



To: The Cape Cod Commission

Date: September 9, 2016

Memorandum

Project #: 13441.00

From: Randall C. Hart
Principal

Re: Supplemental Transportation Materials
Pending Limited Review Application
Proposed CDS Office Building

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Senior Project Engineer

As requested by Transportation Staff of the Cape Cod Commission (CCC), VHB, Inc. has prepared the following supplemental analyses to support the pending Limited Review Application for proposed Convention Data Services (CDS) office building. This document provides review of existing sight distance at the intersection of Waterhouse Road and Technology Park Drive and it provides the proponent and the CCC with a detailed plan of the Transportation Demand Management (TDM) program that will be implemented as part of the proposed project. Both items are provided below.

Sight Distance

Sight distance analysis, in conformance with guidelines of the American Association of State Highway and Transportation Officials (AASHTO)¹ was performed at the Waterhouse Road and Technology Park Drive intersection. Speed observations recorded during the data collection phase (85th percentile speed of approximately 46 mph in the northbound direction and 45 mph in the southbound direction in the vicinity of Technology Park Drive) were used to calculate the required stopping sight distance (SSD) for traffic approaching Technology Park Drive and intersection sight distance (ISD) for traffic exiting Technology Park Drive.

SSD is the distance required for a vehicle approaching an intersection from either direction to perceive, react and come to a complete stop before colliding with an object in the road, in this case a vehicle exiting from a driveway. In this respect, SSD can be considered as the minimum visibility criterion for the safe operation of an unsignalized intersection.

ISD, on the other hand, is based on the time required for perception, reaction and completion of the desired critical exiting maneuver (typically, a left turn) once the driver on a minor street approach (or a driveway) decides to execute the maneuver. Calculation for the critical ISD includes the time to (1) turn left, and to clear the near half of the intersection without conflicting with the vehicles approaching from the left; and (2) upon turning left, to accelerate to the operating speed on the roadway without causing approaching vehicles on the main road to unduly reduce their speed. In this context, ISD can be considered as a desirable visibility criterion for the safe operation of an unsignalized intersection. Table 1 summarizes the sight distance analysis. The sight distance worksheet is included in the Appendix to this document.

¹ A Policy on the Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials, 2013

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▪ **Table 1 Sight Distance Summary**

Location	Stopping Sight Distance (feet)			Intersection Sight Distance (feet)		
	Traveling	Required ^a	Measured ^b	Looking	Desirable ^a	Measured ^b
Waterhouse Road at	NB	370	1,000	Left	510	1,000
Technology Park Drive	SB	370	715	Right	510	515

- a. Based on standards established in A Policy on the Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials, 2013. Based on 85th percentile speed of 46 mph northbound and 45 mph southbound on Waterhouse Road. All measurements taken in April 2016.
- b. Based on field measurements taken by VHB.

As shown in Table 1, the required SSD and ISD are exceeded in both directions at the study are intersection. Graphic sight distance figures are provide in the Attachments to this document.

Transportation Demand Management (TDM)

As part of the proposed project, the Proponent is will implement a Trip Reduction Plan with the goal of reducing the project’s overall impact through the implementation of a series of Transportation Demand Management (TDM) measures and related incentives. TDM programs are designed to maximize people moving capability of the existing transportation infrastructure by increasing the number of persons in a vehicle, providing alternate modes of travel, or influencing the time of, or need to, travel. TDM measures are most often directed at commuter travel. The day-to-day regularity of this type of trip and conditions at the workplace, in terms of employer practices as on-site services, bicycle storage and showers, and shuttle services, impact employees commuter choices and make this market the most suitable for identifying alternatives.

The term TDM includes both alternatives to driving alone as well as the strategies that encourage the use of these alternatives. TDM alternatives to driving alone include: carpools and vanpools, public and private transit, and non-motorized travel, including bicycling and walking. TDM alternatives can also influence when trips are made. TDM strategies are the supporting measures that encourage the use of alternatives to driving alone. TDM strategies include financial incentives, time incentives, provision of new or enhanced commuter services, dissemination of information, and marketing alternative services. TDM strategies include all the incentives and disincentives that increase the likelihood for people to change their existing travel behavior.

As requested by the CCC, the specific details of the Proponent’s comprehensive TDM program are outlined below. In addition so that the CCC and the Proponent have the details of the program in an organized fashion, a separate PDF/booklet has been prepared to outline the same information. The TDM program is outlined below:

1. TDM Program Coordinator

The carpool/ridesharing program will be coordinated through CDS's Human Resources (HR) Director, and administered by the HR Coordinator.

