 — TYPICAL UTILITY TRENCH — N.T.S.



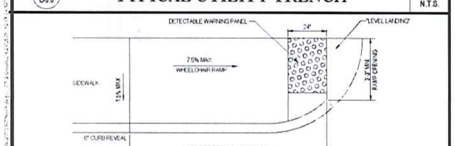
13 / C-5.0 — SERVICE CONNECTION DETAIL — N.T.S.



14 / C-5.0 — TRUNCATED DOME PATTERN — N.T.S.



15 / C-5.0 — TYPICAL VERTICAL GRANITE CURB — N.T.S.



12 / C-5.0 — TYPICAL WHEELCHAIR RAMP — N.T.S.

Chick-fil-A
5200 Buffington Rd.
Atlanta, Georgia 30349-2998

REVISIONS

#	DATE	COMMENT	BY
1	9/15/15	INITIAL SP REVIEW COMMENTS	JNF
2	10/22/15	GMP MEETING COMMENTS	JNF
3	12/2/15	ZHA & VHH COMMENTS	JNF
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

W.D. GOEBEL
PROFESSIONAL ENGINEER

BOHLER ENGINEERING

BOHLER ENGINEERING
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
www.BohlerEngineering.com

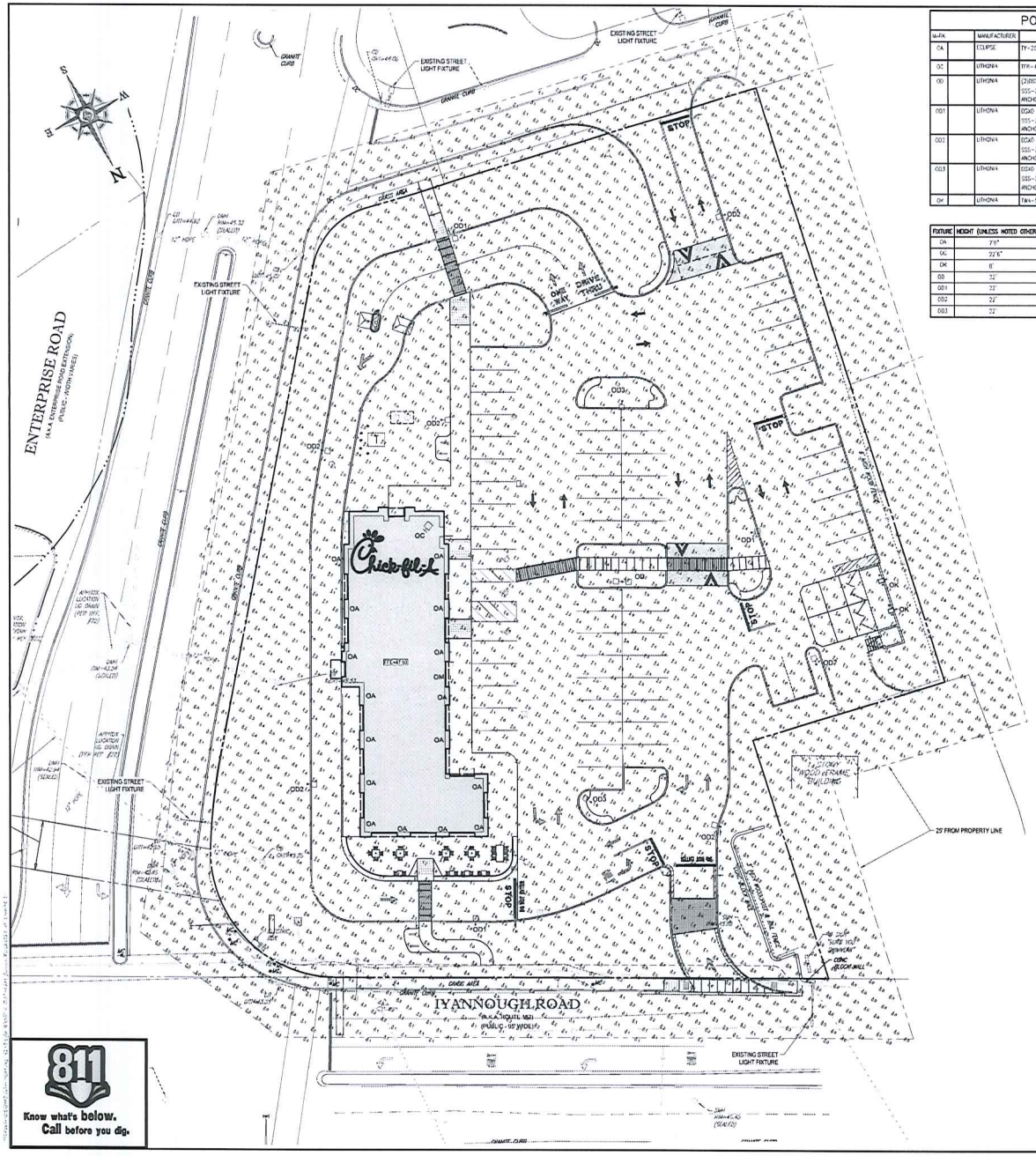
STORE #03545
S08H-MODIFIED-N-L
104 ENTERPRISE ROAD
VILLAGE OF HYANNIS
BARNSTABLE COUNTY
MASSACHUSETTS
MAP #294, LOT #18,19,23

SHEET TITLE
CONSTRUCTION DETAIL SHEET

DWG EDITION 02.4
☒ Preliminary
☐ 80% Submittal
☐ For Construction

Job No. : W141096
Store : 03545
Date : 08/27/15
Drawn By : CFD/JNF
Checked By : DML/JGS

Sheet
C-5.0



811
Know what's below.
Call before you dig.

POLE TOP LIGHTING FIXTURE (LUMINAIRE) SCHEDULE

MARK		MANUFACTURER	CATALOG NUMBER	NO. LAMPS/TYPE	WATTS	VOLTS	MOUNTING	REMARKS
OA		COLUMBIA	TY-20-WM-LED-3K-120-BK-ARM-WET-D7	LED FURNISHED WITH FIXTURE	31	120	WALL	EXTERIOR WALL SCONCE - SEE ELEVATIONS FOR MOUNTING HEIGHT
OC		LITHONIA	TFR-4KM-TA-TB-SCWA-IS-LPI	1-MH39 PS/U	454	120	PIPE	FLOODLIGHT MTD ON ROOF ON 2" PIPE SUPPORT (BY OTHERS) AND AIMED AT NIGHTIME AT FLAG
OD		LITHONIA	DSXO LED-40C-1000-40K-T4M-MVOLT-SPA-DDBXD SSS-20-5C-DM19AS-DDB ANCHOR BOLT SET: ASSS5-5	LED FURNISHED WITH FIXTURE	274	268	POLE	TYPE 4 MEDIUM DISTRIBUTION, FORWARD OPTICS
OD1		LITHONIA	DSXO LED-40C-1000-40K-T2M-MVOLT-SPA-DDBXD SSS-20-5C-DM19AS-DDB ANCHOR BOLT SET: ASSS5-5	LED FURNISHED WITH FIXTURE	138	268	POLE	TYPE 2 MEDIUM DISTRIBUTION, FORWARD OPTICS
OD2		LITHONIA	DSXO LED-40C-1000-40K-T2M-MVOLT-SPA-DDBXD-HS SSS-20-5C-DM19AS-DDB ANCHOR BOLT SET: ASSS5-5	LED FURNISHED WITH FIXTURE	138	268	POLE	TYPE 2 MEDIUM DISTRIBUTION, FORWARD OPTICS
OD3		LITHONIA	DSXO LED-40C-1000-40K-T5M-MVOLT-SPA-DDBXD SSS-20-5C-DM19AS-DDB ANCHOR BOLT SET: ASSS5-5	LED FURNISHED WITH FIXTURE	138	268	POLE	TYPE 5 MEDIUM DISTRIBUTION, FORWARD OPTICS
OK		LITHONIA	TWA-50M-120-LPI	1-MP50/U/MED	68	120	WALL	CONTROLLED OF FIXTURE AT 8'-0" ABV 0'-0" (FINISH FLOOR LINE)

FIXTURE	HEIGHT (UNLESS NOTED OTHERWISE)	LIGHTING LOSS FACTOR
OA	7'-6"	0.9
OC	22'-6"	0.9
OK	8'	0.9
OD	22'	0.9
OD1	22'	0.9
OD2	22'	0.9
OD3	22'	0.9

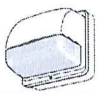
CCC TECHNICAL BULLETIN 95-001 REQUIREMENTS

SECTION	DESCRIPTION	PROJECT COMPLIANT
DEFINITIONS EQUIPMENT FACTOR	LIGHT LOSS FACTOR (LLF=0.95-0.90)	YES
23	LIGHT FIXTURES TO BE FULLY SHIELDED	YES
25	DEVELOPMENTS THAT DO NO ABUT RESIDENTIAL AREAS SHOULD NOT UTILIZE LIGHT POLES EXCEEDING 25'-0" IN HEIGHT (BASE+POLE+HEAD)	YES
26	ALL EXTERIOR LIGHTS SHOULD HAVE A MAXIMUM INITIAL HORIZONTAL FOOT-CANDLE LEVEL OF 4.0 FOOT-CANDLES AS MEASURE DIRECTLY BELOW THE LUMINAIRE(S) AT GRADE	YES

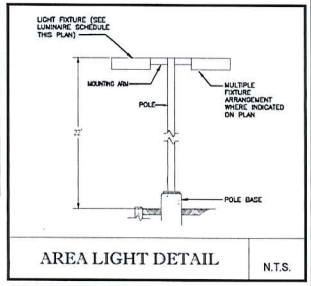
OA - BUILDING WALL MOUNTED FIXTURE

OC - BUILDING MOUNTED FLOOD LIGHT FIXTURE

OD, OD1, OD2, OD3 - POLE MOUNTED FIXTURE



OK - TRASH ENCLOSURE WALL MOUNTED FIXTURE



AREA LIGHT DETAIL — N.T.S.

NOTE: THIS DETAIL IS FOR BID AND EXPLORATORY PURPOSES ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING A FOUNDATION DESIGN PREPARED BY A QUALIFIED STRUCTURAL ENGINEER CONSIDERING LIGHTING MANUFACTURER REQUIREMENTS, LOCAL WIND LOADS, AND SITE SPECIFIC SOIL PARAMETERS.

- SOME SITE CONDITIONS AND/OR LOCATIONS MAY REQUIRE VIBRATION DAMPENING MEASURES AS DETERMINED BY A STRUCTURAL ENGINEER.
- THE STRUCTURAL ENGINEER SHALL BE NOTIFIED OF THE EXTENT TO MOUNT ANYTHING TO THE POLE, ALIKE, FROM THE LIGHT FIXTURES, INCLUDING BUT NOT LIMITED TO CAMERAS, BANNERS, FLAGS, SIGNAGE, ETC. AS IT WILL IMPACT THE POLE AND FOUNDATION DESIGN.

