BID 25-002: Jackson Planetarium Improvements

Jackson Redevelopment Authority

JACKSON PLANETARIUM

201 EAST PASCAGOULA STREET
JACKSON, MISSISSIPPI

BID 25-002: JACKSON PLANETARIUM IMPROVEMENTS
CONSTRUCTION DOCUMENTS
JANUARY 31, 2025

JRA JACKSON REDEVELOPMENT AUTHORITY + CDFL ARCHITECTS + ENGINEERS PA

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CDFL
ARCHITECTS + ENGINEERS PA

PROJECT NUMBER 20-152
DATE 8/01/24
DRAWN BY: PHILIP GROCE HEFLING PLANETARIUMS SUCCEED, LLC

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JACKSON PLANETARIUM IMPROVEMENTS

SCHEMATIC DRAWINGS
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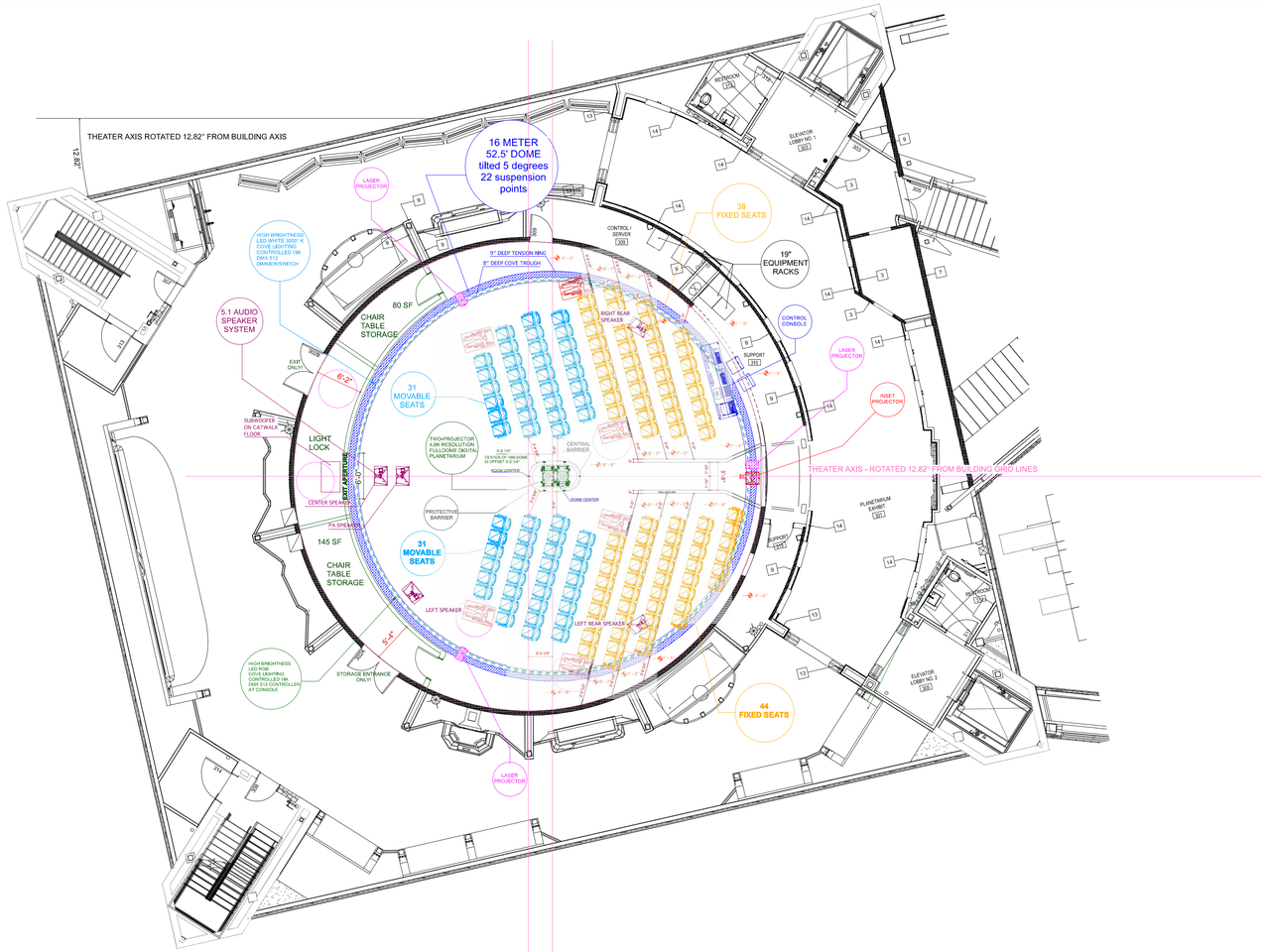
ENLARGED THIRD FLOOR DETAILS

PL 100



NOTE ON EQUIPMENT HEAT LOAD:

1) ROOM 309:

A. TYPICAL HEAT LOAD FOR AUDIO AMPS, COMPUTERS, SWITCHERS, & ADA ASSISTIVE HEARING SYSTEM:

A. SYSTEM OFF (LAN SYSTEM ON):
24 HOURS-7 DAYS PER WEEK
IDLE MODE: 200 BTU/HR.

B. TYPICAL USE LOAD WHEN PLANETARIUM AUDIO RACKS ARE ON AND SOUND SYSTEM IN PROGRAM USE (6 TO 8 HOURS/DAY - LESS THAN 60 HOURS/WEEK):

7315 BTU/HR AT 1/3 POWER

2) ROOM 310:

TYPICAL HEAT LOAD FOR PLANETARIUM IMAGING COMPUTERS, AND AV SWITCHERS:

A. SYSTEM OFF (LAN SYSTEM ON):
24 HOURS-7 DAYS PER WEEK
IDLE MODE: 200 BTU/HR.

B. TYPICAL USE LOAD WHEN PLANETARIUM EQUIPMENT RACKS ARE ON AND EQUIPMENT IS IN PROGRAM USE (6 TO 8 HOURS/DAY - LESS THAN 60 HOURS/WEEK):

6200 BTU/HR.

3) CONSOLE AND PROJECTORS IN PLANETARIUM THEATER:

TYPICAL HEAT LOAD FOR PLANETARIUM COVE LIGHTING. PLANETARIUM PROJECTION SYSTEMS, LASER SYSTEMS, AND CONTROL CONSOLE ELECTRONICS:

A. SYSTEM OFF (LAN SYSTEM ON):
24 HOURS-7 DAYS PER WEEK
IDLE MODE: 200 BTU/HR.

B. TYPICAL USE LOAD WHEN PLANETARIUM EQUIPMENT RACKS AND ELECTRONICS ARE ON AND EQUIPMENT IS IN PROGRAM USE (6 TO 8 HOURS/DAY - LESS THAN 60 HOURS/WEEK):

14,500 BTU/HR.

MAXIMUM TOTAL EQUIPMENT HEAT LOAD

IDLE (24 HOURS/7 DAYS/WEEK):

600 BTU/HR

TYPICAL HEAT LOAD TOTAL WHEN ALL COMPONENTS ARE IN USE FOR PROGRAMS 4 TO 6 HOURS/DAY):

28,015 BTU/HR*

* THIS TOTAL DOES NOT INCLUDE HEAT LOAD OF OCCUPANTS - ESTIMATED MAXIMUM OCCUPANCY IS 200.

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JACKSON PLANETARIUM IMPROVEMENTS

PLAN & SECTION EQUIPMENT OVERVIEW

ENLARGED THIRD FLOOR DETAILS

PL 101

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HELPING
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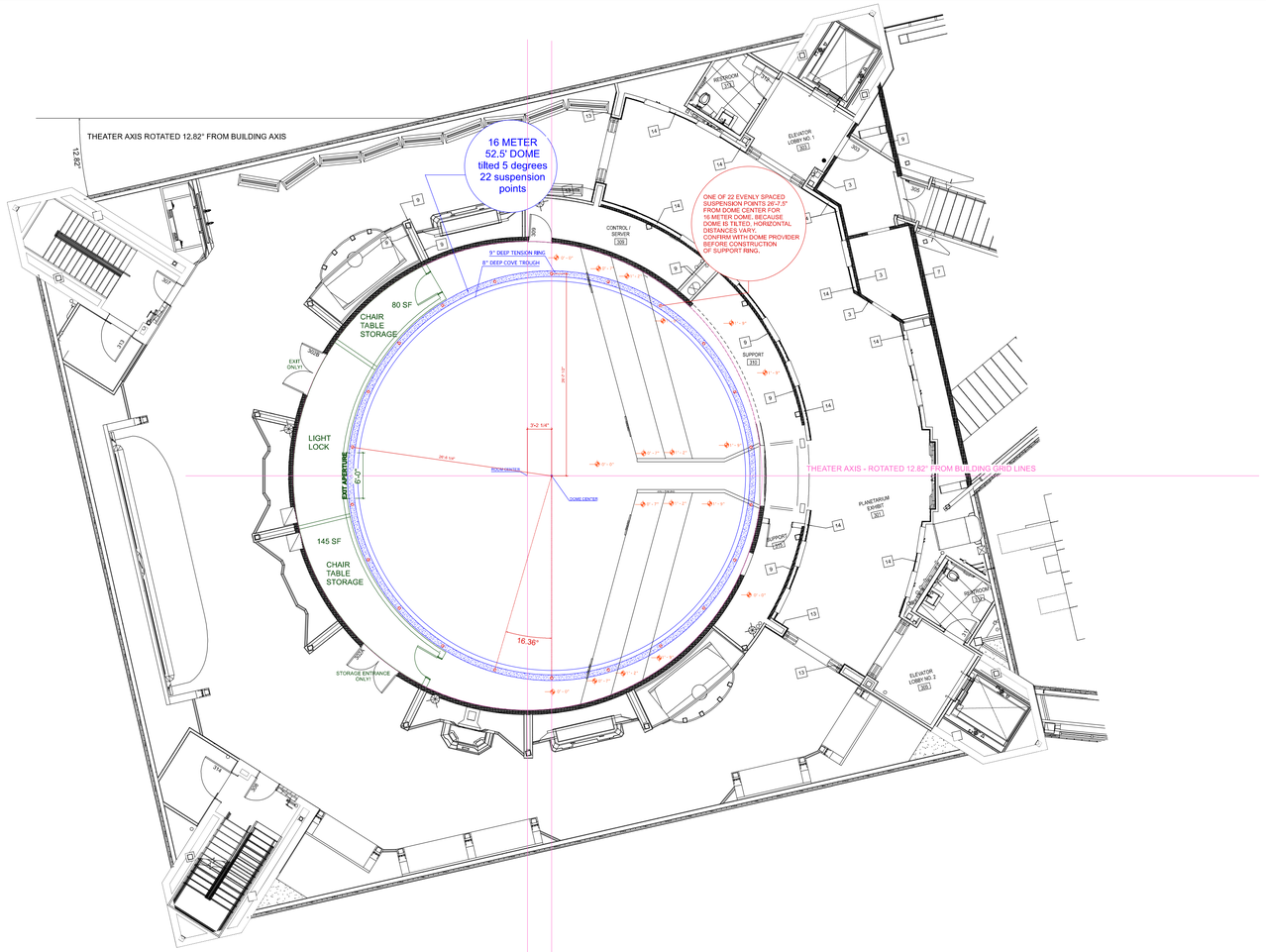
SUCCEED, LLC

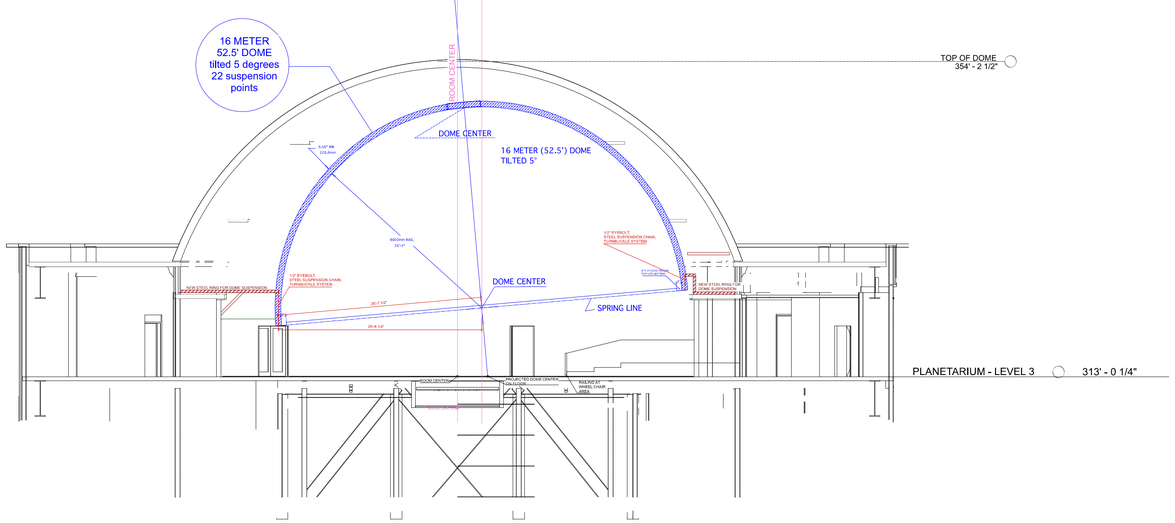
JACKSON PLANETARIUM
IMPROVEMENTS

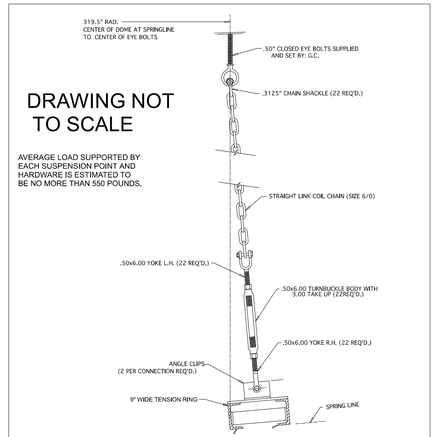
WITH ADDED TABLES & MOVABLE SEATING REMOVED

ENLARGED THIRD FLOOR DETAILS

PL 101 -1







DETAIL OF SUSPENSION CONNECTION
AS SEEN AT DOME'S HIGHEST POINT
OFF-OF-FLOOR. DOME IS TILTED NO MORE
THAN 5 DEGREES

NOTE #1: THE GENERAL CONTRACTOR IS TO PROVIDE
THE REQUIRED TWENTY-TWO (22) EQUALLY SPACED 1/2" CLOSED EYEBOLTS IN
THE STEEL SUSPENSION RING PROVIDED BY THE GC.

BECAUSE THE DOME IS TILTED 5 DEGREES, THE HORIZONTAL DISTANCES OF
THE 22 EYEBOLT SUSPENSION POINTS TO THE DOME CENTER VARY SLIGHTLY
AT EACH LOCATION. FOR INSTANCE:
THE HORIZONTAL DISTANCE FROM DOME CENTER IS 26' 71/2" SIDE TO SIDE.
THE HORIZONTAL DISTANCE IS 26' 6 1/4" FRONT AND BACK.
THE GC IS TO CONFIRM THE LOCATION OF EACH SUSPENSION POINT USING THE
SHOP DRAWINGS PROVIDED THE SELECTED DOME MANUFACTURER/INSTALLER.

THE PROJECTION DOME SCREEN VENDOR/ FABRICATOR/INSTALLER SUPPLIES
ALL ATTACHING VERTICAL CABLE SUSPENSION HARDWARE AND LATERAL
RESTRAINTS.

NOTE #2 - ON COORDINATION:
A. TO AVOID THE COST OF BUILDING A TEMPORARY FLAT FLOOR
OVER THE STADIUM SEATING AREA, THE GC SHALL INSTALL THE
SEATING PLATFORM AFTER THE PLANETARIUM DOME IS INSTALLED.
TO PROTECT THE DOME AND REDUCE THE POTENTIAL CREATION OF
DUST, GC SHALL BUILD THE SEATING PLATFORM IN MODULES OUTSIDE OF THEATER.

B. BEFORE INSTALLATION CAN BEGIN, THE THEATER IS TO BE
FINISHED FROM A HEIGHT ABOVE 6'10" OFF-OF-FLOOR. ALL TRADES
THAT PRODUCE DUST ARE TO BE OUT OF THE THEATER.
NO SPRAY PAINTING OR DUST CREATION OF ANY KIND CAN TAKE PLACE
ONCE THE DOME INSTALLATION BEGINS.

NOTE #3 - ON NOMENCLATURE
TO BE CLEAR, THE "PROJECTION DOME SCREEN" CAN BE REFERED TO
AS A "DOME SCREEN" OR AS A "DOME." TECHNICALLY, THIS IS NOT A STRUCTURAL
ELEMENT OF THE BUILDING SINCE IT DOES NOT SUPPORT THE BUILDING IN
ANY WAY. THE PROJECTION DOME SCREEN IS A PIECE OF EQUIPMENT THAT
HAS WEIGHT AND STRUCTURAL ELEMENTS THAT ARE SUPPORTED BY THE
SURROUNDING BUILDING STRUCTURE BOTH VERTICALLY AND HORIZONTALLY.