2. Carpool Brochures

Information regarding carpooling and its benefits has been assembled and is contained in Attachment B of this document. Brochures provided include:

- "Time to Reboot Your Commute"
- "Refresh Your Ride"
- "Leave Your Car Keys at Home with Your Worries"
- "Welcome to the Team!"

3. Information Posting

Carpool information will be posted on CDS's intranet website. Brochures will also be made available to interested candidates.

4. Newsletter and Sign-Up Sheet

A formal sign-up sheet will be posted on CDS's intranet website, which will register employees for the carpool/ridesharing program and will allow management to find proper matches for their commute. A newsletter will be published and distributed with an employee directory including employees' approximate schedule and location of residences to encourage ride sharing. The "Carpool Sign-up" sheet and "The Carpool Newsletter" are contained in the Attachments of this document.

5. Guaranteed Ride Home Program

For occasions when an employee has no means of getting home, a Guaranteed Ride Home Program will be established. For registered users of the carpool/ridesharing program, Uber rides and/or taxis will be paid for through a voucher system. CDS currently has a corporate account with Uber, and Uber rides may be scheduled using the mobile phone application. The following taxi information will be provided in the above-mentioned newsletter.

- AA Taxi: 508-563-9944
- Long's Taxi & Airport Transportation: 508-775-0400
- Barnstable Taxi and Livery: 508-524-8818

- Falmouth Taxi: 508-548-3100
- Mashpee Taxi: 508-477-4000
- Uber: Mobile Phone Application

6. Carpool Parking Spaces

Four preferential parking spaces located in close proximity to the office will be designated by painting "Carpool" on each space. The spaces will be located in close proximity to the office entrance, as shown on the attached site plan.

7. Electric Vehicle Parking Spaces

Four preferential parking spaces located in close proximity to the office will be designated by painting "Electric Vehicle" on each space. The spaces will be located in close proximity to the office entrance, as shown on the attached site plan.

8. Free Lunch Incentive

Employees who are registered users of the carpool/ridesharing program will be provided with a free lunch on site. Not only will this incentive reduce midday trip making, but it will also encourage more employees to use the program and will reduce additional commuting trips.

9. Bicycle Storage

A bicycle rack will be provided near the front door. Refer to attached site plan.

10. On Site Services

The proposed building will include indoor and outdoor lunch/café space and refrigerator storage for employee lunches that will reduce off-site trips for the lunch hour. In addition, the site will include an outdoor sport court that will be exclusively for use by employees of the proposed building.

11. Public Transit

To encourage the use of transit by employees to the site as well as guests wishing to travel to the Outer Cape, transit schedule and route information will be provided in the employee areas.

12. Telecommuting

The Proponent will allow their employees to work from home up to two days a week. Given their existing operations in the area, their experience is that nearly all of the eligible employees take advantage of this unique benefit of employment. Additionally, a small number of employees work remotely full time and will not need to travel to the office on a regular basis. CDS has indicated that of the 162 current employees, 28 are located out of state and/or work remotely on a full time basis. Of the 134 local employees in the Bourne Office, approximately 25 employees work from home one day a week (or 20% of the time) and 75 employees work from home two days a week (or 40 percent of the time).



Appendix

- Sight Distance Analysis
 - Worksheet
 - Sight Distance Figures
- Carpool Brochures
- Carpool Newsletter & Sign-Up Sheet
- Site Plan



Sight Distance Analysis

Intersection Sight Distance (ISD)



Stopping Sight Distance (SSD)





Carpool Brochures



TIME TO REBOOT YOUR COMMUTE

Three simple steps to reboot:

1

ENTER...

It takes only a few moments to enter your details at NuRide.com/massRIDES and discover a better way to get to work. Did we mention it's free and you can earn rewards?

2

CONNECT...

Discover transit, biking, and walking directions for any trip you take. Connect with nearby NuRiders to share the ride to work.

3

SHIFT...

Pick a convenient day of the week to shift into a new commute. Clean commuting even a few days a week makes a big difference in your health, budget, well-being, and the environment.



Reboot your commute with
NuRide.com/massRIDES
today.

For questions and more information please contact:



REFRESH YOUR RIDE

Driving alone to work is often exhausting and expensive.

