SECTION 00 91 13 ADDENDUM NO. 2

DATE: September 3, 2015

RE: BBS Level 6 Vivarium Buildout

UT Behavioral and Biomedical Science Building (BBS)

WHR Project No. G15303-00

FROM: WHR Architects, Inc.

1111 Louisiana, 26th Floor

Houston, TX 77002

TO: Invited Bidders

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated August 12, 2015 as noted below.

This Addendum consists of 2 page plus attachments.

CHANGES TO DRAWINGS:

- 2.01 Sheet AD106, Delete Keynote 133, not used
- 2.02 Sheet A604, Remove Wall Bumper, 1270CV, 626, and TR from Door Hardware Set #7
- 2.03 Sheet A610, Change Hardware Set for Door 6270D to Hardware Set 7. Change Note 3 in Comments to Door Schedule to read: DOORS TO HAVE RED TINTED GLAZING, TYPE SG-1, SECTION 08 80 00.
- 2.04 Sheet LF001, Specialty Equipment Schedule, change EQ110 to CFCI and change description to Single Station Downdraft Bedding Scrapping Station.
- 2.05 Sheet LF406, Change Keynote 813 to read: STAINLESS STEEL ACCESS PANEL, 30" WIDE x 48" TALL, MOUNT AT 6 ½" A.F.F.
- 2.06 Sheet G001, Add sheet PH106: PHASING PLAN LEVEL 6 to drawing list.

ISSUED DRAWINGS:

2.07 The following 11" by 17" Drawings are issued herewith:

SKA-AR106.1 – Partial Reflected Ceiling Plan – Level 6 SKA-A406.1 – Partial Enlarged Architectural Floor Plan

SKA-A804.1 - Partial Interior Details

SKA-LF407.1 - Partial Enlarged Cage Wash Lab Plan

2.08 The following 30" by 42" Drawings are issued herewith:

PH106

REVISED DRAWINGS:

2.09 The following 30" by 42" Drawings are revised and reissued herewith:

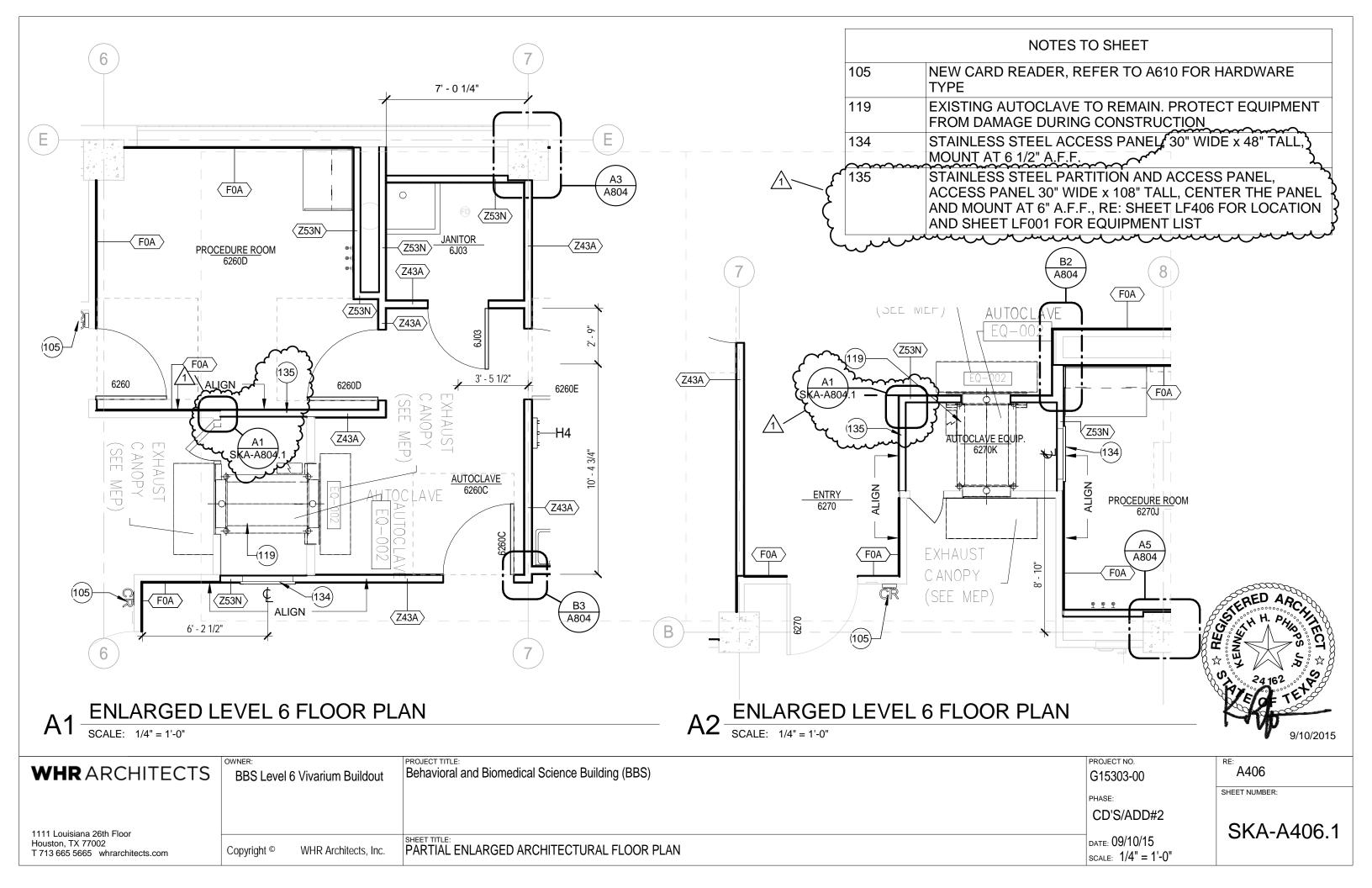
M206.C, M600

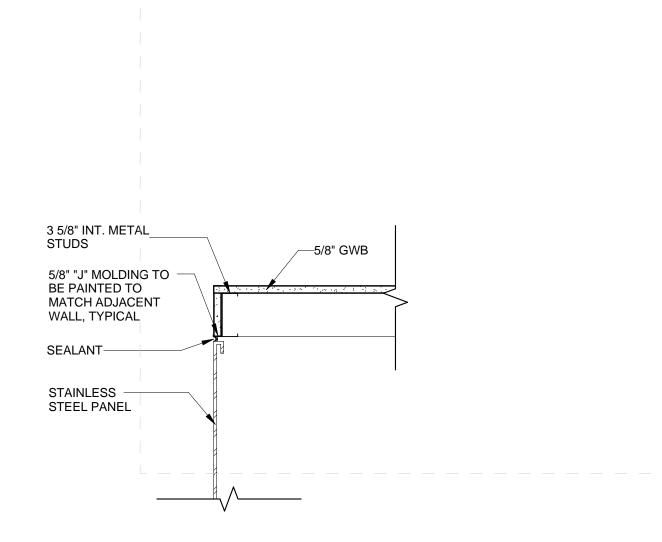
E-400

END OF ADDENDUM NO. 2

WHR Architects, Inc.

00 91 13 - 1

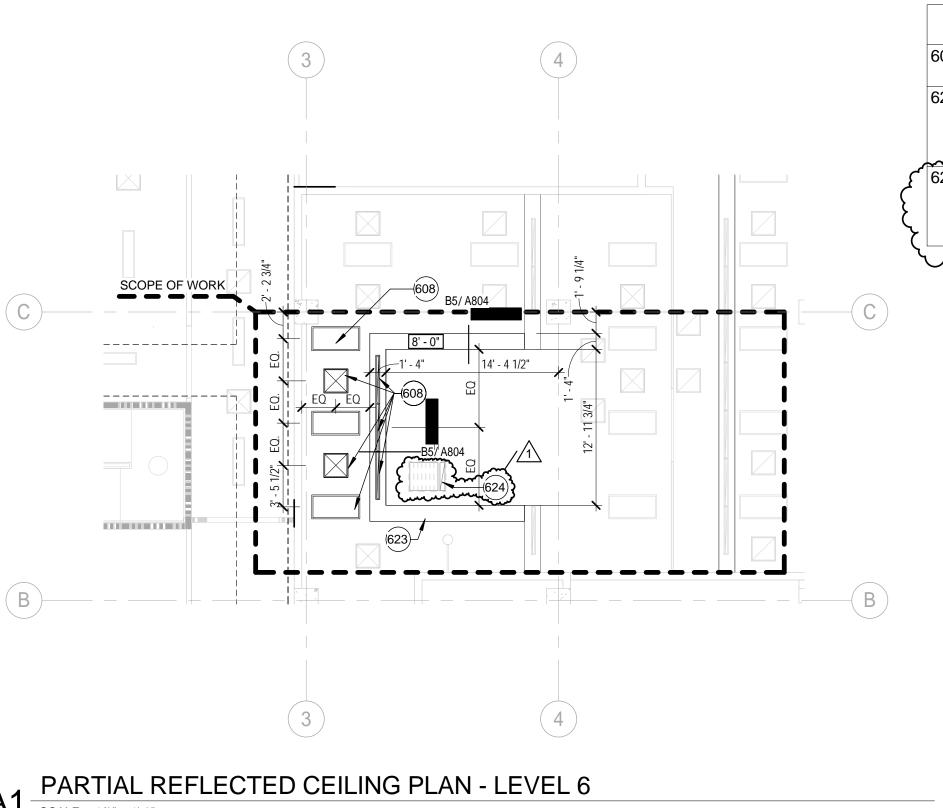






A1 PARTIAL CORNER COND. AT STAINLESS STEEL PANEL SCALE: 1 1/2" = 1'-0"