THE MAXIMUM WEIGHT OF THE NEW PROJECTION DOME SCREEN IS LISTED BELOW:

MAXIMUM BASE WEIGHT OF 16 METER (52.5') DOME	**9700 POUNDS**
MAXIMUM EQUIPMENT WEIGHTS SUPPORTED BY THE PROJECTION DOME SCREEN:	
SIX (6) AUDIO SPEAKERS	740 POUNDS
SPEAKER MOUNTS FOR SIX SPEAKERS	72 POUNDS
DOME COVE TROUGH 8" DEEP X 4" HIGH	450 POUNDS
RGB LED COVE LIGHTING FIXTURES+MOUNTS+CONNECTORS	300 POUNDS
WHITE LED COVE LIGHTING FIXTURES+MOUNTS+CONNECTORS	300 POUNDS
ONE INSET PROJECTOR AND DOME MOUNT	45 POUNDS
WIRE CABLES FOR LIGHTING AND AUDIO SYSTEMS	100 POUNDS
LASER PROJECTION SYSTEM	90 POUNDS
SUBTOTAL OF FIXED/"DEAD" WEIGHT of DOME WITH ADDITIONS:	**11,797 POUNDS**
LIVE LOAD - FOR DOME CLEANING & SPEAKER REPAIR.	300 POUNDS
TOTAL MAXIMUM WEIGHT	**12,097 POUNDS**

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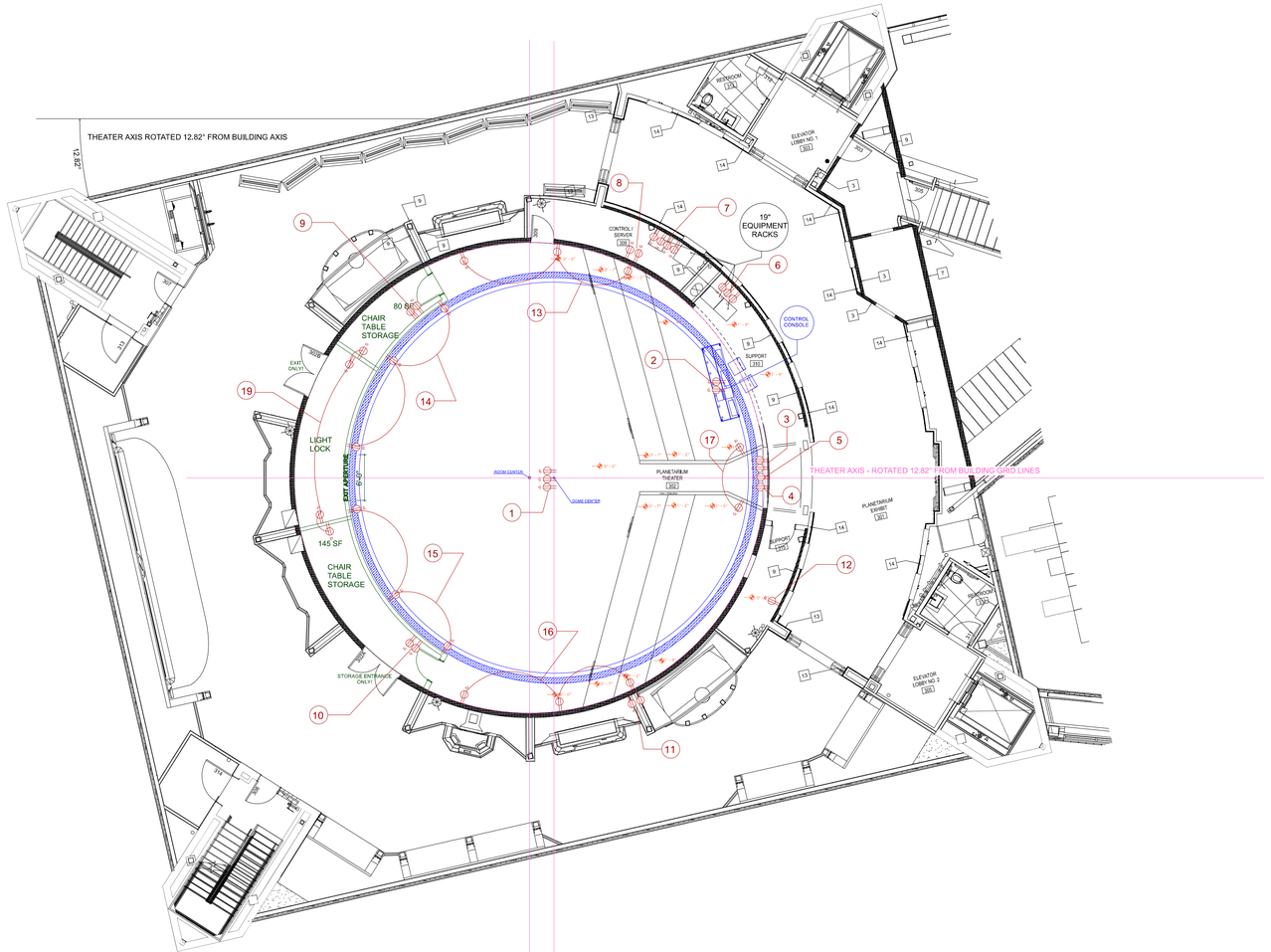
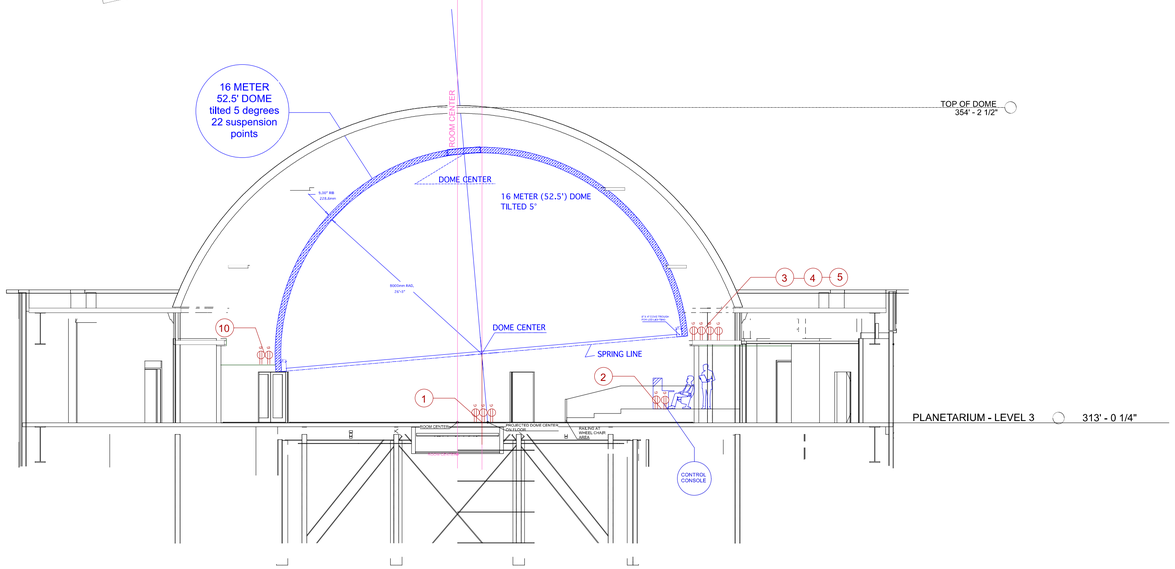
JACKSON PLANETARIUM
IMPROVEMENTS

PLAN & SECTION
PROJECTION DOME SUSPENSION

ENLARGED THIRD FLOOR DETAILS

PL 102





ELECTRICAL - GENERAL NOTES

1) ALL NEW RECEPTACLES SHALL HAVE AN INSULATED 10 GAUGE DEDICATED ISOLATED GROUND WIRE THAT RUNS BACK TO THE GROUND BUS BAR IN THE CIRCUIT BREAKER SUBPANEL. THE GROUND WIRE IS TO HAVE NO BREAKS AND IS NEVER TO BE CONNECTED TO CONDUIT. EVEN THOUGH EACH DUPLEX/QUADPLEX IS PROTECTED WITH A 20 AMP BREAKER, RECEPTACLES ARE TO BE NEMA 5-15R.

2) TOTAL NUMBER OF NEW 120VAC - 20 AMP DUPLEX OR QUADRUPLEX/CIRCUITS SHOWN: 16 (SIXTEEN) - THESE ARE PLANETARIUM PROGRAMMING OUTLETS/CIRCUITS.

3) POWER TO THESE RECEPTACLES SHALL BE CONTROLLED BY ACCESSIBLE PANEL BREAKERS IN CONTROL ROOM.

4) THESE RECEPTACLES/CIRCUITS DO NOT INCLUDE EXISTING OR NEW HVAC CIRCUITS, FOYER/LIGHT LOCK ROOM LIGHTING CIRCUITS, TRACK LIGHTING , EMERGENCY LIGHTS, EXIT LIGHTS, WORK LIGHTS, THEATER SERVICE OUTLETS, ETC.

5) ALL ELECTRICAL FIXTURES AND CONDUITS LOCATED ABOVE THE HEIGHT OF THE DOME SPRINGLINE (APP. 7' OFF-OF-FLOOR) ARE TO BE PRE-PAINTED FLAT OR SATIN BLACK AND TOUCH-UP AS REQUIRED BY BRUSH (NO SPRAYING), IF PROJECTION DOME IS INSTALLED.

120VAC OUTLET LOCATIONS/NOTES:

1. THREE (3) DEDICATED 20 AMP-120VAC CIRCUITS IN SEPARATE DUPLEXES MOUNTED IN 10" WIDE X 14" LONG X 8" DEEP FLOOR BOX. CIRCUITS ARE TWO (2) FULLDOME PROJECTORS, AND BARRIER LIGHTING.
2. TWO (2) DEDICATED 20 AMP-120VAC CIRCUITS ON SEPARATE DUPLEXES IN FLOOR PULLBOX 8" WIDE" X 12" LONG X 4" DEEP UNDER CONSOLE DESK LOCATION. ONE CIRCUIT IS FOR PLANETARIUM COMPUTERS/MONITORS/ AUDIO MIXER. THE SECOND ONE IS A SPARE FOR FUTURE USE.
3. TWO (2) DEDICATED 20 AMP -120 VAC CIRCUIT SURFACE MOUNTED DUPLEXES ON TOP OF CATWALK FOR COVE LIGHTING POWER SUPPLIES.
4. ONE (1) DEDICATED 20 AMP -120 VAC CIRCUIT SURFACE MOUNTED DUPLEX ON TOP OF CATWALK NEAR LASER PROJECTOR POSITION.
5. ONE (1) DEDICATED 20 AMP -120 VAC CIRCUIT SURFACE MOUNTED DUPLEX ON TOP OF CATWALK NEAR DATA (INSET) PROJECTOR POSITION.
6. THREE (3) DEDICATED SEPARATE 20 AMP -120 VAC CIRCUITS SURFACE MOUNTED DUPLEXES 18" OFF-OF-RISER FLOOR LEVEL (39" OFF-OF-T HEATER SLAB LEVEL) IN RM 310. POWERS PLANETARIUM COMPUTER/AV SYSTEMS.
7. FOUR (4) DEDICATED SEPARATE 20 AMP -120 VAC CIRCUITS SURFACE MOUNTED DUPLEXES 16" OFF-OF-FLOOR LEVEL IN RM 309. POWERS PLANETARIUM SOUND SYSTEM.
8. TWO (2) (DEDICATED 20 AMP -120 VAC CIRCUITS SURFACE MOUNTED DUPLEXES ON CATWALK FLOOR FOR DMX ELLIPSOIDAL STAGE LIGHTING.
9. TWO (2) (DEDICATED 20 AMP -120 VAC CIRCUITS SURFACE MOUNTED DUPLEXES ON LIGHTLOCK/STORAGE ROOM CEILING FLOOR FOR WHITE LIGHT AND RGB COVE LIGHTING POWER SUPPLIES.
10. TWO (2) (DEDICATED 20 AMP -120 VAC CIRCUITS SURFACE MOUNTED DUPLEXES ON LIGHTLOCK/STORAGE ROOM CEILING FLOOR FOR WHITE LIGHT AND RGB COVE LIGHTING POWER SUPPLIES.
11. TWO (2) (DEDICATED 20 AMP -120 VAC CIRCUITS SURFACE MOUNTED DUPLEXES ON CATWALK FLOOR FOR DMX ELLIPSOIDAL STAGE LIGHTING.
12. ONE (1) DEDICATED 20 AMP-120VAC CIRCUITS ON DEDICATED DUPLEX FOR FOR FUTURE EXPANSION.
13. THREE (3) RECESSED IN-WALL MOUNTED DUPLEXES ON ONE DEDICATED 20 AMP CIRCUIT 10" OFF-OF-FLOOR TO POWER LED WALL LIGHTING SYSTEM.
14. THREE (3) RECESSED IN-WALL MOUNTED DUPLEXES ON ONE DEDICATED 20 AMP CIRCUIT 10" OFF-OF-FLOOR TO POWER LED WALL LIGHTING SYSTEM.
15. THREE (3) RECESSED IN-WALL MOUNTED DUPLEXES ON ONE DEDICATED 20 AMP CIRCUIT 10" OFF-OF-FLOOR TO POWER LED WALL LIGHTING SYSTEM.
16. THREE (3) RECESSED IN-WALL MOUNTED DUPLEXES ON ONE DEDICATED 20 AMP CIRCUIT 10" OFF-OF-FLOOR TO POWER LED WALL LIGHTING SYSTEM.
17. TWO (2) RECESSED IN-WALL MOUNTED DUPLEXES ON ONE DEDICATED 20 AMP CIRCUIT 10" OFF-OF-RISER FLOOR TO POWER LED WALL LIGHTING SYSTEM.
18. FOUR (4) RECESSED IN-WALL MOUNTED DUPLEXES ON ONE DEDICATED 20 AMP CIRCUIT 16" OFF-OF-RISER FLOOR TO SERVE AS SERVICE OUTLETS IN STORAGE ROOMS AND LIGHTLOCK EXIT/ENTRANCE.

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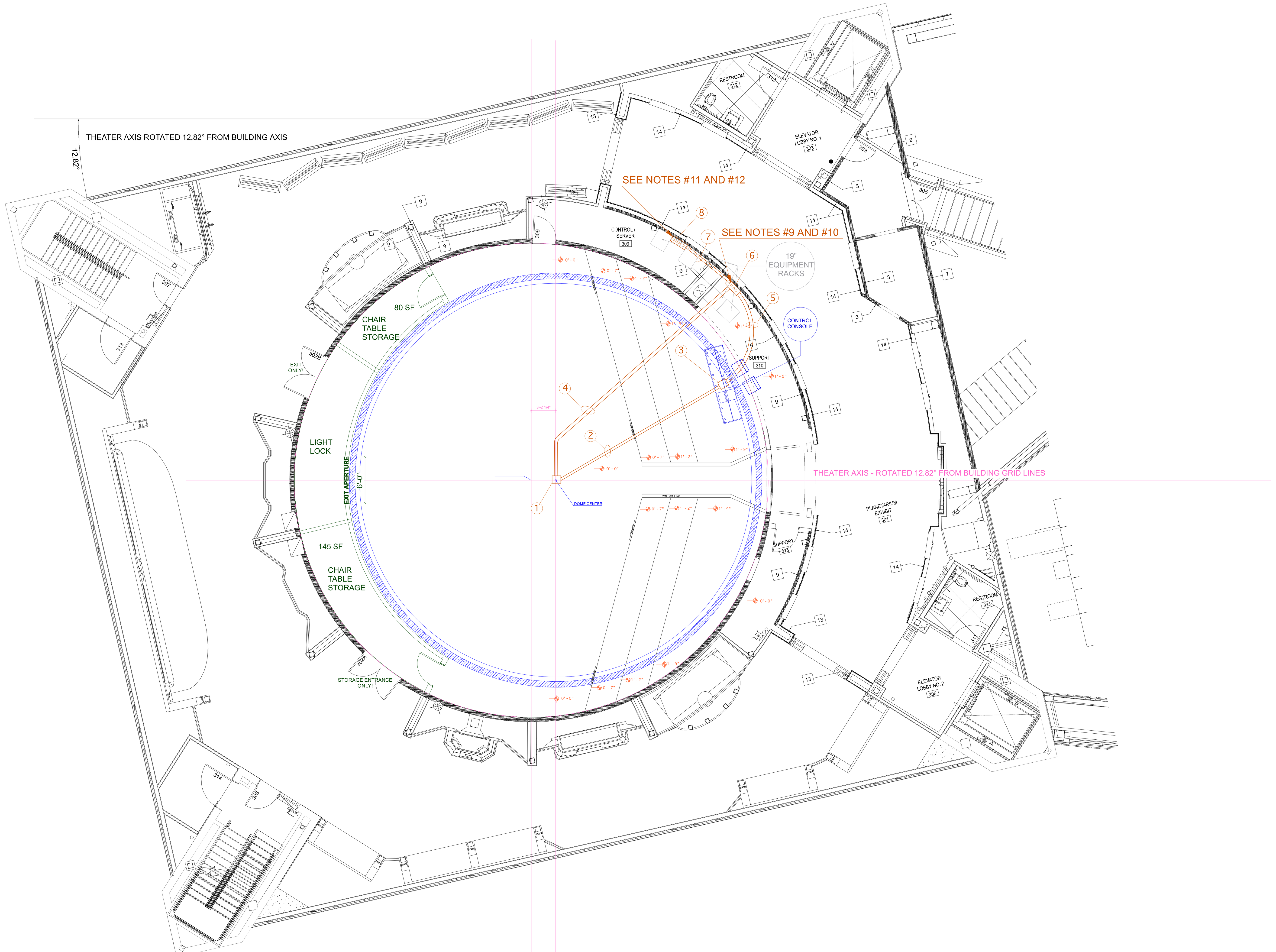
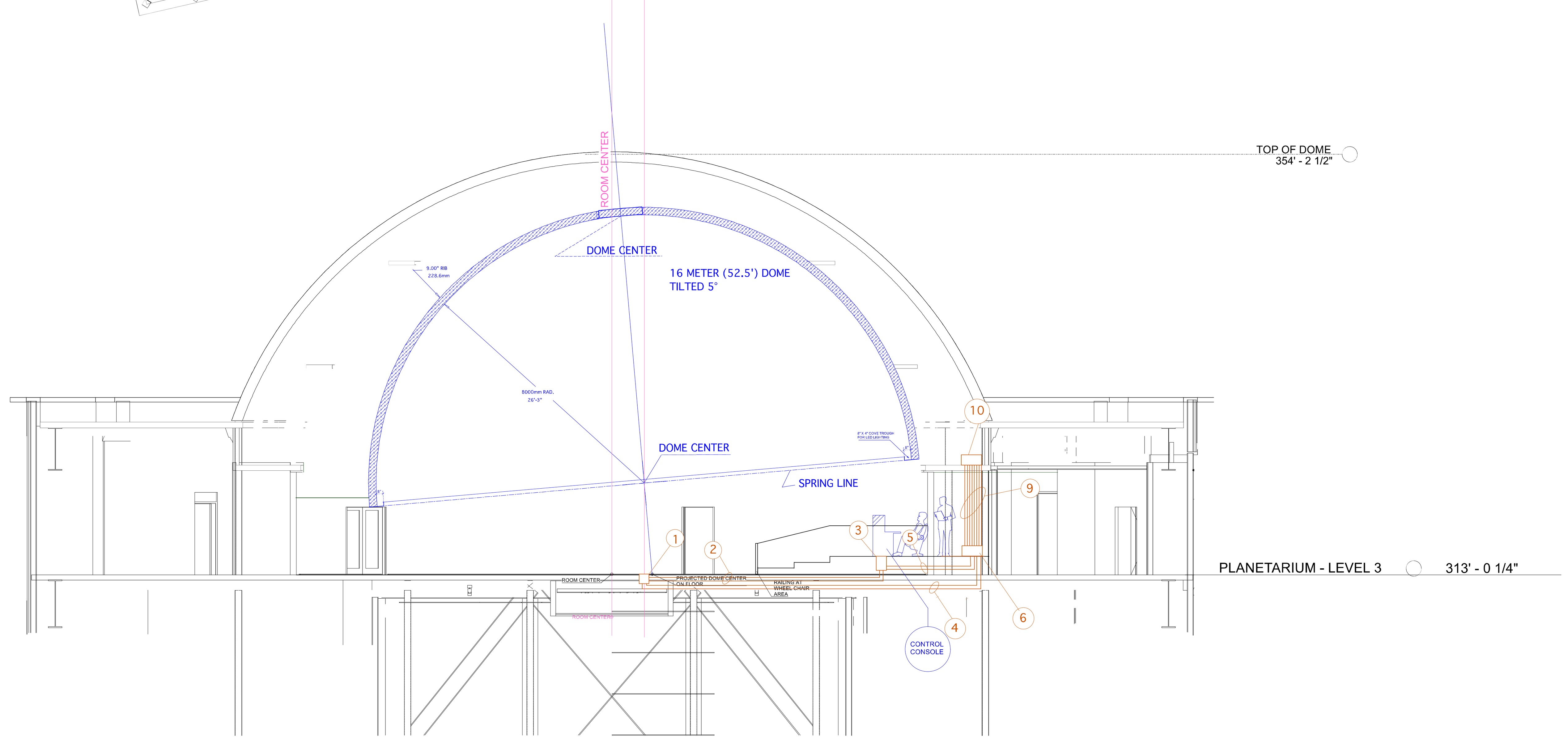
JACKSON PLANETARIUM IMPROVEMENTS

