



**EMBASSY
SUITES**
By HILTON

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DRAWN BY:		KP
CHECKED BY:		DW
DATE:		7.31.2017
REVISIONS:		
1	REV#1-09/15/17	
2	REV#2-09/29/17	
3	REV#3-11/01/17	
4	REV#4-12/04/17	

PROJECT NO.: 16031
SHEET NO.: MEP1.01

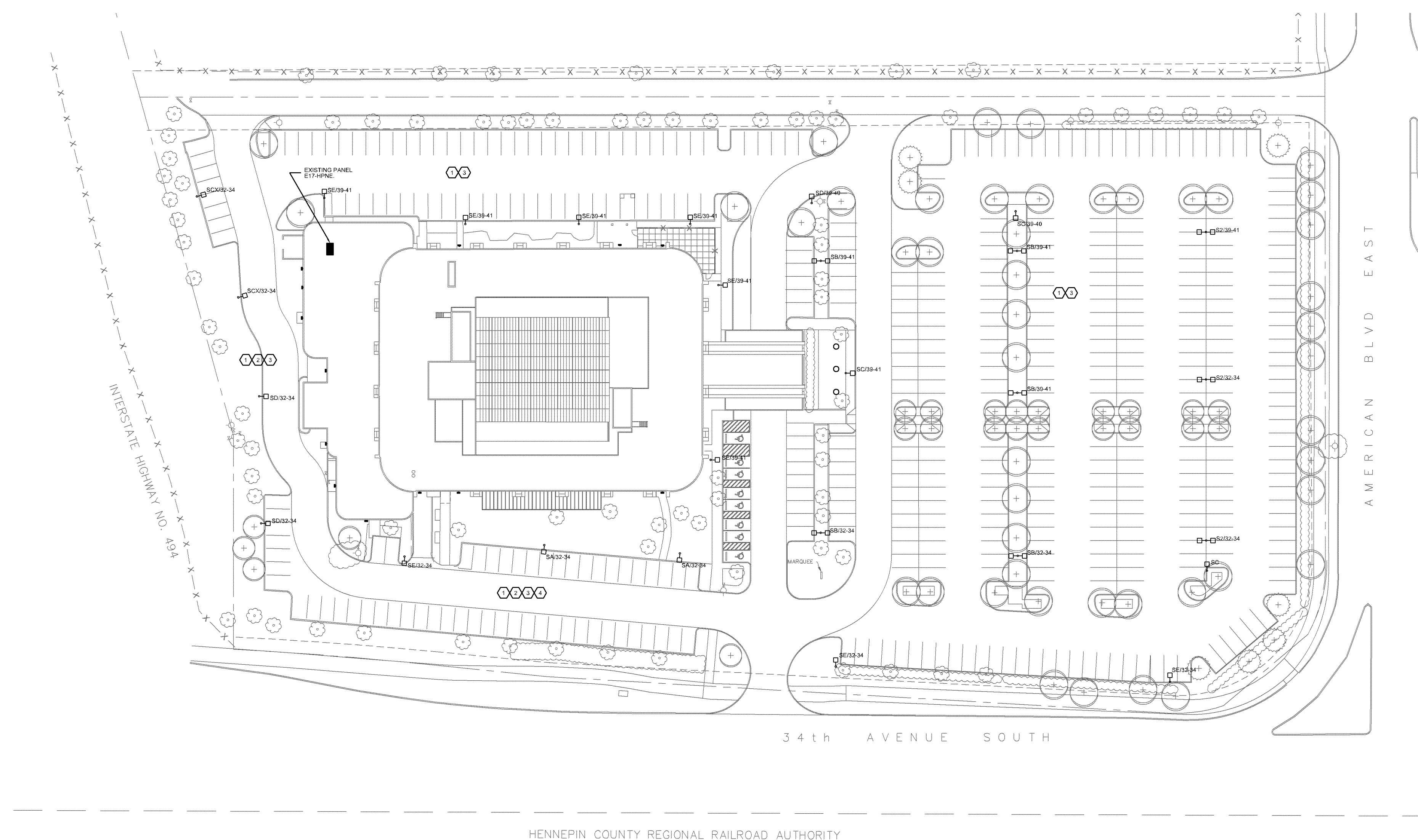
Job # M17005

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.



