2022
MILLER OUTDOOR
THEATRE TECH
PACK

Houston Museum of Natural Science

McGovern Centennial Gardens

San Jacinto St.

Hermann Dr.

B

Hermann Park Dr.

A

Crawford St.

Jackson St.

M. D. ANDERSON STATION

C

Mary Gibbs and Jesse H. Jones Reflection Pool

Miller Outdoor Theatre

Marvin Taylor Exercise Trail

Japanese Garden

D

E

Main St.

Fannin St.

Fishing Area

McGovern Lake

Judson Robinson Community Center

J

S

Buddy Carruth Playground For All Children

Fishing Area

F

Hermann Park Golf Course

K

Lake Plaza

G

L

Cambridge

H

Golf Course Club House

Greenway Trail

M

Houston Zoo

I

Hermann Park Dr.

N

Cambridge

North MacGregor Way

South MacGregor Way

Almeda Rd.

Dixie Rd.

Braeswood Blvd.

Cambridge

P

Bayou Parkland

Holcombe Blvd.

Miller Outdoor Theatre Stage & House Information		
Building Capacities	Maximum Building Occupancy	1583
	Seating Capacity in the Covered Seating Area	1704 seats + 20 wheelchair spaces
	Approximate Seating Capacity on the Hill	6000 (Blankets) / 9000 (Standing)
Stage Dimensions	Proscenium Width	58' 8"
	Proscenium Height	25' 10"
	Stage Width	65' 2"
	Stage Depth (Curtain to Back Wall)	42' 2"
	Apron Depth (Curtain to Upstage Edge of Pit)	8' 2"
	Deck to Grid	65' 8"
	Plaster Line @ Center to Front-of-House Control Booth	135' 6"
	Plaster Line @ Center to Front-of-House Lighting Catwalk	82'
Fly Rail	System Pipes	54 (Grand Drape & 10 Electrics Are Motorized)
	System Pipe Length	1½" Schedule 40; 63' long
	Pipe Trim #2-12 (Split Rail)	High trim 52' 1"; Low trim 3' 10"
		Battens are pre-rigged to tail up 10'-0" if needed
	Pipe Trim #1 & #13-54	High trim 60' 6"; Low trim 4' 0"
	Arbor Capacity	1750 lbs.
	Counter Weight (30,000 lbs. total)	(1) Brick = 20 lbs.
Loading Dock	Loading Dock Door Dimensions	W: 7' 9" H: 10' 0"
	Note: The Loading Dock is at street level. A ramp, fork lift, or lift gate is required for unloading trucks.	
Orchestra Pit	Orchestra Pit Width	74' 6"
	Orchestra Pit Depth	17' 10" at Center Line
	Total Sq. Footage	1,129 sq. ft.
	Orchestra Pit Rate of Travel (DOWN)	1 Minute 6 Seconds
	Orchestra Pit Rate of Travel (UP)	51 Seconds
	Maximum Low Trim	7' 7"
	Typical Low Trim for Orchestras	5' 11"
	Weight Capacity of Orchestra Pit	27,000 lbs.

Draperies					
Item	**Linesets**	**Fabric**	**Size**	**Quantity**	**Weight**
Grand Drape	1	32 oz. Cherry IFR; 100% Fullness	30' H x 63' W (7' Overlap @ Center)	1	945 lbs.
Split Black (2 Panels)	20, 54	25 oz. Black IFR; Flat	30' H x 34' W (Each Panel)	1	300 lbs.
Black Border / Full Black	2	25 oz. Black IFR; Flat	30' H x 60' W	1	300 lbs.
Black Borders	11, 20, 31, 40, 45	25 oz. Black IFR; Flat	10' H x 60' W	6	120 lbs.
Black Legs	3, 12, 21/22, 32, 41, 50	25 oz. Black IFR; Flat	30' H x 15' W	6 Pairs	150 lbs.
Sharkstooth Scrim	42	Black	30' H x 60' W	1	90 lbs.
Plastic / Projection Surface	44, 53	Rosco Twin White Plastic	30' H x 60' W	2	240 lbs.
Fiber Optic Star Drop	43	Black	30' H x 60' W (3 Vertical Panels; 2 Fiber Trunks per Panel)	1	465 lbs.
Rear Projection Screen	8	Da-Lite Curved Series 300 Lace and Grommet Frame	18' H x 32' W	1	240 lbs.