LIGHTING NOTES:

1. THIS LIGHTING PLAN DEPICTS PROPOSED SUSTAINED ILLUMINATION LEVELS CALCULATED USING DATA PROVIDED BY THE NOTED MANUFACTURER(S). ACTUAL SUSTAINED SITE ILLUMINATION LEVELS AND PERFORMANCE OF LUMINAIRES MAY VARY DUE TO VARIATIONS IN ATMOSPHERIC, ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, THE SERVICE LIFE OF EQUIPMENT AND LUMINAIRES AND OTHER RELATED VARIABLE FIELD CONDITIONS.
2. THE LIGHT LOSS FACTORS USED IN THESE LIGHTING CALCULATIONS ARE 0.90 FOR ALL LED LUMINAIRES, 0.90 FOR ALL HIGH PRESSURE SODIUM LUMINAIRES OR 0.72 FOR ALL METAL HALIDE LUMINAIRES UNLESS OTHERWISE SPECIFIED. THESE FACTORS ARE INDICATIVE OF TYPICAL LIGHTING INDUSTRY MODELING STANDARDS.
3. THE LIGHTING VALUES AND CALCULATION POINTS DEPICTED ON THIS PLAN ARE ALL ANALYZED ON A HORIZONTAL GEOMETRIC PLANE AT ELEVATION ZERO (GROUND LEVEL) UNLESS OTHERWISE NOTED. THE VALUES DEPICTED ON THIS PLAN ARE IN FOOT-CANDLES.
4. THE LUMINAIRES, LAMPS AND LENSES MUST BE REGULARLY INSPECTED/MAINTAINED TO ENSURE THAT THEY FUNCTION PROPERLY. THIS WORK SHOULD INCLUDE, BUT NOT BE LIMITED TO, FREQUENT VISUAL INSPECTIONS, CLEANING OF LENSES, AND RELAMPING (IF NECESSARY) AT LEAST ONCE EVERY SIX (6) MONTHS. FAILURE TO FOLLOW THE ABOVE STEPS COULD CAUSE THE LUMINAIRES, LAMPS AND LENSES TO FAIL PROPERLY TO FUNCTION.
5. WHERE APPLICABLE, THE EXISTING CONDITION LIGHT LEVELS ILLUSTRATED ARE REPRESENTATIVE OF AN APPROXIMATION OF LEVELS ACCORDING TO DATA FOR LAMP/FIXTURES UNLESS ACTUAL FIELD MEASUREMENTS ARE TAKEN WITH A LIGHT METER AND ARE, CONSEQUENTLY, APPROXIMATIONS ONLY DUE TO FACTORS SUCH AS FIXTURE MAINTENANCE, EQUIPMENT TOLERANCES, BRANCH CIRCUIT VOLTAGE, WEATHER CONDITIONS, ETC. ACTUAL LIGHT LEVELS MAY DIFFER. EXISTING LIGHT LEVELS DEPICTED ON THIS PLAN SHOULD BE CONSIDERED APPROXIMATE.
6. THIS LIGHTING PLAN IS INTENDED TO SHOW THE LOCATIONS AND TYPE OF LUMINAIRES ONLY. POWER SYSTEM CONDUIT, WIRING, VOLTAGES AND OTHER ELECTRICAL COMPONENTS ARE THE RESPONSIBILITY OF THE ARCHITECT, MEP AND/OR LIGHTING CONTRACTOR, AS INDICATED IN THE CONSTRUCTION CONTRACT DOCUMENTS. THESE ITEMS MUST BE INSTALLED AS REQUIRED BY STATE AND LOCAL REGULATIONS. LIGHT POLE BASES ARE THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER, AS INDICATED IN THE CONSTRUCTION CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR INSTALLING LIGHTING FIXTURES AND APPURTENANCES IN ACCORDANCE WITH ALL APPLICABLE BUILDING AND ELECTRICAL CODES AND ALL OTHER APPLICABLE RULES, REGULATIONS, LAWS AND STATUTES.
7. CONTRACTOR MUST BRING TO DESIGNERS ATTENTION, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, ANY LIGHT LOCATIONS THAT CONFLICT WITH DRAINAGE, UTILITIES, OR OTHER STRUCTURES.
8. IT IS LIGHTING CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE PROJECT ARCHITECT OF OWNER REGARDING THE POWER SOURCE(S) FROM WITHIN THE BUILDING, AND TIMING DEVICES NECESSARY TO MEET THE DESIGN INTENT.
9. THE LIGHTING CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CONTRACTOR REQUIREMENTS INDICATED IN THE SITE PLAN, INCLUDING BUT NOT LIMITED TO, GENERAL NOTES, GRADING AND UTILITY NOTES, SITE SAFETY, AND ALL GOVERNMENTAL RULES, LAWS, ORDINANCES, REGULATIONS AND THE LIKE.
10. THE CONTRACTOR MUST VERIFY THAT INSTALLATION OF LIGHTING FIXTURES COMPLIES WITH THE REQUIREMENTS FOR SEPARATION FROM WATER AND ELECTRICAL WIRES PER STATE REGULATIONS.
11. WHEN A BANK ATMS IS INCLUDED IN THE PLAN, THE LIGHTING DESIGN REPRESENTS BOHLER'S UNDERSTANDING AND INTERPRETATION OF THE REGULATORY LIGHTING LEVELS INTENDED BY PUBLISHED STANDARDS.
12. UPON OWNER'S ACCEPTANCE OF THE COMPLETED PROJECT, THE OWNER SHALL BE RESPONSIBLE FOR ALL MAINTENANCE, SERVICING, REPAIR AND INSPECTION OF THE LIGHTING SYSTEM AND ALL OF ITS COMPONENTS AND RELATED SYSTEMS, TO ENSURE ADEQUATE LIGHTING LEVELS ARE PRESENT AND FUNCTIONING AT ALL TIMES.

EXISTING LIGHT FIXTURES OUTSIDE OF PROJECT SITE AREA HAVE NOT BEEN INCLUDED IN THIS LIGHTING ANALYSIS

THIS PROJECT COMPLIES WITH THE CCC TECHNICAL BULLETIN FOR LIGHTING STANDARDS.

THIS PLAN TO BE UTILIZED FOR LIGHTING PURPOSES ONLY

20 10 5 0 20
1" = 20'

Chick-fil-A
5200 Buffington Rd
Atlanta, Georgia 30349-2998

REVISIONS

#	DATE	COMMENT	BY
1	6/15/15	INITIAL SP REVIEW COMMENTS	JNF
2	10/22/15	CMP MEETING COMMENTS	JNF
3	12/2/15	ZBA & VHB COMMENTS	JNF
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

BOHLER ENGINEERING
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
Fax: (508) 480-9990
www.BohlerEngineering.com

STORE #03545
S08H-MODIFIED-N-L
104 ENTERPRISE ROAD
VILLAGE OF HYANNIS
BARNSTABLE COUNTY
MASSACHUSETTS
MAP #294, LOT #18,19,23

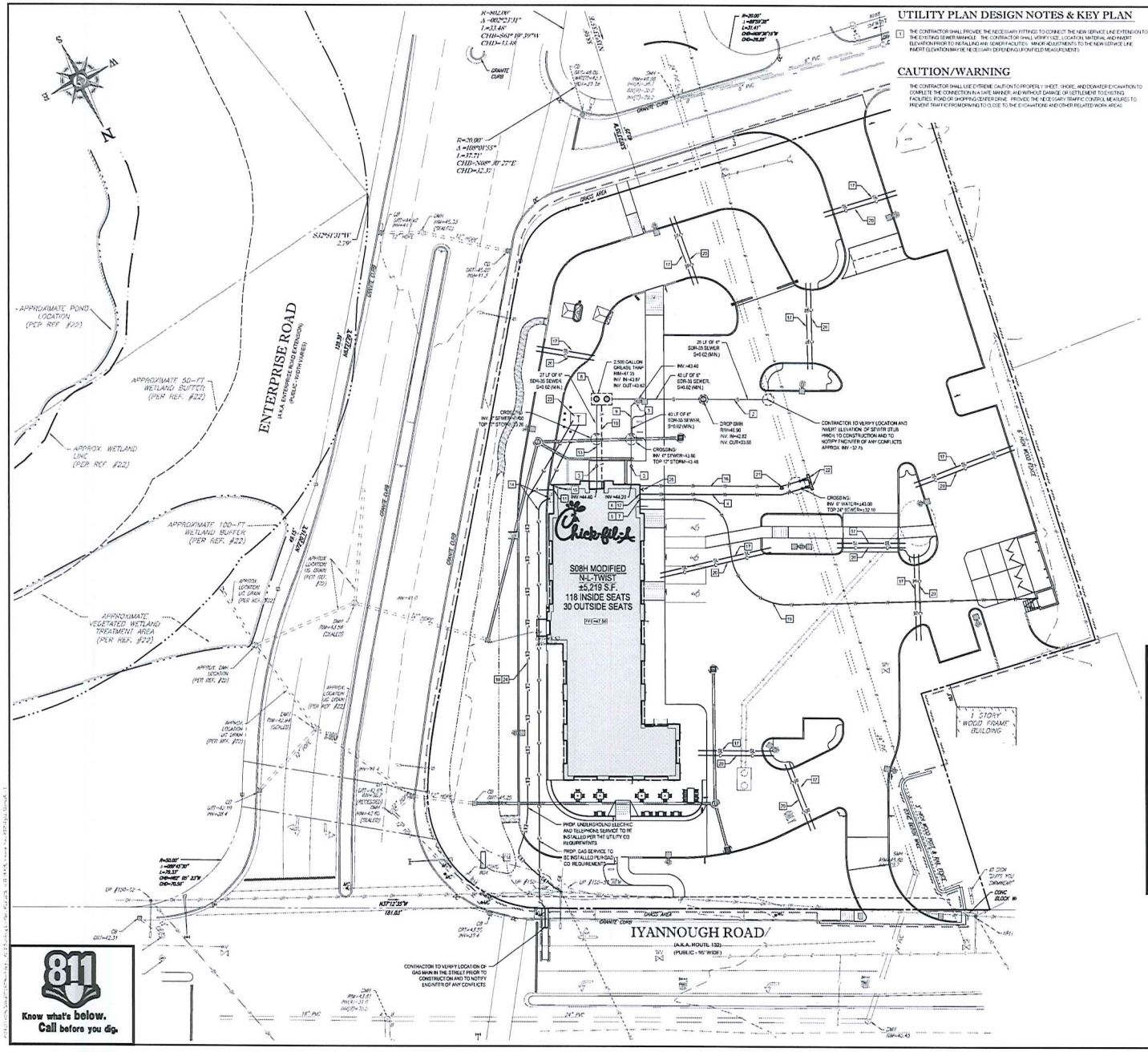
SHEET TITLE
PHOTOMETRIC PLAN

DWG EDITION 02.4

☑ Preliminary
☐ 80% Submittal
☐ For Construction

Job No.	W141096
Store	03545
Date	08/27/15
Drawn By	CFD/JNF
Checked By	DML/JGS

Sheet
ES-1.0



UTILITY PLAN DESIGN NOTES & KEY PLAN

1. THE CONTRACTOR SHALL PROVIDE THE NECESSARY FITTINGS TO CONNECT THE NEW SERVICE LINE EXTENSION TO THE EXISTING SEWER MANHOLE. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION, MATERIAL AND INVERT ELEVATION PRIOR TO INSTALLING ANY SEWER FACILITIES. MINOR ADJUSTMENTS TO THE NEW SERVICE LINE INVERT ELEVATION MAY BE NECESSARY (DEPENDING UPON FIELD MEASUREMENTS)

CAUTION/WARNING

THE CONTRACTOR SHALL USE EXTREME CAUTION TO PROPERLY SHEET, SHORE, AND DEWATER EXCAVATION TO COMPLETE THE CONNECTION IN A SAFE MANNER, AND WITHOUT DAMAGE OR SETTLEMENT TO EXISTING FACILITIES, ROAD OR SHOPPING CENTER DRIVE. PROVIDE THE NECESSARY TRAFFIC CONTROL MEASURES TO PREVENT TRAFFIC FROM MOVING TO CLOSE TO THE EXCAVATIONS AND OTHER RELATED WORK AREAS

UTILITY PLAN DESIGN NOTES & KEY PLAN

2. PROPOSED SDR-35/PVC PIPE SEWER LINE. COORDINATE PIPE WITH ARCHITECTURAL/BUILDING PLUMBING PLANS BY OTHERS
3. INSTALL CLEANOUT. USE TRAFFIC RATED CLEANOUT IN ALL PAVEMENT AREAS AS REQUIRED
4. 2" WATER METER FOR DOMESTIC WATER SUPPLY

   CONTRACTOR SHALL COORDINATE WITH THE WATER DISTRICT FOR INSTALLATION OF WATER SERVICE TAP, WATER METER, AND METER BOX. CONTRACTOR'S SHALL INCLUDE THE COST OF THE WORK PERFORMED BY THE TOWN (INCLUDING TAP FEES). TAPS SHALL BE MADE INITIALLY IN CONTRACTOR'S NAME AND TRANSFERRED AT PROJECT COMPLETION

   DOMESTIC WATER LINE SHALL BE TYPE K COPPER
5. 1½" WATER METER FOR IRRIGATION WATER SUPPLY. ON-SITE IRRIGATION LINES AND MATERIALS SHALL BE INSTALLED BY THE IRRIGATION CONTRACTOR AS INDICATED ON THE IRRIGATION PLAN. IRRIGATION SHALL CONNECT TO THE DOMESTIC SERVICE INSIDE BUILDING WITH PROPER BACKFLOW DEVICE