WHR ARCHITECTS	OWNER: BBS Level 6 Vivarium Buildout	PROJECT TITLE: Behavioral and Biomedical Science Building (BBS)	PROJECT NO. G15303-00	A804
			PHASE:	SHEET NUMBER:
			CD'S/ADD#2	01/4 40044
1111 Louisiana 26th Floor Houston, TX 77002 T 713 665 5665 whrarchitects.com	Copyright © WHR Architects, Inc.	SHEET TITLE: PARTIAL INTERIOR DETAILS	DATE: 09/10/15 SCALE: 1 1/2" = 1'-0"	SKA-A804.1

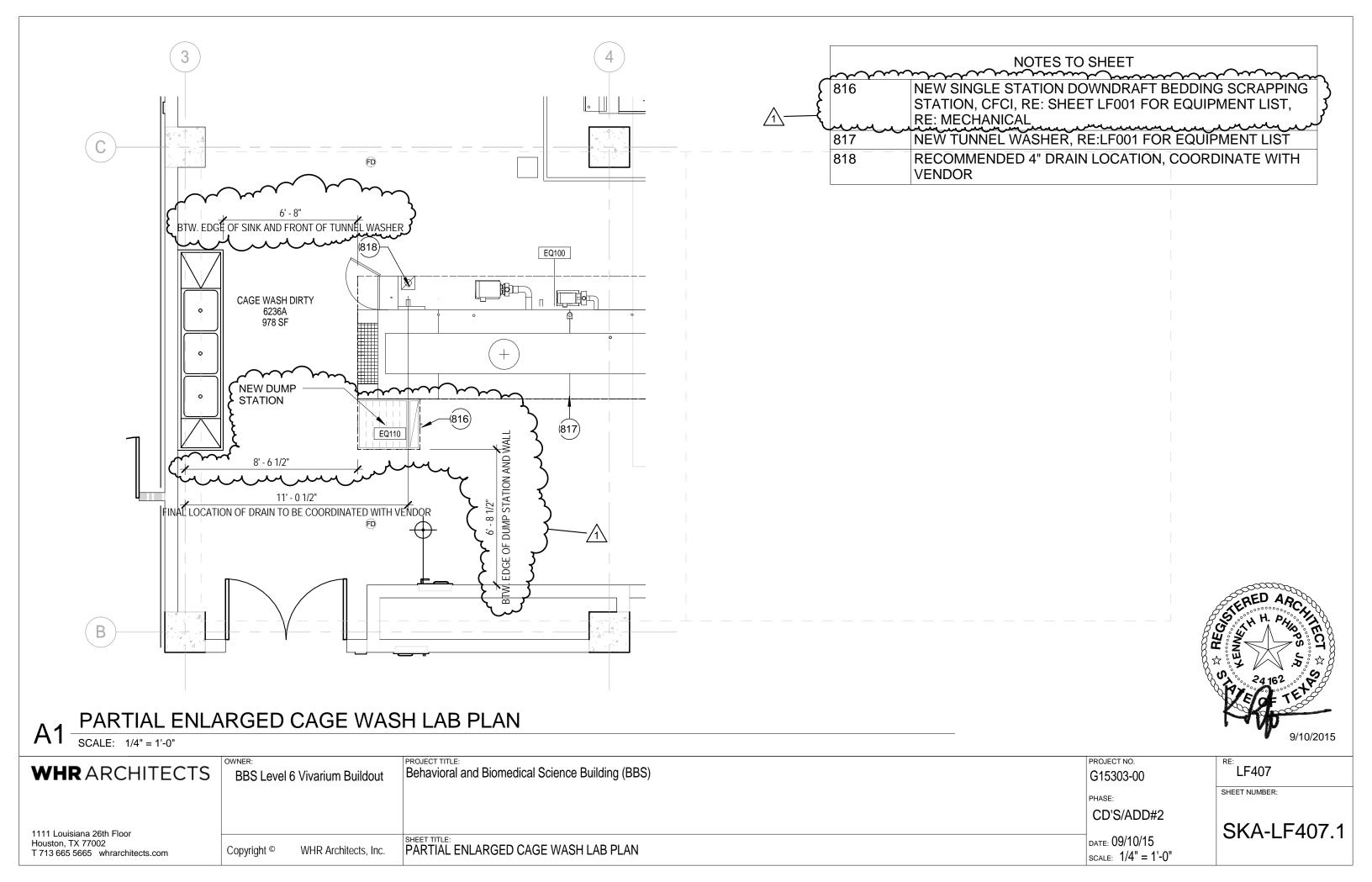


	NOTES TO SHEET						
608 CLEAN EXISTING RELOCATED LIGHT FIXTURES AND M DEVICES BEFORE RE-INSTALLATION							
623	NEW GYPSUM BOARD FURR DOWN CEILING, MATCH EXISTING FURR DOWN CEILING AND HEIGHT ABOVE FINISH FLOOR, PATCH AND REPAIR FOR CONTINUOUS CLEAN LINE						
£ 624	NEW SINGLE STATION DOWNDRAFT BEDDING SCRAPPING STATION, COORDINATE EXHAUST LOCATION WITH MECHANICAL, RE: SHEET LF407 FOR LOCATION AND LF001 FOR EQUIPMENT SCHEDULE						



SCALE: 1/8" = 1'-0"

PROJECT TITLE: Behavioral and Biomedical Science Building (BBS) AR106 PROJECT NO. **WHR** ARCHITECTS BBS Level 6 Vivarium Buildout G15303-00 SHEET NUMBER: CD'S/ADD#2 SKA-AR106.1 1111 Louisiana 26th Floor Houston, TX 77002 SHEET TITLE:
PARTIAL REFLECTED CEILING PLAN - LEVEL 6 DATE: 09/10/15 Copyright © WHR Architects, Inc. scale: 1/8" = 1'-0" T 713 665 5665 whrarchitects.com



GENERAL NOTES PHASING PLAN

- A. THIS DEPARTMENTAL PHASING PLAN DEFINES THE OWNERS OPERATIONAL AND OCCUPANCY REQUIREMENTS ONLY, AND IS NOT INTENDED AS DIRECTIONS FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES.
- B. ALL DEPARTMENTS ARE TO REMAIN OPERATIONAL DURING THE CONSTRUCTION OF PHASE 1 THROUGH THE COMPLETION OF PHASE 2.

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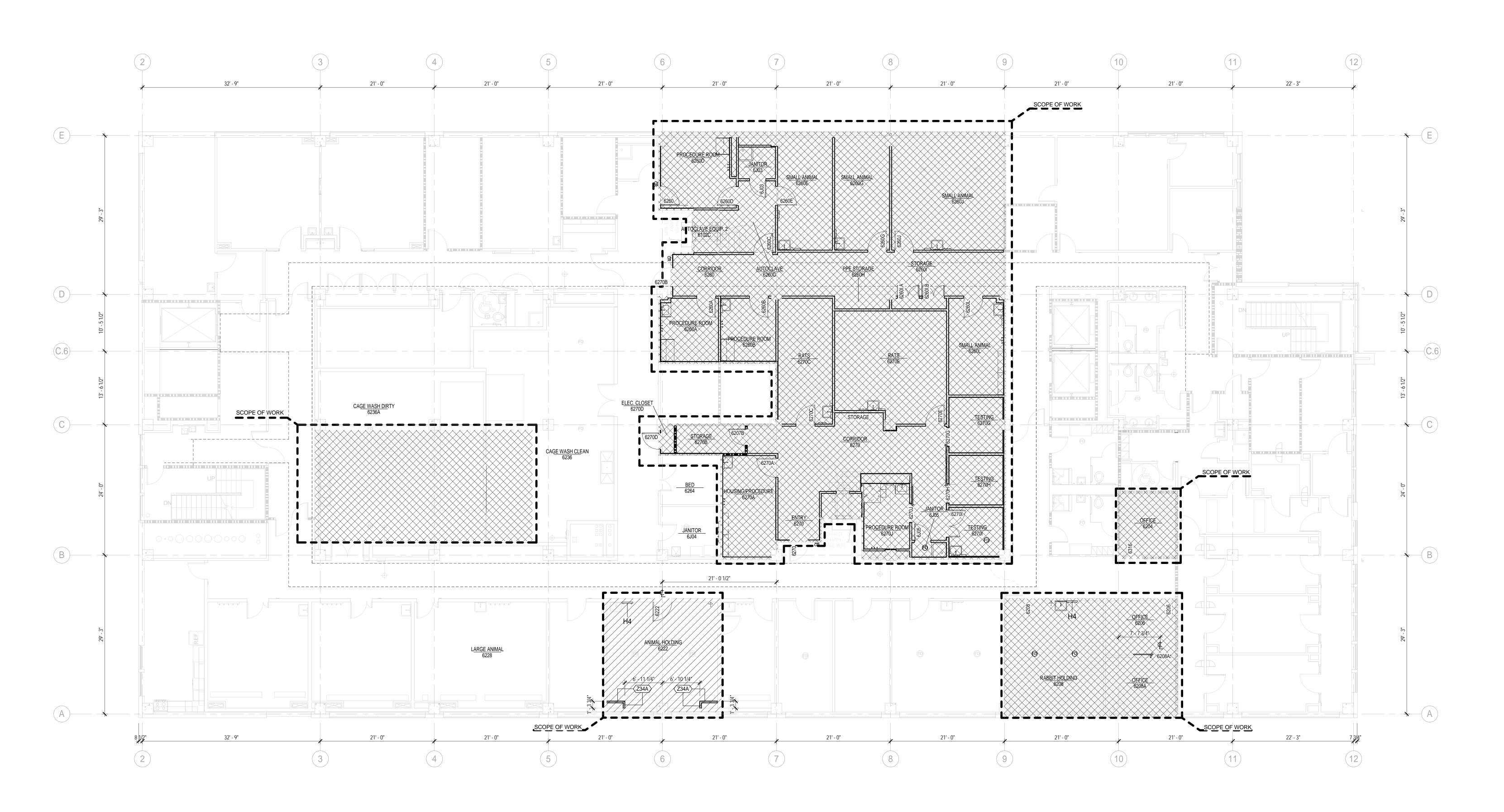
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PHASING LEGEND