DAVID WILLIAMS

Date 07/31/2017 Registration No. 11633



01 SITE PLAN - MEP
SCALE: 1" = 30'-0"

- A. REFER TO SHEET MEP0.00 FOR LIGHTING SYMBOLS AND ABBREVIATIONS.
- B. ALL LIGHTING CIRCUITS IN THIS AREA TO BE CONNECTED FROM PANEL E17-HPN6.
- C. REFER TO SHEET MEP1.04 FOR LIGHT FIXTURE SCHEDULE.
- D. ALL EXTERIOR LIGHTING CIRCUITS TO BE INSTALLED DIRECT BURIAL AT 36" BELOW SURFACE - 2" R/W/G - 1" 10G IN 3/4"

- 1 REMOVE ALL EXISTING LIGHTS AND LIGHT POLES IN PARKING LOT. ABANDON CONDUIT AND WIRE BACK TO PANEL. SAVE AND PROTECT LIGHT POLES FOR RE-USE IN THIS PROJECT RENOVATION.
- 2 COORDINATE LIGHTING INSTALLATION WITH LANDSCAPE ARCHITECT TO TRIM TREES TO ALLOW FULL LIGHT FIXTURE DISTRIBUTION IN THIS AREA.
- 3 CONTROL NEW LIGHTING USING EXISTING CONTROLS.
- 4 RE-USE DEMOUNTED POLES TO OBTAIN FIXTURE MOUNTING HEIGHT FOR PARKING LOT FIXTURES. REPAINT AS NECESSARY TO MATCH NEW LIGHT FIXTURES.

FILE: J:\CLARK\002-CLARK-EMBASSY SUITS\03. WORKING\101-MEP1.01.DWG
DATE/TIME: 9/11/2017
USER: VINAYAKAN.CS

Luminaire Schedule									
Project: Embassy Suites - Bloomington, MN									
Symbol	Qty	Label	Arrangement	Manufacturer	Description	Arr. Watts	Lum. Watts	Lum. Lumens	LLF
	3	S2	BACK-BACK	PHILIPS GARDCO	GL18-3-310LA-961A-NW @ 33'	620.2	310.1	26843	0.810
	2	SA	SINGLE	PHILIPS GARDCO	GL18-4-310LA-961A-NW-IS	308	308	23733	0.810
	5	S8	BACK-BACK	PHILIPS GARDCO	GL18-5-310LA-961A-NW	634	317	29497	0.810
	1	SC	SINGLE	PHILIPS GARDCO	GL18-5-310LA-961A-NW	317	317	29497	0.810
	2	SCx	SINGLE	PHILIPS GARDCO	GL18-4-160LA-481A-NW-IS	160	160	12674	0.810
	2	SD	SINGLE	PHILIPS GARDCO	GL18-3-160LA-481A-NW-IS	160	160	12316	0.810
	9	SE	SINGLE	PHILIPS GARDCO	GL18-3-310LA-961A-NW	310	310	26843	0.810
	14	WA	WALL MOUNT	PHILIPS STONCO	LPW16-7 @ 10"	36	36	3372	0.810