   1½" BACKFLOW PREVENTER FOR DOMESTIC WATER SERVICE
6. THE CONTRACTOR SHALL INSTALL A BACKFLOW PREVENTER (FEDCO, WATTS, OR APPROVED EQUAL) FOR EACH WATER SERVICE LINE AS INDICATED ON THE DRAWINGS. INSTALLATION SHALL INCLUDE BOX OR VAULT, AS APPLICABLE. THE CONTRACTOR SHALL COORDINATE WITH THE WATER DISTRICT FOR INSPECTION, TESTING, AND CERTIFICATION OF ALL BACKFLOW PREVENTERS. ALL BACKFLOW DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE WATER DISTRICT STANDARDS/SPECIFICATIONS. CONTRACTOR'S BID PRICE SHALL INCLUDE ALL COSTS ASSOCIATED WITH DEVICE INSTALLATION, INSPECTION, TESTING, CERTIFICATION, ETC., TO INCLUDE ANY FEES REQUIRED BY THE WATER DISTRICT AND/OR TOWN
7. 1½" BACKFLOW PREVENTER FOR IRRIGATION WATER SERVICE. (SEE NOTE #5 ABOVE)
8. GREASE TRAP TO BE INSTALLED BY SITE UTILITY CONTRACTOR. COORDINATE INSTALLATION WITH BUILDING CONTRACTOR AND ARCHITECTURAL PLUMBING PLANS. CONNECT RESTROOM SERVICE LINE DOWNSTREAM OF GREASE TRAP OUTLET SIDE AT INVERT ELEVATION INDICATED. COORDINATE TOP ELEVATION OF GREASE TRAP WITH DRIVEWAY PAVEMENT ELEVATION
9. 6" SEWER SERVICE LINE AND CLEANOUT FROM RESTROOM FACILITIES TO BE INSTALLED BY SITE UTILITY CONTRACTOR. COORDINATE INSTALLATION WITH BUILDING CONTRACTOR AND ARCHITECTURAL PLUMBING PLANS. SERVICE LINE SHALL BYPASS GREASE TRAP AND CONNECT BEYOND THE OUTLET SIDE
10. 2" VENT LINE TO BE INSTALLED BY SITE UTILITY CONTRACTOR. SEE ARCHITECT PLUMBING PLANS. PROPOSED VENT LINE TO EXTEND FROM GREASE TRAP TO LANDSCAPED AREA AND BE FITTED WITH A CHARCOAL FILTER (PER OWNER'S/SEWER REQ'S). GC TO COORDINATE VENT LOCATION WITH CHICK-FIL-A AND MEP. (NOT SHOWN)
11. TELEPHONE SERVICE CONNECTION LOCATION AT BUILDING. COORDINATE WITH BUILDING CONTRACTOR AND ARCHITECTURAL PLANS
12. 2" DOMESTIC WATER SERVICE LINE CONNECTION LOCATION AT BUILDING. SITE UTILITY CONTRACTOR SHALL INSTALL DOMESTIC WATER SERVICE LINE FROM THE EXISTING WATER MAIN TO THE MAIN BUILDING CUTOFF VALVE. (SEE ARCHITECT PLUMBING PLAN)
13. 6" KITCHEN WASTE LINE. INSTALL CLEANOUT APPROXIMATELY 6' FROM FACE OF BUILDING. COORDINATE WITH BUILDING CONTRACTOR AND ARCHITECTURAL PLUMBING PLANS)
14. GAS SERVICE LINE AND METER INSTALLATION LOCATION. SEE ARCHITECTS PLUMBING PLANS FOR SIZE REQUIREMENTS AND EXACT CONNECTION LOCATION. COORDINATE WITH GAS COMPANY FOR GAS SERVICE LINE INSTALLATION
15. ELECTRICAL SERVICE LINE CONNECTION AT BUILDING. CONTRACTOR SHALL INSTALL (2) 4" DIAMETER SCHEDULE 40 PVC CONDUIT WITH PULL WIRE FROM EXISTING ELECTRICAL FACILITIES WITHIN THE RIGHT-OF-WAY TO THE TRANSFORMER'S ELECTRICAL PULL BOX LOCATED BEHIND THE CHICK-FIL-A SERVICE AREA. COORDINATE CROSSING OF CONDUIT WITH OTHER UTILITIES. CONDUIT SHALL BE BURIED A MINIMUM OF 30" BELOW FINISHED GRADE. AIRTUFF BENDS SHALL NOT BE ALLOWED. USE LONG SWEEP ELBOWS AND OTHER NECESSARY FITTINGS TO PROVIDE GRADUAL CHANGES IN DIRECTION. ELECTRIC SERVICE INSTALLATION TO BE COORDINATED WITH LOCAL ELECTRIC COMPANY
16. 6" DIP (CLASS 52) WATER LINE FOR SPRINKLER SYSTEM
17. 4" SCH 40 PVC IRRIGATION SLEEVES
18. INSTALL 2" SCH 40 PVC CONDUIT WITH PULL WIRES AND PULL BOX AS NECESSARY FOR TELEPHONE SERVICE LINE INSTALLATION. USE LONG SWEEP RADIUS AT 90° AND 45° BENDS TO AVOID AIRTUFF CHANGES IN DIRECTION. COORDINATE WITH TELEPHONE COMPANY
19. 3/4" D.W. TO DUMPSTER POST HYDRANT
20. 2" PVC CONDUIT FOR DIRECTIONAL SIGNS. SUBJECT TO APPROVAL FROM ELECTRICAL ENGINEER
21. THRUST BLOCKS
22. TAPPING SLEEVE AND GATE VALVE
23. APPROXIMATE LOCATION OF TRANSFORMER AND CONC. PAD PENDING ELECTRIC SERVICE AGREEMENT / DESIGN (GC TO COORDINATE BOLLARD PLACEMENT AND INSTALLATION WITH ELECTRIC COMPANY)
24. PROPOSED PRIMARY ELECTRICAL SERVICE. GC TO COORDINATE WITH ELECTRIC COMPANY AND ENCASE IN CONCRETE AS NECESSARY. (SEE NOTE 15 ABOVE)
25. SIAMESE FIRE DEPARTMENT CONNECTION

FINISHED GRADING COORDINATION

THE SITE UTILITY CONTRACTOR SHALL COORDINATE THE INSTALLATION OF NEW UTILITIES WITH FINISHED GRADING AND DRAINAGE FACILITIES AS INDICATED ON THE SITE GRADING AND DRAINAGE PLAN. MINOR ADJUSTMENTS TO THE TOP ELEVATION OF NEW UTILITIES MAY BE NECESSARY

NOTICE:

THE CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR THE EXACT LOCATION AND DIMENSIONS OF VESTIBULE, ENTRANCES, DOORS, RAMPS, SERVICE AREA, BUILDING DIMENSIONS AND THE EXACT LOCATION OF UTILITY CONNECTIONS

NOTICE: INSTALLATION OF BLANK CONDUIT

BLANK CONDUIT SLEEVES SHALL BE FOUR (4) INCH SCH 40 PVC UNLESS NOTED OTHERWISE. SLEEVES SHALL BE BURIED A MINIMUM OF 24 INCHES BELOW FINISHED GRADE. DEPTH OF BURIAL SHALL BE SPECIFICALLY COORDINATED WITH ALL EXISTING OR PROPOSED UNDERGROUND UTILITIES AND DRAINAGE FACILITIES AT ALL CROSSINGS. CONDUITS SHALL BE PROVIDED WITH REMOVABLE PLUG AT EACH END. MARK EACH END WITH 2"x 4" POST AT EACH END (PAINTED YELLOW)

NOTICE: EXISTING UTILITY LOCATIONS

PRIOR TO EXCAVATION AND INSTALLATION OF ANY UNDERGROUND UTILITY, STORM DRAINAGE FACILITIES, GRADING AND PAVING, AND OTHER RELATED CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL CONTACT THE LOCAL UTILITY LOCATING COMPANY. THE CONTRACTOR SHALL ALSO BE REQUIRED TO COORDINATE DIRECTLY (AS NECESSARY) WITH EACH APPLICABLE UTILITY AGENCY FOR APPROPRIATE FIELD LOCATION MARKING. THE CONTRACTOR SHALL BE RESPONSIBLE TO ASSURE THAT ALL EXISTING UTILITIES HAVE BEEN LOCATED AND MARKED TO PERFORM THE WORK IN A SAFE MANNER WITHOUT DAMAGE TO EXISTING UTILITIES

THE CONTRACTOR SHALL VERIFY THE LOCATION, DIAMETER, PIPE MATERIAL AND ELEVATION OF EXISTING UTILITIES AND STRUCTURES, AS APPLICABLE, PRIOR TO CONSTRUCTION

THIS PLAN TO BE UTILIZED FOR UTILITIES PURPOSES ONLY

REFER TO GENERAL NOTES SHEET FOR GRADING & UTILITY NOTES

811 Know what's below. Call before you dig.

Chick-fil-A
5200 Buffington Rd
Atlanta, Georgia 30349-2998

REVISIONS

#	DATE	COMMENT	BY
1	9/15/15	INITIAL SP REVIEW COMMENTS	JNF
2	10/22/15	CMP MEETING COMMENTS	JNF
3	12/2/15	ZBA & VHB COMMENTS	JNF
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

W.D. GOEBEL
PROFESSIONAL ENGINEER
MASSACHUSETTS LICENSE No. 42644
RHODE ISLAND LICENSE No. 7298
CONNECTICUT LICENSE No. 21084
NEW HAMPSHIRE LICENSE No. 15295
MAINE LICENSE No. 9436
NEW YORK LICENSE No. 101284-1
FLORIDA LICENSE No. 66202

BOHLER ENGINEERING
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
Fax: (508) 480-9090
www.BohlerEngineering.com

STORE #03545
S08H-MODIFIED-N-L
104 ENTERPRISE ROAD
VILLAGE OF HYANNIS
BARNSTABLE COUNTY
MASSACHUSETTS
MAP #294, LOT #18,19,23