Now is a great time to join the thousands of Massachusetts commuters who already refreshed their daily commute.

Refreshing your ride is as easy as:



CHOOSE...

the new ride you've been thinking about and figure out the best way to work. NuRide.com/massRIDES can help you find nearby carpool partners, and transit or biking routes.



TRY IT...

on a day that is convenient for you. That way you'll be able to test out your new commute's timing and route with confidence.



REWARD...

yourself and track your sustainable trips on NuRide.com/massRIDES to earn points towards restaurant coupons and discounts from local and national retailers.



Reboot your commute with
NuRide.com/massRIDES
today.

For questions and more information please contact:

LEAVE YOUR CAR KEYS AT HOME WITH YOUR WORRIES

Do you know that employees who bike, walk, take transit, or carpool/vanpool to work are eligible for free rides home when an unexpected emergency arises?

This includes:

- Unexpected personal illness/emergency
- Unexpected family illness/emergency
- Carpool partner leaves due to an illness/emergency
- Unexpected mandatory overtime



For eligibility and reimbursement information please contact:



WELCOME TO THE TEAM!

Let's Get You to Work. Literally.

We've partnered with MassRIDES to help our newest employees find the best way to work.



CARPOOL OR VANPOOL

Share the ride to work with a friend or a co-worker and suddenly you'll be saving money and reducing your carbon emissions. With MassRIDES' NuRide online tool, you can find carpool matches and get rewards for greener trips.



BICYCLE OR WALK

Finding time to stay healthy can be tough. Why not get into shape while you save by walking or riding your bicycle to work?



TRANSIT OPTIONS

Let someone else take the wheel. Your commute can be a great time to catch up on reading, enjoy some music, or just relax. We'll help you determine if the perfect route exists for your commute.



EMERGENCY RIDE HOME

Working late or leaving early? Need to get home for an emergency? When you take one of the commute alternatives mentioned above, the Emergency Ride Home program has you covered. It's like 'commuter insurance.'

Discover your new commute today:
NuRide.com/massRIDES

For questions and more information please contact:



Carpool Newsletter & Sign-Up Sheet

THE CARPOOL NEWSLETTER

September 9, 2016

Convention Data Services, Technology Park Drive, Bourne, Massachusetts

With the opening of the newly constructed office, Convention Data Services (CDS) is pleased to announce the availability of a new employee program to encourage Carpooling, Ridesharing and Bicycling to work. As employers on the Cape, we want to do our part in reducing traffic on our local roads.

For CDS employees, the company offers:

- Sign-up sheets posted on our intranet website
- Designated "Carpool" parking spaces convenient to the front door
- Designated "Electric Vehicle" parking spaces convenient to the front door
- Compatible schedules for carpoolers
- Bicycle racks convenient to the front door
- Guaranteed Ride Home Program
- Incentives for participating employees

The Guaranteed Ride Home Program

Every so often, even with the best of plans, the "ride home" will not be there. Illness, emergencies and the like might sometimes "leave you stranded". As a registered user of the Carpool program, CDS will offer a "Guaranteed Ride Home". We are currently discussing options with Uber and various cab companies to provide the most efficient service to our employees. Until the program is finalized, service may be provided by the following:

AA Taxi:	508-563-9944
Long's Taxi & Airport Transportation:	508-775-0400
Barnstable Taxi and Livery:	508-524-8818
Falmouth Taxi:	508-548-3100
Mashpee Taxi:	508-477-4000
Uber:	Mobile Phone Application

The Incentive Program

To encourage employees to bicycle and "rideshare" to work, CDS will provide a **free** lunch for each employee participating in the program on the days when this alternative transportation is utilized.

This is just the beginning... more updates will follow as the program develops!

CARPOOL SIGN-UP !

Sign up to get into the program!

Name:_____

Date:_____

Department:_____

Home (Or start Location):_____

Phone:_____

Schedule:

Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Date							
Scheduled							
Hours							

The HR Coordinator will work to find the proper match! You will be contacted once a match is made.