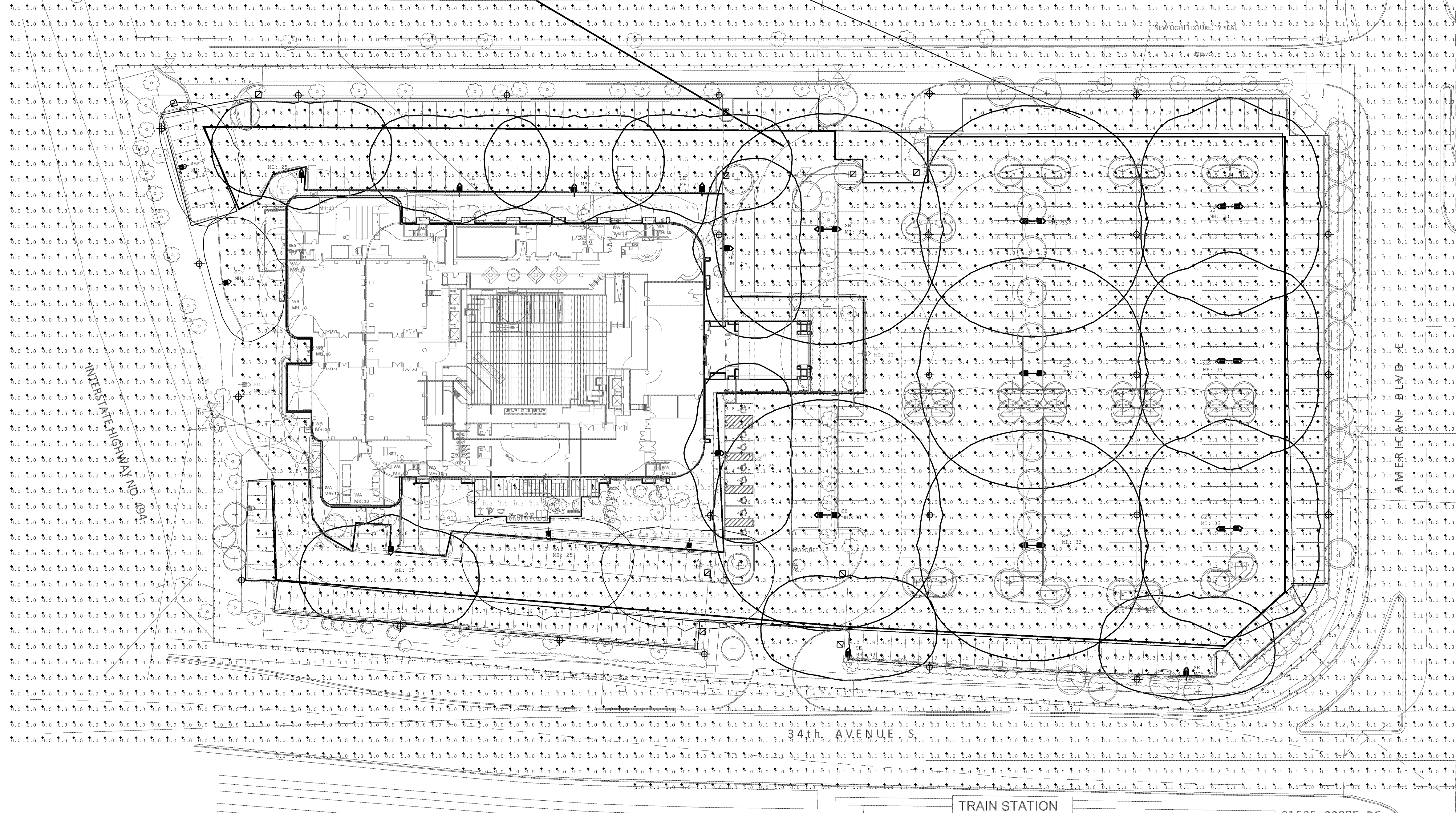
Calculation Summary												
Project: Embassy Suites - Bloomington, MN												
Label	Avg	Max	Min	Avg/Min	Max/Min	CalcType	Units	Grid Size (Ft.)	Grid Height (Ft.)	# Pts		
Building Perimeter FC at Grad	2.72	7.2	0.1	27.20	72.00	ILLUMINANCE	Fc	10	0	154		
FC Beyond Prop Line at Grade	0.06	1.1	0.0	N.A.	N.A.	ILLUMINANCE	Fc	10	0	1654		
Paved Area FC at Grade	3.13	7.8	0.6	5.22	13.00	ILLUMINANCE	Fc	10	0	1795		
Property Line	0.33	1.3	0.0	N.A.	N.A.	ILLUMINANCE	Fc	8	N.A.	285		
25' Perimeter Parking Area	1.90	4.0	0.8	2.38	5.00	ILLUMINANCE	Fc			327		
Interior Parking Area	3.50	7.8	1.6	2.19	4.88	ILLUMINANCE	Fc			1291		