PLAN & SECTION
ELECTRICAL LAYOUT

ENLARGED THIRD FLOOR DETAILS

PL 103





LOW VOLTAGE/AV SIGNAL RACEWAYS - GENERAL NOTES

SIGNAL RACEWAYS
(CLASS 2, CLASS 3, SPEAKER CABLES)

1. ALL SIGNAL CONDUITS SHALL HAVE PULL STRINGS IN EACH EACH PIPE.

2. AC POWER CONDUITS ARE IN ADDITION TO THESE SETS OF EMPTY CONDUITS

3) THESE RACEWAYS ARE FOR PLANETARIUM SIGNAL CABLES ONLY. OTHER CLASS II & III CABLING FOR NEW HVAC CONTROLS, FOYER/LIGHT LOCK ROOM LIGHTING CONTROL, EMERGENCY LIGHTING, EXIT LIGHTING, AND WORK LIGHTING ARE IN ADDITION TO THESE RACEWAYS SHOWN.

4) ALL RACEWAY CONDUITS/PIPES/PULLBOXES LOCATED ABOVE THE HEIGHT OF THE DOME SPRINGLINE (APP. 7' OFF-OF-FLOOR) ARE TO BE PRE-PAINTED FLAT OR SATIN BLACK AND TOUCH-UP AS REQUIRED BY BRUSH (NO SPRAYING), IF PROJECTION DOME IS INSTALLED.

5) ALL EXPOSED CABLING NOT IN RACEWAY PIPES IS TO BE JACKETED IN BLACK.

6) THERE IS NO ENCLOSED AIR PLENUM SINCE THEATER AND DOME ARE OPEN TO ABOVE SPACES WITH NO DROP CEILINGS OR SOFFITS BETWEEN THEATER AND HVAC SYSTEM. THEREFORE, PLENUM-RATED CABLING IS NOT REQUIRED.

7) DOME FRAME CAN BE USED AS WIREWAY FOR RUNNING LOW-VOLTAGE CABLES. WHERE REQUIRED, PLANETARIUM/AV CONTRACORS ARE TO PROVIDE BLACK WIREWAY BASKETS CONNECTING THE CATWALK TO THE DOME FRAME. ALL CABLES ON DOME FRAME ARE TO BE NEATLY SECURED WITH BLACK PLASTIC WIRE TIES AND TRIMMED AS REQUIRED. UNDER NO CIRCUMSTANCE MAY CABLES TOUCH THE DOME SCREEN PANELS.

RACEWAY LOCATIONS/NOTES:

(1) ONE (1) FLOOR BOX IN CENTER OF NEW DOME (3'2-1/4" FROM ROOM CENTER) - LARGE ENOUGH TO HOUSE FOR 3(THREE) 2.5" ID PIPE CONNECTIONS.

(2) ONE (1) NONMETALLIC (SCHEDULE 40) SIGNAL CONDUIT- 2-1/2" I.D. IN-FLOOR CONNECTION BETWEEN JUNCTION BOXES #1 AND #3.

(3) ONE (1) FLOOR BOX IN RAISED SEATING PLATFORM UNDER CONSOLE POSITION - LARGE ENOUGH TO HOUSE FOR 3(THREE) 2.5" ID PIPE CONNECTIONS.

(4) TWO (2) NONMETALLIC (SCHEDULE 40) SIGNAL CONDUIT- 2-1/2" I.D. IN-FLOOR CONNECTION BETWEEN JUNCTION BOXES #1 AND #6. THIS REPRESENTS THE SHORTEST PATH FOR 4K VIDEO SIGNALS VIA DVI-D CABLES.

(5) TWO (2) NONMETALLIC (SCHEDULE 40) SIGNAL CONDUIT- 2-1/2" I.D. IN-FLOOR CONNECTION BETWEEN JUNCTION BOXES #3 AND #6.

(6) ONE (1) LARGE PULLBOX AT RAISED FLOOR LEVEL (21" ABOVE THEATER FLOOR LEVEL) IN RM 310. MUST BE LARGE ENOUGH FOR FOUR (4) VERTICAL 2-12" I.D. NONMETALLIC (SCHEDULE 40) SIGNAL CONDUITS GOING UPWARD TO CATWALK LEVEL, 4 (FOUR) 2-1/2" I.D. CONDUITS INTO BOTTOM OF PULLBOX AND 2 (TWO) 2-1/2" CONDUITS ON SIDE OF PULLBOX. A MINIMUM OF 10 (TEN) 2-1/2" KNOCKOUTS.

(7) TWO (2) NONMETALLIC (SCHEDULE 40) SIGNAL CONDUITS- 2-1/2" I.D THAT RUN FROM PULL BOX #6 IN RM 310 TO PULLBOX #8 IN RM 309.

(8) ONE (1) LARGE PULLBOX AT THEATER FLOOR LEVEL IN RM 309. MUST BE LARGE ENOUGH FOR FIVE (5) VERTICAL 2-1/2" I.D. NONMETALLIC (SCHEDULE 40) SIGNAL CONDUITS GOING UPWARD TO CATWALK LEVEL AND AT LEAST 2 (TWO) 2-1/2" CONDUITS ON SIDE OF PULLBOX. A MINIMUM OF 7 (SEVEN) 2-1/2" KNOCKOUTS.

(9) FOUR (4) NONMETALLIC (SCHEDULE 40) SIGNAL CONDUITS- 2-1/2" I.D. FROM FLOOR BOX #6 TO FLOOR BOX #10 AT CATWALK LEVEL.

(10) ONE (1) PULLBOX AT CATWALK LEVEL DIRECTLY ABOVE PULLBOX #6 AND LARGE ENOUGH FOR FOUR (4) SIGNAL CONDUITS- 2-1/2" I.D.

(11) FIVE (5) NONMETALLIC (SCHEDULE 40) SIGNAL CONDUITS- 2-1/2" I.D. FROM FLOOR BOX #8TO FLOOR BOX #12 AT CATWALK LEVEL.

(12) ONE (1) PULLBOX AT CATWALK LEVEL DIRECTLY ABOVE PULLBOX #8 AND LARGE ENOUGH FOR FIVE (5) SIGNAL CONDUITS- 2-1/2" I.D.

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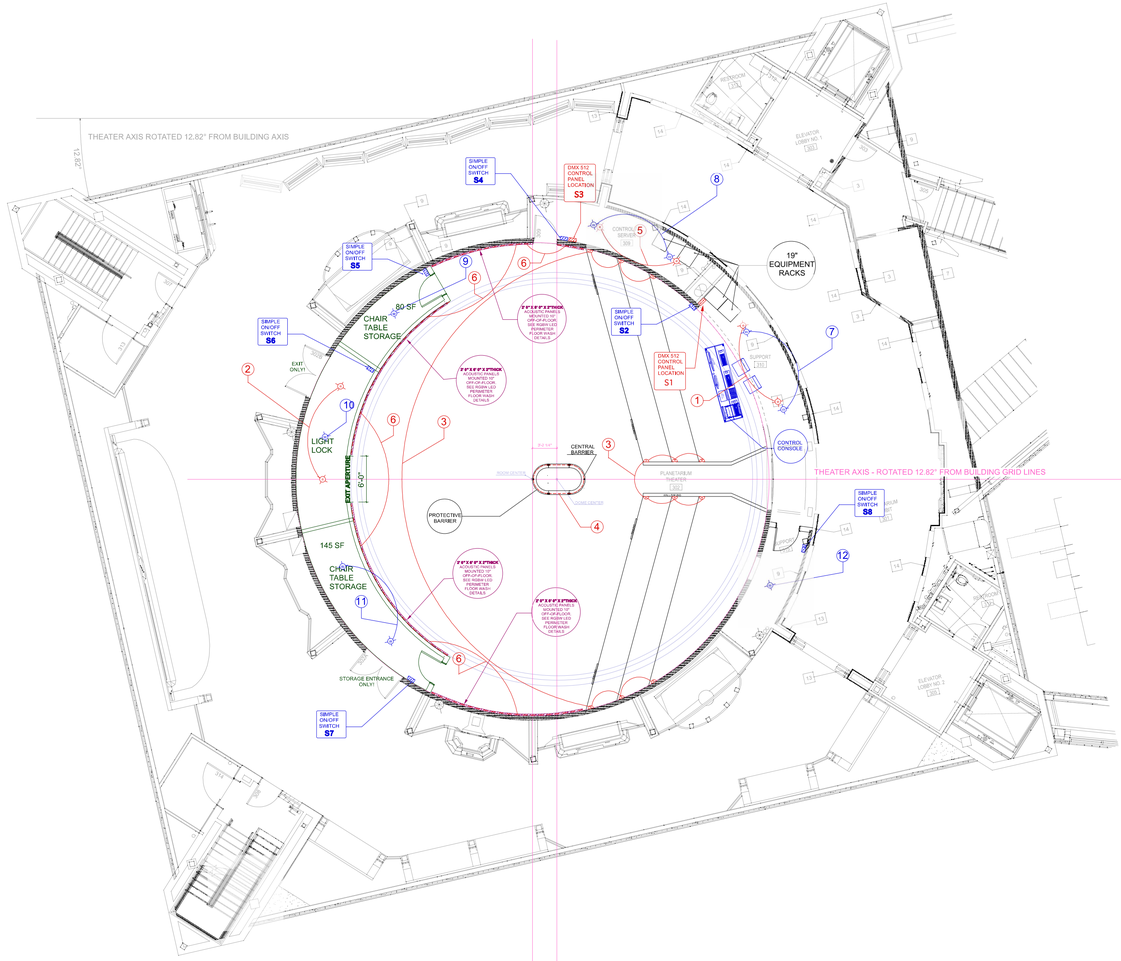
JACKSON PLANETARIUM IMPROVEMENTS

PLAN & SECTION
LOW-VOLTAGE RACEWAYS

ENLARGED THIRD FLOOR DETAILS

PL 104



NOTE #1: PLANETARIUM AUXILIARY LIGHTING:

THE ARE TWO BASIC DIVISIONS IN PLANETARIUM LIGHTING:

A. **PL 105** SHOWS AUXILIARY LIGHTING COMPOSED OF RECESSED CEILING "WHITE-LIGHT" LED LIGHTING IN ENTRANCE/EXIT AREAS, STORAGE AREAS, AND ELECTRONICS RACK AREAS. THIS LIGHTING IS TO BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. THIS LIGHTING IS TO BE USED BY PLANETARIUM STAFF AND MAINTENANCE PERSONNEL FOR CLEANING AND EQUIPMENT MAINTENANCE. THIS LIGHTING CAN BE SWITCHED ON/OFF WITH NO DIMMING REQUIRED.

B. **PL 105** ALSO SHOWS DEDICATED AUXILIARY LIGHTING COMPOSED OF RECESSED CEILING "RED" LED LIGHTING (OR "RGB" SET TO RED ONLY) IN ENTRANCE/EXIT AREAS, STORAGE AREAS, AND ELECTRONICS RACK AREAS. THIS RED LOW-LEVEL LIGHTING IS TO BE USED DURING PLANETARIUM PRESENTATIONS AND SERVE AS PROGRAM SAFETY LIGHTING THAT DOES NOT INTERFERE WITH PLANETARIUM PROGRAM DOME PROJECTIONS. THIS LIGHTING CAN BE DIMMED TO UP OR DOWN FROM 0% TO 100% AND SET AT ANY OF THE DMX 255 LEVELS LEVEL.

"RED" LIGHTING MAINTAINS THE AUDIENCE'S DARK ADAPTATION WHILE PROVIDING ENOUGH LIGHT FOR STAFF AND AUDIENCE TO SAFELY MOVE IN AND OUT OF THE THEATER. THESE LIGHTS MUST BE ADJUSTABLE IN BRIGHTNESS (DIMMABLE).

THE DIMMING CONTROL SHOULD BE BASED UPON DMX 512 PROTOCOL AND CONTROL PANEL STATIONS. THIS DMX LIGHTING CAN BE CONTROLLED BY THE SAME DMX CONTROL LIGHTING SYSTEM DESCRIBED IN **PL 106** USED PRIMARILY FOR THE LED COVE LIGHTING SYSTEM.

THE ELECTRICAL/LIGHTING CONTRACTOR HAS THE OPTION OF MAKING ALL OF THE AUXILIARY LIGHTING DESCRIBED IN A. & B. ABOVE AND SHOWN IN THE **PL 105** SCHEMATIC LEVEL DRAWING DMX CONTROLLABLE. THE ELECTRICAL/LIGHTING CONTRACTOR ALSO HAS THE OPTION OF MAKING THE "RED" LED LIGHTS "RGB" LIGHTS. HOWEVER, THE PRESET DEFAULT COLOR MUST ALWAYS BE RED AND PRESET TO A LIGHT LEVEL THAT PROVIDES SAFETY LIGHTING WITHOUT INTERFERING WITH THE DOME PROJECTIONS.

THE ELECTRICAL/LIGHTING CONTRACTOR CANNOT SIMPLIFY THE RED AND WHITE DOWNLIGHTS IN ANY ROOM SPACE INTO A SINGLE RGBW LIGHT. TO DO SO, MEANS THAT THE REQUIRED COLOR SETTING MUST ALWAYS BE ACCESSIBLE VIA THE ROOM'S DIMMER PANEL, THUS REQUIRING MULTIPLE SETTINGS AND MAKING OPERATION FAR MORE COMPLEX THAN NECESSARY. THIS RGBW METHOD GREATLY INCREASES THE RISK THAT THE OPERATOR MAY ACCIDENTALLY SELECT "WHITE" LIGHT INSTEAD OF "RED" LIGHTING, DISRUPTING THE PLANETARIUM PRESENTATION IN THE PROCESS.

THE ONLY AUXILIARY LIGHTING SPECIFIED TO RGB IS THE INDIRECT STRIP LIGHTING BEHIND THE LEADING EDGE OF THE ACOUSTIC PANELS LOCATED AT THE FRONT HALF OF THE THEATER.

ALL LIGHT FIXTURES, MUST BE BLACK OR SATIN BLACK IN COLOR.

ALL DMX LIGHTING, INCLUDING LIGHTING LISTED BELOW WILL BE CONTROLLABLE FROM THE PLANETARIUM CONSOLE VIA THE PLANETARIUM LIGHTING CONTROL SYSTEM DESCRIBED IN **PL 106.**

EXIT SIGNS AND EMERGENCY LIGHTING TYPE AND LOCATIONS TO BE DETERMINED BY ARCHITECT/ELECTRICAL CONTRACTOR.