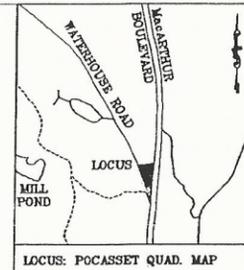


Site Plan

MacARTHUR BOULEVARD
STATE HIGHWAY
PUBLIC - VARIABLE WIDTH

NOTES:

MAP: 27 PARCEL 184 & 185
ZONING: B-4
FLOOD ZONE X
PLAN REFERENCE: BOOK 581 PAGE 28
NOTE: THIS SITE IS NOT LOCATED IN A
WATER RESOURCE PROTECTION DISTRICT
ZONING INTENSITY OF USE SCHEDULE:
LOT AREA: (MIN. 40,000 S.F.) 196,397 S.F.
LOT FRONTAGE: (MIN. 150') 324.54'
LOT FRONT YARD: (MIN. 30') 254.63'
LOT SIDE AND REAR: (MIN. 30') 33.13'
LOT OPEN SPACE: (MIN. 40%)



TOTAL LOT AREA: 196,397 S.F.
TOTAL LOT COVERAGE: 912,445 S.F. (47.3%)
LOT COVERAGE BY PAVEMENT: 65,326 S.F. (33.43%)
LOT COVERAGE BY STRUCTURES: 27,120 S.F. (13.88%)

EXISTING DISTURBED AREA: 123,613 S.F. (2.84 Ac.) (63.2%)
EXISTING UNDISTURBED AREA: 71,884 S.F. (1.65 Ac.) (36.6%)
EXISTING UNDISTURBED AREA TO BE DISTURBED: 37,732 S.F. (.97 Ac.) (19.3%)
PROPOSED AREA TO REMAIN UNDISTURBED: 34,152 S.F. (.78 Ac.) (17.5%)
PROPOSED AREA ON THE BERM TO BE REPLANTED: 10,087 S.F. (.23 Ac.) (5.2%)

TOTAL PARKING AREA: 57,931 S.F.
REQUIRED INTERNAL PLANTING AREAS: 1,150 S.F.
PROVIDED INTERNAL PLANTING AREAS: 6,476 S.F.
TREES REQUIRED: 39
SHRUBS REQUIRED: 154

PARKING SPACES REQUIRED: 153 (92% of 30,000 > 180)
PARKING SPACES PROVIDED: 153
HANDICAP SPACES REQUIRED: 6 (5 PLUS 1 VAN ACCESSIBLE)
HANDICAP SPACES PROVIDED: 6 (5 PLUS 1 VAN ACCESSIBLE)

ALL STUMPS SHALL BE REMOVED AND DISPOSED OFF SITE.

ALL BERMS ARE TO BE PLACED AS PART OF THE BINDER COURSE.

ALL BITUMINOUS CONCRETE AREAS SHALL HAVE A COMBED MINIMUM DEPTH OF 4".
2 1/2" BINDER COURSE AND A 1 1/2" TOP COURSE. ALL BITUMINOUS CONCRETE SHALL COMPLY
WITH THE STANDARD SPECIFICATIONS OF MASS DEPT. OF PUBLIC WORKS.