Lineset	Travel	Distance From Plaster Line	Name	Notes	Weight
			Lineset Schedule		
1		0' 6"	Red Grand Drape	Titan Adjustable Speed Motor	N/A
2	Travel: 48'-3"	1' 3"	#1 Black Border / Full Stage Black		16 wts.
3		1' 10"	#1 Black Legs	22' From Center on Traveler Track	10 wts.
4		2' 7"	#1 Electric + Audio Monitors - House Trim is 27'-0"	Power Assist Motors; Pipes Are Married	N/A
5		3' 4"	#2 Electric - House Trim is 27'-0"		N/A
6		4' 3"			
7		4' 11"	Barco HDX Projector		10 wts.
8		5' 7"	Rear Projection Movie Screen	Da-Lite 18'H x 32'W	15 wts.
9		6' 3"			
10		6' 11"			
11		7' 7"	#2 Black Border		7 wts.
12		8' 3"	#2 Black Legs	22' From Center on Traveler Track	10 wts.
13	Travel: 56'-6"	9' 0"	#3 Electric - House Trim is 26'-0"	Power Assist Motors; Pipes Are Married	N/A
14		9' 9"	#4 Electric - House Trim is 27'-0"		N/A
15		10' 8"	Spare Batten Storage		20 wts.
16		11' 4"			
17		12' 0"			
18		12' 8"			
19		13' 4"	Mid-Stage Split Black Curtain		27 wts.
20		14' 0"	#3 Black Border		7 wts.
21		14' 8"	#3 Black Leg - SR	22' From Center on Traveler Track	5 wts.
22		15' 4"	#3 Black Leg - SL	22' From Center on Traveler Track	5 wts.
23		16' 1"	#5 Electric - House Trim is 26'-0"	Power Assist Motors; Pipes Are Married	N/A
24		16' 10"	#6 Electric - House Trim is 27'-0"		N/A
25		17' 9"	Spare Batten Storage		19 wts.
26		18' 5"			
27		19' 1"			
28		19' 9"			
29		20' 5"			
30		21' 1"			
31		21' 9"	#4 Black Border		7 wts.
32		22' 5"	#4 Black Legs	22' From Center on Traveler Track	10 wts.
33		23' 2"	#7 Electric - House Trim is 26'-0"	Power Assist Motors; Pipes Are Married	N/A
34		23' 11"	#8 Electric - House Trim is 27'-0"		N/A
35		24' 10"	Spare Batten Storage		20 wts.
36		25' 6"			
37		26' 2"			
38		26' 10"			
39		27' 10"	#9 Electric (Moving Lights) - House Trim is 26'-0"	Power Assist Motor	N/A
40		28' 10"	#5 Black Border		7 wts.
41		29' 6"	#5 Black Legs	22' From Center on Traveler Track	10 wts.
42		30' 2"	Black Sharkstooth Scrim		5 wts.
43		30' 11"	Fiber Optic Star Drop		44 wts.
44		31' 8"	Rosco Twin White Plastic (Front Projection Screen)		12 wts.
45		32' 4"	#6 Black Border		7 wts.
46		33' 0"			
47		33' 9"	#10 Electric (Cyc Lights) - House Trim is 27'-0"	Power Assist Motor	N/A
48		34' 6"			
49		35' 2"			
50		35' 10"	#6 Black Legs	22' From Center on Traveler Track	10 wts.
51		36' 6"			
52		37' 2"	Rainbow Mylar		2 wts.
53		37' 10"	Rosco Twin White Plastic (Bounce)		12 wts.
54		38' 6"	Black Cross Over Curtain		16 wts.

Linesets #2 through #12: Travel is 48'-3".
Linesets #1 and #13 through #54: Travel is 56'-7".
Loft blocks are permanently installed (ie, kicking sheaves in the grid to adjust lineset spacing is not possible).
House Electrics are on 22ft./min. Arbor Assist Motors.
Pipes are 1½" Schedule 40 and are 63' long.
Weights are ⅞" Cut Steel: 20lbs.
Arbor maximum capacity is 1750 lbs.