NOTE #2: DESCRIPTION OF AUXILLIARY LIGHTING BY LOCATION, FUNCTION AND CONTROL METHOD:

1. DIMMABLE RECESSED CEILING "RED" LED LIGHTS IN RM 310 - PROVIDED BY GC AND CONTROLLED BY GC-PROVIDED **S1** DMX PANEL AND PLANETARIUM LIGHTING CONTROL COMPUTER SUPPLIED BY PROVIDER OF LED COVE LIGHTING SYSTEM - SEE **PL 106 AND PL 107.**
2. DIMMABLE RECESSED CEILING "RED" LED LIGHTS IN LIGHTLOCK/FOYER - PROVIDED BY GC AND CONTROLLED BY GC-PROVIDED **S1** DMX PANEL AND PLANETARIUM LIGHTING CONTROL COMPUTER SUPPLIED BY PROVIDER OF LED COVE LIGHTING SYSTEM - SEE **PL 106 AND PL 107.**
3. DIMMABLE "RED" LED MINI STAIR LIGHTS WITH SHEILDS LOCATED AT STEP AREAS OF STADIUM SEATING PLATFORMS - PROVIDED BY GC AND CONTROLLED BY GC-PROVIDED **S1** DMX PANEL AND PLANETARIUM LIGHTING CONTROL COMPUTER SUPPLIED BY PROVIDER OF LED COVE LIGHTING SYSTEM - SEE **PL 106 AND PL 107.**
4. DIMMABLE FLOOR WASH "RED" LED STRIP LIGHTS BUILT INTO CENTRAL BARRIER - PROVIDED BY MANUFACTURER OF BARRIER MILLWORK AND CONTROLLED BY GC-PROVIDED **S1** DMX PANEL AND PLANETARIUM LIGHTING CONTROL COMPUTER SUPPLIED BY PROVIDER OF LED COVE LIGHTING SYSTEM - SEE **PL 106 AND PL 107.**
5. DIMMABLE RECESSED CEILING "RED" LED LIGHTS IN RM 309 - PROVIDED BY GC AND CONTROLLED BY GC PROVIDED **S3** DMX PANEL AND PLANETARIUM LIGHTING CONTROL COMPUTER SUPPLIED BY PROVIDER OF LED COVE LIGHTING SYSTEM - SEE **PL 106 AND PL 107.**
6. DIMMABLE "RGBW" LED STRIP LIGHTS SHEILDED BY 2" X 2" X 1/8" CHANNEL AT BOTTOM OF 24" WIDE X 2" THICK ACOUSTIC WALL PANELS LOCATED ON THE WALLS OF THE FRONT HALF OF THE PLANETARIUM THEATER. PANELS ARE 6'0" TALL AND 8'0" TALL AS SHOWN IN THE PLAN VIEW DRAWING PL 105. CDFL ARCHITECTS ARE TO PROVIDE DETAIL DRAWING AND SPECS. THE PANELS AND THE RGBW LIGHTING IS PROVIDED BY THE GC AND IS CONTROLLED BY **S1** AND BY THE CONTROL COMPUTER SUPPLIED BY PROVIDER OF LED COVE LIGHTING SYSTEM - SEE **PL 106 AND PL 107.**
7. RECESSED CEILING "WHITE" (3000K) LED LIGHTS WITH ON/OFF SWITCH IN RM 310 - PROVIDED BY GC AND CONTROLLED BY GC-PROVIDED **S2** SWITCH/ SEE **PL 107.**
8. RECESSED CEILING "WHITE" (3000K) LED LIGHTS WITH ON/OFF SWITCH IN RM 309- PROVIDED BY GC AND CONTROLLED BY GC-PROVIDED **S4** SWITCH/ SEE **PL 107.**
9. RECESSED CEILING "WHITE" (3000K) LED LIGHT WITH ON/OFF SWITCH IN STORAGE ROOM- PROVIDED BY GC AND CONTROLLED BY GC-PROVIDED **S5** SWITCH/ SEE **PL 107.**
10. RECESSED CEILING "WHITE" (3000K) LED LIGHT WITH ON/OFF SWITCH IN LIGHTLOCK/FOYERE- PROVIDED BY GC AND CONTROLLED BY GC-PROVIDED **S6** SWITCH/ SEE **PL 107.**
11. RECESSED CEILING "WHITE" (3000K) LED LIGHTS WITH ON/OFF SWITCH IN STORAGE ROOM- PROVIDED BY GC AND CONTROLLED BY GC-PROVIDED **S7** SWITCH/ SEE **PL 107.**
12. RECESSED CEILING "WHITE" (3000K) LED LIGHTS WITH ON/OFF SWITCH IN SUPPORT RM 315- PROVIDED BY GC AND CONTROLLED BY GC-PROVIDED **S8** SWITCH/ SEE **PL 107.**

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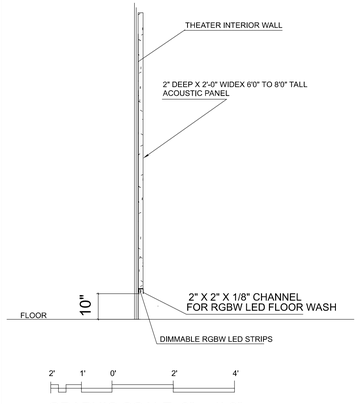
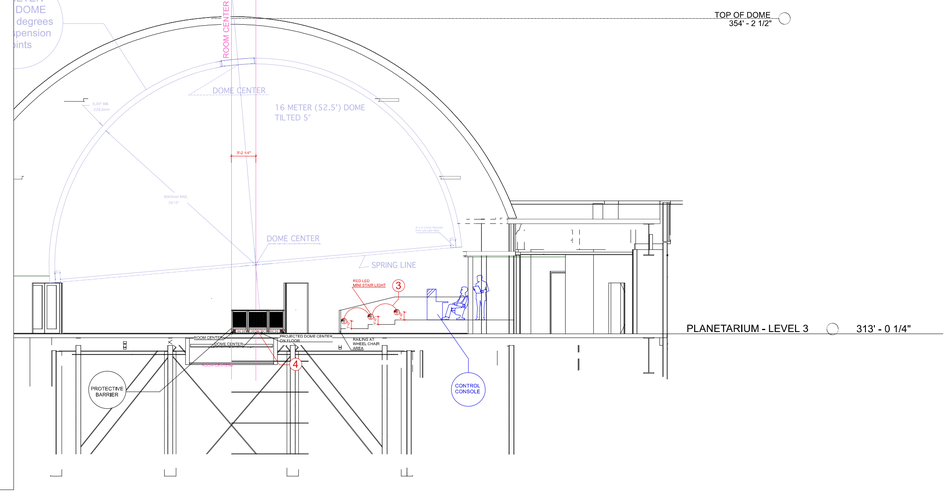
RGBW LED PERIMETER FLOOR WASH DETAILS



GRAPHIC SCALE: 2" = 1'-0"



CDFL ARCHITECTS + ENGINEERS PA

PROJECT NUMBER	DATE	DRAWN BY:
20-152	9/19/24	PHILIP GROCE HEFFNER PLANETARIUMS SUCCEED, LLC

REVISIONS		
NO.	DATE	

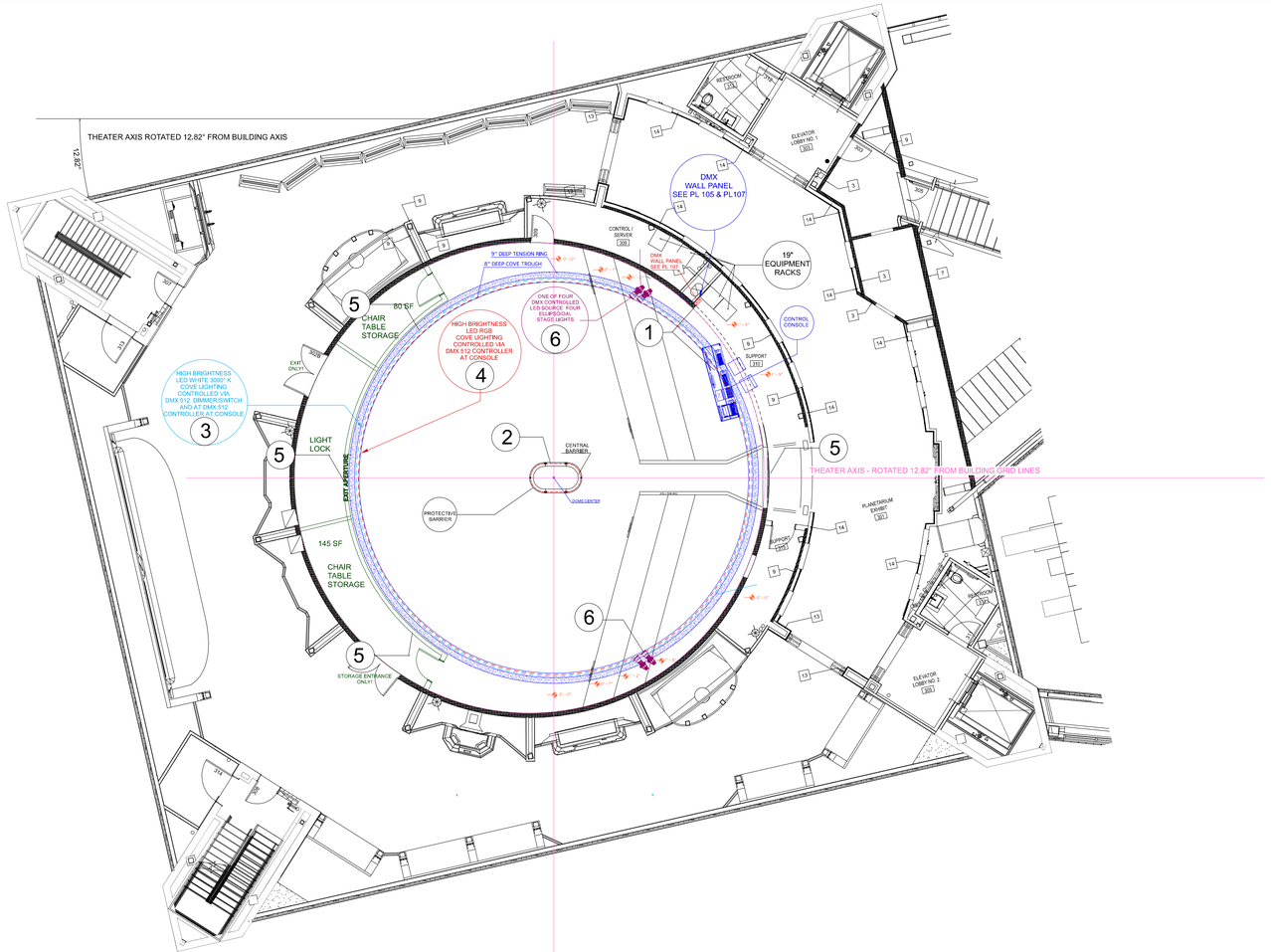
JACKSON PLANETARIUM IMPROVEMENTS

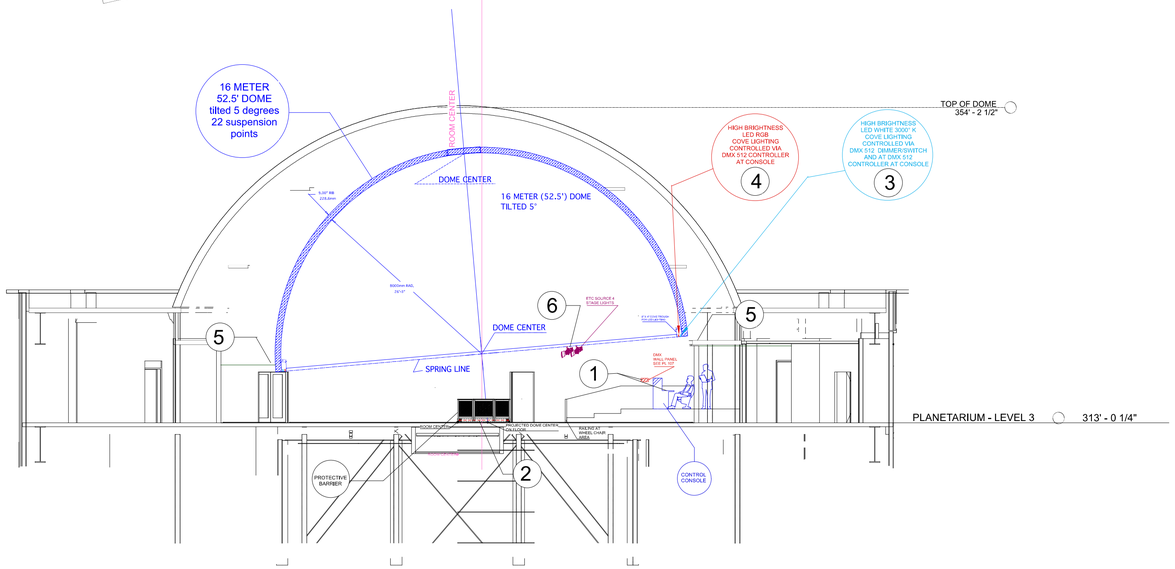
PLAN & SECTION

AUXILIARY LIGHTING

ENLARGED THIRD FLOOR DETAILS

PL 105





PLANETARIUM COVE LIGHTING NOTES:

PLANETARIUM LIGHTING FACILITATES THREE PRIMARY USES OF THIS THEATER:

A) STANDARD INSTRUCTIONAL CLASSROOM WITH MEDIA
B) A DRAMATIC PLANETARIUM SYSTEM DESIGNED TO FUNCTION IN VERY LOW-LIGHT LEVELS.
C) AN ENTERTAINMENT AND RENTAL FACILITY

TO FACILITATE THESE USES, THE THEATER HAS SEVERAL DISTINCT LIGHTING AND PARALLEL SYSTEMS THAT CAN BE USED SEPARATELY OR TOGETHER.

1 **DMX WALL CONTROL PANEL(S1)** - PROVIDED BY ELECTRICAL/LIGHTING CONTRACTOR. ALL DMX CONTROLLED LIGHTING INCLUDING ALL DMX LIGHTING SHOWN IN **PL 105** SHALL BE CONTROLLABLE FROM THE COVE LIGHTING COMPUTER CONTROL SYSTEM AT THE CONSOLE AND THE MANUAL DMX PANEL BOARD (S1) LOCATED BEHIND THE PLANETARIUM CONSOLE IN ROOM 310. - SEE **PL 105** AND **PL 107** FOR DETAILS

2 **RED OR RGB INDIRECT LIGHTING** WRAPPED AROUND THE CENTRAL PROJECTOR BARRIER TO LIGHT FLOOR IN CIRCULATION AREA AROUND BARRIER. **S1** DMX LIGHTING CONTROL IS LOCATED BEHIND CONSOLE IN ROOM 310 . DMX CONTROLLABLE **LED** LIGHTING IS INCLUDED IN DESIGN, FABRICATION, AND COST OF BARRIER. SEE **PL 112.**

3 **LED WHITE-LIGHT(3000° K)** COVE LIGHTING.
BARRIER LIGHTING IS PARALLEL CONTROLLED AT DMX WALL PANEL **S1** AND THE DMX COVE LIGHTING CONTROLLER AT CONTROL CONSOLE (PROVIDED BY LED COVE LIGHTING MANUFACTURER.)

4 **HIGH BRIGHTNESS LED RGB (RED, GREEN, BLUE)** RGB COVE LIGHTING CONTROLLED VIA DMX 512 CONTROL PANEL/COMPUTER AT CONSOLE (PROVIDED BY LED COVE LIGHTING MANUFACTURER.)

5 ALL COVE LIGHTING POWER SUPPLY UNITS (PSU) FOR **(3)** AND **(4)** ABOVE SHALL BE LOCATED AT THE CATWALK LEBEL LOCATED ALONG THE PERIMETER OF THE DOME SUCH THAT INDICATOR LIGHTS FACE AWAY FROM THE DOME SCREEN.

6 FOUR SOURCE 4 LED ELLIPSOIDAL STAGE LIGHTING - DMX 512 CONTROLLED BY COVE LIGHTING CONTROL SYSTEM. SUSPENDED FROM DOME'S TENSIONS RING.

GENERAL NOTES:

COVE LIGHTING SUPPLIER MUST PROVIDE A LIGHTING CONTROL SYSTEM THAT NOT ONLY CONTROLS THE RGB & W COVELIGHTS, BUT MUST ALSO CONTROL ALL DMX LED HOUSE LIGHTING SHOWN IN **PL105 & PL 107.**

ELECTRICAL SUPPLY FOR COVE LIGHTING PSUs IS SHOWN ON **PL 103**. RACEWAYS ARE SHOWN ON **PL 104.**

ALL CABLING TO LED FIXTURES SHALL BE LOW-VOLTAGE/CLASS 2.

DURING FIRE ALARM, LIGHTING SHALL BE PROGRAMMED SUCH THAT ALL DMX LIGHT SOURCES RISE TO FULL BRIGHTNESS.

EMERGENCY LIGHTING AND EXIT LIGHTING SIGNS TYPE AND LOCATIONS TO BE DETERMINED BY ARCHITECT/ELECTRICAL CONTRACTOR. ALL EXIT SIGNAGE IS TO HAVE "RED" LIGHTED LETTERING.