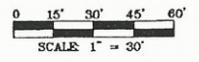
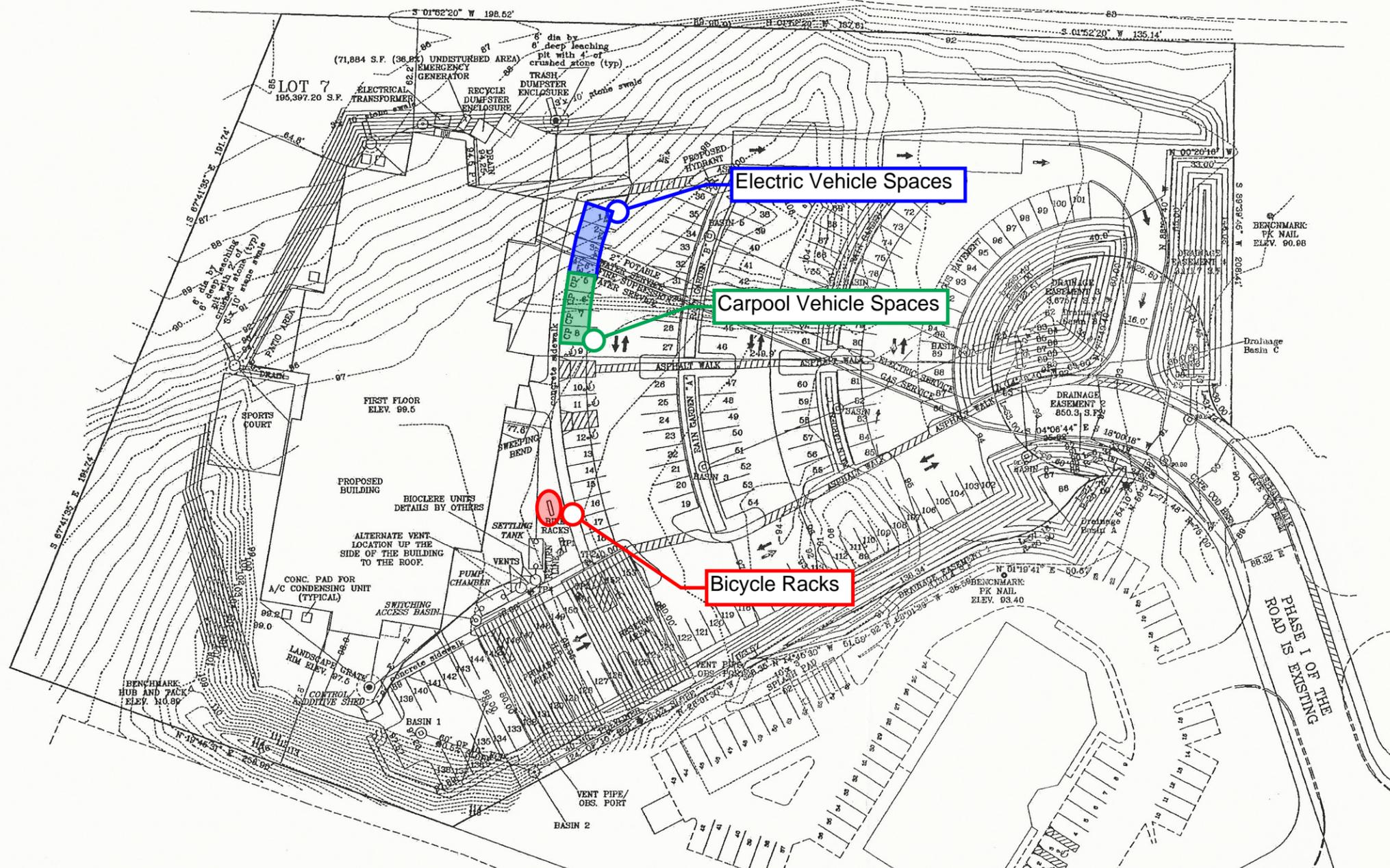
USED LeBARON R 3701 HOODS SHALL BE USED ON THE CATCHBASINS. IF ADS N-12 PIPE IS
ALL FRAMES, GRATES, AND MANHOLES ARE TO MEET MHD STANDARDS. TYPE 7 FRAMES ARE
TO BE USED BEING THAT THE BASINS ARE AT THE LOW POINT. IF CONCRETE PIPES ARE
USED, LeBARON R 3701 HOODS SHALL BE USED ON THE CATCHBASINS. IF ADS N-12 PIPE IS
USED, A 90° ELBOW CAN BE USED.

CATCHBASIN FRAMES SHALL BE SET FLUSH WITH THE BINDER COURSE.

PERMANENTLY MOUNTED HANDICAPPED PARKING SIGNS MUST BE PLACED AT A HEIGHT
OF 5' TO 6' ABOVE GRADE. ALSO, A VAN ACCESSIBLE SIGN MUST BE MOUNTED BELOW THE
HANDICAPPED SIGN ON SPACES 9 AND 10.

THE SIZE, COLOR AND PATTERN OF THE STRIPING IN THE CROSSWALKS SHALL BE DETERMINED
BY THE TRANSPORTATION ENGINEER.

THE RESERVE AREA SHOULD BE CONSIDERED AN ALTERNATE CONSTRUCTION OPTION AT THE
INITIAL CONSTRUCTION PHASE.



PROPOSED SITE PLAN	
PREPARED FOR	
CDS	
OF	
LOT 7 TECHNOLOGY PARK DRIVE	
BOURNE, MA	
J.E. LANDERS-CAULEY, P.E.	
CIVIL ENVIRONMENTAL ENGINEERING	
P.O. BOX 384 WEST FALMOUTH, MA 02574	
(508) 540-7733 ph.	
(508) 540-3344 fax	
ASS # 27.0-TBD	DATE 06/29/16
SCALE 1" = 30'	DRAWN BY: JDR
JOB NO. 1019-0616	SHEET: 1 OF 4