Properties

Item	Size	Quantity	Item	Quantity
5' x 4' Plywood Riser Lids w/ Parallel Steel Frames	1' Height	12	Wenger Roughneck Music Stands	60
	2' Height	12	Wenger Padded Musician Chairs	50
	3' Height	12	Aria LED Music Stand Lights	50
Plastic Tables	8' x 3'	8	Wenger Conductor's Podium, Stand, Chair & TechBridge	1
	6' x 3'	8	Rosco Black/White Dance Floor (60' L x 63" W)	8
	4' x 3'	2	10' Ballet Barres	4

Backline Inventory

Pianos

Grand Piano	Upright Piano
Boston by Steinway & Sons 7' Grand Piano	Yamaha M112 PE 44" Acoustic Upright Piano

House Drum Kit

Items Listed May Not Be Correct - Contact Cliff Presswood for Current House Drum Kit Information

Drum Kit - Mapex Saturn Series Silver Sparkle Drums		Zildjian A-Custom Cymbals	
22" Diameter x 18" Depth Bass Drum	14" x 14" Floor Tom	20"/51cm Medium Ride Cymbal	20"/51cm China Cymbal
18" Diameter x 14" Depth Bass Drum	16" x 16" Floor Tom	16"/40cm Medium Thin Crash Cymbal	10"/25cm Fast Splash Cymbal
10" x 8" Mounted Tom	14" x 5" Snare with 2.3mm Power Hoops	18"/45cm Medium Thin Crash Cymbal	14"/36cm New Beat High Hats
12" x 10" Mounted Tom	13" x 6" Black Panther Maple Snare	**Additional Cymbals**	
		Zildjian Avedis 16" Crash Cymbal	Sabian Solaris 14" High Hats
Drum Hardware			
Mapex Falcon P1000TW Chain Drive Double Bass Drum Pedal	(4) Mapex Combination Straight/Boom Cymbal Stands	**Percussion / Accessories**	
		RhythmTech Hat Trick (High Hat Mounted Tambourine)	
Gibralter Prowler 5611 Chain Drive Single Bass Drum Pedal	Mapex Heavey Duty High Hat Stand	LP 229 Mambo 9" Cowbell	Roc-N-Soc Drum Throne
	"Dogbone" Boom Arm for Splash Cymbal	Zildjian Stick Bag	LP Microphone Claws
Mapex Snare Stand	Yamaha Snare Stand	Drum Rug	

Items Listed May Not Be Correct - Contact Cliff Presswood for Current Inventory Information

Sound System

Mixing Console

1	Solid State Logic L500 Plus 256 Channel Digital Mixing System
1	Solid State Logic Blacklight II Audio System Signal Router

Stereo Main Arrays

10 Left / 10 Right	Electro-Voice XLC (with DVX Driver) Full Range Cabinet
5 Left / 5 Right	Electro-Voice XLC 2x15 Sub Enclosure

Stereo Delay Arrays

6 Left / 6 Right	Electro-Voice XLC (with DVX Driver) Full Range Cabinet

Center Cluster

6	Electro-Voice EVH-D15 Full Range Cabinet
6	Electro-Voice EVF 2151D Sub Enclosure

Pit Front Fill Speakers

8	Electro-Voice EVU 1062/95

Amplifiers

38	Electro-Voice TG-5

Processing

	FIR Processing via Electro-Voice IRIS-Net

Near Field Mixing Monitors

2	Genelec 8250A
1	Genelec Subwoofer
1	Genelec 8020C

Rack Gear / Playback

1	Tascam CD01U CD Player
1	Tascam DV-RA1000HD Audio Recorder
1	Rational Acoustics Smaart I/O
2	MOTU Audio Express Digital I/O
1	MacBook Pro with MOTU 828x Audio Interface and QLab 3 Pro Bundle License

Monitor Mix System

Mixing Console

1	Solid State Logic L500 Plus 256 Channel Digital Mixing System
1	Midas PRO1 Digital Mixer (Back-up Console)

Wedge Monitors

8	Electro-Voice XW12A 12" Wedge
8	Electro-Voice XW15A 15" Wedge

Overhead Monitors

2	Electro-Voice EVF-1152D Full Range Cabinet

Side Fill Monitors

2	Electro-Voice EVF-1152D Full Range and EVF-2151D Sub

Drum Fill Monitors

2	Electro-Voice EVF-1122D Full Range and EVF-2121S Sub

Powered Monitors

2	Galaxy Audio Hot Spot PA6S
4	Behringer B205-D
6	Anchor AN-130

Amplifiers

15	Electro-Voice TG-5
6	Crown XTI6002

Processing

	FIR Processing via Electro-Voice IRIS-Net
	Electro-Voice DC-ONE Processor (Drum and Side Fill Monitors)