CDFL
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PROJECT NUMBER 20-152
DATE 8/01/24
DRAWN BY: PHILIP GROCE HEFFNER'S PLANETARIUMS SUCCEED, LLC

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NO.	DATE

JACKSON PLANETARIUM IMPROVEMENTS

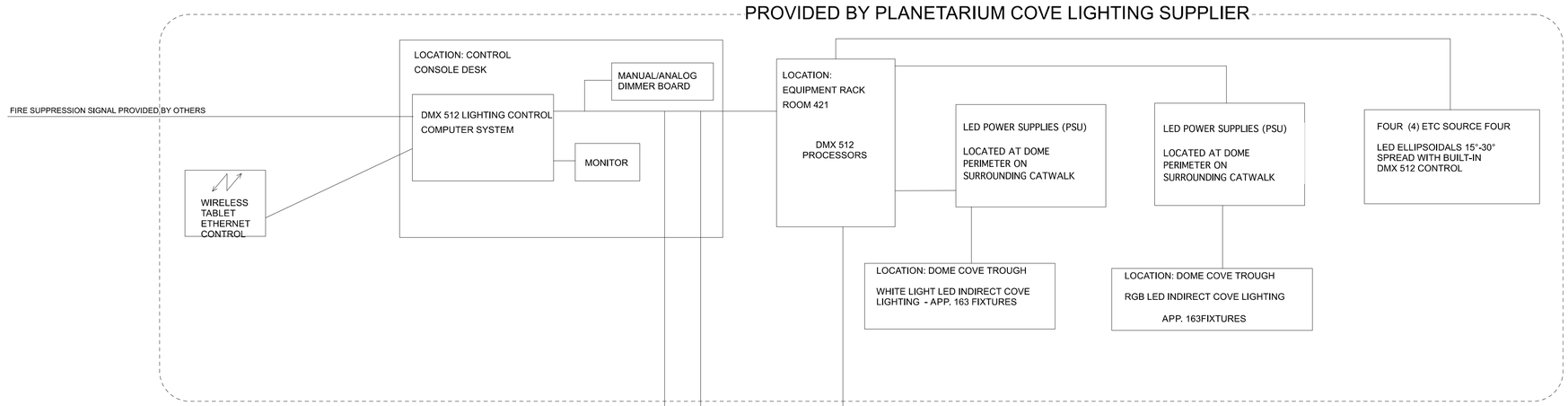
PLAN & SECTION

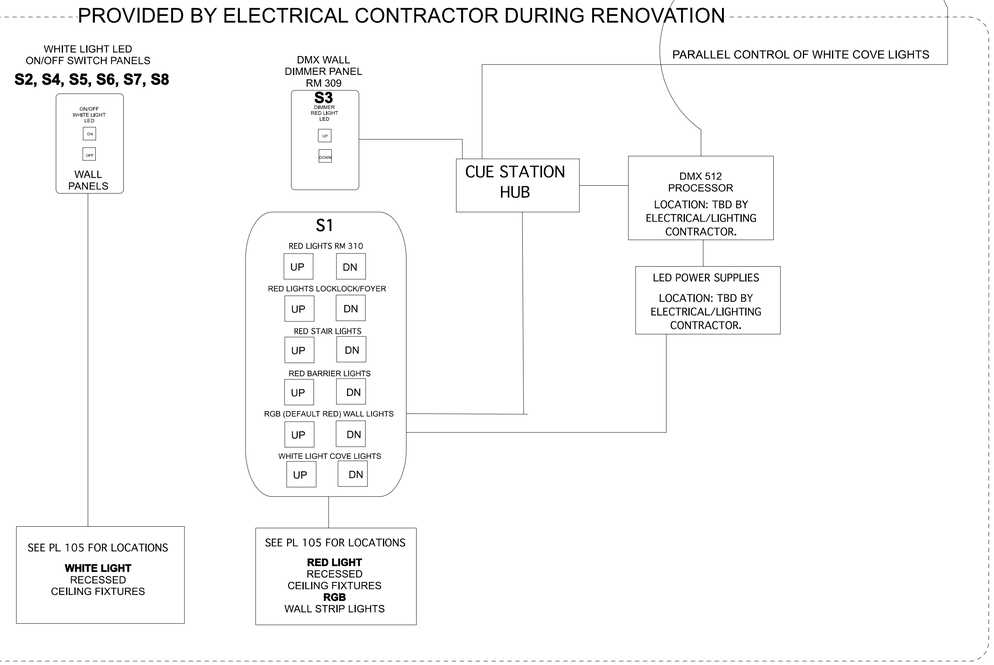
PLANETARIUM DOME COVE LIGHTING

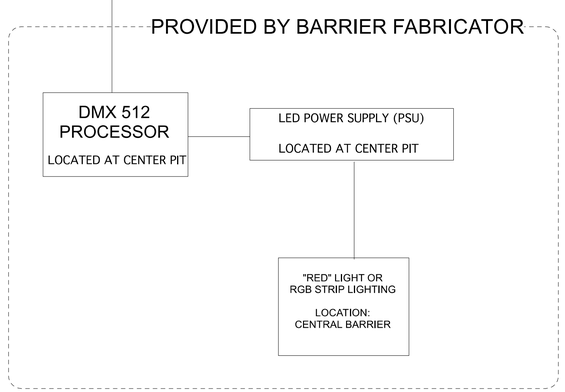
ENLARGED THIRD FLOOR DETAILS

PL 106

BLOCK DIAGRAM FOR DMX LIGHTING CONTROL







NOTE: ELECTRICAL CONTRACTOR AND BARRIER FABRICATOR MAY SUBSTITUTE RGB LED LIGHT SOURCES FOR "RED" ONLY IF SUCH CHANGES INCLUDE THE REQUIRED EXPANSION OF CONTROL CAPABILITY. PLEASE REFER TO PL 105, AND PL 106 FOR ADDITIONAL INFORMATION.

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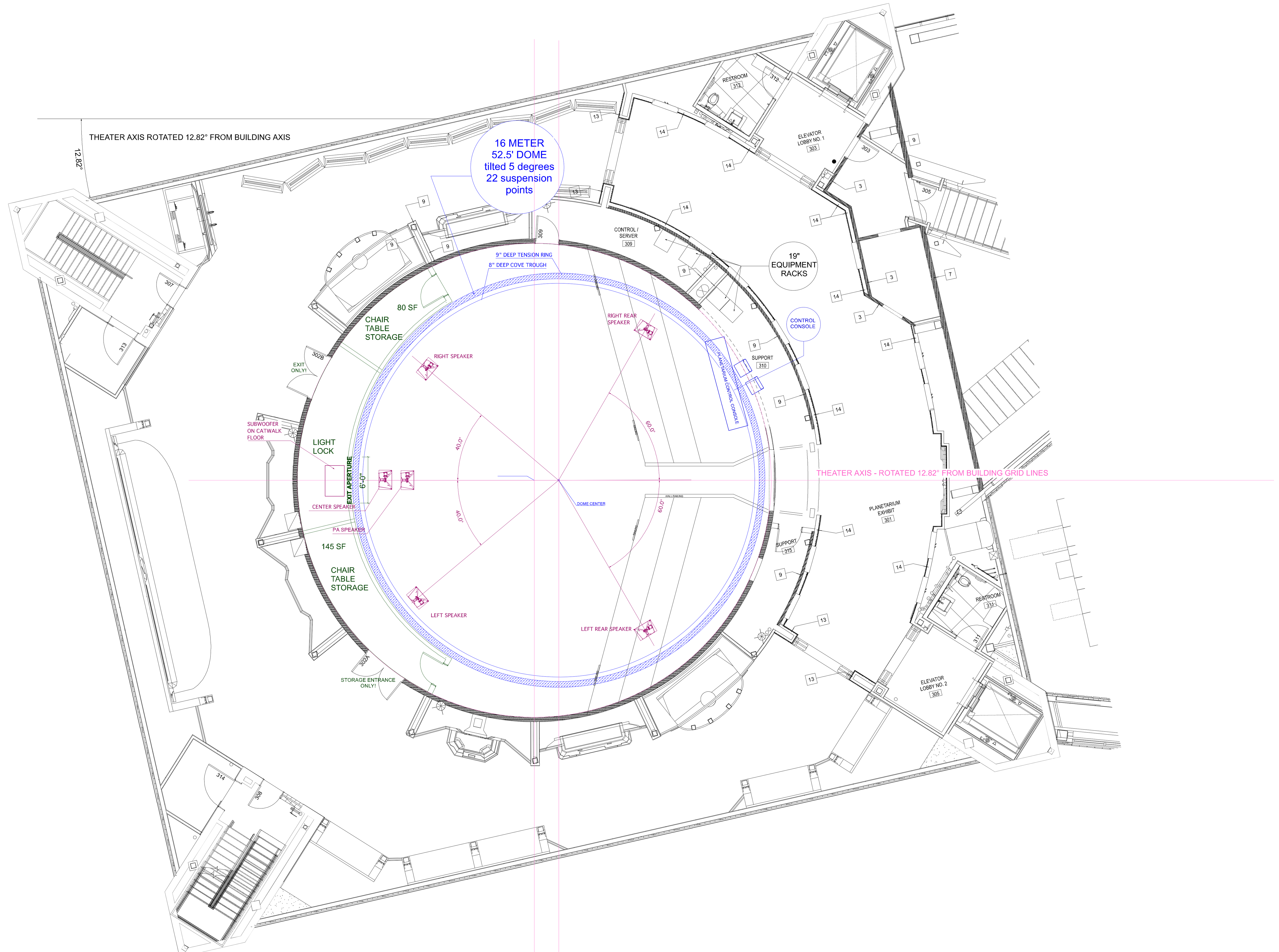
NO. | DATE

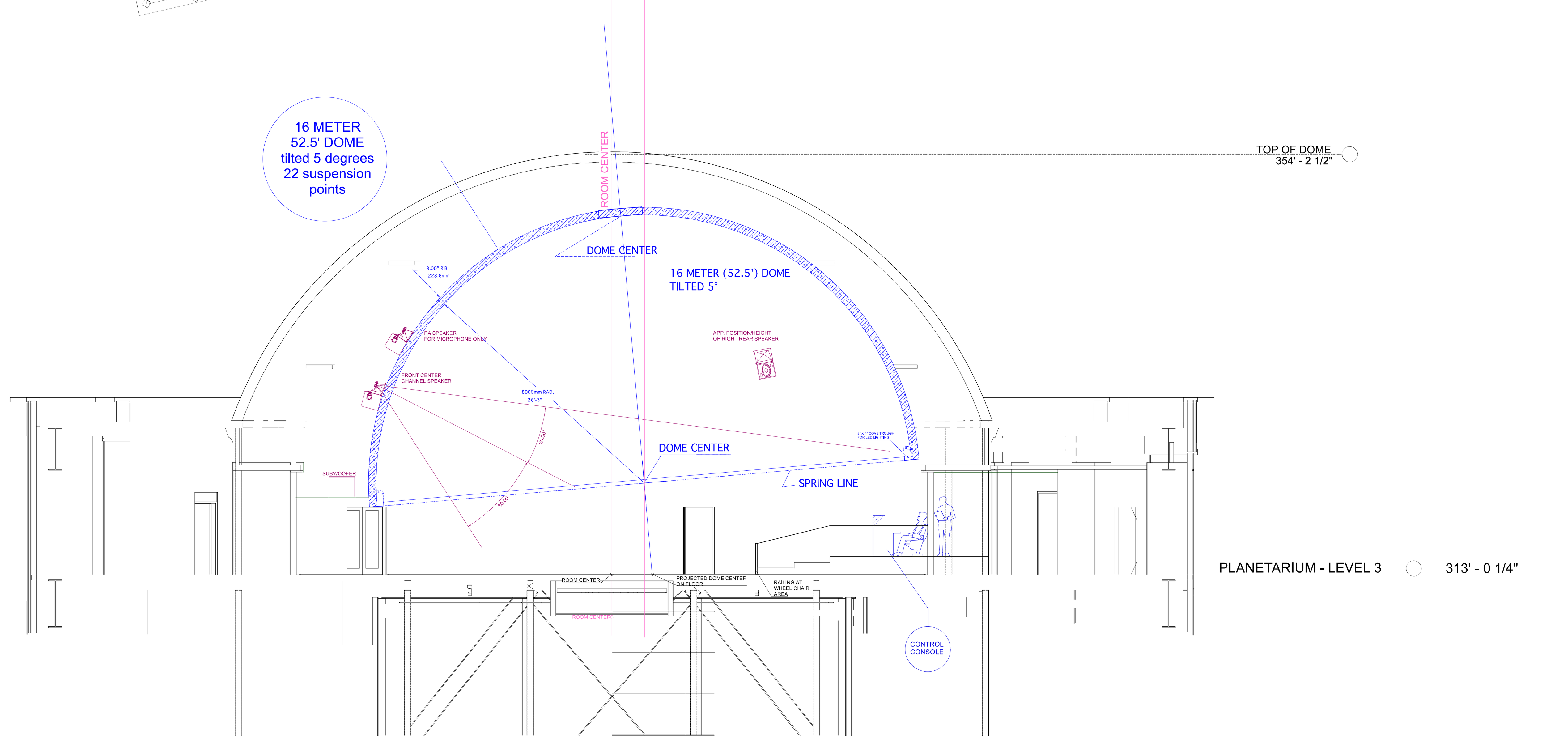
JACKSON PLANETARIUM IMPROVEMENTS

PLANETARIUM LIGHTING BLOCK DIAGRAMS

ENLARGED THIRD FLOOR DETAILS

PL 107





QSC

SC-312

Cinema Loudspeaker System

Features

- 2-way, bi-amplified screen channel system
- SC-312 provides 90° horizontal by +20° to -30° vertical coverage
- Low distortion waveguide provides highly articulate dialogue
- Shallow depth (20") facilitates installation

Developed specifically for the unique requirements of professional motion picture playback, the SC-312 extends QSC's commitment to the cinema market. As a member of the DCS Digital Cinema Speaker Series, the SC-312 is a 2-way, bi-amplified screen channel loudspeaker system comprised of two main units—the HF-63 high-frequency system and the LF-3115 low-frequency system.

The HF-63 high-frequency system features a 2.5" (63mm) titanium diaphragm compression driver mounted on a custom designed high frequency cinema horn with an adjustable pan and tilt bracket. The HF-63 includes a driver protection and equalization network. DC blocking capacitors protect against DC or low-frequency signals that would likely destroy an unprotected driver. Power limiter circuitry protects the driver from overpowering and a response correction filter smoothes the frequency response of the horn/driver combination. The driver and equalization network provides for more reliable operation, ensuring the show will go on.

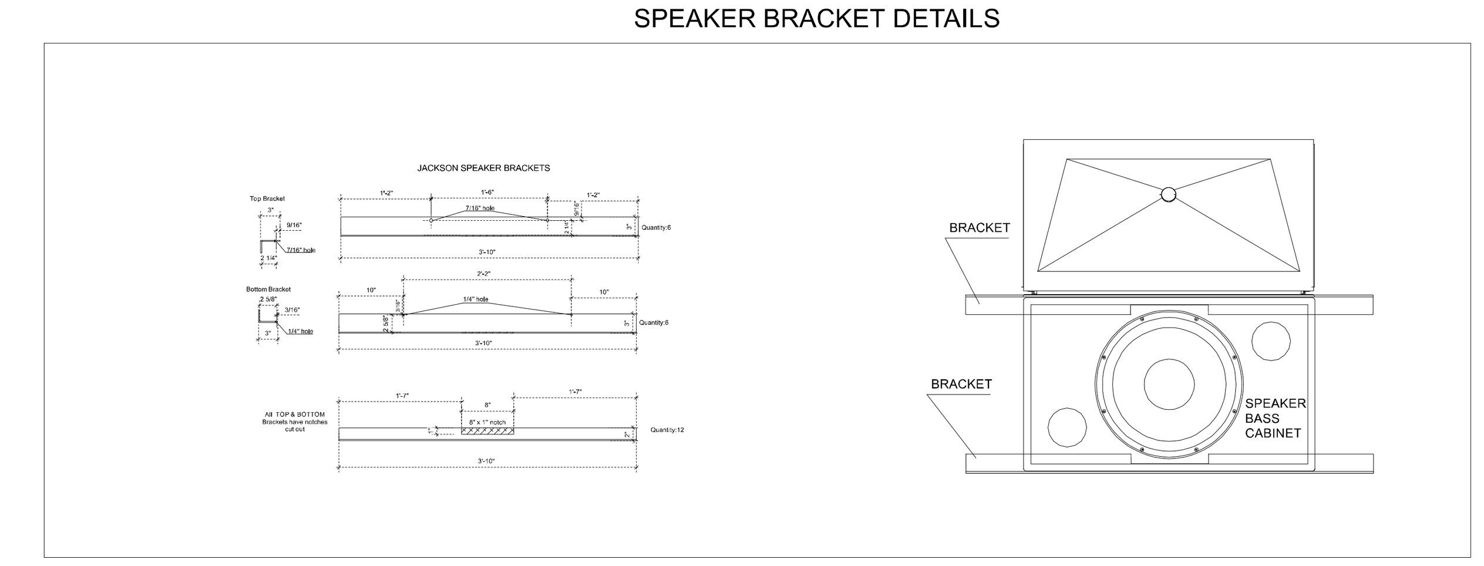
The LF-3115 15" (381mm) low-frequency enclosure is designed specifically to address the extended low-frequency response required for cinema applications. The LF-3115 covers the frequency range from 35 Hz to 1000 Hz, depending upon the high-frequency system requirements.

The SC-312 is designed for ease of installation. The HF-63 components come pre-assembled to reduce field assembly time. Three bolts are all that are required to secure the HF-63 to the top of the LF-3115 enclosure.

