

PURCHASE COLLEGE

STATE UNIVERSITY OF NEW YORK

735 ANDERSON HILL RD PURCHASE, NY 10577-1400

ARCHITECT



MEP ENGINEER



STRUCTURAL ENGINEER



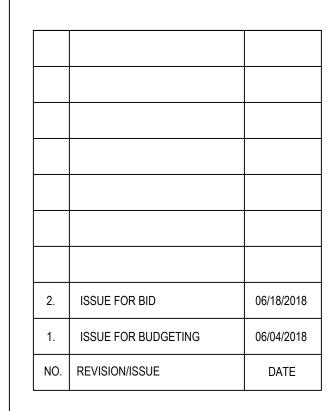
AVON PARK NORTH
200 FISHER DRIVE
AVON, CT 06001

TEL: 860.677.4570
szewczakassociates.com

STAGE CONSULTANT



300 Raritan Ave, 2nd Flr 732.333.8003 Highland Park, NJ 08904 stagesconsultants.com



SEA

INTERIOR RENOVATION MUSIC SOUND STAGE

	DATE:	06/18/2018
	PROJECT NO:	DA 1845 / SU-062518
	DRAWN BY:	SEM
	CHECKED BY:	AS
	SCALE:	AS NOTED

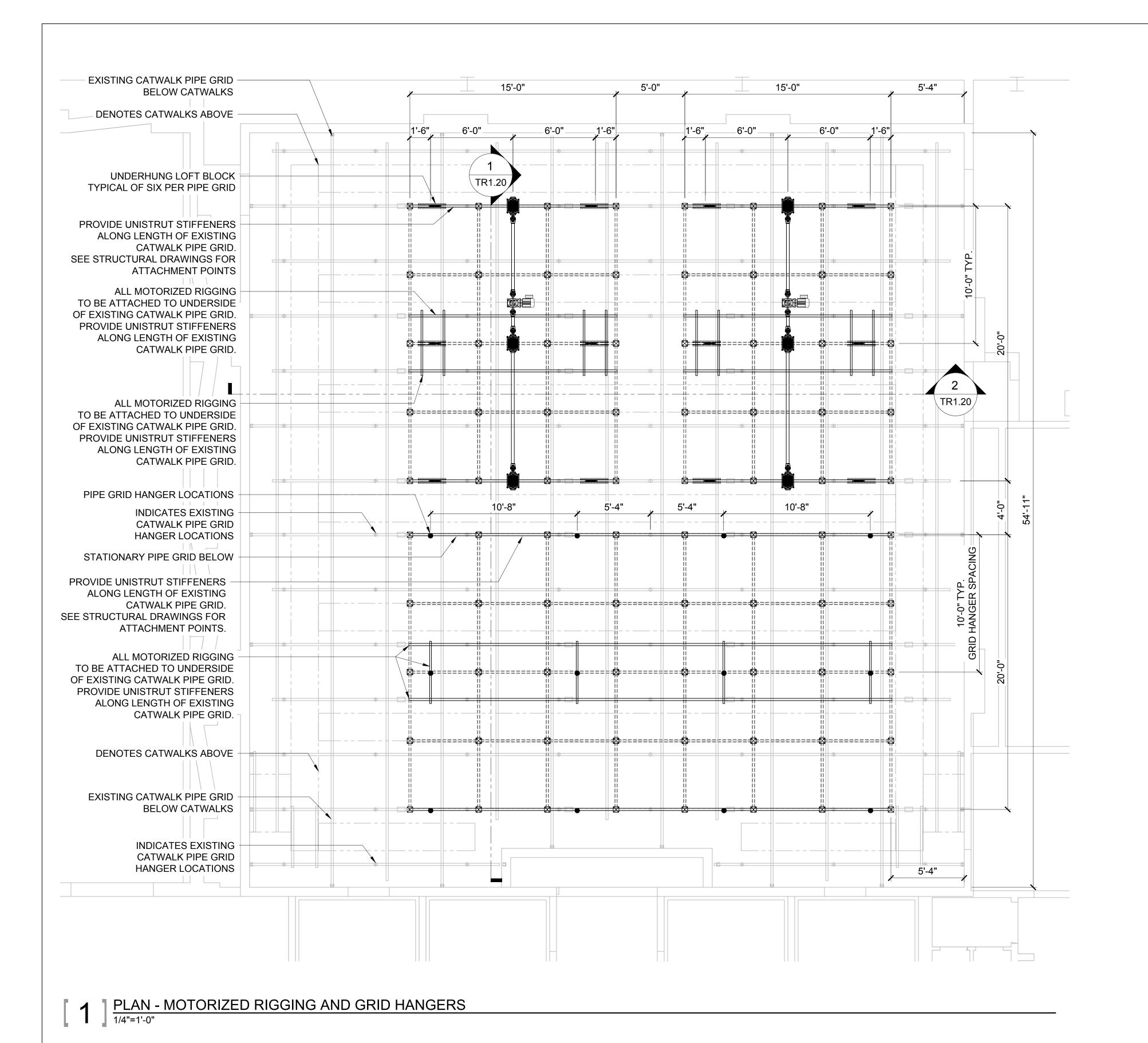
DRAWING TITLE

THEATRE RIGGING

SHEET NO.

TR1.10

FOR COORDINATION ONLY.
PROCURED UNDER
SEPARATE CONTRACT.



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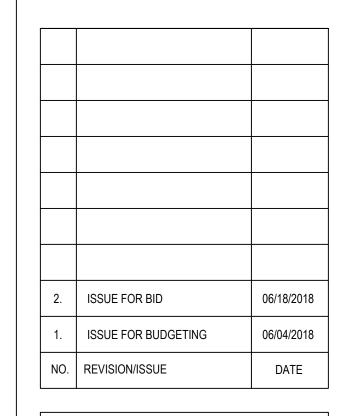


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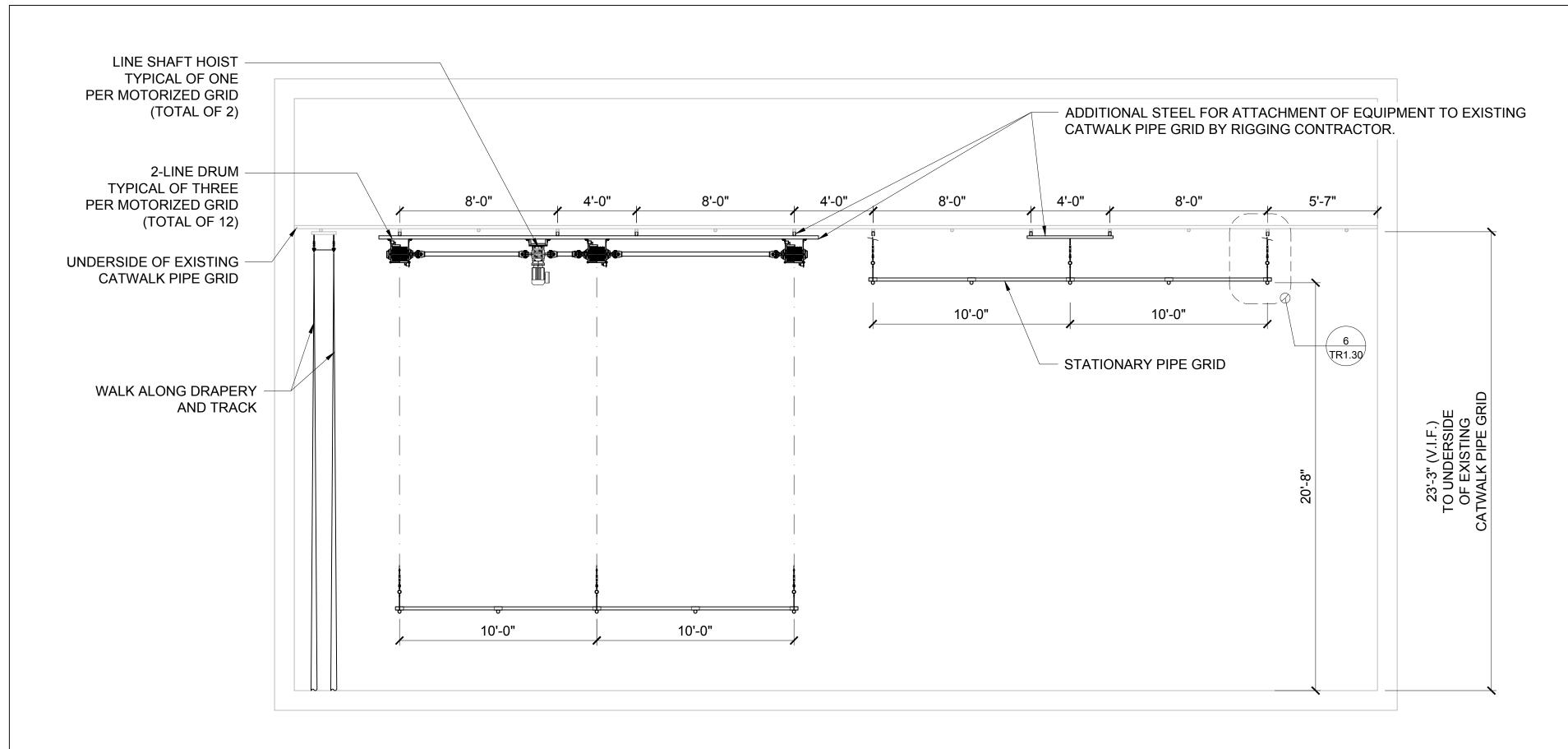
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THEATRE RIGGING PLAN