SHEET TITLE

PLUMBING SITE PLAN

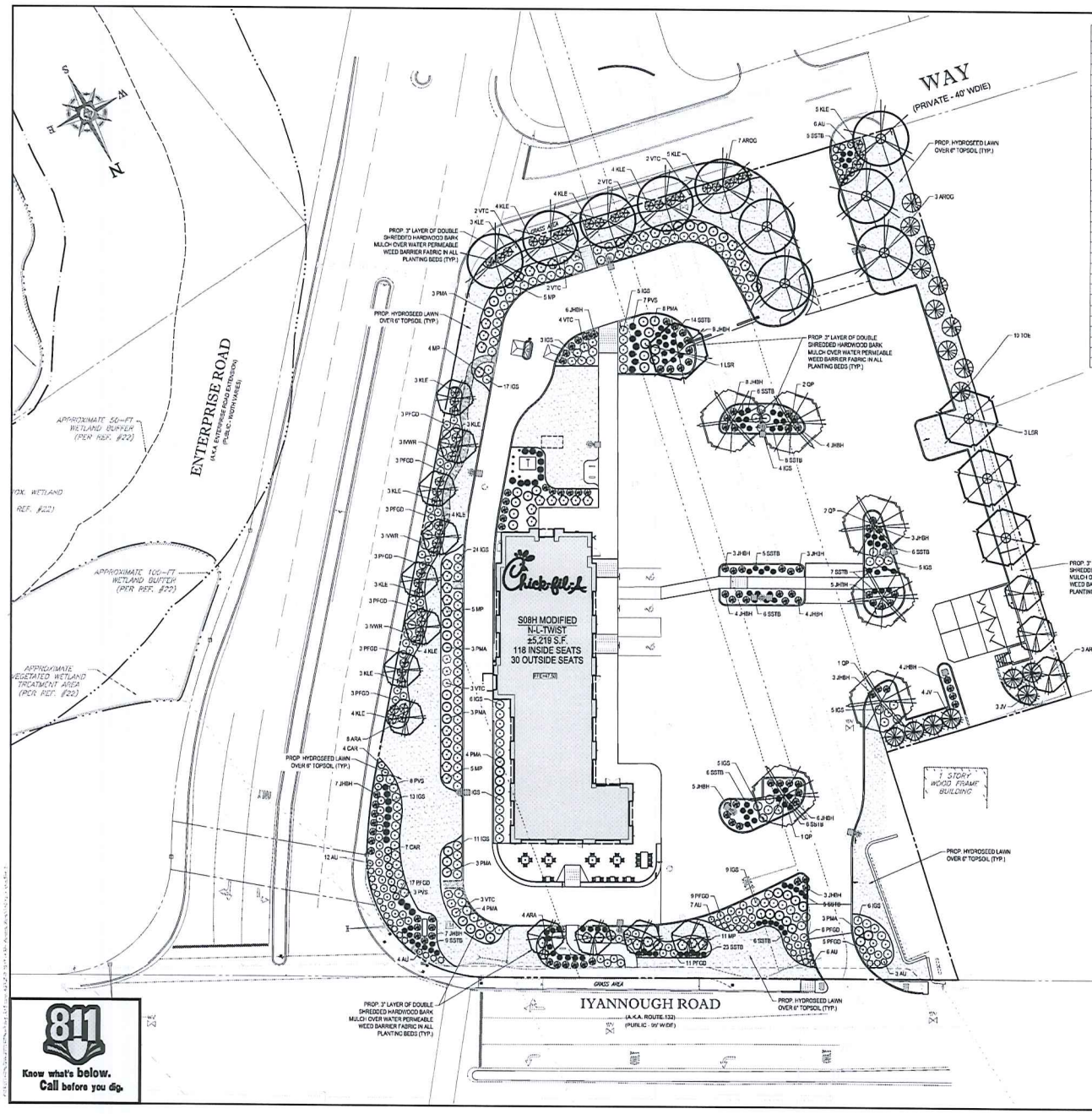
DWG EDITION 02.4

☒ Preliminary
☐ 80% Submittal
☐ For Construction

Job No.	W141096
Store	03545
Date	08/27/15
Drawn By	CFD/JNF
Checked By	DML/JGS

Sheet

PS-1.0



LANDSCAPE SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
SHADE TREE(S)					
ARA	15	ACER RUBRUM 'ARMSTRONG'	ARMSTRONG COLUMNAR RED MAPLE	3" CAL.	B+B
ARO2	10	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	3" CAL.	B+B
LSR	4	LIQUIDAMBAR STYRACIFLUA 'ROTUNDILOBA'	SWEETGUM	3" CAL.	B+B
QP	5	QUERCUS PALUSTRIS	PIN OAK	3" CAL.	B+B
SUBTOTAL:	35				
EVERGREEN TREE(S)					
JV	7	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	8-10'	B+B
TOE	10	THUJA 'GREEN GIANT'	GREEN GIANT ARBORVITAE	8-10'	B+B
SUBTOTAL:	17				
DECIDUOUS SHRUB(S)					
CAR	11	CLETHRA ALNIFOLIA 'ROSEA'	PINK SUMMERSWEET CLETHRA	24-30"	#3 CAN
IVWR	9	ILEX VERTICILLATA 'WINTER RED'	WINTER RED WINTERBERRY HOLLY	30-36"	#5 CAN
MP	47	MYRICA PENSYLVANICA	NORTHERN BAYBERRY	30-36"	B+B
PFGD	59	POTENTILLA FRUTICOSA 'GOLD DROP'	GOLD DROP CINQUEFOIL	15-18"	#3 CAN
PMA	51	PRUNUS MARITIMA	BEACH PLUM	3'-4'	B+B
VTC	14	VIBURNUM TRILOBUM 'COMPACTUM'	COMPACT AMERICAN CRANBERRYBUSH	24-30"	B+B
SUBTOTAL:	201				
EVERGREEN SHRUB(S)					
IGS	134	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY HOLLY	24-30"	#5 CAN
KLE	52	KALMIA LATIFOLIA 'ELF'	ELF MOUNTAIN LAUREL	24-30"	B+B
SUBTOTAL:	186				
GROUND COVER(S)					
AU	28	ARCTOSTAPHYLOS UVA-URSI	BEARBERRY	12-15"	#2 CAN
JHBH	97	JUNIPERUS HORIZONTALIS 'BAR HARBOR'	BAR HARBOR CREEPING JUNIPER	15-18" SPRD	#3 CAN
SUBTOTAL:	125				
ORNAMENTAL GRASS(ES)					
PVS	28	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	2 GAL.	CONTAINER
SSTB	116	SCHIZACHYRIUM SCOPARIUM 'THE BLUES'	LITTLE BLUE STEM	2 GAL.	CONTAINER
SUBTOTAL:	144				

VILLAGE OF HYANNIS LANDSCAPE REQUIREMENTS

SECTION OF BY-LAW	DESCRIPTION	REQUIRED	PROPOSED
240-25.E	THE FRONT YARD LANDSCAPED SETBACK SHALL BE LANDSCAPED WITH A COMBINATION OF GRASSES, TREES AND SHRUBS COMMONLY FOUND ON CAPE COD. A MINIMUM OF ONE STREET TREE WITH A MINIMUM CALIPER OF 3" SHALL BE PROVIDED PER 30 FEET OF ROAD FRONTAGE DISTRIBUTED THROUGHOUT THE FRONT YARD SETBACK AREA 1 TREE PER 30 LF OF FRONTAGE IN FRONT YARD 256 LF / 30 = 9 TREES	9 TREES	14 TREES
240-39.4(3)(b)	LANDSCAPING SHALL BE PROVIDED AT A RATE OF ONE TREE OF 3" CAL. PER EIGHT SPACES, AND SUCH TREES SHALL BE LOCATED WITHIN THE PARKING AREA 1 TREE PER 8 SPACES LOCATED WITHIN PARKING AREA 92 SPACES / 8 = 11 TREES SUCH PARKING AREA LANDSCAPING AREAS SHALL CONSTITUTE NOTE LESS THAN 5% OF THE LAND AREA DEVOTED TO GRADE LEVEL PARKING FLOOR 25,957 SF PARKING AREA x 0.05 = 1,298 SF LANDSCAPING AREAS	11 TREES 1,298 SF	12 TREES 1,604 SF

TREES TO BE PRUNED TO AVOID CONTACT WITH EMERGENCY VEHICLES. MAINTENANCE OF A CLEAR SITE LINE ALONG EDGE OF ROADS AND INTERSECTIONS IS THE RESPONSIBILITY OF THE PROPERTY OWNER

THIS PLAN TO BE UTILIZED FOR LANDSCAPE PURPOSES ONLY

Know what's below. Call before you dig.

Chick-fil-A
5200 Buffington Rd.
Atlanta, Georgia 30349-2998

REVISIONS

#	DATE	COMMENT	BY
1	9/15/15	INITIAL SP REVIEW COMMENTS	JNF
2	10/22/15	GMT MEETING COMMENTS	JNF
3	12/7/15	ZBA & VHB COMMENTS	JNF

M.J. MRVA
REGISTERED LANDSCAPE ARCHITECT

BOHLER ENGINEERING
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
Fax: (508) 480-9010
www.BohlerEngineering.com

STORE #03545
S08H-MODIFIED-N-L
104 ENTERPRISE ROAD
VILLAGE OF HYANNIS
BARNSTABLE COUNTY
MASSACHUSETTS
MAP #294, LOT #18,19,23

SHEET TITLE
LANDSCAPE PLAN

DWG EDITION 02.4

☒ Preliminary
☐ 80% Submittal
☐ For Construction

Job No.	W141096
Store	03545
Date	08/27/15
Drawn By	CFD/JNF
Checked By	DML/JGS

Sheet
L-1.0

LANDSCAPE SPECIFICATIONS

1. SCOPE OF WORK
THE LANDSCAPE CONTRACTOR SHALL BE REQUIRED TO PERFORM ALL CLEARING, FINISHED GRADING, SOIL PREPARATION, PERMANENT SEEDING OR SODDING, PLANTING AND MULCHING INCLUDING ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT NECESSARY FOR THE COMPLETION OF THIS PROJECT, UNLESS OTHERWISE CONTRACTED BY THE GENERAL CONTRACTOR.

2. MATERIALS
A. GENERAL - ALL HARDSCAPE MATERIALS SHALL MEET OR EXCEED SPECIFICATIONS AS OUTLINED IN THE STATE DEPARTMENT OF TRANSPORTATION'S SPECIFICATIONS.
B. TOPSOIL - NATURAL, FRIABLE, LOAMY SILT SOIL HAVING AN ORGANIC CONTENT NOT LESS THAN 5%, A PH RANGE BETWEEN 4.5-7.0. IT SHALL BE FREE OF DEBRIS, ROCKS LARGER THAN ONE INCH (1"), WOOD, ROOTS, VEGETABLE MATTER AND CLAY CLODS.
C. LAWN - ALL DISTURBED AREAS ARE TO BE TREATED WITH A MINIMUM 6" THICK LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT AND SEEDED OR SODDED IN ACCORDANCE WITH THE PERMANENT STABILIZATION METHODS INDICATED ON LANDSCAPE PLAN.
I. LAWN SEED MIXTURE SHALL BE FRESH, CLEAN NEW CROP SEED.
II. SOD SHALL BE STRONGLY ROOTED, WEED AND DISEASE/PEST FREE WITH A UNIFORM THICKNESS. SOD INSTALLED ON SLOPES GREATER THAN 4:1 SHALL BE PEGGED TO HOLD SOD IN PLACE.
D. MULCH - ALL PLANTING BEDS SHALL BE MULCHED WITH A 3" THICK LAYER OF DOUBLE SHREDDED HARDWOOD BARK MULCH, UNLESS OTHERWISE STATED ON THE LANDSCAPE PLAN AND/OR DETAILS.
E. FERTILIZER
I. FERTILIZER SHALL BE DELIVERED TO THE SITE MIXED AS SPECIFIED IN THE ORIGINAL UNOPENED STANDARD BAGS SHOWING WEIGHT, ANALYSIS AND NAME OF MANUFACTURER. FERTILIZER SHALL BE STORED IN A WEATHERPROOF PLACE SO THAT IT CAN BE KEPT DRY PRIOR TO USE.
II. FOR THE PURPOSE OF BIDDING, ASSUME THAT FERTILIZER SHALL BE 10% NITROGEN, 6% PHOSPHORUS AND 4% POTASSIUM BY WEIGHT. A FERTILIZER SHOULD NOT BE SELECTED WITHOUT A SOIL TEST PERFORMED BY A CERTIFIED SOIL LABORATORY.
F. PLANT MATERIAL
I. ALL PLANTS SHALL IN ALL CASES CONFORM TO THE REQUIREMENTS OF THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1), LATEST EDITION, AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION (FORMERLY THE AMERICAN ASSOCIATION OF NURSERYMEN).
II. IN ALL CASES, BOTANICAL NAMES SHALL TAKE PRECEDENCE OVER COMMON NAMES FOR ANY AND ALL PLANT MATERIAL.
III. PLANTS SHALL BE LEGIBLY TAGGED WITH THE PROPER NAME AND SIZE. TAGS ARE TO REMAIN ON AT LEAST ONE PLANT OF EACH SPECIES FOR VERIFICATION PURPOSES DURING THE FINAL INSPECTION.
IV. TREES WITH ABRASION OF THE BARK, SUN SCALDS, DISFIGURATION OR FRESH CUTS OF LIMBS OVER 1¼", WHICH HAVE NOT BEEN COMPLETELY CALLUSED, SHALL BE REJECTED. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES.
V. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH, WELL DEVELOPED BRANCHES, DENSELY FOLIATED, VIGOROUS ROOT SYSTEMS AND BE FREE OF DISEASE, INSECTS, PESTS, EGGS OR LARVAE.
VI. CALIPER MEASUREMENTS OF NURSERY GROWN TREES SHALL BE TAKEN AT A POINT ON THE TRUNK SIX INCHES (6") ABOVE THE NATURAL GRADE FOR TREES UP TO AND INCLUDING A FOUR INCH (4") CALIPER SIZE. IF THE CALIPER AT SIX INCHES (6") ABOVE THE GROUND EXCEEDS FOUR INCHES (4") IN CALIPER, THE CALIPER SHOULD BE MEASURED AT A POINT 12" ABOVE THE NATURAL GRADE.
VII. SHRUBS SHALL BE MEASURED TO THE AVERAGE HEIGHT OR SPREAD OF THE SHRUB, AND NOT TO THE LONGEST BRANCH.
VIII. TREES AND SHRUBS SHALL BE HANDLED WITH CARE BY THE ROOT BALL.