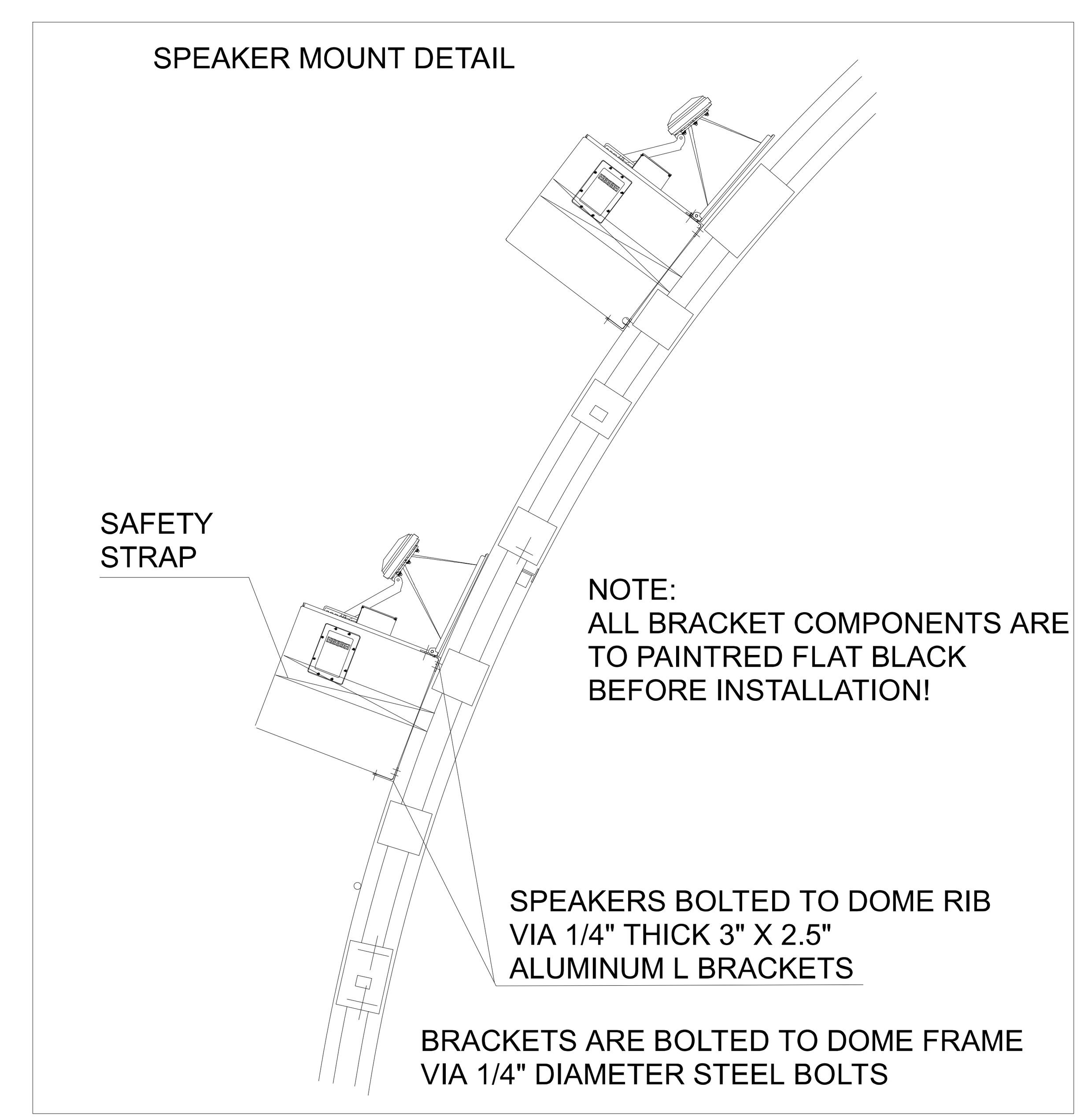
Specifications	SC-312	
Nominal Coverage	90° horizontal x +20 to -30° vertical	
Frequency Range	33 Hz – 16 kHz (-6 dB)	
Crossover Frequency	1000 Hz, 24 dB per octave	
	LF-3115	**HF-63**
Impedance	8Ω	8Ω
Sensitivity 1 watt/1 meter, half space	95.5 dB	107.5 dB
Maximum Input Power[1]		
8 hours of 6 db crest factor IEC 268 noise spectrum	300 W RMS	40 W RMS
2 hours of 6 db crest factor pinknoise, 50 Hz – 20 kHz, AES method	400 W RMS	60 W RMS
Recommended Amplifier Power	600 W RMS maximum	100 W RMS maximum
Recommended Processing	Subsonic filter below 30 Hz, > 18 dB per octave	4th order LR crossover at 1000 Hz
Connectors	Barrier strip screw terminals accept up to #10 AWG stranded wire	Barrier strip screw terminals accept up to #10 AWG stranded wire
Transducers	One 15" (381mm) high efficiency, extended bass woofer featuring a 3" copper voice coil	1.5" (38mm) exit, 2.5" titanium diaphragm compression driver
Enclosure	Quasi B4 alignment, ported enclosure with fully flared ports, symmetrical port design, tuned to 36 Hz, constructed of MDF and heavily braced. Features vandal resistant woofer mounting bolts	Tilt/Pan Bracket ±10° vertical tilt ±10° horizontal pan
Dimensions (HWD)	18.5" x 30" x 20.3" (470 mm x 762 mm x 516 mm)	16" x 30" x 20" (406 mm x 762 mm x 508 mm)
Weight – Net	83 lb (38 kg)	40 lb (18.4 kg)
System Weight	123 lb (56.4 kg)	
Baffle Cut-Out	35.5" x 32"	

1) Maximum input power tested in accordance with IEC 268-5 recommendations, 50 Hz – 20 kHz band limiting, 6 dB signal crest factor.

SPEAKER BRACKET DETAILS



SPEAKER MOUNT DETAIL



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ARCHITECTS + ENGINEERS PA

PROJECT NUMBER	DATE	DRAWN BY:
20-152	8/01/24	PHILIP GROCE HELPING PLANETARIUMS SUCCEED, LLC

REVISIONS

NO.	DATE

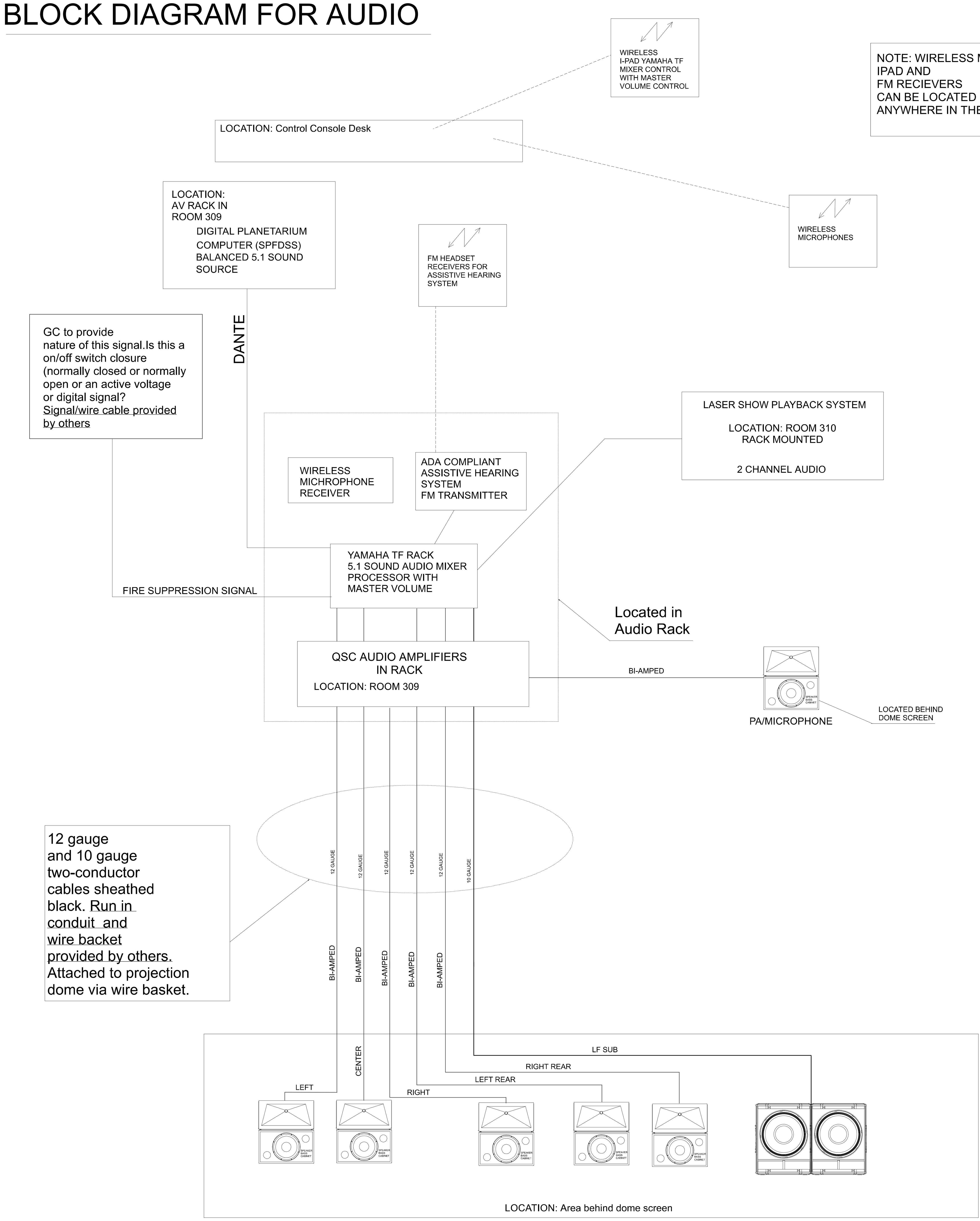
JACKSON PLANETARIUM IMPROVEMENTS

PLANETARIUM AUDIO SPEAKER LAYOUT

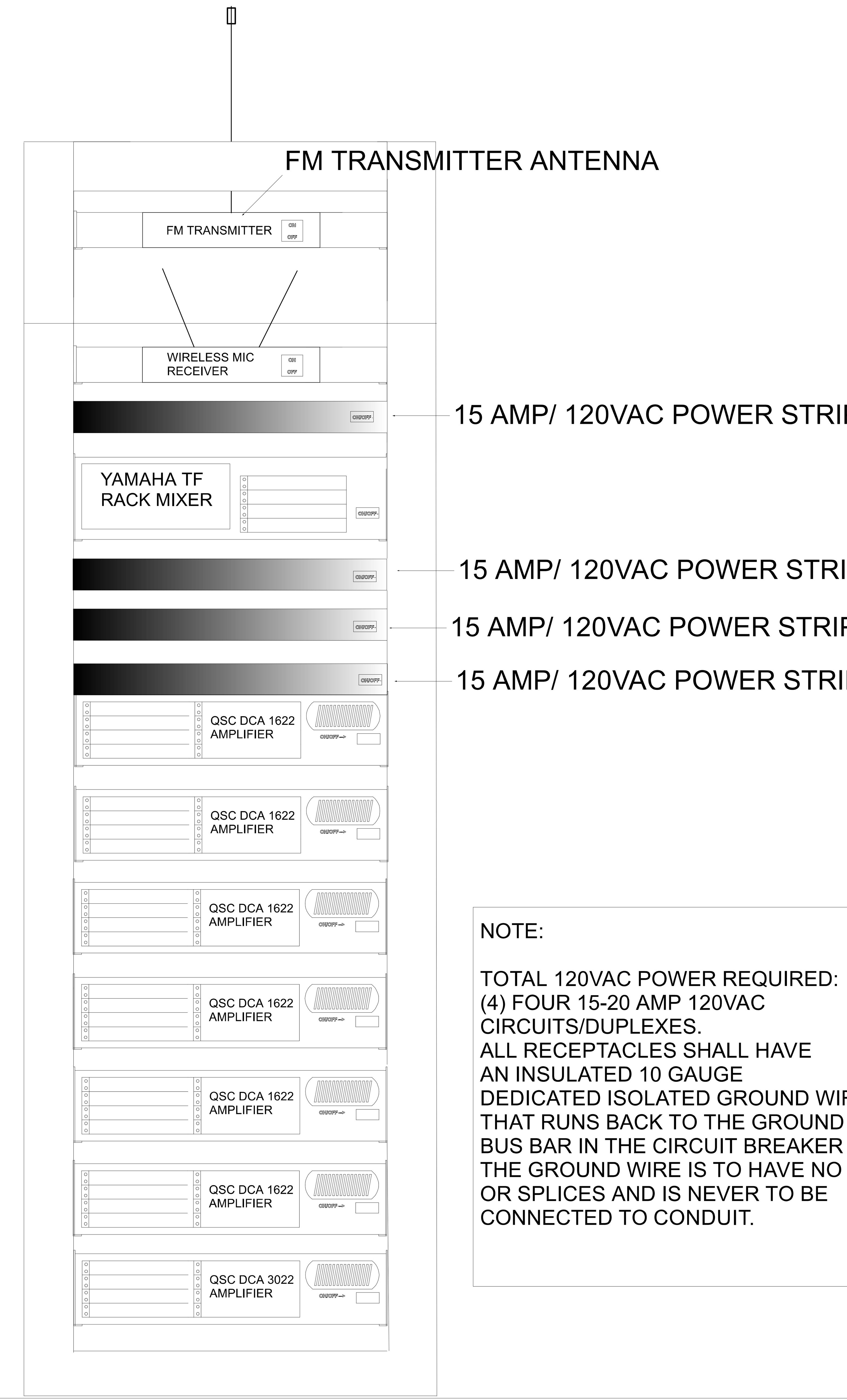
ENLARGED THIRD FLOOR DETAILS

PL 108

BLOCK DIAGRAM FOR AUDIO



TYPICAL AUDIO RACK LAYOUT



NOTE:

TOTAL 120VAC POWER REQUIRED:
(4) FOUR 15-20 AMP 120VAC CIRCUITS/DUPLEXES.
ALL RECEPTACLES SHALL HAVE AN INSULATED 10 GAUGE DEDICATED ISOLATED GROUND WIRE THAT RUNS BACK TO THE GROUND BUS BAR IN THE CIRCUIT BREAKER BOX.
THE GROUND WIRE IS TO HAVE NO BREAKS OR SPLICES AND IS NEVER TO BE CONNECTED TO CONDUIT.

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NO.	DATE

JACKSON PLANETARIUM IMPROVEMENTS

AUDIO BLOCK DIAGRAM AND AUDIO RACK LAYOUT

ENLARGED THIRD FLOOR DETAILS

PL 109

BLOCK DIAGRAM FOR FULLDOME DIGITAL PLANETARIUM SYSTEM AND INSET PROJECTOR SYSTEM

PROVIDED BY DIGITAL PLANETARIUM SUPPLIER

LOCATION: PLANETARIUM EQUIPMENT RACK
ROOM 310

DIGITAL PLANETARIUM

System CPU/GRAPHICS CARD -
MIN. NATIVE
RESOLUTION - 4800 X 8192

LOCATION ROOM 309
TO AUDIO EQUIPMENT RACK

MIXER

LOCATION: CONTROL CONSOLE DESK

CAN BE COMBINED INTO A SINGLE LARGER MONITOR

GUI OPERATIONAL MONITOR
KEYBOARD & MOUSE

FULLDOME DISPLAY MONITOR
KEYBOARD & MOUSE

DIGITAL SWITCHER
4 IN/4 OUT

PREVIEW MONITOR

INSTRUCTIONAL LAPTOP - IMAGE RESOURCES PROVIDED BY OTHERS

WIRELESS TABLET ETHERNET CONTROL

ANYWHERE IN PLANETARIUM

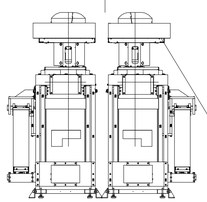
WIRELESS TABLET ETHERNET CONTROL

ANYWHERE IN PLANETARIUM

VIDEO

VIDEO

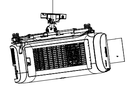
LOCATION:
CENTER OF PLANETARIUM



Fulldome Planetarium
DUAL ProjectorS

LOCATION: IN PLANETARIUM
MOUNTED AT EDGE OF DOME
SUSPENDED FROM DOME'S TENSION RING.

INSET PROJECTOR
FOR PARTIAL DOME
PROJECTION



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PROJECT NUMBER 20-152
DATE 8/01/24
DRAWN BY: PHILIP GROCE HELPINGS PLANETARIUMS SUCCEED, LLC

REVISIONS
NO. DATE

JACKSON PLANETARIUM IMPROVEMENTS

BLOCK DIAGRAM FULLDOME & INSET PROJECTION

ENLARGED THIRD FLOOR DETAILS

PL 110

NOTE #1:
MONITORS,
KEYBOARDS
COMPUTERS,
MIXER, &
AV RACK ARE
PROVIDED
BY OTHERS

NOTE#2:
1) COMPOSITION, COLOR AND
FINISHES TO BE DETERMINED
BY PLANETARIUM STAFF. BASE QUOTE
ON SINGLE LAMINATE
FORMICA NAVY BLUE #96958- MATTE FINISH

2) SELECTED VENDOR TO PROVIDE
DETAILED SHOP DRAWINGS FOR
APPROVAL.

Planetarium Console Desk

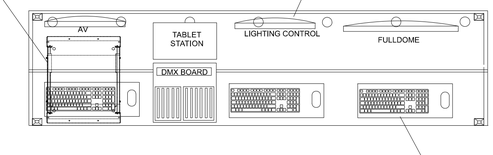
(SELECTED VENDOR TO PROVIDE DETAILED SHOP DRAWINGS FOR APPROVAL)

NOTE:
MONITORS,
KEYBOARDS
COMPUTERS,
MIXER, &
AV RACK ARE
PROVIDED
BY OTHERS

NOTE:
MONITORS, KEYBOARDS, COMPUTERS,
MIXER, STAR PROJECTOR MANUAL CONTROL
PANEL, & ELECTRONICS
RACK ARE PROVIDED BY OTHERS

OPTIONAL/IF NEEDED: SPACE FOR
19" Mid-Atlantic CFR series 15RU rack - CFR-15-23
With side panels beneath desk top
Rack size is 19.25" wide, 23" deep x 27.2" high.
Rack has rack mounted power strip.
PROVIDED BY PLANETARIUM/AV CONTRACTOR

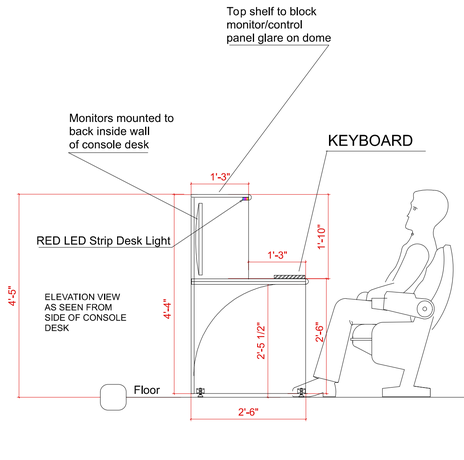
THREE Monitors mounted to
back inside wall of console desk
For LIGHTING Control,
Fulldome System Control,
Audio-Visual Control.
PROVIDED BY PLANETARIUM/AV
CONTRACTOR