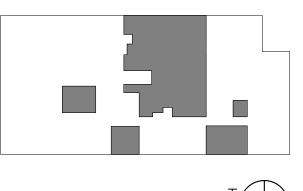
BUILD-OUT OF SMALL ANIMAL HOLDING ROOMS SUITE, ROOMS 6204: OFFICE, 6206: OFFICE, 6208A: OFFICE, 6208 RABBIT HOLDING, 6236A: CAGE WASH DIRTY, 6236: CAGE

BUILD-OUT OF ROOM 6222: ANIMAL HOLDING

REVISIONS NO. DATE DESCRIPTION 1 9/10/2015 Addendum #2



KEY PLAN



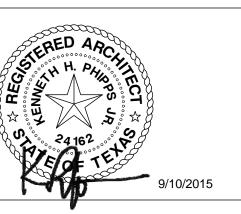
Behavioral and Biomedical

Science Building (BBS)

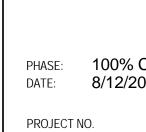


BBS Level 6 Vivarium **Buildout**

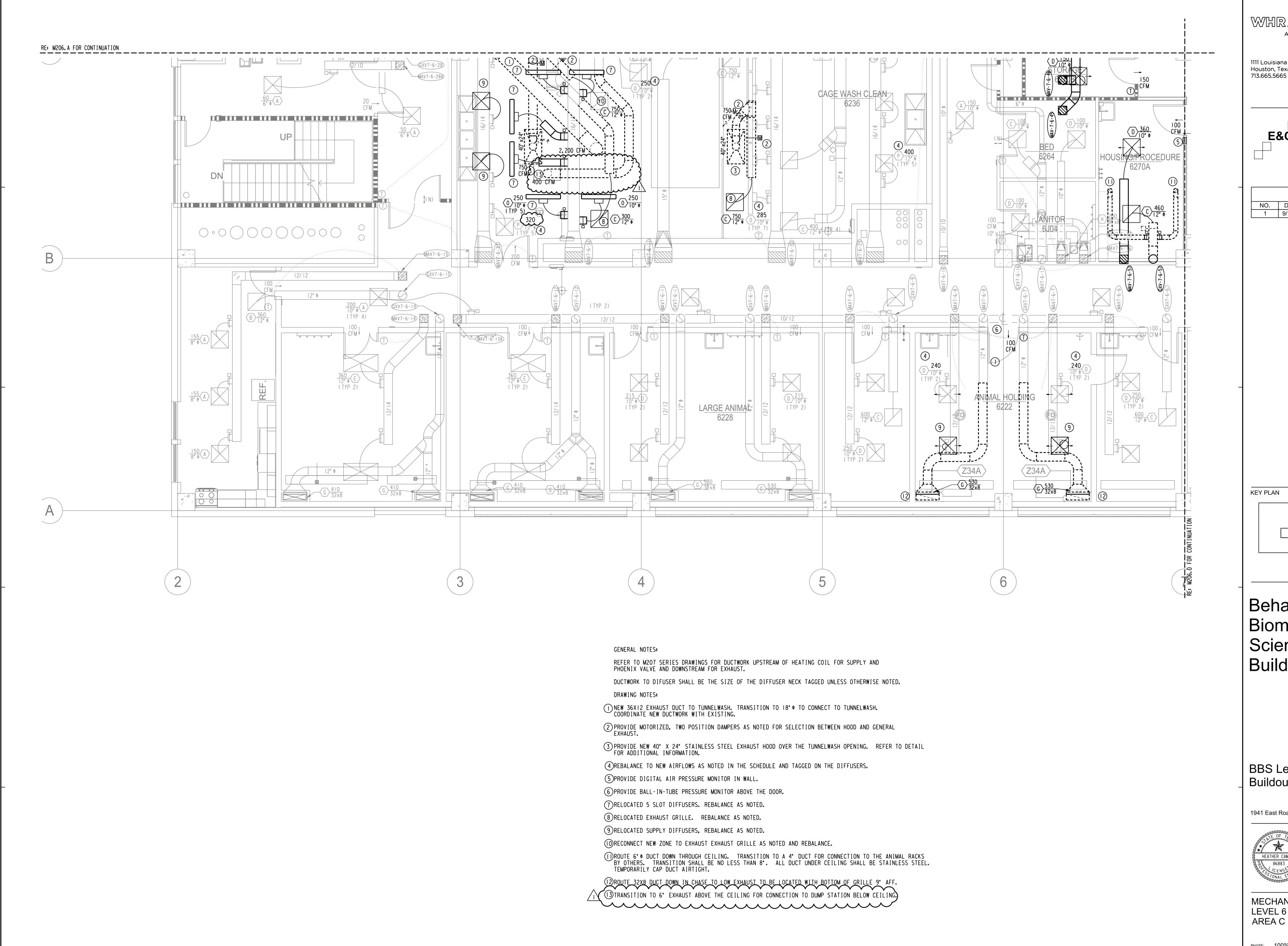
1941 East Road Houston, Texas 77054



PHASING PLAN LEVEL 6



100% CD'S 8/12/2015 G15303-00 Copyright © WHR Architects, Inc.

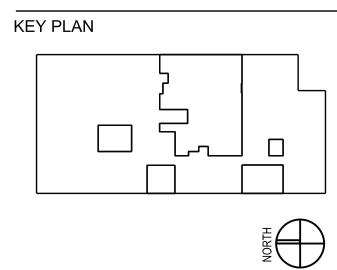


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> Engineers & Consultants Inc. 1010 Lamar, Suite 650 Houston, Texas 77002 Tel 713/580-8800 Fax 713/580-8888 www.eceng.com

1		REVISIONS								
	NO.	DATE	DESCRIPTION							
	1	9/10/15	ADDENDUM 2							



Behavioral and Biomedical Science Building (BBS)