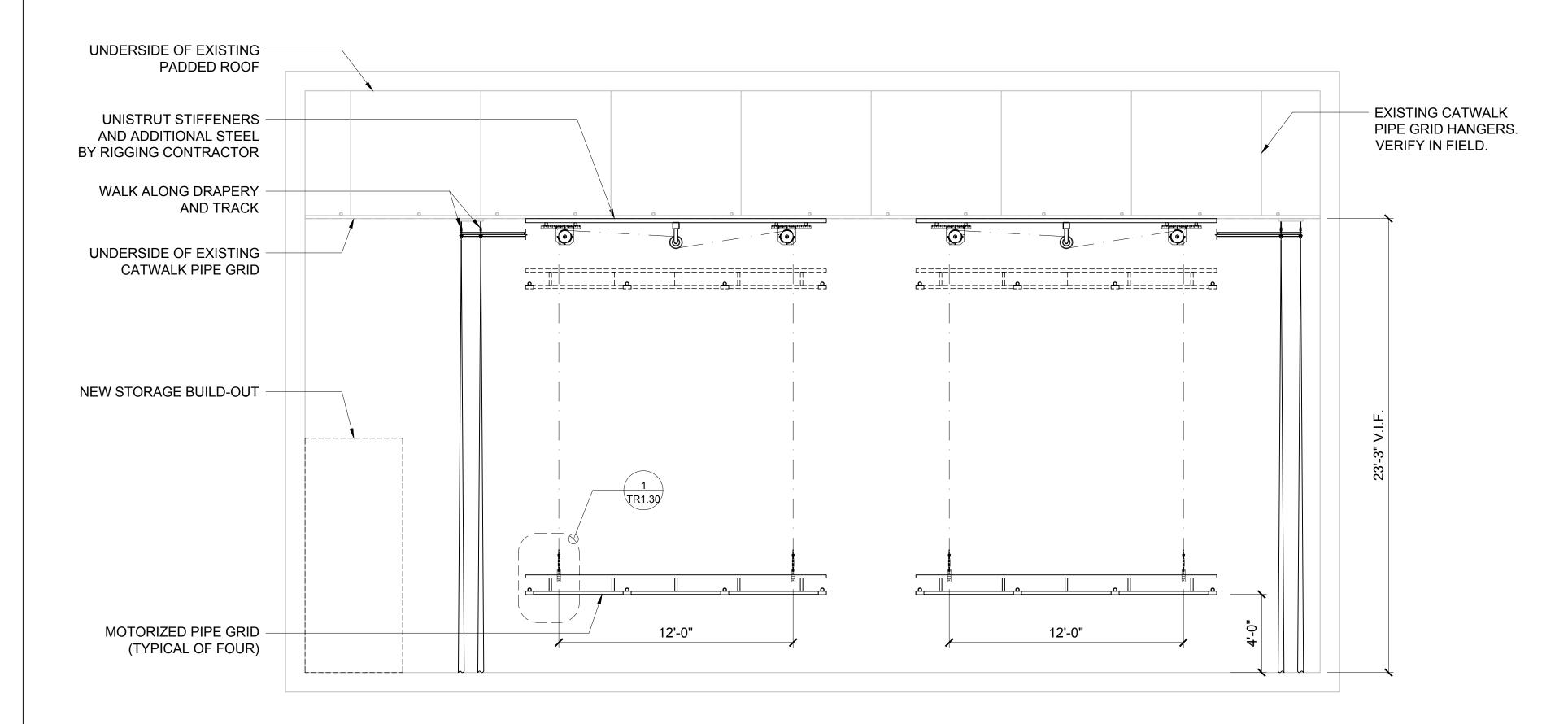
SHEET NO.