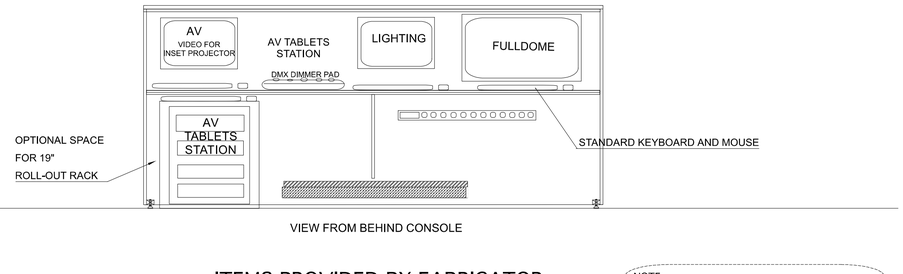


PLAN VIEW

KEYBOARDS

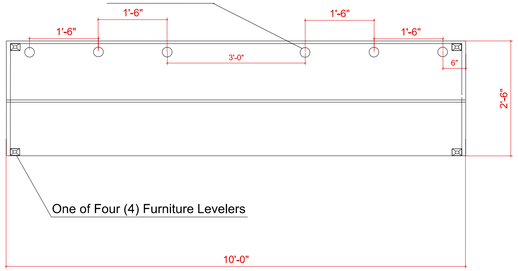
SECTION VIEWS



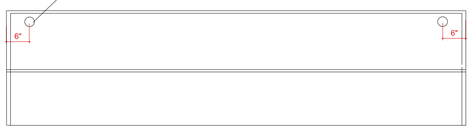


VIEW FROM BEHIND CONSOLE

One of 6 (SIX) 2 1/2"
Cable Access Grommets
at Desk level

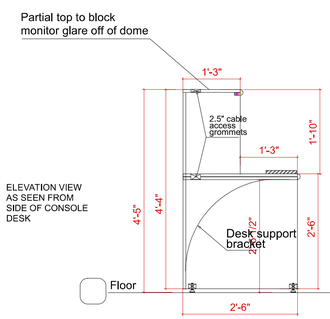


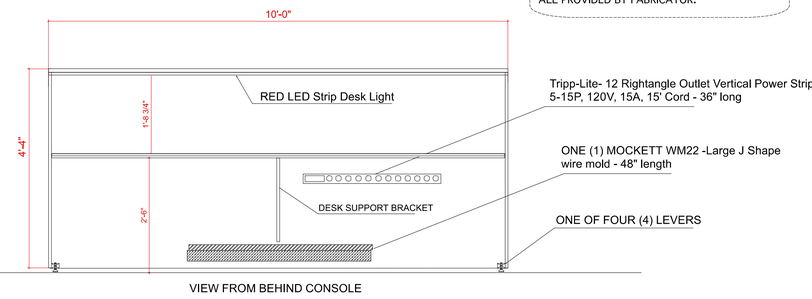
One of 2 (TWO) 2 1/2"
Cable Access Grommets
at Top Shelf Level



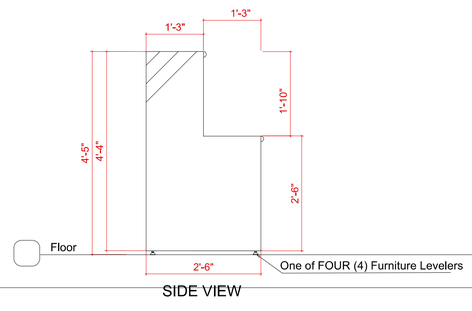
ITEMS PROVIDED BY FABRICATOR

NOTE:
BUILT-IN RED LED LIGHTING
STRIP HAS RHEOSTAT CONTROLLER INSIDE DESK.
ALL PROVIDED BY FABRICATOR.

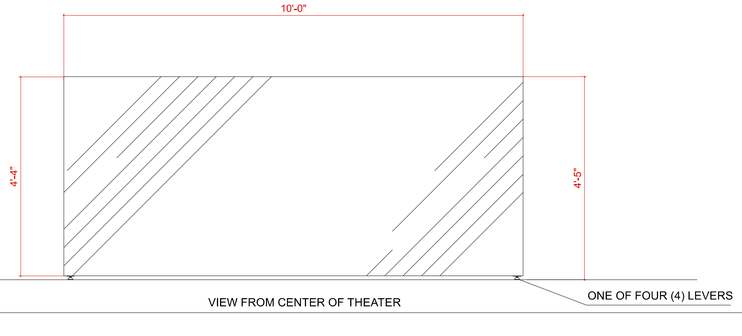




VIEW FROM BEHIND CONSOLE



SIDE VIEW



VIEW FROM CENTER OF THEATER

CDFL
ARCHITECTS + ENGINEERS PA

PROJECT NUMBER 20-152
DATE 8/01/24
DRAWN BY: PHILIP GROCE HEFFNER PLANETARIUMS SUCCEED, LLC

REVISIONS
NO. DATE

JACKSON PLANETARIUM
IMPROVEMENTS

CONTROL CONSOLE
DETAILS

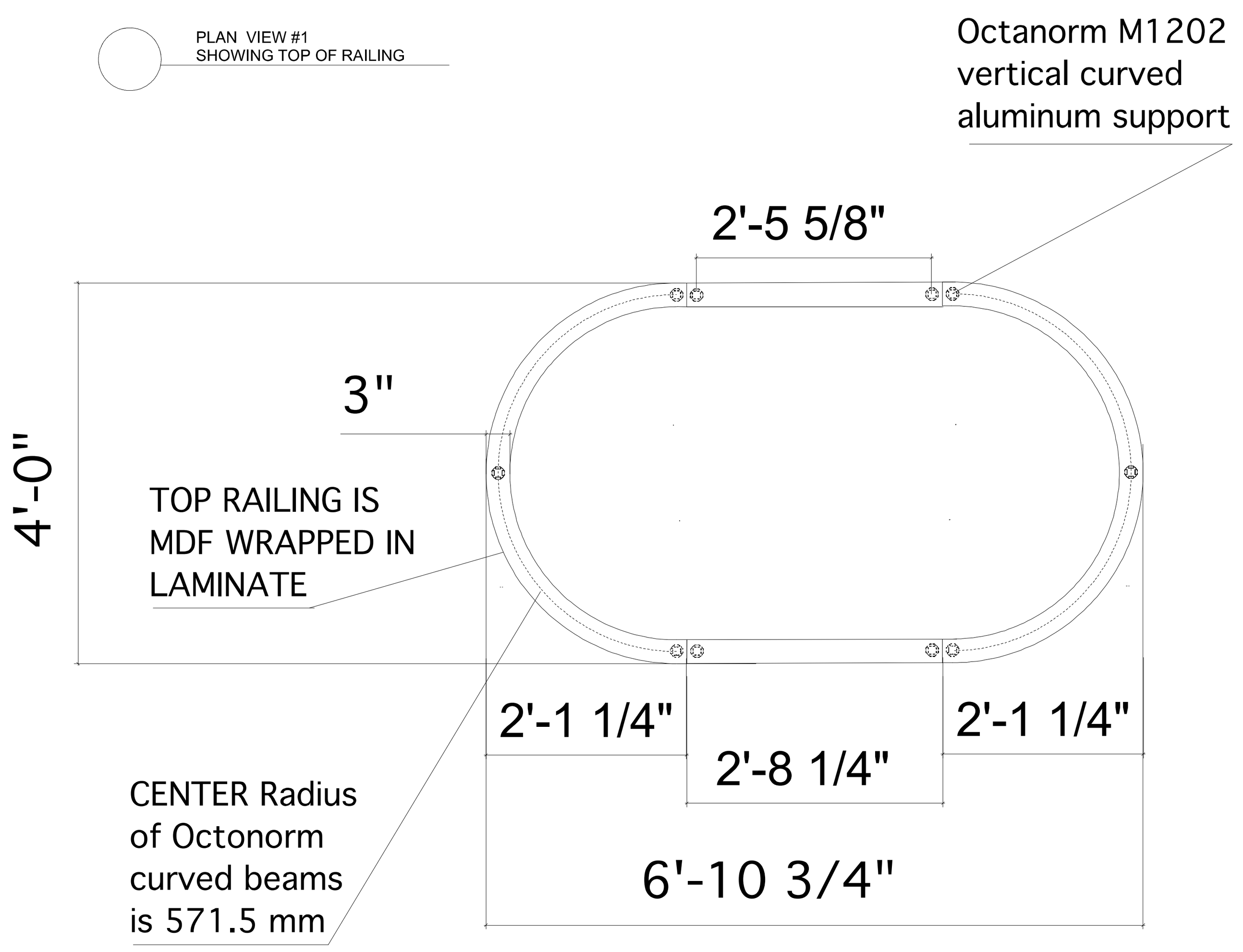
ENLARGED THIRD
FLOOR DETAILS

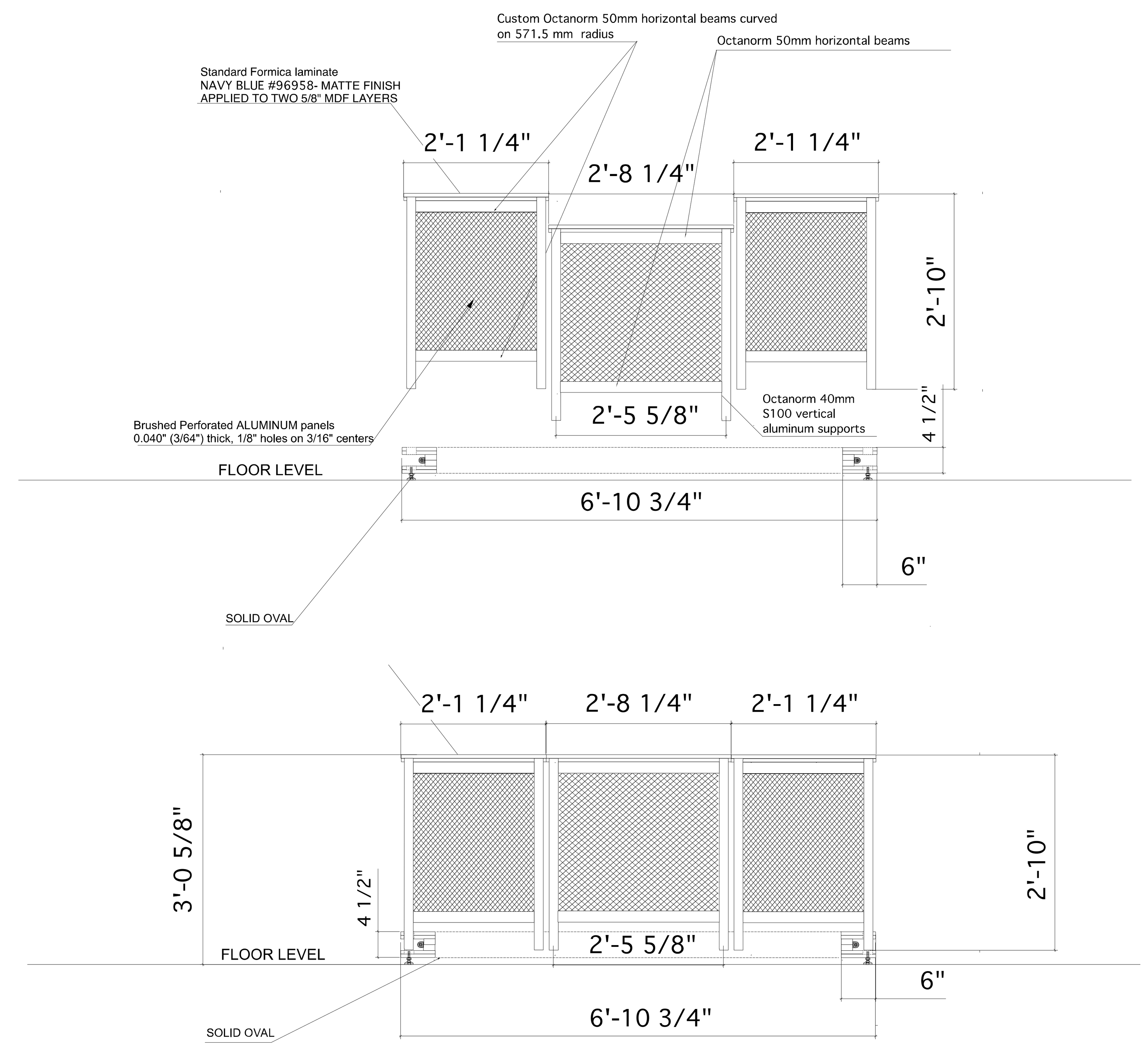
PL 111

CENTER RAILING

Barrier top and vertical walls divided into four removable sections

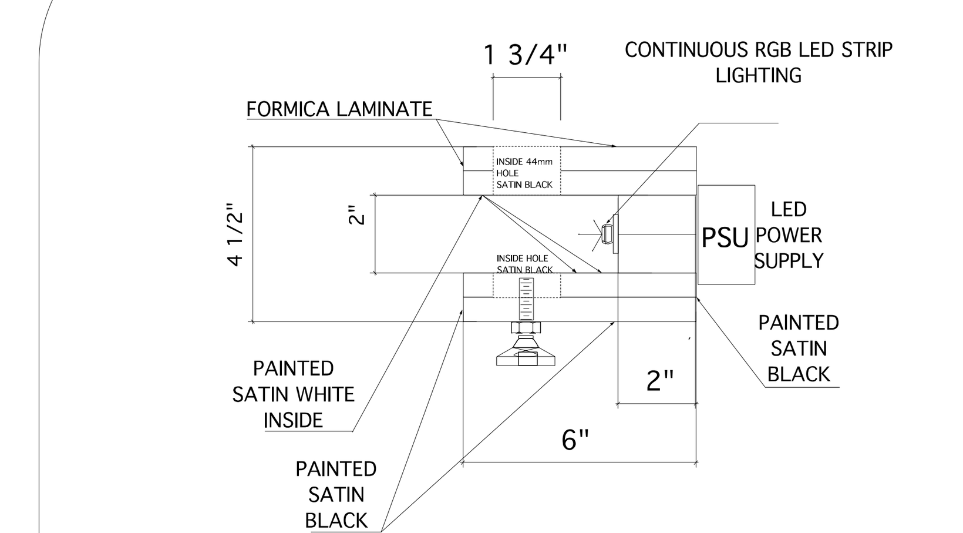
PLAN VIEW #1
SHOWING TOP OF RAILING





SECTION VIEW #1
SHOWING TOP OF RAILING

BARRIER BASE RING
DETAIL



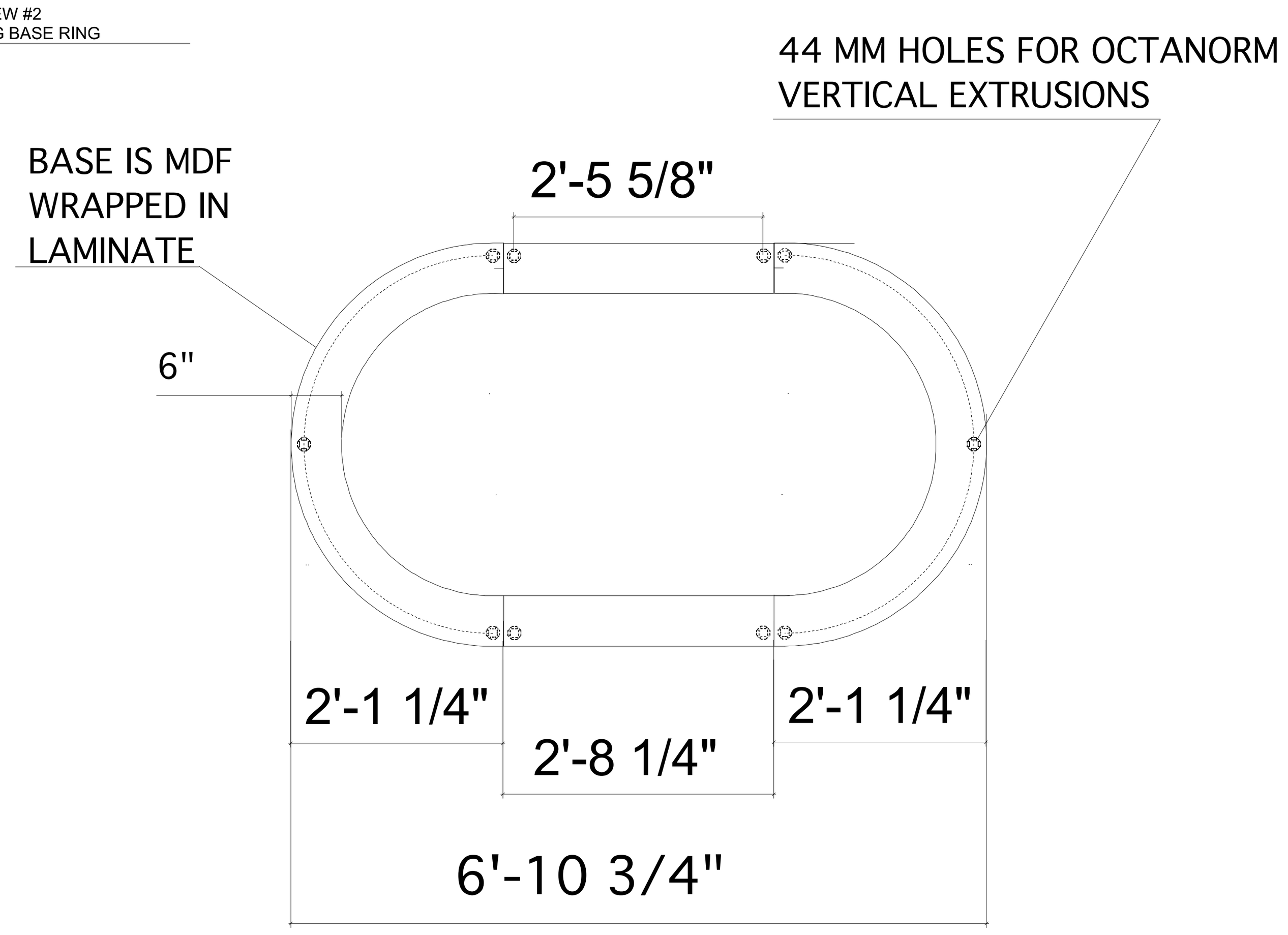
BASE RING IS COMPOSED
OF 4 LAYERS OF 5/8" MDF
AND TWO LAYERS OF 1" MDF
GLUED TOGETHER. THE TOP AND TOP
LIP COVERED IN LAMINATE. ALL OTHER AREAS
PAINTED AS SHOWN.