ALL FIXTURE MOUNTING HEIGHTS ARE SHOWN ADJACENT TO FIXTURE LOCATIONS ON PLAN

ALL VALUES SHOWN ARE HORIZONTAL MAINTAINED FOOTCANDLES AT FINISHED GRADE (U.O.N.)
FIXTURE DISTRIBUTION TEMPLATES ARE SHOWN AT 1.0 MFC FOR REFERENCE USE ONLY
VALUES DO NOT INCLUDE CONTRIBUTION FROM ADJACENT PROPERTIES OR DECORATIVE LIGHTING NOT SHOWN
VALUES DO NOT INCLUDE ENTRANCE CANOPY LIGHTING FIXTURES OR CONTRIBUTION
FOOTCANDLE VALUES DO NOT INCLUDE OBSTRUCTIONS FROM TREES, SHRUBS, LANDSCAPING OR FENCING

Interior Parking Area
Illuminance (Fc)
Average = 3.50
Maximum = 7.8
Minimum = 1.6
Avg/Min Ratio = 2.19
Max/Min Ratio = 4.88

25' Perimeter Parking Area
Illuminance (Fc)
Average = 1.90
Maximum = 4.0
Minimum = 0.8
Avg/Min Ratio = 2.38
Max/Min Ratio = 5.00



A | LIGHTING PHOTOMETRIC PLAN-MAINTAINED
1" = 30'-0"
0 15' 30' 60'

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DAVID WILLIAMS
Date 07/31/2017 Registration No. 11633

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PROJECT NO.: 16031
SHEET NO.: MEP1.02

Luminaire Schedule									
Project: Embassy Suites - Bloomington, MN									
Symbol	Qty	Label	Arrangement	Manufacturer	Description	Arr. Watts	Lum. Watts	Lum. Lumens	LLF
	3	S2	BACK-BACK	PHILIPS GARDCO	GL18-3-310LA-961A-NW @ 33'	620.2	310.1	26843	1.000
	2	SA	SINGLE	PHILIPS GARDCO	GL18-4-310LA-961A-NW-IS	308	308	23733	1.000
	5	SB	BACK-BACK	PHILIPS GARDCO	GL18-5-310LA-961A-NW	634	317	29497	1.000
	1	SC	SINGLE	PHILIPS GARDCO	GL18-5-310LA-961A-NW	317	317	29497	1.000
	2	SCK	SINGLE	PHILIPS GARDCO	GL18-4-160LA-481A-NW-IS	160	160	12674	1.000
	2	SD	SINGLE	PHILIPS GARDCO	GL18-3-160LA-481A-NW-IS	160	160	12316	1.000
	9	SE	SINGLE	PHILIPS GARDCO	GL18-3-310LA-961A-NW	310	310	26843	1.000
	14	WA	WALL MOUNT	PHILIPS STONCO	LPW16-7 @ 10'	36	36	3372	1.000

Calculation Summary												
Project: Embassy Suites - Bloomington, MN												
Label	Avg	Max	Min	Avg/Min	Max/Min	CalcType	Units	Grid Size (ft.)	Grid Height (ft.)	# Pts		
Building Perimeter FC at Grade	3.36	8.8	0.1	33.60	88.00	ILLUMINANCE	Fc	10	0	154		
FC Beyond Prop Line at Grade	0.08	1.3	0.0	N.A.	N.A.	ILLUMINANCE	Fc	10	0	1654		
Paved Area FC at Grade	3.86	9.7	0.8	4.83	12.13	ILLUMINANCE	Fc	10	0	1795		
Property Line	0.40	1.6	0.0	N.A.	N.A.	ILLUMINANCE	Fc	8	N.A.	285		
25' Perimeter Parking Area	2.35	4.9	1.0	2.35	4.90	ILLUMINANCE	Fc			327		
Interior Parking Area	4.32	9.7	2.0	2.16	4.85	ILLUMINANCE	Fc			1291		