BBS Level 6 Vivarium Buildout

1941 East Road Houston, Texas 77054



MECHANICAL FLOOR PLAN LEVEL 6

PHASE: 100% CD'S DATE: 8/12/2015

M206.C PROJECT NO. 3255.00

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			Non	Non		 		<u> </u>			1	HEATING COIL	_			T			
UNIT NO.	SERVICE	VALVE GROUP OFFSET	NORMAL OPERATION MAX	NORMAL OPERATION MIN	UNOCCUPIED MIN	INLET/ OUTLET SIZE	DESIGN HEATING CFM	ENT. AIR TEMP F	LVG AIR TEMP F	MBH	GPM @ 120F 20F DT	MAX ROWS/FPI	COIL SIZE	MAX PRESSURE DROP (IN. W.G.)	MAX PRESSURE DROP (FT)	MAX FACE VELOCITY (FPM)	CONTROL PANEL	MANUFACTURER	MODEL
/ - 7-6 - 36 / - 7-6 - 36	PROCEDURE 6260D	(N)	550 550	200 200	200 200	12 12	200	52	82.5	7,810	1.0	1/6	12X12	0.2	5	550	7-6-13	PHOENIX PHOENIX	MAVA112 EXVA112
/ - 7-6 - 36 / - 7-6 - 37	CORRIDOR 6260	+700	700	700	700	12	700	52	78.0	23,870	2.5	1/6	12X12	0.2	<u>-</u> 5	700	7-6-13	PHOENIX	MAVA112
/ - 7-6 - 38	AUTOCLAVE		450	250	250	12	250	52	78.0	8,525	1,0	1/6	12X12	0.2	5	450		PHOENIX	MAVA112
/ - 7-6 - 38	6260C	+150	300	100	100	12	-	-	-	-	-	-	-	-	-	-	7-6-13	PHOENIX	EXVB11
/ - 7-6 - 39 / - 7-6 - 40	JANITOR 6J03 SMALL ANIMAL	-50	50 250	50 250	50 250	8 12	<u>-</u> 250	- 52	81.6	9,515	1.5	<u>-</u> 1/6	9X9	0.2	<u>-</u> 5	444	7-6-13	PHOENIX PHOENIX	EXVA10 MAVA11
/ - 7-6 - 40	6260E	-100	350	350	350	12	-	-	-	-	-	-	-	-	-	-	7-6-14	PHOENIX	EXVA11
<u>/ - 7-6 - 41</u> / - 7-6 - 41	SMALL ANIMAL 6260G	-100	250 350	250 350	250 350	12 12	250 -	52 -	81.6	9,515	1.5	1/6 -	9X9 -	0.2	5 	444	7-6-14	PHOENIX PHOENIX	MAVA11 EXVA11
/ - 7-6 - 42	SMALL ANIMAL	-50	300	300	300	12	300	52	81.0	11,220	1.5	1/6	9X9	0.2	5	533	7-6-14	PHOENIX	MAVA1
' - 7-6 - 42 ' - 7-6 - 43	6260J SMALL ANIMAL	50	350 320	350 320	350 320	12 12	320	- 52	80.8	11,902	1.5	1/6	9X9	0.2	<u>-</u> 5	569	7.0.44	PHOENIX PHOENIX	EXVA11 MAVA11
/ - 7-6 - 43	6260J	-50	370	370	370	12	-	-	-		-	- 4/0	-	-	<u>-</u> 5	-	7-6-14	PHOENIX	EXVA11
/ - 7-6 - 44 / - 7-6 - 44	PROCEDURE 6260A	-100	250 350	100 200	100 200	12 12	250 -	52 -	78.0	8,525 -	1.0	1/6 -	9X9 -	0.2	<u> </u>	444	7-6-15	PHOENIX PHOENIX	MAVA11 EXVA11
' - 7-6 - 45 - 7-6 - 45	PROCEDURE 6260B	-100	250	100 200	100	12	250	52	78.0	8,525	1.0	1/6	9X9	0.2	5	444	7-6-15	PHOENIX	MAVA1
- 7-6 - 45 - 7-6 - 46	STORAGE 6270B	+150	350 150	150	200 150	12 12	150	52	78.0	5.115	0.5	- 1/6	9X9	0.2	<u>-</u> 5	267	7-6-15	PHOENIX PHOENIX	MAVA1
- 7-6 - 47			350	350	350	12	350	52	78.0	11,935	1,5	1/6	12X9	0.2	5	467		PHOENIX	MAVA1
- 7-6 - 47	RATS 6270C	-100	450	450	450	12	-	-	-	-	-	-	-	-	-	-	7-6-16	PHOENIX	EXVA1
<u>- 7-6 - 48</u> - 7-6 - 48	RATS 6270E	+60	300 240	300 240	300 240	12 12	300	52 -	78.0 -	10,230	1.5	1/6	9X9	0.2	5 -	533	7-6-16	PHOENIX PHOENIX	MAVA1 EXVA1
- 7-6 - 49	RATS 6270E	-160	300	300	300	12	300	52	78.0	10,230	1.5	1/6	9X9	0.2	5	533	7-6-16	PHOENIX	MAVA1
- 7-6 - 49 - 7-6 - 50	SMALL ANIMAL	-100	460 350	460 100	460 100	12 12	- 350	- 52	- 78.0	11,935	1,5	- 1/6	12X9	0,2	<u>-</u> 5	467		PHOENIX PHOENIX	EXVA1 MAVA1
- 7-6 - 50	6260L	-100	450	200	200	12	-	-	-	-	-	-	-	-	<u>-</u>	-	7-6-17	PHOENIX	EXVA1
- 7-6 - 51 - 7-6 - 51	TESTING 6270G	-100	150 250	100 200	100 200	12 12	150 <u>-</u>	52 -	78.0	5,115 -	1.0	1/6	9X9 -	0.2	5 	267	7-6-17	PHOENIX PHOENIX	MAVA1 EXVA1
- 7-6 - 52	TESTING 6270H	-100	150	100	100	12	150	52	78.0	5,115	1.0	1/6	9X9	0.2	5	267	7-6-17	PHOENIX	MAVA1
- 7-6 - 52 7 - 7-6 - 53		-100	250 150	200 100	200 100	12 12	- 150	- 52	78.0	- 5,115	1.0	- 1/6	9X9	0.2	<u>-</u> 5	267		PHOENIX PHOENIX	EXVA1
- 7-6 - 53	TESTING 6270I	-100	250	200	200	12	-	-	-	-	-	-	-	-	-	-	7-6-17	PHOENIX	EXVA1
- 7-6 - 54 ' - 7-6 - 55	JANITOR 6J05 PROCEDURE	-50	50 250	50 100	50 100	8 12	- 250	- 52	78.0	- 8,525	1.0	- 1/6	9X9	0.2	<u>-</u> 5	444	7-6-18	PHOENIX PHOENIX	EXVA10 MAVA1
- 7-6 - 55	ROOM 6270J	-100	350	200	200	12	-	-	-	· -	-	-	-	-	-	-	7-6-18	PHOENIX	EXVA1
- 7-6 - 56 - 7-6 - 56	CORRIDOR 6270	+700	1000 300	800 100	800 100	12 12	1000 -	52 -	78.0	34,100	3.5	1/6	18X18	0.2	5 	640	7-6-18	PHOENIX PHOENIX	MAVA1 EXVA1
' - 7-6 - 57	HOUSING 6270A	-100	360	360	360	12	360	52	78.0	12,276	1.5	1/6	12X9	0.2	5	480	7-6-18	PHOENIX	MAVA1
- 7-6 - 57 - 7-6 - 58	CAGEWASH 6236	-2200	460 2200	460 2200	460 2200	12 36X12	-	-	-	-	-	-	-	-	<u>-</u>	-	7-6-5	PHOENIX PHOENIX	EXVA1
ING ZONES																			
- 7-6 - 7 - 7-6 - 7	ANIMAL HOLDING 6222	-50	480 530	480 530	480 530	12 12	480 <u>-</u>	52 <u>-</u>	78.0 -	13,478	1.5	1/8	9X9	0.2	5	853	7-6-4	EXISTING EXISTING	MAVA1 EXVA1
- 7-6 - 8	ANIMAL HOLDING	-50	480	480	480	12	480	52	78.0	13,478	1.5	1/8	9X9	0.2	5	853	7-6-4	EXISTING	MAVA1
- 7-6 - 8 - 7-6 - 29	6222 CAGEWASH		530 2000	530 600	530 600	12 24X12	- 600	- 52	78.0	16,848	2.0	- 1/6	24X12	0.2	<u>-</u> 5	1000		EXISTING EXISTING	EXVA1 MAVA2
- 7-6 - 29	CLEAN 6236	+400	1600	200	200	24X12	-	-	-	-	-	-	-	-	-	-	7-6-18	EXISTING	EXVA2
- 7-6 - 30 - 7-6 - 30A	CAGEWASH CLEAN 6236	+500	2000 750	1000 250	1000 250	24X12 12	1000	52 -	78.0	28,080	3.0	1/6 -	24X12 -	0.2	<u>5</u>	1000	7-6-18	EXISTING EXISTING	MAVA2 EXVA1
	CLEAN 6236	\sim	750	250 1000	250 1000	24V12	1000							$\sim \sim \sim$			\	EXISTING	EXVA1 MAVA2
- 7-6 - 32A	CAGEWASH	+100	2000 400	1000 400	1000 400	24X12 12	1000 -	52 -	78.0	28,080	3.0	1/6 -	24X12 -	0.2 -	5 -	1000	7-6-18	EXISTING EXISTING	EXVA1
- 7-6 - 32B - 7-6 - 32C	DIRTY 6236A	+ 100	750 750	250 250	250 250	12 12	-	-	-	-	-	-	-	-	-	-	1 -0-10	EXISTING PHOENIX	EXVA1
- 7-6 - 33	CAGEWASH	+500	1600	700	700	24X12	700	52	78.0	19,656	2.5	- 1/6	24X12	0.2	- 5	800	7-6-18	EXISTING	MAVA2
- 7-6 - 33	DIRTY 6236A	+500	1100	200	200	24X12									سيس	180		EXISTING EXISTING	EXVA21
- /-6 - 36A	6208	-100	580	580	580	12		-	-	-	-	-	-	-	-	-	7-6-1	EXISTING	EXVA1
- 7-6 - 36B - 7-6 - 36C	OFFICES 6208 &	(N)	150 210	100 100	100 100	12 12	100 100	52 52	84.8 84.8	3,542 3,542	0.5 0.5	1/6 1/6	9X9 9X9	0.2 0.2	5	267 373	7-6-1	EXISTING EXISTING	MAVA1 MAVA1
- 7-6 - 36B	6204	(14)	360	200	200	12	-	-	U4.0 -	J,U4∠ -	-	-	-	-	<u>-</u>	-	/ -O- I	PHOENIX	EXVA1