3. GENERAL WORK PROCEDURES
A. CONTRACTOR TO UTILIZE WORKMANLIKE INDUSTRY STANDARDS IN PERFORMING ALL LANDSCAPE CONSTRUCTION. THE SITE IS TO BE LEFT IN A CLEAN STATE AT THE END OF EACH WORKDAY. ALL DEBRIS, MATERIALS AND TOOLS SHALL BE PROPERLY STORED, STOCKPILED OR DISPOSED OF.
B. WASTE MATERIALS AND DEBRIS SHALL BE COMPLETELY DISPOSED OF AT THE CONTRACTOR'S EXPENSE. DEBRIS SHALL NOT BE BURIED, INCLUDING ORGANIC MATERIALS, BUT SHALL BE REMOVED COMPLETELY FROM THE SITE.

4. SITE PREPARATIONS
A. BEFORE AND DURING PRELIMINARY GRADING AND FINISHED GRADING, ALL WEEDS AND GRASSES SHALL BE DUG OUT BY THE ROOTS AND DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES OUTLINED HEREIN.
B. ALL EXISTING TREES TO REMAIN SHALL BE PRUNED TO REMOVE ANY DAMAGED BRANCHES. THE ENTIRE LIMB OF ANY DAMAGED BRANCH SHALL BE CUT OFF AT THE BRANCH COLLAR. CONTRACTOR SHALL ENSURE THAT CUTS ARE SMOOTH AND STRAIGHT. ANY EXPOSED ROOTS SHALL BE CUT BACK WITH CLEAN, SHARP TOOLS AND TOPSOIL SHALL BE PLACED AROUND THE REMAINDER OF THE ROOTS. EXISTING TREES SHALL BE MONITORED ON A REGULAR BASIS FOR ADDITIONAL ROOT OR BRANCH DAMAGE AS A RESULT OF CONSTRUCTION. ROOTS SHALL NOT BE LEFT EXPOSED FOR MORE THAN ONE (1) DAY. CONTRACTOR SHALL WATER EXISTING TREES AS NEEDED TO PREVENT SHOCK OR DECLINE.
C. CONTRACTOR SHALL ARRANGE TO HAVE A UTILITY STAKE-OUT TO LOCATE ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF ANY LANDSCAPE MATERIAL. UTILITY COMPANIES SHALL BE CONTACTED THREE (3) DAYS PRIOR TO THE BEGINNING OF WORK.

5. TREE PROTECTION
A. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES TO REMAIN. A TREE PROTECTION ZONE SHALL BE ESTABLISHED AT THE DRIPLINE OR AT THE LIMIT OF CONSTRUCTION DISTURBANCE, WHICHEVER IS GREATER. LOCAL STANDARDS THAT MAY REQUIRE A MORE STRICT TREE PROTECTION ZONE SHALL BE HONORED.
B. A FORTY-EIGHT INCH (48") HIGH WOODEN SNOW FENCE, OR ORANGE COLORED HIGH-DENSITY VISI-FENCE, OR APPROVED EQUAL, MOUNTED ON STEEL POSTS SHALL BE PLACED ALONG THE BOUNDARY OF THE TREE PROTECTION ZONE. POSTS SHALL BE LOCATED AT A MAXIMUM OF EIGHT FEET (8') ON CENTER OR AS INDICATED WITHIN THE TREE PROTECTION DETAIL.
C. WHEN THE TREE PROTECTION FENCING HAS BEEN INSTALLED, IT SHALL BE INSPECTED BY THE APPROVING AGENCY PRIOR TO DEMOLITION, GRADING, TREE-CLEARING OR ANY OTHER CONSTRUCTION. THE FENCING ALONG THE TREE PROTECTION ZONE SHALL BE REGULARLY INSPECTED BY THE LANDSCAPE CONTRACTOR AND MAINTAINED UNTIL ALL CONSTRUCTION ACTIVITY HAS BEEN COMPLETED.
D. AT NO TIME SHALL MACHINERY, DEBRIS, FALLEN TREES OR OTHER MATERIALS BE PLACED, STOCKPILED OR LEFT STANDING IN THE TREE PROTECTION ZONE.

6. SOIL MODIFICATIONS
A. CONTRACTOR SHALL ATTAIN A SOIL TEST FOR ALL AREAS OF THE SITE PRIOR TO CONDUCTING ANY PLANTING. SOIL TESTS SHALL BE PERFORMED BY A CERTIFIED SOIL LABORATORY.
B. LANDSCAPE CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL. SOIL MODIFICATIONS, AS SPECIFIED HEREIN, MAY NEED TO BE CONDUCTED BY THE LANDSCAPE CONTRACTOR DEPENDING ON SITE CONDITIONS.
C. THE FOLLOWING AMENDMENTS AND QUANTITIES ARE APPROXIMATE AND ARE FOR BIDDING PURPOSES ONLY. COMPOSITION OF AMENDMENTS SHOULD BE REVISED DEPENDING ON THE OUTCOME OF A TOPSOIL ANALYSIS PERFORMED BY A CERTIFIED SOIL LABORATORY.
I. TO INCREASE A SANDY SOIL'S ABILITY TO RETAIN WATER AND NUTRIENTS, THOROUGHLY TILL ORGANIC MATTER INTO THE TOP 6-12". USE COMPOSTED BARK, COMPOSTED LEAF MULCH OR PEAT MOSS. ALL PRODUCTS SHOULD BE COMPOSTED TO A DARK COLOR AND BE FREE OF PIECES WITH IDENTIFIABLE LEAF OR WOOD STRUCTURE. AVOID MATERIAL WITH A PH HIGHER THAN 7.5.
II. TO INCREASE DRAINAGE, MODIFY HEAVY CLAY OR SILT (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) AND/OR AGRICULTURAL GYPSUM. COARSE SAND MAY BE USED IF ENOUGH IS ADDED TO BRING THE SAND CONTENT TO MORE THAN 60% OF THE TOTAL MIX. SUBSURFACE DRAINAGE LINES MAY NEED TO BE ADDED TO INCREASE DRAINAGE.
III. MODIFY EXTREMELY SANDY SOILS (MORE THAN 85%) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX.

7. FINISHED GRADING
A. UNLESS OTHERWISE CONTRACTED, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF TOPSOIL AND THE ESTABLISHMENT OF FINE GRADING WITHIN THE DISTURBANCE AREA OF THE SITE.
B. LANDSCAPE CONTRACTOR SHALL VERIFY THAT SUBGRADE FOR INSTALLATION OF TOPSOIL HAS BEEN ESTABLISHED. THE SUBGRADE OF THE SITE MUST MEET THE FINISHED GRADE LESS THE REQUIRED TOPSOIL THICKNESS (T+).
C. ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE AS DEPICTED WITHIN THE SET OF CONSTRUCTION PLANS, UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER OR LANDSCAPE ARCHITECT.
D. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER IN AND AROUND THE PLANTING BEDS. STANDING WATER SHALL NOT BE PERMITTED IN PLANTING BEDS.

8. TOPSOILING
A. CONTRACTOR SHALL PROVIDE A 6" THICK MINIMUM LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, IN ALL PLANTING AREAS. TOPSOIL SHOULD BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO ACHIEVE THE DESIRED COMPACTED THICKNESS.
B. ON-SITE TOPSOIL MAY BE USED TO SUPPLEMENT THE TOTAL AMOUNT REQUIRED. TOPSOIL FROM THE SITE MAY BE REJECTED IF IT HAS NOT BEEN PROPERLY REMOVED, STORED AND PROTECTED PRIOR TO CONSTRUCTION.
C. CONTRACTOR SHALL FURNISH TO THE APPROVING AGENCY AN ANALYSIS OF BOTH IMPORTED AND ON-SITE TOPSOIL TO BE UTILIZED IN ALL PLANTING AREAS. THE PH AND NUTRIENT LEVELS MAY NEED TO BE ADJUSTED THROUGH SOIL MODIFICATIONS AS NEEDED TO ACHIEVE THE REQUIRED LEVELS AS SPECIFIED IN THE MATERIALS SECTION ABOVE.
D. ALL LAWN AREAS ARE TO BE CULTIVATED TO A DEPTH OF SIX INCHES (6"). ALL DEBRIS EXPOSED FROM EXCAVATION AND CULTIVATION SHALL BE DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES SECTION ABOVE. THE FOLLOWING SHALL BE TILLED INTO THE TOP FOUR INCHES (4") IN TWO DIRECTIONS (QUANTITIES BASED ON A 1,000 SQUARE FOOT AREA - FOR BID PURPOSES ONLY) [SEE SPECIFICATION 6.A]:
I. 20 POUNDS 'GRO-POWER' OR APPROVED SOIL CONDITIONER/FERTILIZER
II. 20 POUNDS NITRO-FORM (COURSE) 38-0-0 BLUE CHIP OR APPROVED NITROGEN FERTILIZER
E. THE SPREADING OF TOPSOIL SHALL NOT BE CONDUCTED UNDER MUDDY OR FROZEN CONDITIONS.

9. PLANTING
A. IN ORDER THAT IT IS FEASIBLE, PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THAT THIS IS NOT POSSIBLE, LANDSCAPE CONTRACTOR SHALL PROTECT UNINSTALLED PLANT MATERIAL. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE DAY PERIOD AFTER DELIVERY. PLANTS THAT WILL NOT BE PLANTED FOR A PERIOD OF TIME GREATER THAN THREE DAYS SHALL BE HEALED IN WITH TOPSOIL OR MULCH TO HELP PRESERVE ROOT MOISTURE.
B. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN TOPSOIL THAT IS IN A MUDDY OR FROZEN CONDITION.
C. ANY INJURED ROOTS OR BRANCHES SHALL BE PRUNED TO MAKE CLEAN-CUT ENDS PRIOR TO PLANTING UTILIZING CLEAN, SHARP TOOLS. ONLY INJURED OR DISEASED BRANCHING SHALL BE REMOVED.
D. ALL PLANTING CONTAINERS, BASKETS AND NON-BIODEGRADABLE MATERIALS SHALL BE REMOVED FROM ROOT BALLS DURING PLANTING. NATURAL FIBER BURLAP MUST BE CUT FROM AROUND THE TRUNK OF THE TREE AND FOLDED DOWN AGAINST THE ROOT BALL PRIOR TO BACKFILLING.
E. POSITION TREES AND SHRUBS AT THEIR INTENDED LOCATIONS AS PER THE PLANS AND SECURE THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO EXCAVATING PITS, MAKING NECESSARY ADJUSTMENTS AS DIRECTED.
F. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, THE PROPOSED LANDSCAPE, AS SHOWN ON THE APPROVED LANDSCAPE PLAN, MUST BE INSTALLED, INSPECTED AND APPROVED BY THE APPROVING AGENCY. THE APPROVING AGENCY SHALL TAKE INTO ACCOUNT SEASONAL CONSIDERATIONS IN THIS REGARD AS FOLLOWS. THE PLANTING OF TREES, SHRUBS, VINES OR GROUND COVER SHALL OCCUR ONLY DURING THE FOLLOWING PLANTING SEASONS:
I. PLANTS: MARCH 15 TO DECEMBER 15
II. LAWN: MARCH 15 TO JUNE 15 OR SEPT. 1 TO DECEMBER 1
PLANTINGS REQUIRED FOR A CERTIFICATE OF OCCUPANCY SHALL BE PROVIDED DURING THE NEXT APPROPRIATE SEASON AT THE MUNICIPALITY'S DISCRETION. CONTRACTOR SHOULD CONTACT APPROVING AGENCY FOR POTENTIAL SUBSTITUTIONS.
G. FURTHERMORE, THE FOLLOWING TREE VARIETIES ARE UNUSUALLY SUSCEPTIBLE TO WINTER DAMAGE. WITH TRANSPLANT SHOCK AND THE SEASONAL LACK OF NITROGEN AVAILABILITY, THE RISK OF PLANT DEATH IS GREATLY INCREASED. IT IS NOT RECOMMENDED THAT THESE SPECIES BE PLANTED DURING THE FALL PLANTING SEASON:

ACER RUBRUM	PLATANUS X ACERIFOLIA
BETULA VARIETIES	POPULUS VARIETIES
CARPINUS VARIETIES	PRUNUS VARIETIES
CRATAEGUS VARIETIES	PYRUS VARIETIES
KOELREUTERIA	QUERCUS VARIETIES
LIQUIDAMBAR STYRACIFLUA	TILIA TOMENTOSA
LIRIODENDRON TULIPIFERA	ZELKOVA VARIETIES