ALL FIXTURE MOUNTING HEIGHTS ARE SHOWN ADJACENT TO FIXTURE LOCATIONS ON PLAN

ALL VALUES SHOWN ARE HORIZONTAL INITIAL FOOTCANDLES AT FINISHED GRADE (I.O.N.)
FIXTURE DISTRIBUTION TEMPLATES ARE SHOWN AT 1.0 MFC FOR REFERENCE USE ONLY
VALUES DO NOT INCLUDE CONTRIBUITON FROM ADJACENT PROPERTIES OR DECORATIVE LIGHTING NOT SHOWN
VALUES DO NOT INCLUDE ENTRANCE CANOPY LIGHTING FIXTURES OR CONTRIBUITON
FOOTCANDLE VALUES DO NOT INCLUDE OBSTRUCTIONS FROM TREES, SHRUBS, LANDSCAPING OR FENCING

Interior Parking Area
Illuminance (Fc)
Average = 4.32
Maximum = 9.7
Minimum = 2.0
Avg/Min Ratio = 2.16
Max/Min Ratio = 4.85

25' Perimeter Parking Area
Illuminance (Fc)
Average = 2.35
Maximum = 4.9
Minimum = 1.0
Avg/Min Ratio = 2.35
Max/Min Ratio = 4.90

NEW LIGHT FIXTURE, TYPICAL

INTERSTATE 35
AND
604

AMERICAN BLVD E

TRAIN STATION

21505-00875-R6-INITIAL



A LIGHTING PHOTOMETRIC PLAN

1" = 30'-0"

0 15' 30' 60'

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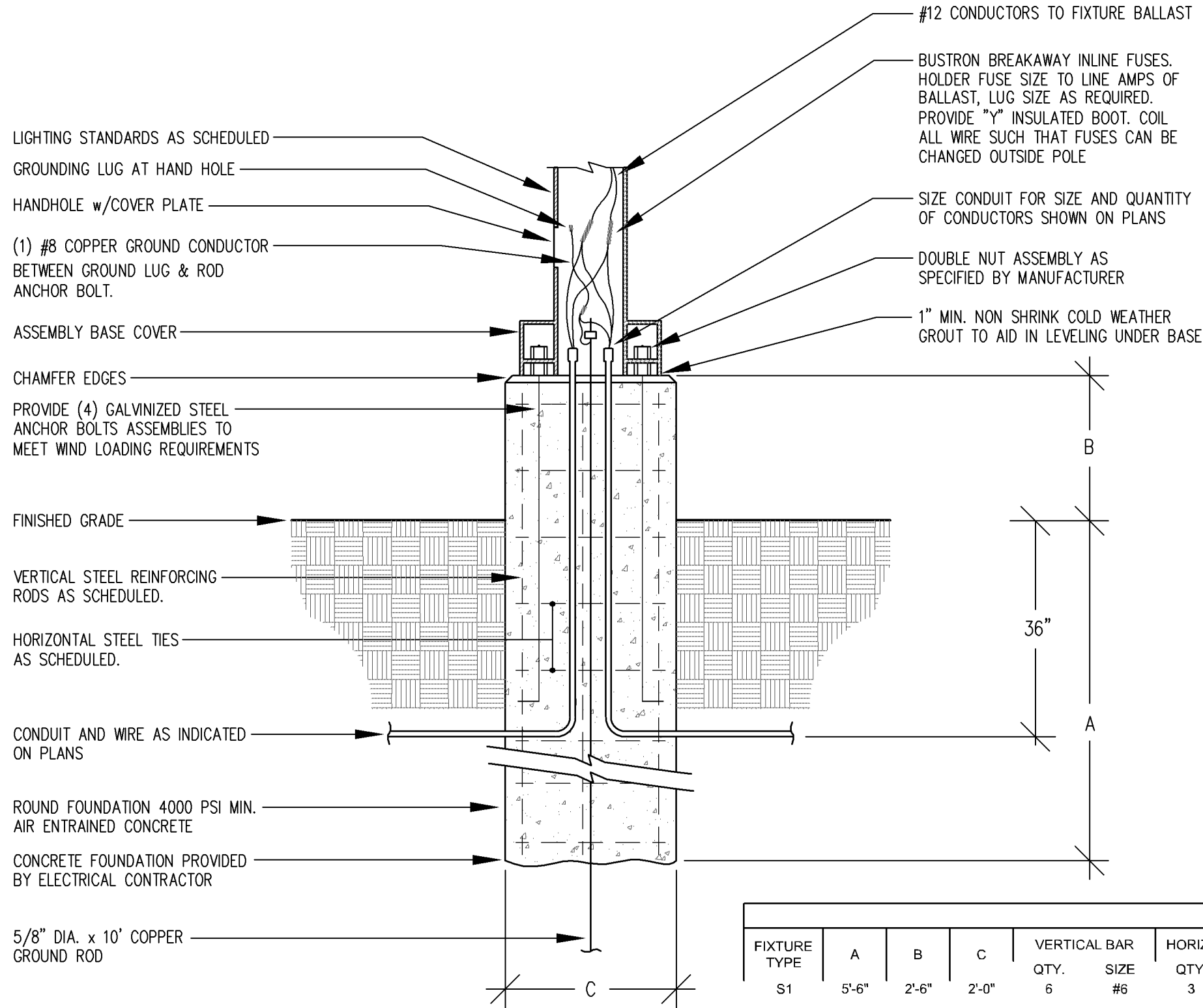
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PROJECT NO: 16031
SHEET NO: MEP1.03