Stage I/O Boxes

8	Midas PRO SERIES DL451 Modular Stage Box
1	Midas PRO SERIES DL151 Mic/Line Input Stage Box
2	Midas PRO SERIES DL155 I/O Stage Box
3	Midas PRO SERIES DL431 Mic Splitter

Rack Gear / Playback

1	Tascam CD01U CD Player
1	Tascam SS-CDR200 CF/SD Player

Microphones

Dynamic Microphones		Small Diaphragm Condenser Microphones	
2	Audix D6	5	AKG C451
2	AKG D112	3	AKG C 460 B
8	Beyerdynamic M 88	5	AKG SE300 B
10	Electro-Voice N/D468	4	Audix SCX1
3	Electro-Voice RE20	11	Neumann KM 184
2	Neumann KMS 105	16	Shure KSM137
1	Sennheiser MD409	9	Shure SM81
4	Sennheiser e 609	7	Shure Beta 98
8	Sennheiser e 906	2	Shure Beta 98A
15	Sennheiser MD 421-II	**Large Diaphragm Condenser Microphones**	
8	Sennheiser MD 441	6	Audio-Technica AT4050
2	Shure SM48	11	AKG C414
2	Shure Beta 52A	**Specialty Microphones**	
12	Shure SM57	13	AKG C519 - Instrument Clip-on Mic
2	Shure Beta 57	8	Audio-Technica UA35A - Choir Mic
6	Shure Beta 57A	6	Bartlett Audio Stage Floor Mic
1	Shure PG58 w/ switch	2	Shure Beta 91A
14	Shure SM58	**Direct Input Boxes**	
3	Shure SM58 w/ switch	17	Countryman Type 85 FET Active DI
4	Shure Beta 58A	2	Whirlwind Director Passive DI

Microphone Stands

10	Atlas MS15 Tall Chrome Mic Stand
20	Atlas MS15 Tall Black Mic Stand
6	Atlas MS20 Tall Black Mic Stand
16	Atlas MS10 Tall Chrome Mic Stand
10	Atlas MS10 Tall Black Mic Stand
24	Atlas MS10 12" Short Black Mic Stand
2	Atlas MS10 6" Short Black Mic Stand
75	various telescopic boom arm

Wireless Microphones

12	AKG DSR700 RF Receiver
24	AKG DHT700 Hand-Held Transmitter w/ AKG D5 Super-Cardioid Capsule
28	AKG DPT700 Body-Pack Transmitter
24	DPA 4061 Lavalier Microphone
10	Sennheiser MKE 4 Platinum Lavalier Microphone
16	DPA d:fine FIO66 Omni-Directional Headset Microphone
8	Countryman E6 Omni-Directional Earset Microphone

Wired & Wireless Intercom

1	Clear-Com 4-Channel, 12-Matrix Base Station SB-412 A
1	Clear-Com 4-Channel, 10-Matrix Base Station SB-704
4	Clear-Com RM-440 4-Channel Remote Station
2	Clear-Com RM-120A 2-Channel Remote Station
20	Clear-Com KB-111 "King Biscuit" Listening Station
24	Clear-Com Beltpack/Headset
6	HME BP850 2-Channel Wireless Com Belt Packs w/ PRO850 Base Station
4	Telex TR-80N 2-Channel Wireless Com Belt Packs w/ BTR-80N Base Station
47	various Full-Sized and Lightweight Headsets

ADA Compliance

2	Listen LT-800 F/M Transmitter
24	Listen Display Receiver Belt Pack

Paging & Show Program System

1	TOA 9000M2 70v Mixer Amplifier for Paging System
1	TOA 900 Series II 70v Amplifier for Show Program
20	various 70v speakers

Lighting Inventory

ETC Eos Lighting Consoles

Quantity	Item
2	ETC Eos TI Console (Front-of-House and Stage Right Booth)
1	ETC Gio Console (Portable Remote Console)
1	ETC Eos RPU3 Primary Processor (4,096 Outputs)
1	ETC Eos RPU3 Tracking Backup Processor (4,096 Outputs)
1	ETCnomad Puck (Front-of-House Designer Display)

ETC Eos Accessories

Quantity	Item
1	Eos Motorized Fader Wing 20
1	Eos Motorized Fader Wing 10
1	2x20 Universal Fader Wing
1	2x10 Universal Fader Wing
1	ETC Net3 Show Control Gateway