H. PLANTING PITS SHALL BE DUG WITH LEVEL BOTTOMS, WITH THE WIDTH TWICE THE DIAMETER OF ROOT BALL. THE ROOT BALL SHALL REST ON UNDISTURBED GRADE. EACH PLANT PIT SHALL BE BACKFILLED IN LAYERS WITH THE FOLLOWING PREPARED SOIL MIXED THOROUGHLY:
I. 1 PART PEAT MOSS
II. 1 PART COMPOSTED COW MANURE BY VOLUME
III. 3 PARTS TOPSOIL BY VOLUME
IV. 21 GRAMS 'AGRIFORM' PLANTING TABLETS (OR APPROVED EQUAL) AS FOLLOWS:
A) 2 TABLETS PER 1 GALLON PLANT
B) 3 TABLETS PER 5 GALLON PLANT
C) 4 TABLETS PER 15 GALLON PLANT
D) LARGER PLANTS: 2 TABLETS PER ½" CALIPER OF TRUNK
I. FILL PREPARED SOIL AROUND BALL OF PLANT HALF-WAY AND INSERT PLANT TABLETS. COMPLETE BACKFILL AND WATER THOROUGHLY.
J. ALL PLANTS SHALL BE PLANTED SO THAT THE TOP OF THE ROOT BALL, THE POINT AT WHICH THE ROOT FLARE BEGINS, IS SET AT GROUND LEVEL AND IN THE CENTER OF THE PIT. NO SOIL IS TO BE PLACED DIRECTLY ON TOP OF THE ROOT BALL.
K. ALL PROPOSED TREES DIRECTLY ADJACENT TO WALKWAYS OR DRIVEWAYS SHALL BE PRUNED AND MAINTAINED TO A MINIMUM BRANCHING HEIGHT OF 7' FROM GRADE.
L. GROUND COVER AREAS SHALL RECEIVE A ½" LAYER OF HUMUS RAKED INTO THE TOP 1" OF PREPARED SOIL PRIOR TO PLANTING. ALL GROUND COVER AREAS SHALL BE WEEDED AND TREATED WITH A PRE-EMERGENT CHEMICAL AS PER MANUFACTURER'S RECOMMENDATION.
M. NO PLANT, EXCEPT GROUND COVERS, GRASSES OR VINES, SHALL BE PLANTED LESS THAN TWO FEET (2') FROM EXISTING STRUCTURES AND SIDEWALKS.
N. ALL PLANTING AREAS AND PLANTING PITS SHALL BE MULCHED AS SPECIFIED HEREIN TO FILL THE ENTIRE BED AREA OR SAUCER. NO MULCH IS TO TOUCH THE TRUNK OF THE TREE OR SHRUB.
O. ALL PLANTING AREAS SHALL BE WATERED IMMEDIATELY UPON INSTALLATION IN ACCORDANCE WITH THE WATERING SPECIFICATIONS AS LISTED HEREIN.

10. TRANSPLANTING (WHEN REQUIRED)
A. ALL TRANSPLANTS SHALL BE DUG WITH INTACT ROOT BALLS CAPABLE OF SUSTAINING THE PLANT.
B. IF PLANTS ARE TO BE STOCKPILED BEFORE REPLANTING, THEY SHALL BE HEALED IN WITH MULCH OR SOIL, ADEQUATELY WATERED AND PROTECTED FROM EXTREME HEAT, SUN AND WIND.
C. PLANTS SHALL NOT BE DUG FOR TRANSPLANTING BETWEEN APRIL 10 AND JUNE 30.
D. UPON REPLANTING, BACKFILL SOIL SHALL BE AMENDED WITH FERTILIZER AND ROOT GROWTH HORMONE.
E. TRANSPLANTS SHALL BE GUARANTEED FOR THE LENGTH OF THE GUARANTEE PERIOD SPECIFIED HEREIN.
F. IF TRANSPLANTS DIE, SHRUBS AND TREES LESS THAN SIX INCHES (6") DBH SHALL BE REPLACED IN KIND. TREES GREATER THAN SIX INCHES (6") DBH MAY BE REQUIRED TO BE REPLACED IN ACCORDANCE WITH THE MUNICIPALITY'S TREE REPLACEMENT GUIDELINES.

11. WATERING
A. NEW PLANTINGS OR LAWN AREAS SHALL BE ADEQUATELY IRRIGATED BEGINNING IMMEDIATELY AFTER PLANTING. WATER SHALL BE APPLIED TO EACH TREE AND SHRUB IN SUCH MANNER AS NOT TO DISTURB BACKFILL AND TO THE EXTENT THAT ALL MATERIALS IN THE PLANTING HOLE ARE THOROUGHLY SATURATED. WATERING SHALL CONTINUE AT LEAST UNTIL PLANTS ARE ESTABLISHED.
B. SITE OWNER SHALL PROVIDE WATER IF AVAILABLE ON SITE AT TIME OF PLANTING. IF WATER IS NOT AVAILABLE ON SITE, CONTRACTOR SHALL SUPPLY ALL NECESSARY WATER. THE USE OF WATERING BAGS IS RECOMMENDED FOR ALL NEWLY PLANTED TREES.
C. IF AN IRRIGATION SYSTEM HAS BEEN INSTALLED ON THE SITE, IT SHALL BE USED TO WATER PROPOSED PLANT MATERIAL, BUT ANY FAILURE OF THE SYSTEM DOES NOT ELIMINATE THE CONTRACTOR'S RESPONSIBILITY OF MAINTAINING THE DESIRED MOISTURE LEVEL FOR VIGOROUS, HEALTHY GROWTH.

12. GUARANTEE
A. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF 1 YEAR FROM APPROVAL OF LANDSCAPE INSTALLATION BY THE APPROVING AGENCY. CONTRACTOR SHALL SUPPLY THE OWNER WITH A MAINTENANCE BOND FOR TEN PERCENT (10%) OF THE VALUE OF THE LANDSCAPE INSTALLATION WHICH WILL BE RELEASED AT THE CONCLUSION OF THE GUARANTEE PERIOD AND WHEN A FINAL INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.
B. ANY DEAD OR DYING PLANT MATERIAL SHALL BE REPLACED FOR THE LENGTH OF THE GUARANTEE PERIOD. REPLACEMENT OF PLANT MATERIAL SHALL BE CONDUCTED AT THE FIRST SUCCEEDING PLANTING SEASON. ANY DEBRIS SHALL BE DISPOSED OF OFF-SITE, WITHOUT EXCEPTION.
C. TREES AND SHRUBS SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION AND THROUGHOUT THE 90 DAY MAINTENANCE PERIOD AS SPECIFIED HEREIN. CULTIVATION, WEEDING, WATERING AND THE PREVENTATIVE TREATMENTS SHALL BE PERFORMED AS NECESSARY TO KEEP PLANT MATERIAL IN GOOD CONDITION AND FREE OF INSECTS AND DISEASE.
D. LAWNS SHALL BE MAINTAINED THROUGH WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING AND OTHER OPERATIONS SUCH AS ROLLING, REGARDING AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS.

13. CLEANUP
A. UPON THE COMPLETION OF ALL LANDSCAPE INSTALLATION AND BEFORE THE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL UNUSED MATERIALS, EQUIPMENT AND DEBRIS FROM THE SITE. ALL PAVED AREAS ARE TO BE CLEANED.
B. THE SITE SHALL BE CLEANED AND LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.

14. MAINTENANCE (ALTERNATIVE BID)
A 90 DAY MAINTENANCE PERIOD SHALL COMMENCE AT THE END OF ALL LANDSCAPE INSTALLATION OPERATIONS. THE 90 DAY MAINTENANCE PERIOD ENSURES TO THE OWNER/OPERATOR THAT THE NEWLY INSTALLED LANDSCAPING HAS BEEN MAINTAINED AS SPECIFIED ON THE APPROVED LANDSCAPE PLAN. ONCE THE INITIAL 90 DAY MAINTENANCE PERIOD HAS EXPIRED, THE OWNER/OPERATOR MAY REQUEST THAT BIDDERS SUBMIT AN ALTERNATE MAINTENANCE BID FOR A MONTHLY MAINTENANCE CONTRACT. THE ALTERNATE MAINTENANCE CONTRACT WILL ENCOMPASS ANY WORK THAT IS CONSIDERED APPROPRIATE TO ENSURE THAT PLANT AND LAWN AREAS ARE HEALTHY AND MANICURED TO THE APPROVAL OF THE OWNER/OPERATOR.

STANDARD FOR PERMANENT STABILIZATION WITH SOD

METHODS AND MATERIALS
1. CULTIVATED SOD IS PREFERRED OVER NATIVE OR PASTURE SOD. SPECIFY "CERTIFIED SOD" OR OTHER HIGH QUALITY CULTIVATED SOD.
2. SOD SHOULD BE FREE OF WEEDS AND UNDESIRABLE COARSE WEEDY GRASSES.
3. SOD SHOULD BE OF UNIFORM THICKNESS, APPROXIMATELY 5/8 INCH, PLUS OR MINUS 1/4 INCH, AT TIME OF CUTTING. (EXCLUDES TOP GROWTH)
4. SOD SHOULD BE VIGOROUS AND DENSE AND BE ABLE TO RETAIN ITS OWN SHAPE AND WEIGHT WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP FROM THE UPPER 10 PERCENT OF THE STRIP. BROKEN PADS OR TORN AND UNEVEN ENDS WILL NOT BE ACCEPTABLE.
5. FOR DRAUGHT SITES, A SOD OF KENTUCKY 31 TALL FESCUE AND BLUEGRASS IS PREFERRED OVER A STRAIGHT BLUEGRASS SOD.
6. ONLY MOIST, FRESH, UNHEATED SOD SHOULD BE USED. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS.

I. SITE PREPARATION
A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR LIMING, FERTILIZING, AND SOIL PREPARATION. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARD FOR LAND GRADING.
B. INSTALL NEEDED EROSION CONTROL PRACTICES AND FACILITIES, SUCH AS INTERCEPTOR DITCHES, DIKES AND TERRACES, EROSION STOPS, AND DE-SILTING BASINS.

II. SOIL PREPARATION
A. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TESTS SUCH AS THOSE OFFERED BY RUTGERS UNIVERSITY SOIL TESTING LABORATORY. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL COOPERATIVE EXTENSION SERVICE OFFICE. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-20-10 OR EQUIVALENT. IN ADDITION, 300 POUNDS 38-0-0 PER ACRE OR EQUIVALENT OF SLOW RELEASE NITROGEN MAY BE USED IN LIEU OF TOP-DRESSING. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDES) AS FOLLOWS:

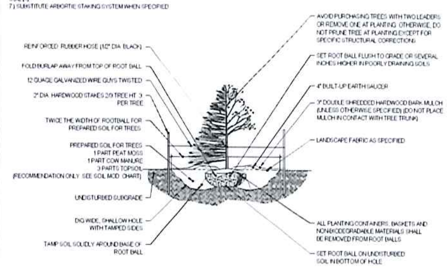
SOIL TEXTURE	TONS/ACRE	LBS/1000 SQ. FT.
CLAY, CLAY LOAM, AND HIGH ORGANIC SOIL	4	180
SANDY LOAM, LOAM, SILT LOAM	3	135
LOAMY SAND, SAND	2	90

B. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS PREPARED.
C. REMOVE FROM THE SURFACE ALL OBJECTS THAT WOULD PREVENT GOOD SOD TO SOIL CONTACT AND REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS, OR OTHER UNSUITABLE MATERIAL.
D. INSPECT SITE JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RE-TILLED AND FIRMED AS ABOVE.