UNIT					CK	FACE	DEMARKS
NO.	SERVICE	TYPE	FINISH	DIAMETER IN.	SQUARE I n.	IN. SO.	REMARKS
A	OFFICE/HALL SUPPLY	SQUARE PLAQUE	WHITE	SEE PLAN		24X24	TITUS MODEL OMNI (SURFACE MOUNT)
(AL)	OFFICE/HALL SUPPLY	SOUARE PLAQUE	WHITE	SEE PLAN		24X24	TITUS MODEL OMNI (LAY-IN)
B	OFFICE/HALL EXHAUST	SQUARE PLAQUE	WHITE	SEE PLAN		24X24	TITUS MODEL OMNI (SURFACE MOUNT)
(BL)	OFFICE/HALL EXHAUST	SQUARE PLAQUE	WHITE	SEE PLAN		24X24	TITUS MODEL OMNI (LAY-IN)
C	LAB/ANIMAL EXHAUST	EGG CRATE	WHITE	SEE PLAN		24X24	TITUS MODEL 50R-SS (SURFACE MOUNT)
(CL)	LAB/ANIMAL EXHAUST	EGG CRATE	WHITE	SEE PLAN		24X24	TITUS MODEL 50R-SS (LAY-IN)
D	LAB/ANIMAL SUPPLY	180° RADIAL	WHITE	ΙΟ" Φ		24X24	TITUS MODEL RADIATEC-SS (SURFACE MOUNT)
(DL)	LAB/ANIMAL SUPPLY	180° RADIAL	WHITE	ΙΟ" Φ		24X24	TITUS MODEL RADIATEC-SS (LAY-IN)
E	LAB/ANIMAL SUPPLY	180° RADIAL	WHITE	12" þ	-	24X48	TITUS MODEL RADIATEC-SS (SURFACE MOUNT)
(EL)	LAB/ANIMAL SUPPLY	180° RADIAL	WHITE	12" þ	-	24X48	TITUS MODEL RADIATEC-SS (LAY-IN)
F	LAB/ANIMAL EXHAUST	EGG CRATE	WHITE	SEE PLAN		24x12	TITUS MODEL 50R-SS (SURFACE MOUNT)
(FL)	LAB/ANIMAL EXHAUST	EGG CRATE	WHITE	SEE PLAN		24x12	TITUS MODEL 50R-SS (LAY-IN)
G	FILTERED ANIMAL EXH.	PERFORATED GRILLE	MILLED			SEE PLAN	TITUS MODEL 8SS (W/ I"FILTER) (STAINLESS ST
H	OPERATING RM. EXHAUST	LOUVERED WALL GRILLE	MILLED		-	SEE PLAN	TITUS MODEL 350RL-SS (STAINLESS STEEL)
(I)	OPERATING RM. SUPPLY	LAMINAR FLOW	MILLED			24X24	TITUS MODEL TLF-SS (STAINLESS STEEL)
J	OPERATING RM. SUPPLY	LAMINAR FLOW SLOT	MILLED		-	SEE PLAN	TITUS MODEL LINEATEC-SS (STAINLESS STEEL)
$\langle K \rangle$	CGMP SUPPLY	LAMINAR FLOW	MILLED	12 "- \(\Phi \)	-	48×24	TITUS MODEL TLF-SS (STAINLESS STEEL)
L	SUPP/EXH/TRANS.	SQUARE PLAQUE	WHITE	SEE PLAN	-	12X12	TITUS MODEL OMNI (SURFACE MOUNT)
$\langle M \rangle$	CHEM. WASTE SUPPLY	LOUVERED WALL GRILLE	MILLED			SEE PLAN	TITUS MODEL 300RL-SS (STAINLESS STEEL)
N	CAGE WASH LINEARS	FLOWBAR SUPPLY	WHITE	SEE PLAN		3′ -0" L	TITUS MODEL FL20177JT
0	CAGE WASH LINEARS	FLOWBAR SUPPLY	WHITE	SEE PLAN		4' -0" L	TITUS MODEL FL20177JT
P	CAGE WASH HIGH OUTPUT	HIGH OUTPUT SUPPLY	WHITE	SEE PLAN		24X24	TITUS MODEL TMS-AA
R	ALCOVE LINEARS	LINEAR SLOT	WHITE	SEE PLAN		SEE PLAN	TITUS MODEL N-1-D-48-18
<u>(S)</u>	FIRST FLOOR LOBBY	FLOWBAR SUPPLY	WHITE	SEE PLAN		SEE PLAN	TITUS MODEL FL25166HT (PROVIDE W/ MANUF PLEM

COOLING COIL SCHEDULE													
UNIT NO.	CFM	MIN. F.A. SO. FT.	FACE VEL. FPM	ROWS	MIN. AIR DB/WB °F	LVG. AIR DB/WB °F	ΔΤ	WA ⁻ EWT. °F	P.D. FT.	GPM	MAX. AIR FT.	P.D. WATER FT.	REMARKS
CC-7-6-36	600	2. 25	270	2/8	52/52	47/47	2.9	42	44.9	5.0	0 . I	20.0	TEMTROL 5WC-24-18X18X2-8AL

PROVIDE WITH COIL CLEANING ACCESS DOORS UP AND DOWNSTREAM.

WHR ARCHITECTS Architecture with People in Mind®

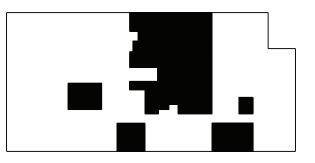
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	REVISIONS								
NO.	DATE	DESCRIPTION							
1	9/10/15	ADDENDUM 2							

KEY PLAN





Behavioral and Biomedical Science Building (BBS)

BBS Level 6 Vivarium Buildout

1941 East Road Houston, Texas 77054



MECHANICAL SCHEDULES

PHASE: 100% CD'S DATE: 8/12/2015

PROJECT NO. **3255.00**

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Panel		PHA (EXISTING)					Project -	BBS Level 6 Vivariur	m Buildout		
Location	-	PE01PENTHOUSE					E&C No.	3255			
Panel Inf	ormation		Panel Load	S		Ph	ase A	Phase B	Phase C	Tota	ıl
Voltage		277/480V, 3P, 4W	Panel Lighti	ing VA		1:	2972	9854	11318	3414	4
Panel Ty	ре	Panelboard	Panel Rece	ptacle V	A		0	0	0	0	
Bus Amp	s	225A, 100% Neutral	Panel Equip	ment V	4		0	0	0	0	
Bus Type	Э	Copper/65,000 AIC	FTL VA				0	0	0	0	
Panel Ma	ains	225A MLO	Total Conne	Total Connected VA				9854	11318	3414	4
Breaker	Mtg	Bolt-In	Total Conne	ected Am	nps		47	36	41	41	
Enclosur	e	NEMA 1 Surface	NEC VA	NEC VA			6215	12318	14148	4268	0
Accesso	ries	Ground Bus	NEC Amps	NEC Amps				44	51	51	
Ckt.	Bkr.	Circuit Use	Load	Туре	Ph.	Ckt.	Bkr.	Circu	it Use	Load	Туре
1	20/1	EXISTING LIGHTING	912	2	Α	2	20/1	EXISTING LIGHTIN	G	2000	2
3	20/1	EXISTING LIGHTING	400	2	В	4	20/1	VIVARIUM LIGHTIN	IG	3144	2
5	20/1	EXISTING LIGHTING	2176	2	С	6	20/1	VIVARIUM LIGHTIN	G	2272	2
7	20/1	EXISTING LIGHTING	1820	2	Α	8	20/1	VIVARIUM LIGHTIN	G	2880	2
9	20/1	EXISTING LIGHTING	2310	2	В	10	20/1	SPARE			
11	20/1	EXISTING LIGHTING	2870	2	С	12	20/1	SPARE			
13	20/1	EXISTING LIGHTING	3360	2	А	14	20/1	SPARE			
15	20/1	EXISTING LIGHTING	2000	2	В	16	20/1	SPARE			
17	20/1	EXISTING LIGHTING	2000	2	С	18	20/1	SPARE			
19	20/1	EXISTING LIGHTING	2000	2	Α	20	20/1	SPARE			
21	20/1	EXISTING LIGHTING	2000	2	В	22	20/1	SPARE			
23	20/1	EXISTING LIGHTING	2000	2	С	24	20/1	SPARE			

