

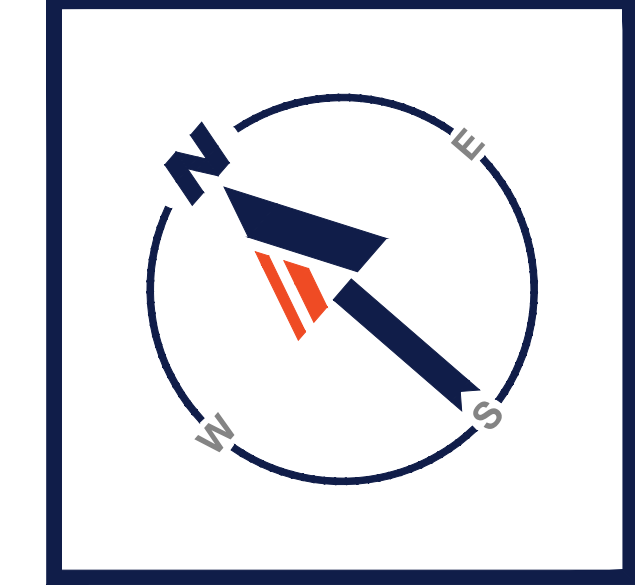
1165R Massachusetts Avenue

Ch. 40B ZBA Submission

### Section 3.2.5.7 Proposed Lighting and Photometric Analysis

Please see the enclosed Proposed Lighting and Photometric Analysis, prepared by Bohler Engineers, dated October 5, 2020.