House Plot Fixtures

Quantity	Fixture Type	Wattage
2	Lycian 1290XLT Follow Spots	2kW
3	ETC Source 4 5°	750w
23	ETC Source 4 10°	750w
34	ETC Source 4 14°	750w
43	ETC Source 4 19°	750w
94	ETC Source 4 26°	575w
128	ETC Source 4 36°	575w
2	ETC Source 4 15° - 25° Zoom	750w
72	ETC Source 4 PAR WFL	750w
8	Selecon Aurora 4-Cell Cyc Unit	1kW per circuit
8	Selecon Aurora 4-Cell Groundrow Unit	1kW per circuit

Spare Fixtures

Quantity	Fixture Type	Wattage
50	ETC Source 4 Fixture Body	575w
4	ETC Source 4 5º Lens	
15	ETC Source 4 10º Lens	
30	ETC Source 4 19º Lens	
40	ETC Source 4 26º Lens	
28	ETC Source 4 36º Lens	
20	ETC Source 4 50º Lens	
2	ETC Source 4 70º Lens	
12	ETC Source 4 PAR (VNSP, NSP, MFL or WFL)	750w
3	ETC Source 4 Fresnel	750w
12	PAR 64 (VNSP, NSP, MFL or WFL)	1kW
10	Altman 3-Circuit Strip (EYC or EYF Lamps)	750w per circuit

Moving Lights & Intelligent Accessories

Quantity	Item	Wattage
6	Vari-Lite VL3000 Spot	1200w
14	Vari-Lite VL2500 Spot	700w
4	Vari-Lite VL2500 Wash	700w
2	Martin Atomic 3000 Strobe	3kW
12	Rosco I-Cue	17w, 24VDC
11	City Theatrical DMX Iris	6w, 24VDC
3	Apollo DMX Iris	14.5w, 24VDC
8	ETC Selador Vivid R 11" LED	125w
4	Elation Sixpar 300IP	220w
1	City Theatrical EFX Plus2	100w
3	Rosco iPro Image Projector	120w
1	18" Mirror Ball w/ American DJ DMX Motor	360w

Atmosphere

	Use of Atmosphere Requires a Permit and Fire Marshal present	
2	Look Solutions Unique 2.1 Hazer	1500w
2	Reel EFX DF-50 DMX Hazer	480w
2	Barco FQ-100 Fog Machine	1500w
4	Chauvet Pro Vesuvio II	1488.5w
2	AquaFog 3300	3300w

Star Drop

30' H x 60' W (3 Vertical Panels; 2 Fiber Trunks per Panel) on Lineset 43

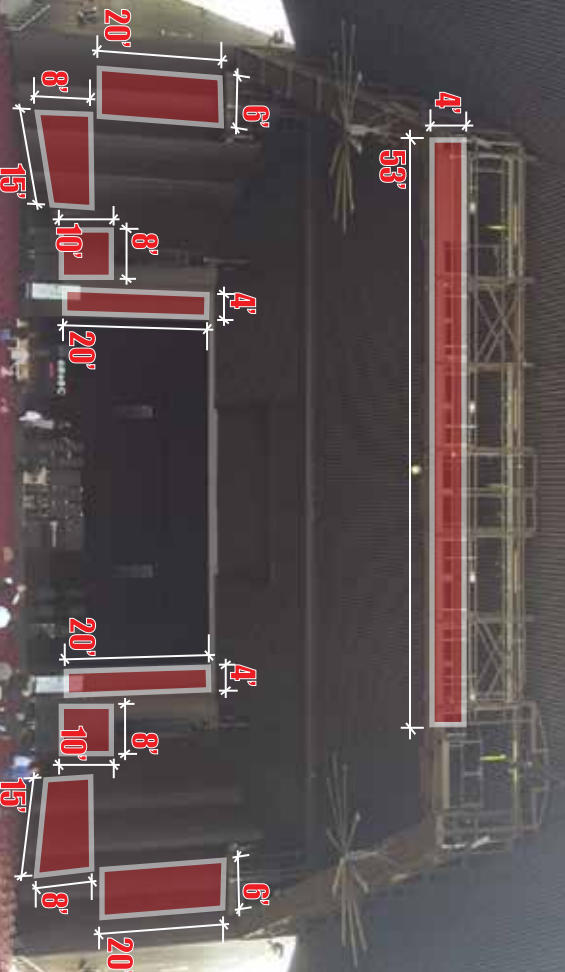| Quantity	Item
3	Martin RUSH FiberSource 1 LED Fiber Illuminator
3	DiCon FiberLamp 5100