C (EXISTING) E01PENTHOUSE 0/208V, 3P, 4W Intelboard 5A, 100% Neutral Intelpoper/10,000AIC 0/3 MCB Intelboard Sit-In EMA 1 Flush Found Bus Circuit Use KISTING LOAD ECEPTACLES KISTING LOAD	Panel Loads Panel Lightin Panel Recep Panel Equip FTL VA Total Conne NEC VA NEC Amps Load 1440 720 1440 540 540	otacle V. ment V. cted VA cted Am Type 1 0 1	Ph. A B C	5 6 11	E&C No. ase A 0 580 084 0 1664 97 0541 88 Bkr. 40/2	3255 Phase B 0 5580 6600 0 12180 102 11057 92 Circuit EXISTING LOAD	Phase C 0 3960 4632 0 8592 72 8279 69 Use	Tota 0 1512(1731(0 3243(90 2987(83 Load 4500	0 6
Anelboard 5A, 100% Neutral Spper/10,000AIC 0/3 MCB Sit-In EMA 1 Flush Found Bus Circuit Use KISTING LOAD	Panel Lightin Panel Recep Panel Equip FTL VA Total Conne NEC VA NEC Amps Load 1440 720 1440 540	otacle V. ment V. cted VA cted Am Type 1 0 1	Ph. A B C	5 6 11 10 Ckt. 2 4	0 580 084 0 1664 97 0541 88 Bkr. 40/2	0 5580 6600 0 12180 102 11057 92 Circuit EXISTING LOAD	0 3960 4632 0 8592 72 8279	0 1512 1731 0 3243 90 2987 83 Load	0 6 6
Anelboard 5A, 100% Neutral Spper/10,000AIC 0/3 MCB Sit-In EMA 1 Flush Found Bus Circuit Use KISTING LOAD	Panel Receptor Panel Equip FTL VA Total Connet Total Connet NEC VA NEC Amps Load 1440 720 1440 540	tacle V. ment V/ cted VA cted Am Type 1 0 1	Ph. A B C	6 11 10 Ckt. 2 4	580 084 0 1664 97 0541 88 Bkr. 40/2	5580 6600 0 12180 102 11057 92 Circuit EXISTING LOAD	3960 4632 0 8592 72 8279 69	1512i 1731i 0 3243i 90 2987i 83 Load	6
5A, 100% Neutral ppper/10,000AIC 0/3 MCB olt-In EMA 1 Flush round Bus Circuit Use (ISTING LOAD ECEPTACLES (ISTING LOAD (ISTING LOAD (ISTING LOAD (ISTING LOAD	Panel Equip FTL VA Total Conne Total Conne NEC VA NEC Amps Load 1440 720 1440 540	cted VA cted Am Type 1 0 1 0	Ph. A B C	6 11 10 Ckt. 2 4	084 0 1664 97 0541 88 Bkr. 40/2	6600 0 12180 102 11057 92 Circuit EXISTING LOAD	4632 0 8592 72 8279 69	17310 0 32430 90 29870 83 Load	6
Opper/10,000AIC 0/3 MCB 0/3 MCB 0/1-In EMA 1 Flush ound Bus Circuit Use KISTING LOAD ECEPTACLES KISTING LOAD KISTING LOAD KISTING LOAD KISTING LOAD	FTL VA Total Conne NEC VA NEC Amps Load 1440 720 1440 540	Type 1 0 1	Ph. A B C	11 10 Ckt. 2	0 1664 97 0541 88 Bkr. 40/2	0 12180 102 11057 92 Circuit EXISTING LOAD	0 8592 72 8279 69	0 3243(90 2987(83 Load	6
O/3 MCB O/3 MCB Olt-In EMA 1 Flush Found Bus Circuit Use KISTING LOAD ECEPTACLES KISTING LOAD KISTING LOAD KISTING LOAD KISTING LOAD KISTING LOAD	Total Conne Total Conne NEC VA NEC Amps Load 1440 720 1440 540	Type 1 0 1 0	Ph. A B C	10 Ckt. 2 4	97 0541 88 Bkr. 40/2	12180 102 11057 92 Circuit EXISTING LOAD	8592 72 8279 69	32436 90 29876 83 Load	6
Circuit Use CISTING LOAD	Total Conne NEC VA NEC Amps Load 1440 720 1440 540	Type 1 0 1 0	Ph. A B C	10 Ckt. 2 4	97 0541 88 Bkr. 40/2	102 11057 92 Circuit EXISTING LOAD	72 8279 69	90 29870 83 Load	6
EMA 1 Flush round Bus Circuit Use (ISTING LOAD ECEPTACLES (ISTING LOAD (ISTING LOAD (ISTING LOAD (ISTING LOAD	NEC VA NEC Amps Load 1440 720 1440 540	Type 1 0 1 0	Ph. A B C	10 Ckt. 2 4	0541 88 Bkr. 40/2	11057 92 Circuit EXISTING LOAD	8279 69	29870 83 Load	
Circuit Use Circuit Use CISTING LOAD ECEPTACLES CISTING LOAD CISTING LOAD CISTING LOAD CISTING LOAD	NEC Amps Load 1440 720 1440 540	1 0 1 0	A B C	Ckt. 2	88 Bkr. 40/2	92 Circuit EXISTING LOAD	69	83 Load	
Circuit Use (ISTING LOAD ECEPTACLES (ISTING LOAD (ISTING LOAD (ISTING LOAD	Load 1440 720 1440 540	1 0 1 0	A B C	Ckt. 2	Bkr. 40/2	Circuit EXISTING LOAD		Load	Тур
KISTING LOAD ECEPTACLES KISTING LOAD KISTING LOAD KISTING LOAD KISTING LOAD	1440 720 1440 540 540	1 0 1 0	A B C	2	40/2	EXISTING LOAD	Use	+	Тур
ECEPTACLES (ISTING LOAD (ISTING LOAD (ISTING LOAD (ISTING LOAD	720 1440 540 540	0 1 0	ВС	4				4500	+
(ISTING LOAD (ISTING LOAD (ISTING LOAD (ISTING LOAD	1440 540 540	1 0	С		_			1000	1
KISTING LOAD KISTING LOAD KISTING LOAD	540 540	0		6				4500	1
KISTING LOAD KISTING LOAD	540	_		_	15/1	EXISTING LOAD		1092	1
KISTING LOAD	+	_	Α	8	20/1	EXISTING LOAD		1440	0
	100	0	В	10	20/1	RECEPTACLES		720	0
ROCEDURE LIGHTS	180	0	С	12	20/1	RECEPTACLES		900	0
(OOLDONE LIGITIO	144	1	Α	14	20/1	RECEPTACLES		720	0
RADIATOR	2100	1	В	16	20/1	RECEPTACLES		720	0
	2100	1	С	18	20/1	SPARE			
ECEPTACLES	720	0	Α	20	20/1	SPARE			
ECEPTACLES	720	0	В	22	20/1	SPARE			
ECEPTACLES	720	0	С	24	20/1	SPARE			
ECEPTACLES	720	0	Α	26	20/1	SPARE			
ECEPTACLES	720	0	В	28	20/1	SPARE			
ECEPTACLES	720	0	С	30	20/1	SPARE			
ECEPTACLES	720	0	Α	32	20/1	SPARE			
ECEPTACLES	720	0	В	34	20/1	SPARE			
ECEPTACLES	720	0	С	36	20/1	SPARE			
ECEPTACLES	720	0	А	38	20/1	SPARE			
ECEPTACLES	720	0	В	40	20/1	SPARE			
ECEPTACLES	720	0	С	42	20/1	SPARE			
C C C C C C C	EPTACLES	EPTACLES 720 EPTACLES 720	EPTACLES 720 0 EPTACLES 720 0	EPTACLES 720 0 A EPTACLES 720 0 B EPTACLES 720 0 C EPTACLES 720 0 A EPTACLES 720 0 B EPTACLES 720 0 A EPTACLES 720 0 A EPTACLES 720 0 B EPTACLES 720 0 C	EPTACLES 720 0 A 26 EPTACLES 720 0 B 28 EPTACLES 720 0 C 30 EPTACLES 720 0 A 32 EPTACLES 720 0 B 34 EPTACLES 720 0 C 36 EPTACLES 720 0 A 38 EPTACLES 720 0 B 40 EPTACLES 720 0 C 42	EPTACLES 720 0 A 26 20/1 EPTACLES 720 0 B 28 20/1 EPTACLES 720 0 C 30 20/1 EPTACLES 720 0 A 32 20/1 EPTACLES 720 0 B 34 20/1 EPTACLES 720 0 C 36 20/1 EPTACLES 720 0 A 38 20/1 EPTACLES 720 0 B 40 20/1 EPTACLES 720 0 C 42 20/1	EPTACLES 720 0 A 26 20/1 SPARE EPTACLES 720 0 B 28 20/1 SPARE EPTACLES 720 0 C 30 20/1 SPARE EPTACLES 720 0 A 32 20/1 SPARE EPTACLES 720 0 B 34 20/1 SPARE EPTACLES 720 0 C 36 20/1 SPARE EPTACLES 720 0 A 38 20/1 SPARE EPTACLES 720 0 B 40 20/1 SPARE EPTACLES 720 0 C 42 20/1 SPARE	EPTACLES 720 0 A 26 20/1 SPARE EPTACLES 720 0 B 28 20/1 SPARE EPTACLES 720 0 C 30 20/1 SPARE EPTACLES 720 0 A 32 20/1 SPARE EPTACLES 720 0 B 34 20/1 SPARE EPTACLES 720 0 C 36 20/1 SPARE EPTACLES 720 0 A 38 20/1 SPARE EPTACLES 720 0 B 40 20/1 SPARE	EPTACLES 720 0 A 26 20/1 SPARE EPTACLES 720 0 B 28 20/1 SPARE EPTACLES 720 0 C 30 20/1 SPARE EPTACLES 720 0 A 32 20/1 SPARE EPTACLES 720 0 B 34 20/1 SPARE EPTACLES 720 0 C 36 20/1 SPARE EPTACLES 720 0 A 38 20/1 SPARE EPTACLES 720 0 B 40 20/1 SPARE EPTACLES 720 0 C 42 20/1 SPARE