### LIGHTING NOTES

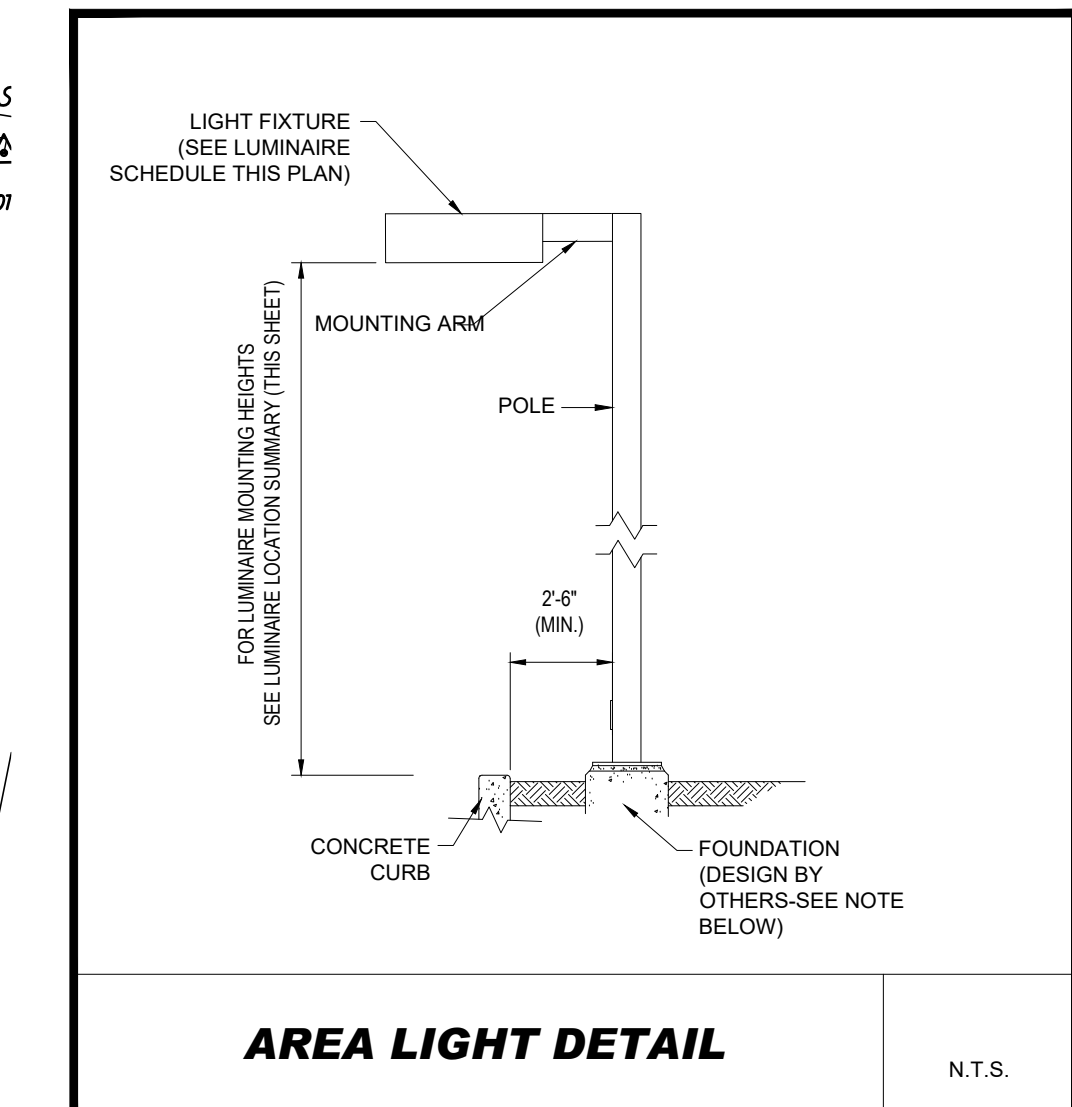
- THIS LIGHTING PLAN DEPICTS PROPOSED SUSTAINED ILLUMINATION LEVELS CALCULATED USING DATA PROVIDED BY THE NOTED MANUFACTURER(S). ACTUAL SUSTAINED SITE ILLUMINATION LEVELS AND PERFORMANCE OF LUMINAIRES MAY VARY DUE TO VARIATIONS IN WEATHER, ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, THE SERVICE LIFE OF EQUIPMENT AND LUMINAIRES AND OTHER RELATED VARIABLE FIELD CONDITIONS.
- THE LIGHT LOSS FACTORS USED IN THESE LIGHTING CALCULATIONS ARE 0.90 FOR ALL LED LUMINAIRES, 0.80 FOR ALL HIGH PRESSURE SODIUM LUMINAIRES OR 0.70 FOR ALL METAL HALIDE LUMINAIRES UNLESS OTHERWISE SPECIFIED. THESE FACTORS ARE INDICATIVE OF TYPICAL LIGHTING INDUSTRY MODELING STANDARDS.
- 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 FOOTCANDELS.
- 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.
- WHERE APPLICABLE, THE EXISTING CONDITION LIGHT LEVELS ILLUSTRATED ARE REPRESENTATIVE OF AN APPROXIMATION UTILIZING LABORATORY DATA FOR SIMILAR 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, WEATHER CONDITIONS, ETC. ACTUAL LIGHT LEVELS MAY DIFFER. EXISTING LIGHT LEVELS DEPICTED ON THIS PLAN SHOULD BE CONSIDERED APPROXIMATE.
- THIS LIGHTING PLAN IS INTENDED TO SHOW THE LOCATIONS AND TYPE OF LUMINAIRES, ONLY. POWER SYSTEM, CONDUITS, 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.
- CONTRACTOR MUST BRING TO DESIGNER'S ATTENTION, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, ANY LIGHT LOCATIONS THAT CONFLICT WITH DRAINAGE, UTILITIES, OR OTHER STRUCTURES.
- IT IS THE LIGHTING CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE PROJECT ARCHITECT OR OWNER REGARDING THE POWER SOURCE(S) FROM WITHIN THE BUILDING, AND TIMING DEVICES NECESSARY TO MEET THE DESIGN INTENT.
- 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.
- THE CONTRACTOR MUST VERIFY THAT INSTALLATION OF LIGHTING FIXTURES COMPLIES WITH THE REQUIREMENTS FOR SEPARATION FROM OVERHEAD ELECTRICAL WIRES PER STATE REGULATIONS.
- 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.