Miller Outdoor Theatre Video Inventory		
Projector		Barco HDX-W20 FLEX 20,000 Lumen HD Projector
		Barco FLM HD20 20,000 Lumen HD Projector (only used as a back-up in the event the HDX fails)
	Lenses:	Barco 0.67 HD Fixed Lens
		Barco 0.68 – 0.87 HD Zoom Lens
		Christie 1.16 – 1.49 HD Zoom Lens
Projection Surfaces	**Rear Projection:**	Da-Lite Curved Series 300 (18'H x 32'W on Lineset 8)
	Front Projection:	Rosco Twin White Plastic (30'H x 60'W on Lineset 44 or 53)
Rack Gear		Barco PDS-902 Switcher
		Denon DN-500BD MKII Blu-Ray Player
		ArKaos Stage Server w/ 2 x DVI Inputs
		Mac Pro with QLab 4 and Dante Virtual Soundcard
Additional Notes		Maximum distance from switcher to projector is 150'. Signal is over HD-SDI cable.
	Video Inputs:	(4) Analog Via HD-15 (VGA Connector)
		(4) DVI-I (Supports both analog or DVI)
		(1) 3G SDI
		When used for front projection, projector hangs on Lineset 7 (Linesets 6, & 8 - 10 CANNOT be used). Image is projected onto the Rosco Twin White Plastic on Lineset 44 or 53.
	Image Size on Lineset 44:	22'-6"H x 40'-0"W
	Image Size on Lineset 53:	22'-8"H x 44'-0"W - the image does not stay true to its 16:9 aspect ratio
		When used for rear projection, projector rests on a stand upstage. Image is projected onto the Da-Lite 18'H x 32'W on lineset 8.

Typical Front Projection Setup using the Plastic on Lineset 44

BRIDGE / CTR HOUSE

Miller Outdoor Theatre 03/22/2021
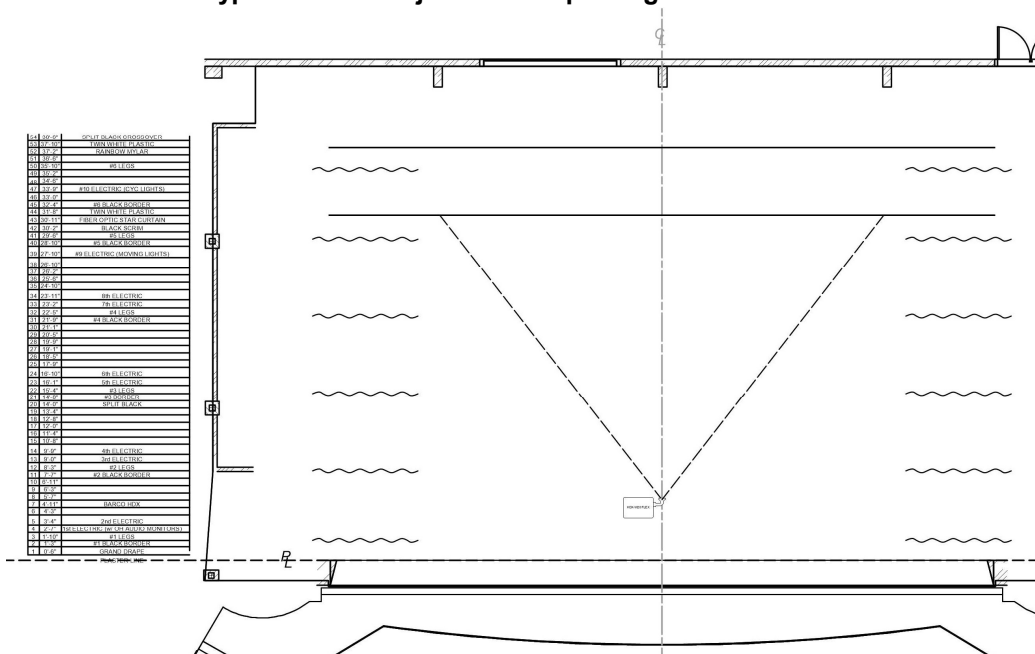
Some banner locations will restrict lighting positions, trim heights, proscenium opening, sightlines, and require additional labor (for example, the torm positions and main stage doors). Before purchasing banners please consult with your Technical Staff and the Miller Theatre Staff. Please note, the dimensions shown are maximum sizes for each position – you are free to use smaller banners as you wish however, we strongly recommend a site visit prior to purchase.