01 POST BASE DETAIL
SCALE: N.T.S.

Panel:	E17 - PANEL HPNE	Project No:	EMBASSY SUITES	Line Voltage	208										
Serves:	BALLROOMS			L/N Voltage	120										
Location:	GENERATOR ROOM	MLO:	225A	Phase	3										
Mounting:	SURFACE			Wire	4										
					Ground Bar										
		LOAD IN KVA PER PHASE													
CKT	DESCRIPTION	#	BKR	PL	A		B		C		PL	BKR	#	DESCRIPTION	CKT
1	MTG. RM LTS. WIL. CANS	20	1		1.20	1.20					1	20		MTING R. LTS. WIL. CANS	2
3	MEETING ROOM LIGHTS	20	1				1.20	1.20			1	20		MEETING ROOM LIGHTS	4
5	OUTLETS	20	1						1.20	1.20	1	20		MEETING ROOM LIGHTS	6
7	MTG RM. FRNT. CHAND	20	1		1.20	1.20					2	20		FOOD TRUCK OUTLET	8
9	MTG RM. REAR CHAND	20	1				1.20	1.20			-	-		-	10
11	MTG RM. WIL. RECEPTS.	20	1						1.20	1.20	1	-		ELEVATOR LOBBY RECEPTS.	12
13	ELECT. ROOM LIGHTS	20	1		1.20	1.20					1	20		BOILER ROOM LIGHTS	14
15	EAST STAIR HEATER	20	1				1.20	1.20			1	20		NO HALL UNIT HEAT	16
17	ELECT. ROOM RECEPTS	20	1						1.20	1.20	1	30		BOILER ROOM RECEPTS.	18
19	EAST STAIR HEATER	20	1		1.20	1.20					2	20		WILLOW MTG. RM. COFFEE	20
21	SPARE	20	1					1.20			-	-		-	22
23	E BATHROOM EXHAUST	20	1						1.20	1.20	1	20		ELEV. TIVOL LIGHTS	24
25	COOLER EXHAUST FAN	20	1		1.20						1	20		SPARE	26
27	BOILER #3	20	1				1.20	1.20			2	30		WIL. MTG. RM. SO. COFFEE	28
29	SPARE	20	1							1.20	-	-		-	30
31	BATTERY CHARGER	20	1		1.20	2.30					2	30		PKING LOT LIGHTS NORTH WEST	32
33	RECEPTS AT PANEL	20	1				1.20	2.30			-	-		PKING LOT LIGHTS NORTH WEST	34
35	JOHNSON BOILER CNTRLS	20	1						1.20	1.20	1	20		BOILER #1	36
37	GEN. TANK HEATER	20	1		1.20	1.20					1	20		BOILER #2	38
39	PKING LOT LIGHTS EAST SOUTH	30	2				2.35	1.20			1	20		MEETING ROOM LIGHTS	40
41	PKING LOT LIGHTS EAST SOUTH	-	-						2.35	1.20	1	20		BOILER #4	42
Total Per Phase:					16.70		17.85		16.75		KVA				
					80.29		85.82		80.53		AMPS				
Total Connected Load:					51.30		KVA		142.40		AMPS				
Feeder Demand Load:					51.14		KVA		141.95		AMPS				