### NUMERIC SUMMARY

LABEL	CALCTYPE	UNITS	AVG	MAX	MIN	AVG/MIN	MAX/MIN
AREA SUMMARY	ILLUMINANCE	FC	1.14	17.3	0.0	0.00	0.00

### LUMINAIRE SCHEDULE

SYMBOL	QTY	ARRANGEMENT	LUMENS	LLF	DESCRIPTION
⊠	A	7 SINGLE	5067	0.90	STERNBERG LIGHTING LED AREA LIGHT MOUNTED @ 20'; 1750LEDH-1L30T3-MDL08-CA-SV2C
⊠	B	53 WALL MOUNT	1128	0.90	LIGMAN LIGHTING MATRIX SURFACE 4 LED WALL LIGHT MOUNTED @ 12'; UMT-31426-M-W30
⊠	C	133 STRING	15	0.90	DURALED STARGAZER LIGHT MOUNTED @ 8'; DL-SG-MD-22-10-SP



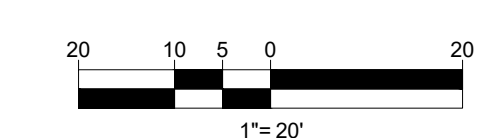
### AREA LIGHT DETAIL

N.T.S.

NOTE: THIS DETAIL IS FOR BID AND BUDGETARY 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 INTENT TO MOUNT ANYTHING TO THE POLE, ASIDE FROM THE LIGHT FIXTURES, INCLUDING BUT NOT LIMITED TO CAMERAS, BANNERS, FLAGS, SIGNAGE, ETC. AS IT WILL IMPACT THE POLE AND FOUNDATION DESIGN.

**THIS PLAN TO BE UTILIZED FOR LIGHTING PURPOSES ONLY**



TM

**BOHLER**

SITE CIVIL AND CONSULTING ENGINEERING  
PROGRAM MANAGEMENT  
LANDSCAPE ARCHITECTURE  
SUSTAINABLE DESIGN  
PERMITTING SERVICES  
TRANSPORTATION SERVICES

### REVISIONS

REV	DATE	COMMENT	DRAWN BY
1	3/10/20	REVISED BUILDING 2 & GRADING	BPB
2	06/15/20	SITE PLAN & GRADING	JMJ
3	07/15/20	CONSERVATION COMMISSION	JMJ
4	08/21/20	CONSTRUCTION PHASING	AWP
5	10/05/20	ZBA SUBMITTAL PROGRESS SET	JMJ



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## PRELIMINARY

THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY REVIEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUCTION DOCUMENT UNLESS INDICATED OTHERWISE.

PROJECT No.: W191330  
DRAWN BY: AWP  
CHECKED BY: JMJ  
DATE: 02/17/2020  
CAD LID: W191330-CVL-5

PROJECT:

### PROPOSED SITE PLAN DOCUMENTS

FOR

**1165R MASS MA PROPERTY LLC**

PROPOSED  
RESIDENTIAL DEVELOPMENT  
1165R MASSACHUSETTS AVE.  
MIDDLESEX COUNTY  
TOWN OF ARLINGTON, MA  
MAP #57, BLOCK #2, LOT #10B  
AND PART OF LOT #15

## BOHLER

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SOUTHBOROUGH, MA 01772  
Phone: (508) 480-9900  
Fax: (508) 480-9080  
[www.BohlerEngineering.com](http://www.BohlerEngineering.com)

**J.M. JOHNSON**  
**DRAFT: 10/05/20**  
PROFESSIONAL ENGINEER  
MASSACHUSETTS LICENSE NO. 45595

SHEET TITLE:

### LIGHTING PLAN

SHEET NUMBER:

**C-701**

REVISION 5 - 10/05/20

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