Panel		PELA (EXISTING)					Project -	BBS Level 6 Vivarium	Buildout		
Location	1 -	PE01PENTHOUSE					E&C No.	3255			
Panel In	formation		Panel Load	S		Ph	ase A	Phase B	Phase C	Tota	al
Voltage		120/208V, 3P, 4W	Panel Lighti	ng VA		3	300	1600	1600	400	0
Panel Ty	/ре	Panelboard	Panel Rece	ptacle V	A	1	260	1440	2160	486	0
Bus Amp	os	225A, 100% Neutral	Panel Equip	ment V	4	11	1430	6284	6320	2403	34
Bus Typ	е	Copper/22,000 AIC	FTL VA				0	0	0	0	
Panel Ma	ains	225A MLO	Total Conne	ected VA		13490		9324	10080	3289	94
Breaker	Mtg	Bolt-In	Total Conne	ected An	nps	112		78	84	91	
Enclosu	re	NEMA 1 Surface	NEC VA			13690		9724			94
Accesso	ries	Ground Bus	NEC Amps	C Amps 114 81 8				87	94		
Ckt.	Bkr.	Circuit Use	Load	Туре	Ph.	Ckt.	Bkr.	Circuit	Use	Load	Тур
1	20/1	EXISTING LOAD	690	1	А	2	20/1	EXISTING LOAD		180	0
3	20/1	EXISTING LOAD	464	1	В	4	20/1	EXISTING LOAD		300	1
5	20/1	EXISTING LOAD	200	1	С	6	20/1	EXISTING LOAD		1800	1
7	20/1	EXISTING LOAD	1200	1	А	8	20/1	EXISTING LOAD		1800	1
9	20/1	EXISTING LOAD	1200	1	В	10	20/1	EXISTING LOAD		800	2
11	20/1	EXISTING LOAD	200	1	С	12	20/1	EXISTING LOAD		800	2
13	20/1	EXISTING LOAD	600	1	Α	14	20/1	EXISTING LOAD		800	2
15	20/1	EXISTING LOAD	600	1	В	16	20/1	EXISTING LOAD		800	2
17	20/1	EXISTING LOAD	540	0	С	18	20/1	EXISTING LOAD		800	2
19	20/1	EXISTING LOAD	720	0	А	20	20/1	EXISTING LOAD		600	1
21	20/1	EXISTING LOAD	720	0	В	22	20/1	EXISTING LOAD		360	0
23	20/1	EXISTING LOAD	720	0	С	24	20/1	EXISTING LOAD		360	0
25	60/2	EXISTING LOAD	3120	1	А	26	20/1	EXISTING LOAD		360	0
27	-	_	3120	1	В	28	20/1	EXISTING LOAD		360	0
29	60/2	EXISTING LOAD	3120	1	С	30	20/1	RECEPTACLES		360	0
31	-	_	3120	1	А	32	20/1	SPARE			
33	20/1	EXISTING LOAD	300	1	В	34	20/1	SPARE			
35	20/1	EXISTING LOAD	180	0	С	36	20/1	SPARE			
37	20/1	EXISTING LOAD	300	1	Α	38	20/1	SPARE			
39	20/1	EXISTING LOAD	300	1	В	40	20/1	SPARE			
	20/1	LAB GAS ALARM PANELS	1000	1	С	42	20/1	SPARE			

Panel		PELB (EXISTING)					Project -	BBS Level 6 Vivarium	Buildout		
Location	ı -	PE01PENTHOUSE					E&C No.	3255			
Panel In	formation		Panel Load	s		Ph	ase A	Phase B	Phase C	Tota	al
Voltage		120/208V, 3P, 4W	Panel Light	ing VA			0	0	0	0	
Panel Ty	/ре	Panelboard	Panel Rece	ptacle V	/A	2	520	3060	3420	900	0
Bus Amp	os	225A, 100% Neutral	Panel Equi	oment V	A	(300	0	200	800)
Bus Type	e	Copper/22,000 AIC	FTL VA				0	0	0	0	
Panel Ma	ains	225A MLO	Total Conn	ected VA	4	3	120	3060	3620	980	0
Breaker	Mtg	Bolt-In	Total Conn	Total Connected Amps				26	30	27	
Enclosu	re	NEMA 1 Surface	NEC VA	NEC VA				3060	3577	975	7
Accesso	ries	Ground Bus	NEC Amps	NEC Amps			26	26	30	27	
Ckt.	Bkr.	Circuit Use	Load	Туре	Ph.	Ckt.	Bkr.	Circuit	Use	Load	Ty
1	20/1	EXISTING LOAD	200	1	Α	2	20/1	EXISTING LOAD		180	
3	20/1	RECEPTACLES	720	0	В	4	20/1	EXISTING LOAD		180	\top
5	20/1	EXISTING LOAD	200	1	С	6	20/1	EXISTING LOAD		180	\top
7	20/1	EXISTING LOAD	200	1	А	8	20/1	EXISTING LOAD		180	
9	20/1	EXISTING LOAD	180	0	В	10	20/1	EXISTING LOAD		180	
11	20/1	EXISTING LOAD	1260	0	С	12	20/1	EXISTING LOAD		180	
13	20/1	EXISTING LOAD	180	0	А	14	20/1	EXISTING LOAD		180	
15	20/1	EXISTING LOAD	180	0	В	16	20/1	EXISTING LOAD		180	
17	20/1	EXISTING LOAD	180	0	С	18	20/1	EXISTING LOAD		180	
19	20/1	EXISTING LOAD	180	0	А	20	20/1	EXISTING LOAD		180	
21	20/1	EXISTING LOAD	180	0	В	22	20/1	EXISTING LOAD		180	
23	20/1	EXISTING LOAD	180	0	С	24	20/1	EXISTING LOAD		180	
25	20/1	EXISTING LOAD	180	0	Α	26	20/1	EXISTING LOAD		180	
27	20/1	EXISTING LOAD	180	0	В	28	20/1	EXISTING LOAD		180	
29	20/1	EXISTING LOAD	180	0	С	30	20/1	EXISTING LOAD		180	
31	20/1	EXISTING LOAD	180	0	А	32	20/1	EXISTING LOAD		200	
33	20/1	EXISTING LOAD	180	0	В	34	20/1	FUTURE BSC		180	
35	20/1	EXISTING LOAD	180	0	С	36	20/1	FUTURE BSC		180	
37	20/1	RECEPTACLES	720	0	А	38	20/1	FUTURE BSC		180	
39	20/1	FUTURE BSC	180	0	В	40	20/1	FUTURE BSC		180	
41	20/1	FUTURE BSC	180	0	С	42	20/1	FUTURE BSC		180	