FEEDEER DEMAND LOAD ANALYSIS			
LOAD SUMMARY	CONNECTED	FEEDER DEMAND CALCULATION	
	KVA	KVA	
LIGHTING	22.5	100%	22.52
LARGEST MOTOR	1.20	125%	1.50
MOTORS	1.20	100%	1.20
RECEPT TO 10 KVA	8.40	100%	8.40
REMAINDER OF RECEPT	0.00	50%	0.00
KITCHEN EQUIPMENT	4.80	65%	3.12
ELECTRONIC LOADS	0.00	100%	0.00
ELECTRIC HEATING	4.80	100%	4.80
MISC.	9.60	100%	9.60
		TOTAL	51.14

02 ELECTRICAL PANEL E17-HPNE
SCALE: N.T.S.

PARKING LOT FIXTURE SCHEDULE								
TYPE	LOCATION	DESCRIPTION	MOUNTING	DIFFUSER	LAMP	VOLTAGE/WATTS	MANUFACTURER	NOTES
SA	PARKING LOT	SINGLE EXTERIOR POLE MOUNTED LIGHT.	25' POLE	LENS	3000K LED	208V/308W	PHILIPS GARDCO: GL18-4-310LA-961A-NW-IS	1
SB	PARKING LOT	DOUBLE EXTERIOR POLE MOUNTED LIGHT.	33' POLE	LENS	3000K LED	208V/633W	PHILIPS GARDCO: GL18-5-310LA-961A-NW	1
SC	PARKING LOT	SINGLE EXTERIOR POLE MOUNTED LIGHT.	33' POLE	LENS	3000K LED	208V/316W	PHILIPS GARDCO: GL18-5-310LA-961A-NW	1
SCx	PARKING LOT	SINGLE EXTERIOR POLE MOUNTED LIGHT.	25' POLE	LENS	3000K LED	208V/160W	PHILIPS GARDCO: GL18-4-160LA-481A-NW-IS	1
SD	PARKING LOT	SINGLE EXTERIOR POLE MOUNTED LIGHT.	25' POLE	LENS	3000K LED	208V/160W	PHILIPS GARDCO: GL18-3-160LA-481A-NW-IS	1
SE	PARKING LOT	SINGLE EXTERIOR POLE MOUNTED LIGHT.	25' POLE	LENS	3000K LED	208V/160W	PHILIPS GARDCO: GL18-3-310LA-961A-NW	1
S2	PARKING LOT	DOUBLE EXTERIOR POLE MOUNTED LIGHT.	33' POLE	LENS	3000K LED	208V/620W	PHILIPS GARDCO: GL18-3-310LA-961A-NW	1
NOTES: 1. WET LOCATION, RATED 2. WHITE WITH RED LETTERS 3. CONNECT TO NEAREST EM FIXTURE 4. USES NICKEL-CADIUM BATTERY 5. DOUBLE FACE 6. DIMMABLE 7. MOUNT AT 10' AFG 8. MOUNT AT 7' AFG 9. MOUNT AT 6' 6" AFF								

03 PARKING LOT FIXTURE SCHEDULE
SCALE: N.T.S.

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