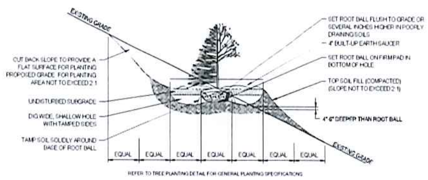
III. SOD PLACEMENT
A. SOD STRIPS SHOULD BE LAID ON THE CONTOUR, NEVER UP AND DOWN THE SLOPE, STARTING AT THE BOTTOM OF THE SLOPE AND WORKING UP. ON STEEP SLOPES, THE USE OF LADDERS WILL FACILITATE THE WORK AND PREVENT DAMAGE TO THE SOD. DURING PERIODS OF HIGH TEMPERATURE, LIGHTLY IRRIGATE THE SOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
B. PLACE SOD STRIPS WITH SNUG, EVEN JOINTS THAT ARE STAGGERED. OPEN SPACES INVITE EROSION.
C. ROLL OR TAMP SOD IMMEDIATELY FOLLOWING PLACEMENT TO INSURE SOLID CONTACT OF ROOT MAT AND SOIL SURFACE. DO NOT OVERLAP SOD. ALL JOINTS SHOULD BE BUTTED TIGHTLY IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS.
D. ON SLOPES GREATER THAN 3 TO 1, SECURE SOD TO SURFACE SOIL WITH WOOD PEGS, WIRE STAPLES, OR SPLIT SHINGLES (8 TO 10 INCHES LONG BY 3/4 INCH WIDE).
E. SURFACE WATER CANNOT ALWAYS BE DIVERTED FROM FLOWING OVER THE FACE OF THE SLOPE, BUT A CAPPING STRIP OF HEAVY JUTE OR PLASTIC NETTING, PROPERLY SECURED, ALONG THE CROWN OF THE SLOPE AND EDGES WILL PROVIDE EXTRA PROTECTION AGAINST LIFTING AND UNDERCUTTING OF SOD. THE SAME TECHNIQUE CAN BE USED TO ANCHOR SOD IN WATER CARRYING CHANNELS AND OTHER CRITICAL AREAS. WIRE STAPLES MUST BE USED TO ANCHOR NETTING IN CHANNEL WORK.
F. IMMEDIATELY FOLLOWING INSTALLATION, SOD SHOULD BE WATERED UNTIL MOISTURE PENETRATES THE SOIL LAYER BENEATH SOD TO A DEPTH OF 4 INCHES. MAINTAIN OPTIMUM MOISTURE FOR AT LEAST TWO WEEKS, AND CONTINUE IRRIGATION THROUGHOUT ENTIRE SEASON.

IV. TOP DRESSING – IF SLOW RELEASE NITROGEN (300 POUNDS 38-0-0 PER ACRE OR EQUIVALENT) IS USED IN ADDITION TO SUGGESTED FERTILIZER, THEN A FOLLOW-UP OF TOP DRESSING IS NOT MANDATORY.
A. SPRING INSTALLATION OF SOD WILL REQUIRE AN APPLICATION OF FERTILIZER SUCH AS 10-20-10 OR EQUIVALENT AT 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET BETWEEN MARCH 15 AND APRIL 1.
B. FALL INSTALLATION OF SOD WILL REQUIRE THE ABOVE BETWEEN SEPTEMBER 1 AND OCTOBER 15.

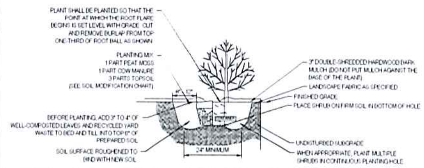
NOTES:
1.) NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
2.) REMOVE ALL NON-BIODEGRADABLE MATERIAL AND ROPE FROM TRUNK & TOP OF ROOT BALL. FOLD BURLAP BACK 1/3 FROM ROOT BALL.
3.) PLANTING DEPTH SHALL BE THE SAME AS GROWN IN NURSERY.
4.) THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
5.) THE BOTTOM OF PLANTING PIT EXCAVATIONS SHOULD BE ROUGH TO AVOID MATTING OF SOIL LAYERS AS NEW SOIL IS ADDED. IT IS PREFERABLE TO TILL THE FIRST LIFT (2" TO 3") OF PLANTING SOIL INTO THE SUBSOIL.
6.) REFER TO THE CHART "GENERAL RANGE OF SOIL MODIFICATIONS & VOLUMES FOR VARIOUS SOIL CONDITIONS" TO DETERMINE MINIMUM WIDTH OF PREPARED SOIL (P).
7.) SUBSTITUTE ARBORTIE STAKING SYSTEM WHEN SPECIFIED.



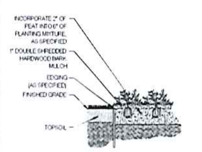
TREE PLANTING DETAIL
N.T.S.



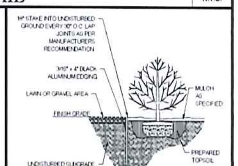
TREE PLANTING ON SLOPE DETAIL
N.T.S.



SHRUB PLANTING DETAIL
N.T.S.

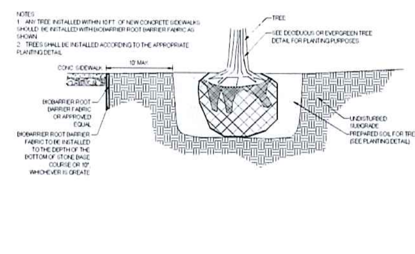


GROUNDCOVER PLANTING
N.T.S.



BLACK ALUMINUM EDGING
N.T.S.

NOTES:
1. ANY TREE INSTALLED WITHIN 10 FT. OF NEW CONCRETE SIDEWALKS SHOULD BE INSTALLED WITH BIOBARRIER ROOT BARRIER FABRIC AS SHOWN.
2. TREES SHALL BE INSTALLED ACCORDING TO THE APPROPRIATE PLANTING DETAIL.



BIOBARRIER ROOT BARRIER DETAIL
N.T.S.

HYDROSEED SPECIFICATIONS

1. PRIOR TO SEEDING, AREA IS TO BE TOPSOILED, FINE GRADED, AND RAKED OF ALL DEBRIS LARGER THAN 2" DIAMETER.
2. PRIOR TO SEEDING, CONSULT MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.
3. SEEDING RATES:

• PERENNIAL RYEGRASS	1/2 LB/1000 SQ FT
• KENTUCKY BLUEGRASS	1 LB/1000 SQ FT
• RED FESCUE	1/2 LB/1000 SQ FT
• SPREADING FESCUE	1/2 LB/1000 SQ FT
• FERTILIZER (16-32-16)	2 LB/1000 SQ FT
• LIQUID LIME	1 GAL/100 GAL
• TANK TACKIFIER	3 LB/400 GAL
• TANK FIBER MULCH	30 LB/1000 SQ FT

4. GERMINATION RATES WILL VARY AS TO TIME OF YEAR FOR SOWING. CONTRACTOR TO IRRIGATE SEEDED AREA UNTIL AN ACCEPTABLE STAND OF COVER IS ESTABLISHED BY OWNER.

NEW ENGLAND WETMIX SEED MIX

SEED MIX SHALL BE "NEW ENGLAND WETMIX" AS PREPARED BY:

NEW ENGLAND WETLAND PLANTS, INC
820 WEST STREET
AMHERST, MA 01002
PHONE: 413-548-8000
FAX: 413-549-4000
EMAIL: INFO@NEWP.COM
WEBSITE: WWW.NEWP.COM

APPLICATION RATE: 1 LB / 2,500 SF (18 LBS / ACRE)

SPECIES COMPOSITION: Lurid Sedge, (Carex lurida), Blunt Broom Sedge, (Carex scoparia), Blue Vervain, (Verbena hastata), Hop Sedge, (Carex lupulina), Green Bulrush, (Scirpus atrovirens), Redtop Panic Grass, (Panicum rigidulum), Tufted Hairgrass, (Deschampsia cespitosa), Tickseed Sunflower/Bur Marigold, (Bidens aristosa), Creeping Spike Rush, (Eleocharis palustris), Soft Rush, (Juncus effusus), Fringed Sedge, (Carex crinita), Square Stemmed Monkey Flower, (Mimulus ringens), Swamp Aster, (Aster puniceus), Boneset, (Eupatorium perfoliatum), Rattlesnake Grass, (Glyceria canadensis), Swamp Milkweed, (Asclepias incarnata), Common Sneezeweed, (Helenium autumnale), Ditch Stonecrop, (Penthorum sedoides)

Chick-fil-A
5200 Buffington Rd.
Atlanta, Georgia 30349-2998

REVISIONS

#	DATE	COMMENT	BY
1	9/15/15	INITIAL SP REVIEW COMMENTS	JNF
2	10/22/15	GMP MEETING COMMENTS	JNF
3	12/2/15	ZBA & VHB COMMENTS	JNF
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

M.J. MRVA
REGISTERED LANDSCAPE ARCHITECT

BOHLER ENGINEERING

BOHLER ENGINEERING
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
www.BohlerEngineering.com

STORE #03545
S08H-MODIFIED-N-L
104 ENTERPRISE ROAD
VILLAGE OF HYANNIS
BARNSTABLE COUNTY
MASSACHUSETTS
MAP #294, LOT #18,19,23

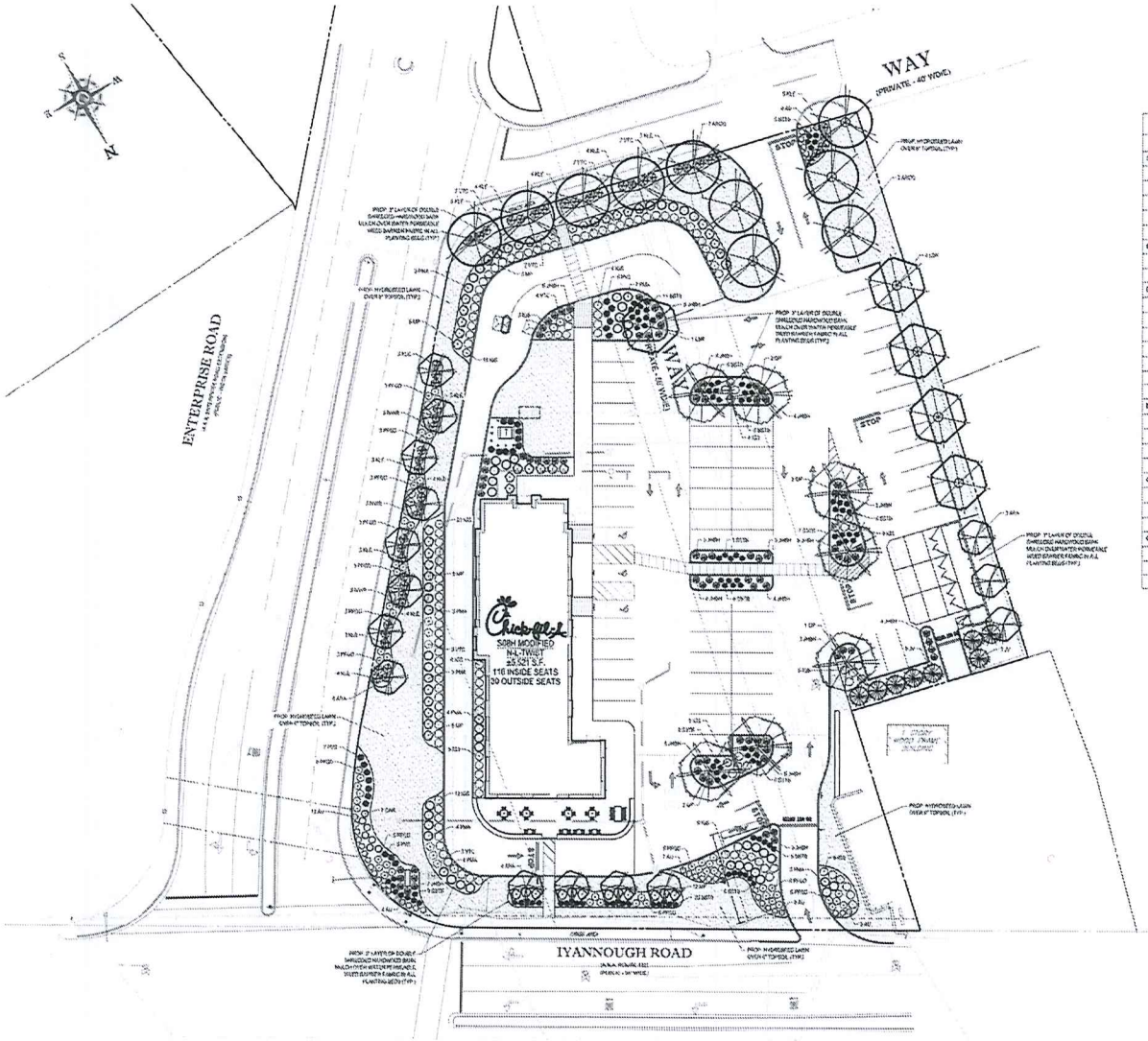
SHEET TITLE
LANDSCAPE NOTES & DETAILS SHEET