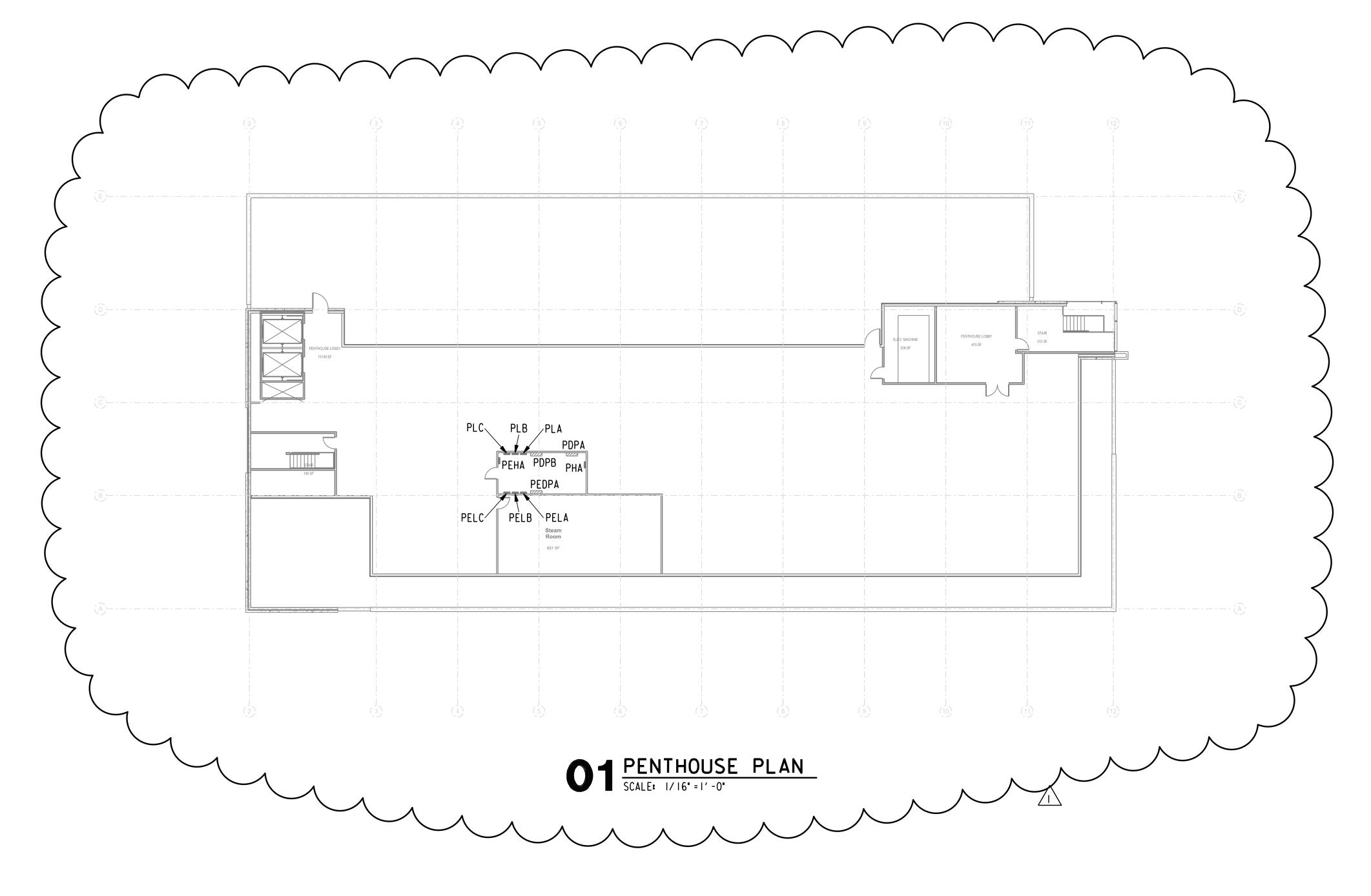


1111 Louisiana 26th Floor Houston, Texas 77002 713.665.5665 phone · whrarchitects.com



REVISIONS								
NO.	DATE	DESCRIPTION						
1	9/10/2015	Addendum #2						

Panel		PELC (EXISTING)					Project -	BBS Level 6 Vivarium Buildout			
Location -		PE01PENTHOUSE					E&C No.	3255			
Panel Information			Panel Loads	Panel Loads			ase A	Phase B Phase C		Tota	al
Voltage		120/208V, 3P, 4W	Panel Lighti	Panel Lighting VA			0	0	0		
Panel Type		Panelboard	Panel Rece	Panel Receptacle VA			220	1220 1940		4380	
Bus Amps		225A, 100% Neutral	Panel Equip	Panel Equipment VA			2054	12149	12343	36546	
Bus Type		Copper/22,000 AIC	FTL VA	FTL VA			0	0	0	0	
Panel Mains		225A MLO	Total Conne	Total Connected VA			3274	13369	14283	40926	
		Bolt-In	Total Connected Amps			111		111	119	114	
Enclosure		NEMA 1 Surface	NEC VA	NEC VA			3274	13369	14283	40926	
Accesso	ries	Ground Bus	NEC Amps				111	111	119	114	4
Ckt.	Bkr.	Circuit Use	Load	Туре	Ph.	Ckt.	Bkr.	Circui	t Use	Load	Туре
1	30/1	EXISTING LOAD	1656	1	А	2	_	_		1000	1
3	30/1	EXISTING LOAD	1656	1	В	4	20/3	EXISTING LOAD		1000	1
5	30/1	EXISTING LOAD	1656	1	С	6	-	_		1000	1
7	30/1	EXISTING LOAD	1656	1	А	8	20/1	EXISTING LOAD		180	1
9	30/1	EXISTING LOAD	1656	1	В	10	-	_		1000	1
11	30/1	EXISTING LOAD	1656	1	С	12	20/3	EXISTING LOAD		1000	1
13	30/1	EXISTING LOAD	1656	1	А	14	-	_		1000	1
15	30/1	EXISTING LOAD	1656	1	В	16	-	_		1000	1
17	30/1	EXISTING LOAD	1656	1	С	18	20/3	EXISTING LOAD		1000	1
19	30/1	EXISTING LOAD	1656	1	А	20	-	_		1000	1
21	30/1	EXISTING LOAD	1656	1	В	22	20/1	BIOLOGICAL SAFE	TY CABINET	275	1
23	20/1	BIOLOGICAL SAFETY CABINET	1200	1	С	24	20/1	BIOLOGICAL SAFE	TY CABINET	1200	1
25	20/1	BIOLOGICAL SAFETY CABINET	1200	1	А	26	20/1	RECEPTACLES		720	0
27	20/1	BIOLOGICAL SAFETY CABINET	1200	1	В	28	20/1	RECEPTACLES		720	0
29	20/1	BIOLOGICAL SAFETY CABINET	1200	1	С	30	20/1	RECEPTACLES		720	0
31	20/1	BIOLOGICAL SAFETY CABINET	275	1	А	32	20/1	HVAC CONTROL PA	ANEL	500	0
33	20/1	BIOLOGICAL SAFETY CABINET	275	1	В	34	20/1	HVAC CONTROL PA	ANEL	500	0
35	20/1	BIOLOGICAL SAFETY CABINET	275	1	С	36	20/1	HVAC CONTROL PA	ANEL	500	0
37	20/1	BIOLOGICAL SAFETY CABINET	275	1	Α	38	20/1	HVAC CONTROL PA	ANEL	500	1
39	20/1	BIOLOGICAL SAFETY CABINET	275	1	В	40	20/1	HVAC CONTROL PA	ANEL	500	1
41	20/1	RECEPTACLES	720	0	С	42	20/1	HVAC CONTROL PA	ANEL	500	1
_oad Type	es: 0 = Rec	epts (per NEC), 1 = Equip. (100%), 2 = Lighting (125	5%), 3 = A/C (100%), 4	= Heating	g (100%)), 5 = Lgst.	Motor (125°	%), 6 = Kitchen Equip. (pe	r NEC)		



Behavioral and Biomedical Science

Building (BBS)

KEY PLAN

1941 East Road Houston, Texas 77054

BBS Level 6 Vivarium



Buildout

Lance McKnight 2015.09.09 14:13:56 -05'00' E&C Engineers & Consultants Inc. Texas Firm Registration No: F-003068

ELECTRICAL SCHEDULES

PHASE: 100% CD'S DATE: 8/12/2015

A2D3L-224: 480Y/277 VAC, 3 PHASE, 4 WIRE, 24 CIRCUIT, DIGITAL - MAIN LUGS ONLY, 175A WIRE RANGE: FEED, LOAD: #4/0 - #6 AWG, #14 - #8 AWG

a-2000 24 CABINET CIRCUIT SCHEDULE

EDP6

DIMMER MODULE					CONTROL		LC	LOAD CIRCUITS			
					DMX	LUMA-NET		DIM	LOAD		
NO.	BRKR	TYPE	CKT	PHASE	CHANNEL	CHANNEL	F	-UN	WATTS	NOTES	(EM)
1	20/1	UN	1A	Α	1	1	I	HL	192	SMALL ANIMAL, RM 6260L	
	20/1	UN	1B	1	2	2	ŀ	HL	192	HOUSING/PROCEDURE, RM 6270A	
2	20/1	UN	2A	В	3	3	ŀ	HL	384	RABBIT HOLDING, RM 6208	
	20/1	UN	2B]	4	4	ŀ	HL	256	RATS, RM 6270C	
3	20/1	UN	3A	С	5	5	ŀ	HL	384	RATS, RM 6270E	
	20/1	UN	3B]	6	6	ŀ	HL	516	ANIMAL HOLDING, RM 6222	
4	20/1	UN	4A	Α	7	7	ŀ	HL	384	SMALL ANIMAL, RM 6260J	
	20/1	UN	4B]	8	8	ŀ	HL	192	SMALL ANIMAL, RM 6260G	
5	20/1	UN	5A	В	9	9	ŀ	HL	192	SMALL ANIMAL, RM 6260E	
	20/1	UN	5B		10	10	ŀ	HL	128	PROCEDURE ROOM, RM 6260B	
6	20/1	UN	6A	С	11	11	ŀ	HL	0		
	20/1	UN	6B]	12	12	ŀ	HL	0		
7	20/1	UN	7A	А	13	13	ŀ	HL	0		
	20/1	UN	7B		14	14	ŀ	HL	0		
8	20/1	UN	8A	В	15	15	ŀ	HL	0		
	20/1	UN	8B]	16	16	ŀ	HL	0		
9	20/1	UN	9A	С	17	17	ŀ	HL	0		
	20/1	UN	9B]	18	18	ŀ	HL	0		
10	20/1	UN	10A	Α	19	19	ŀ	HL	0		
	20/1	UN	10B]	20	20	ŀ	HL	0		
11	20/1	UN	11A	В	21	21	ŀ	HL	0		
	20/1	UN	11B		22	22	ŀ	HL	0		
12	20/1	UN	12A	С	23	23	ŀ	HL	0		
	20/1	UN	12B		24	24	ŀ	HL	0		
							D	EMA	960 A-PHASE,	960 B-PHASE, 900 C-PHASE	
i							C	CONN	4 AMPS		

MODULE TYPE: (0) CC A20DC-A27 20 AMP DUAL CONSTANT MODULE (12) UN A20UN-027 20 AMP DUAL DIMMER UNIVERSAL MODULE (0) WS WS WIRED SPACE

(DIM FUN) ND - NON-DIM

(EM) - EMERGENCY CIRCUIT

FUNCTION: DM - INCANDESCENT DIMMER MX - ADVANCE MARK-X BALLAST (OR "TU-WIRE") M7 - ADVANCE MARK VII BALLAST HL - LUTRON HI-LUME BALLAST LV - MAGNETIC LOW VOLTAGE

CC - CONSTANT

PROJECT NO. 3255.00

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