SCALE IS 1" = 1.0'

Note:
Fabricator is to provide/install
in barrier base RGB LED strip lights
(12V or 24V) with
DMX Decoder, Power Supply
UNIT, and RGB dimmer board (Chauvet
OBEY 4) with 45' of DMX control cable.
Lighting control will be at console via
computer lighting system and by
RGB dimmer board.

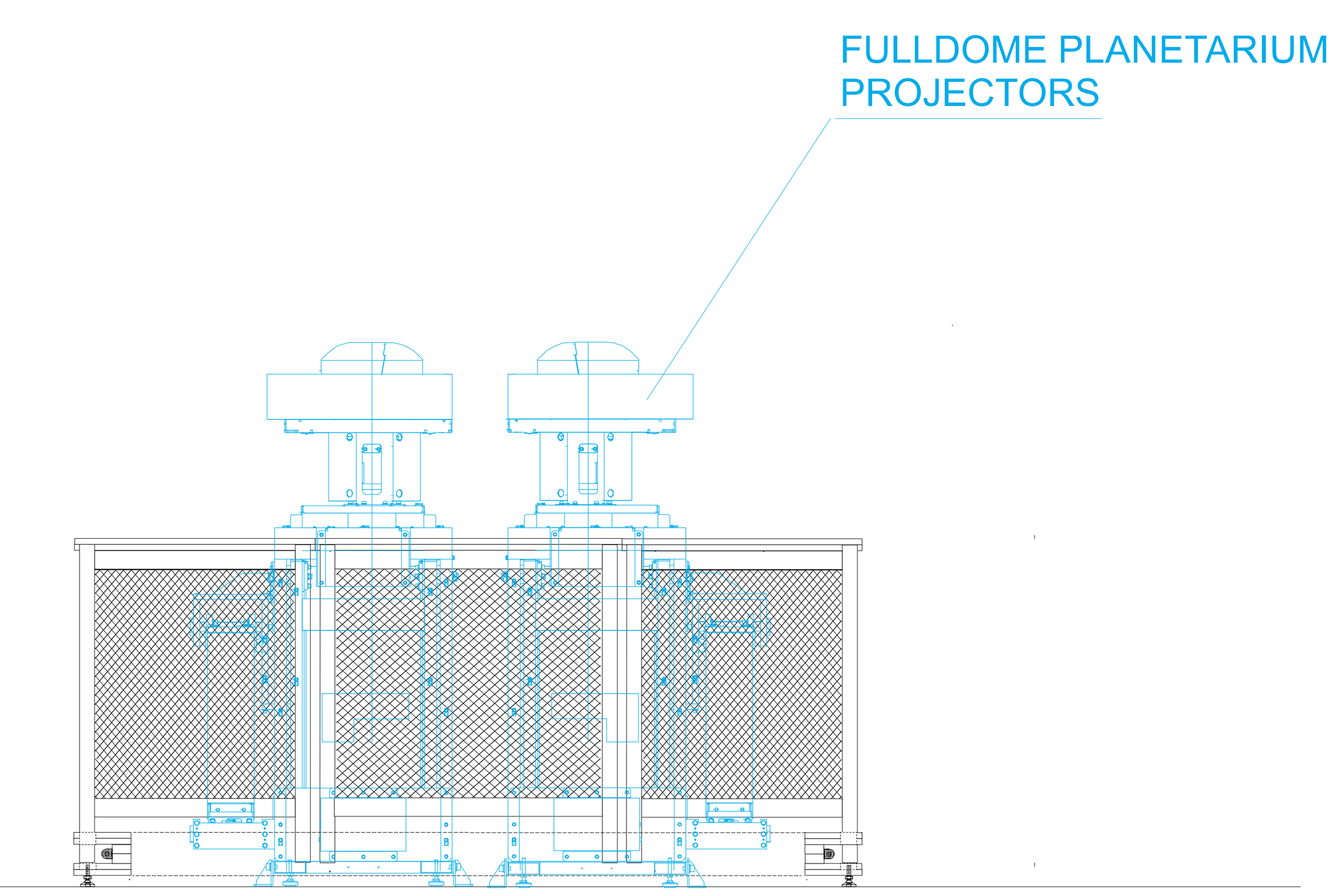
Barrier base is divided into four sections that are bolted/latched together and fixed to floor during installation.

PLAN VIEW #2
SHOWING BASE RING



2' 1' 0' 2' 4'

GRAPHIC SCALE: 3" = 1'-0"



SECTION VIEW

CDFL
ARCHITECTS + ENGINEERS PA

PROJECT NUMBER	DATE	DRAWN BY:
20-152	8/01/24	PHILIP GROCE HELPING PLANETARIUMS SUCCEED, LLC

REVISIONS

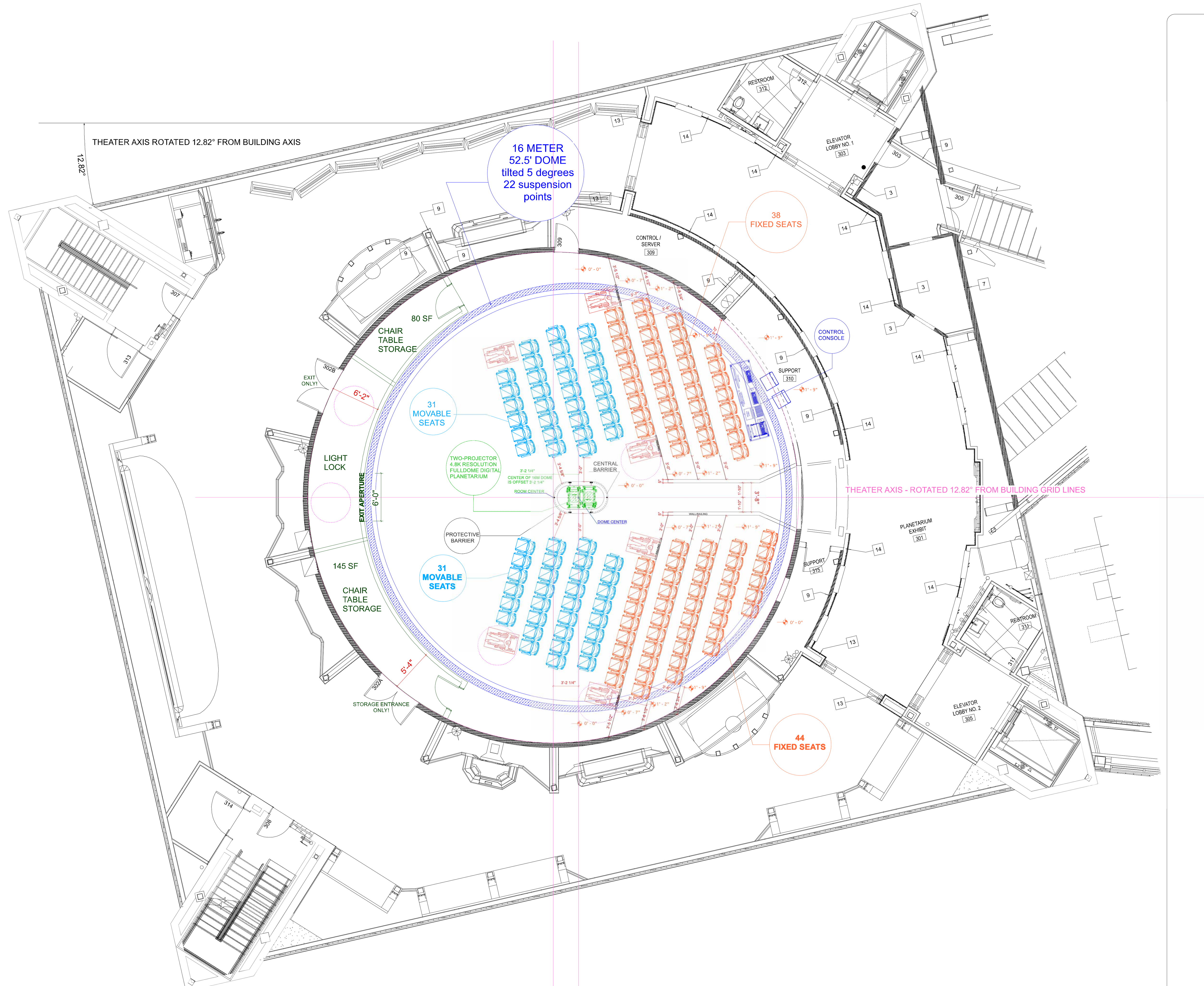
NO.	DATE

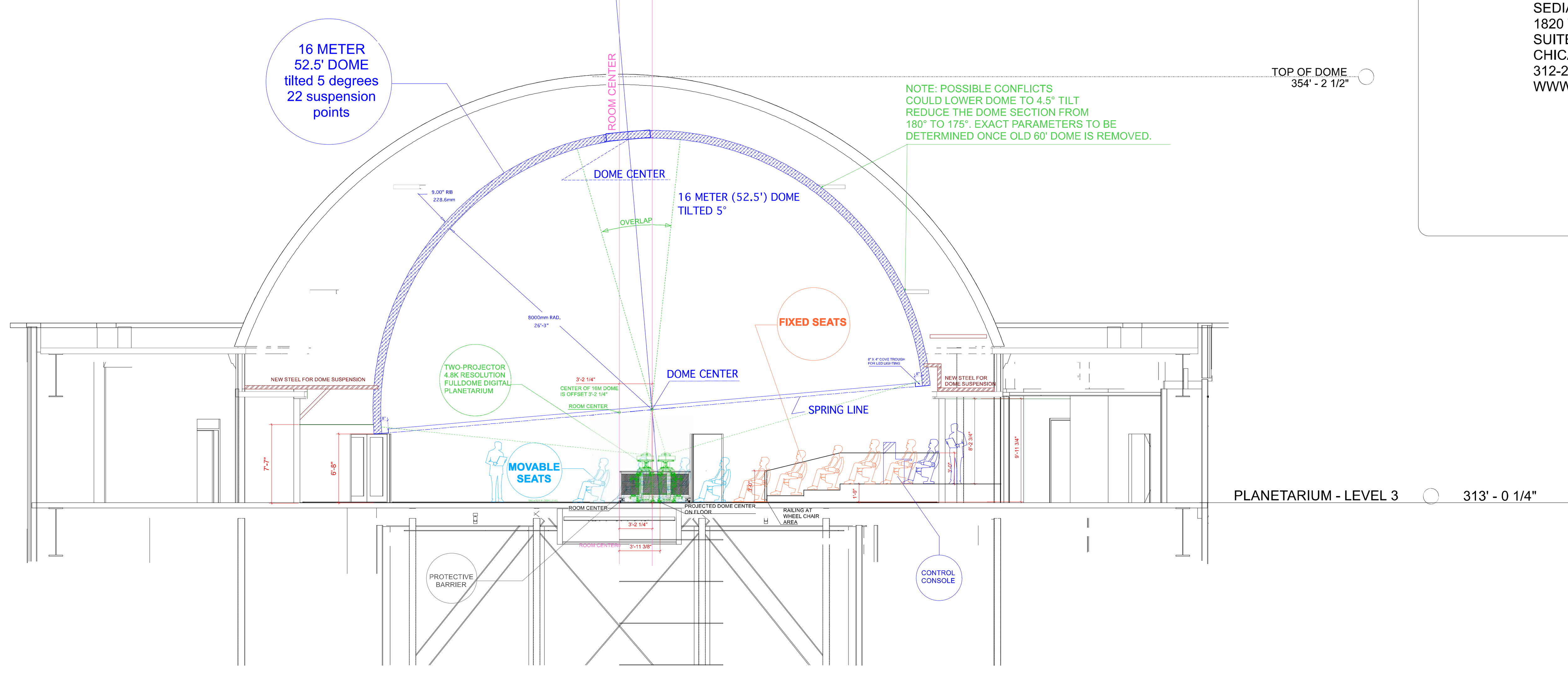
JACKSON PLANETARIUM
IMPROVEMENTS

CENTRAL PROTECTIVE BARRIER

ENLARGED THIRD FLOOR DETAILS

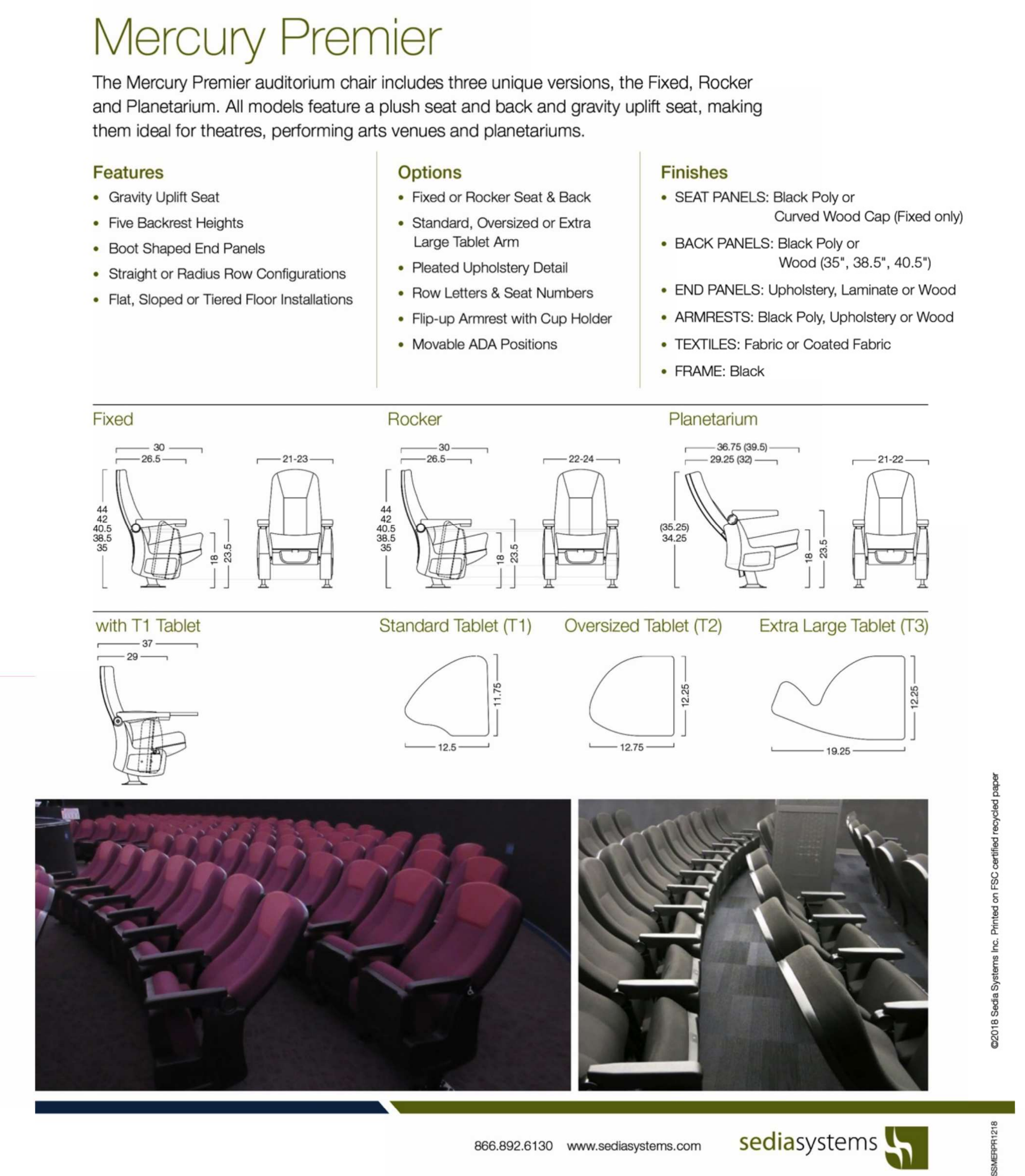
PL 112





FIXED SEATING

NUMBER: 82 PLUS 4 REPLACEMENT
SPARES OF EACH TYPE OF SEAT, BACK,
AND END STANDARD



NOTES:
1) ALL SEATS ARE TO BE THE SAME WIDTH, 22" CENTER TO CENTER.

2) SEAT METAL, ARMRESTS, AND SEAT BACKS ARE TO BE SATIN BLACK or "POLY BLACK".

3) COLOR/STYLE OF ENDSTANDARDS, AS WELL AS COLOR OF SEAT UPHOLSTERY AND VYNYL HEADREST TO BE DETERMINED BY ARCHITECT.

4) UPHOLSTERY AND COLOR TO MATCH THE UPHOLSTERY AND COLOR OF MOVABLE SEATS/

5) FIXED SEATING DESIGN BASED UPON SEDIA SYSTEMS MODEL "MERCURY".

CONTACT:

SEDIA SYSTEMS
1820 W. HUBBARD STREET
SUITE 225
CHICAGO, IL 60622
312-212-8010
WWW.SEDIASUSTEMS.COM

MOVABLE, FOLDING CHAIRS

NUMBER:
62 WITH ARMRESTS
52 WITHOUT ARMRESTS

NOTES:
1) ALL PORTABLE SEATS ARE TO BE THE SAME WIDTH WITH 33 DEGREE PITCH. 37" HIGH BACK.

2) SEAT FOLDS UP FOR GREATER ROW SPACING

3) SEAT METAL AND SEAT BACKS ARE TO BE SATIN BLACK or "POLY BLACK".

4) COLOR/TYPE OF SEAT/BACK UPHOLSTERY TO MATCH COLOR/TYPE FABRIC CHOSEN FOR FIXED SEATS/BACKS.

5) ALL SEATS FOLD UP FOR STORAGE ON CARTS OR FOR LEANING AGAINST THEATER WALL.

6) "SPEC SEATS" RECENTLY ACQUIRED CLARIN.

CONTACT:

SPEC SEATS
18601 S.SUSANA RD.
RANCHO DOMINGUEZ, CA 90221
323-954-7100
WWW.SPECSEATS.COM

CDFL
ARCHITECTS + ENGINEERS PA

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DRAWN BY:	PHILIP GROCE HELPING PLANETARIUMS SUCCEED, LLC

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JACKSON PLANETARIUM IMPROVEMENTS

PLAN & SECTION SEATING LAYOUT

ENLARGED THIRD FLOOR DETAILS

PL 113