DWG EDITION 02.4

☒ Preliminary
☐ 80% Submittal
☐ For Construction

Job No. : W141096
Store : 03545
Date : 08/27/15
Drawn By : CFD/JNF
Checked By : DML/JGS

Sheet
L-1.1



LANDSCAPE SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
SHADE TREE(S)					
ARA	15	ACER RUBRUM 'ARMSTRONG'	ARMSTRONG COLUMNAR RED MAPLE	3" CAL.	B+B
ARGG	10	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	3" CAL.	B+B
LSR	5	LIQUIDAMBAR STYRACIFLUA 'ROTUNDILOBA'	SEEDLESS SWEETGUM	3" CAL.	B+B
QP	7	QUERCUS PALUSTRIS	PIN OAK	3" CAL.	B+B
SUBTOTAL:	37				
EVERGREEN TREE(S)					
JV	8	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	8-10'	B+B
SUBTOTAL:	8				
DECIDUOUS SHRUB(S)					
CAR	7	CLETHRA ALNIFOLIA 'ROSSA'	PINK SUMMERSWEET CLETHRA	24-30"	#3 CAN
IVWR	9	ILEX VERTICILLATA 'WINTER RED'	WINTER RED WINTERBERRY HOLLY	30-36"	#5 CAN
MP	49	MYRICA PENSYLVANICA	NORTHERN BAYBERRY	30-36"	B+B
PFCD	58	POTENTILLA FRUTICOSA 'GOLD DROP'	GOLD DROP CINQUEFOIL	15-18"	#3 CAN
PMA	51	PRUNUS MARITIMA	BEACH PLUM	3'-4'	B+B
VTC	14	VIBURNUM TRILOBUM 'COMPACTUM'	COMPACT AMERICAN CRANBERRYBUSH	24-30"	B+B
SUBTOTAL:	188				
EVERGREEN SHRUB(S)					
IGS	127	ILEX GLABRA 'SHAMROCK'	SHAMROCK INNBERRY HOLLY	24-30"	#5 CAN
IVWR	5	ILEX VERTICILLATA 'WINTER RED'	WINTER RED WINTERBERRY HOLLY	30-36"	#5 CAN
KLE	52	KALMIA LATIFOLIA 'ELF'	ELF MOUNTAIN LAUREL	24-30"	B+B
SUBTOTAL:	188				
GROUND COVER(S)					
AU	35	ARCTOSTAPHYLOS UVA-URSI	SCARBERRY	12-15"	#2 CAN
JHBH	83	JUNIPERUS HORIZONTALIS 'BAR HARBOR'	BAR HARBOR CREEPING JUNIPER	15-18" SPRD.	#3 CAN
SUBTOTAL:	121				
ORNAMENTAL GRASS(ES)					
PVS	29	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	2 GAL.	CONTAINER
SSTB	104	SCHIZACHYRIUM SCOPARIUM 'THE BLUES'	LITTLE BLUE STEM	2 GAL.	CONTAINER
SUBTOTAL:	130				

VILLAGE OF HYANNIS LANDSCAPE REQUIREMENTS

SECTION OF BY-LAW	DESCRIPTION	REQUIRED	PROPOSED
240-25 E.	THE FRONT YARD LANDSCAPED SETBACK SHALL BE LANDSCAPED WITH A COMBINATION OF GRASSES, TREES AND SHRUBS COMMONLY FOUND ON CAPE COD. A MINIMUM OF ONE STREET TREE WITH A MINIMUM CALIPER OF 3" SHALL BE PROVIDED PER 30 FEET OF ROAD FRONTAGE DISTRIBUTED THROUGHOUT THE FRONT YARD SETBACK AREA 1 TREE PER 30 LF OF FRONTAGE IN FRONT YARD 230 ft LF / 30 = 8 TREES	8 TREES	18 TREES
240-25 [illegible]	LANDSCAPING SHALL BE PROVIDED AT A RATE OF ONE TREE OF 3" CAL. PER EIGHT SPACES AND SUCH TREES SHALL BE LOCATED WITHIN THE PARKING AREA. 1 TREE PER 8 SPACES LOCATED WITHIN PARKING AREA 62 SPACES / 8 = 8 TREES SUCH PARKING AREA LANDSCAPING AREAS SHALL CONSTITUTE NOTE LESS THAN 5% OF THE LAND AREA DEVOTED TO GRADE-LEVEL PARKING FIELDS 26,053 SF PARKING AREA x 0.05 = 1,303 SF LANDSCAPING AREAS	8 TREES 1,303 SF	12 TREES 1,604 SF

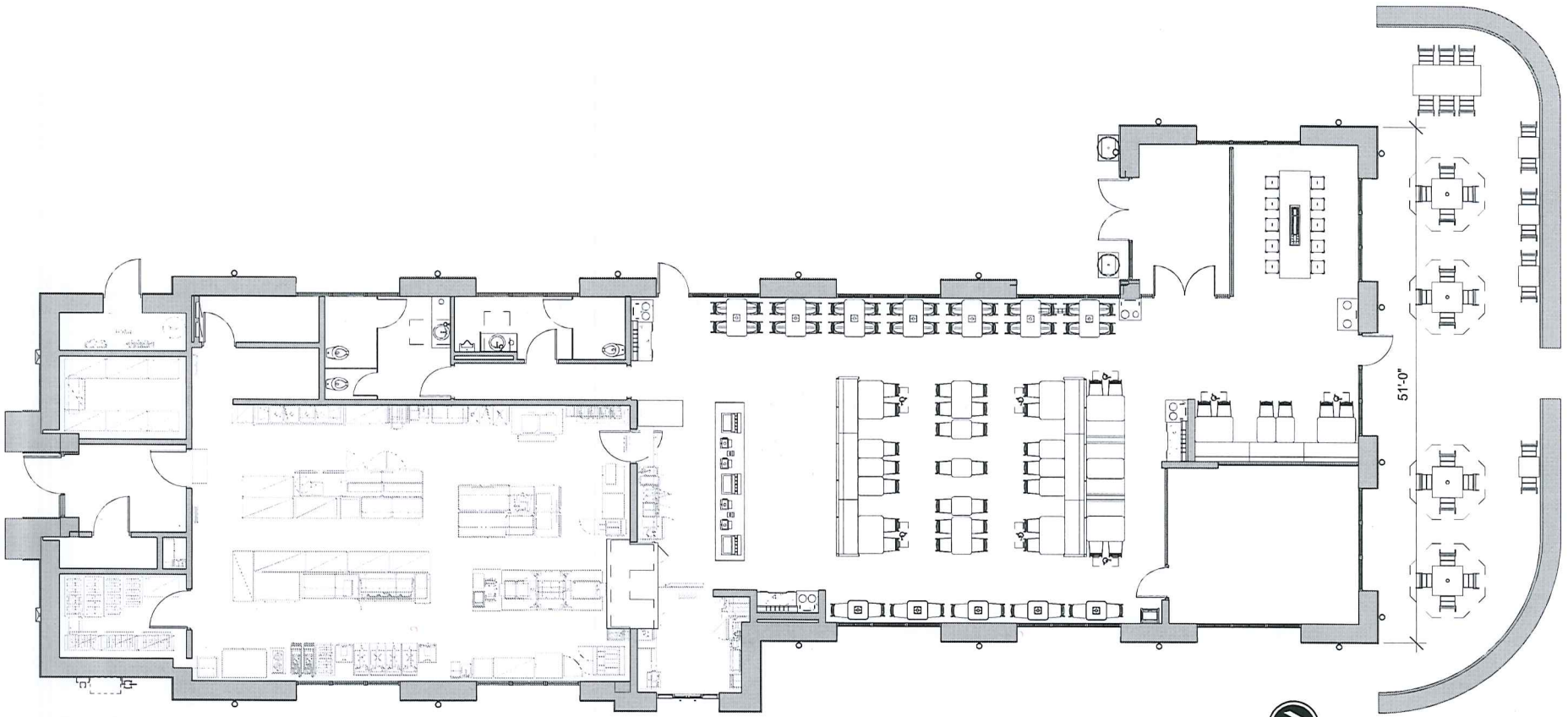
THIS PLAN TO BE UTILIZED FOR LANDSCAPE PURPOSES ONLY

10/27/15

Site Plan

Cape Cod FSU, Hyannis, MA - Store #03545

The Chick-fil-A Schematic Design Package represents a brand compliant design solution.
Site adapt professionals are responsible for application of design and compliance of ordinances and codes.



SEAT COUNT:
INTERIOR: 114 SEATS
EXTERIOR: 30 SEATS
TOTAL: 144 SEATS

CONDITIONED BLDG:
4754 S.F.
SERVICE YARD:
90 S.F.

10/27/15

Floor Plan

Cape Cod FSU, Hyannis, MA - Store #03545

The Chick-fil-A Schematic Design Package represents a brand compliant design solution.
Site adapt professionals are responsible for application of design and compliance of ordinances and codes.

Schematic Design Package

Cape Cod FSU, Hyannis, MA

Cape Cod FSU

03545

10/27/15

Cape Cod FSU, Hyannis, MA - Store #03545

The Chick-fil-A Schematic Design Package represents a brand compliant design solution.
Site adapt professionals are responsible for application of design and compliance of ordinances and codes.

NORTH ELEVATION

SOUTH ELEVATION

10/27/15

Exterior Elevations (North & South)

Cape Cod FSU, Hyannis, MA - Store #03545

The Chick-fil-A Schematic Design Package represents a brand compliant design solution.
Site adapt professionals are responsible for application of design and compliance of ordinances and codes.

WEST ELEVATION

EAST ELEVATION

10/27/15

Exterior Elevations (West & East)

Cape Cod FSU, Hyannis, MA - Store #03545

The Chick-fil-A Schematic Design Package represents a brand compliant design solution.
Site adapt professionals are responsible for application of design and compliance of ordinances and codes.

10/27/15

Exterior Perspective

Cape Cod FSU, Hyannis, MA - Store #03545

The Chick-fil-A Schematic Design Package represents a brand compliant design solution.
Site adapt professionals are responsible for application of design and compliance of ordinances and codes.

10/27/15

Exterior Perspective

Cape Cod FSU, Hyannis, MA - Store #03545

The Chick-fil-A Schematic Design Package represents a brand compliant design solution.
Site adapt professionals are responsible for application of design and compliance of ordinances and codes.

10/27/15

Exterior Perspective

Cape Cod FSU, Hyannis, MA - Store #03545

The Chick-fil-A Schematic Design Package represents a brand compliant design solution.
Site adapt professionals are responsible for application of design and compliance of ordinances and codes.

10/27/15

Exterior Perspective

Cape Cod FSU, Hyannis, MA - Store #03545

The Chick-fil-A Schematic Design Package represents a brand compliant design solution.
Site adapt professionals are responsible for application of design and compliance of ordinances and codes.

10/27/15

Exterior Perspective

Cape Cod FSU, Hyannis, MA - Store #03545

The Chick-fil-A Schematic Design Package represents a brand compliant design solution.
Site adapt professionals are responsible for application of design and compliance of ordinances and codes.

10/27/15

Exterior Perspective

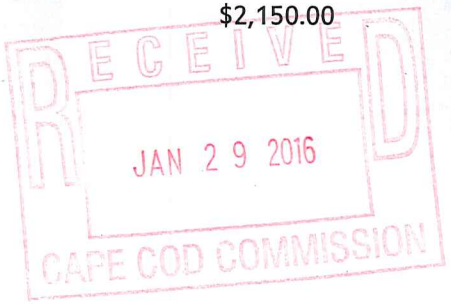
Cape Cod FSU, Hyannis, MA - Store #03545

The Chick-fil-A Schematic Design Package represents a brand compliant design solution.
Site adapt professionals are responsible for application of design and compliance of ordinances and codes.

BOHLER ENGINEERING MA, LLC

▼ PLEASE DETACH AND RETAIN FOR YOUR RECORDS ▼

INVOICE NUMBER	DATE		VOUCHER NO.	AMOUNT
BOHLER JOB # W141096		CCC FILING FEE		$2,150.00



THIS DOCUMENT IS PROTECTED BY A MICRO-PRINT SIGNATURE LINE, FLUORESCENT PAPER FIBERS, A WATERMARKED BACKER, TONER ADHESION, AND IS REACTIVE TO CHEMICAL ALTERATION

BOHLER ENGINEERING MA, LLC
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
(508) 480-9900

TD Bank
America's Most Convenient Bank®

55-136/312

01/25/16

NO 003178