TR1.11

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COMPOSITE SECTION- LONGITUDINAL 1/4"=1'-0"



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dimovskiarchitecture

59 Kensico Road, Thornwood, NY 10594 (914) 747-3500 | (914) 747-3588 fax www.dimovskiarchitecture.com



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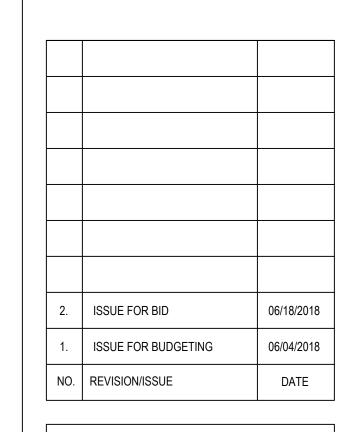


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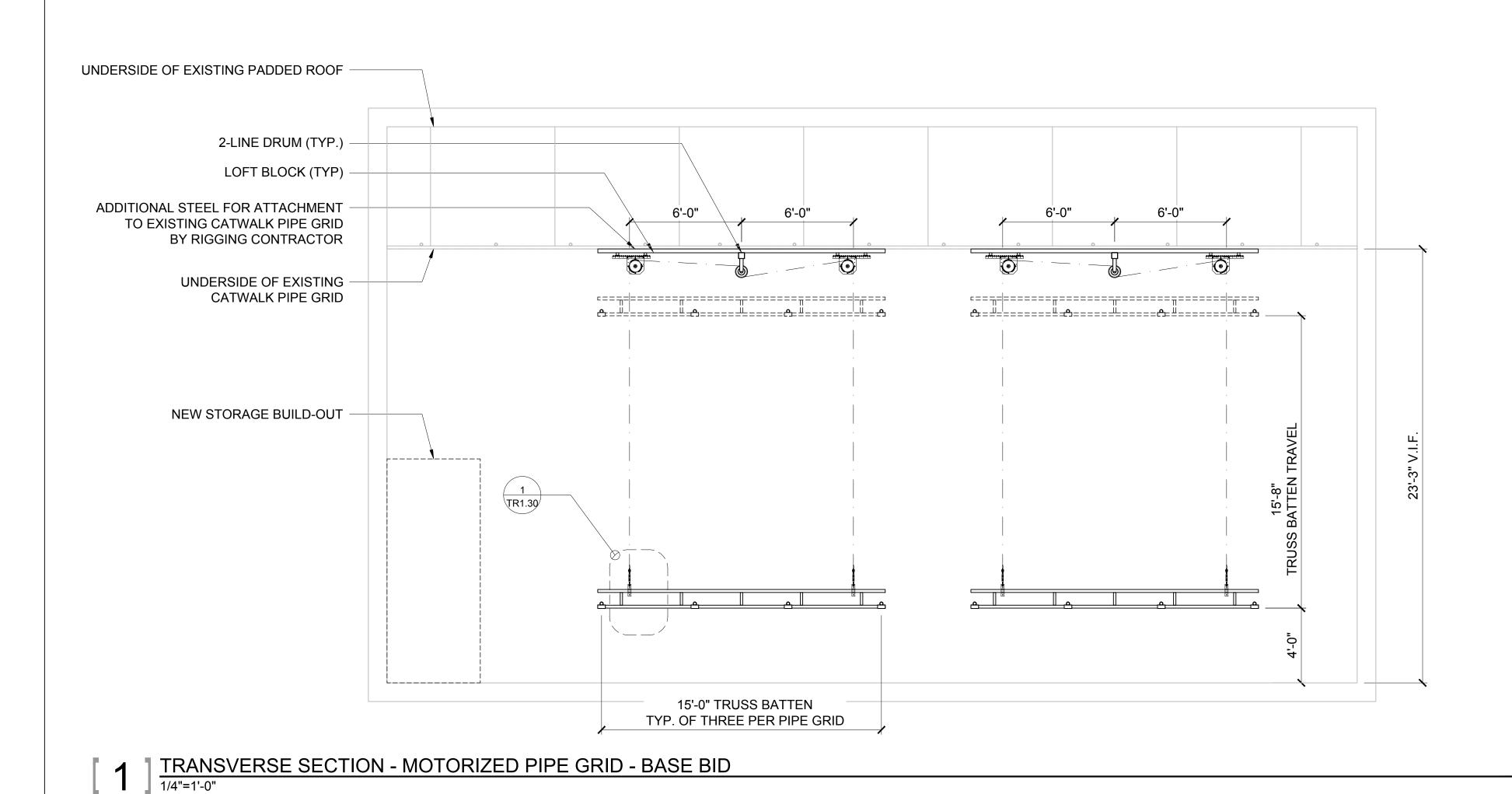
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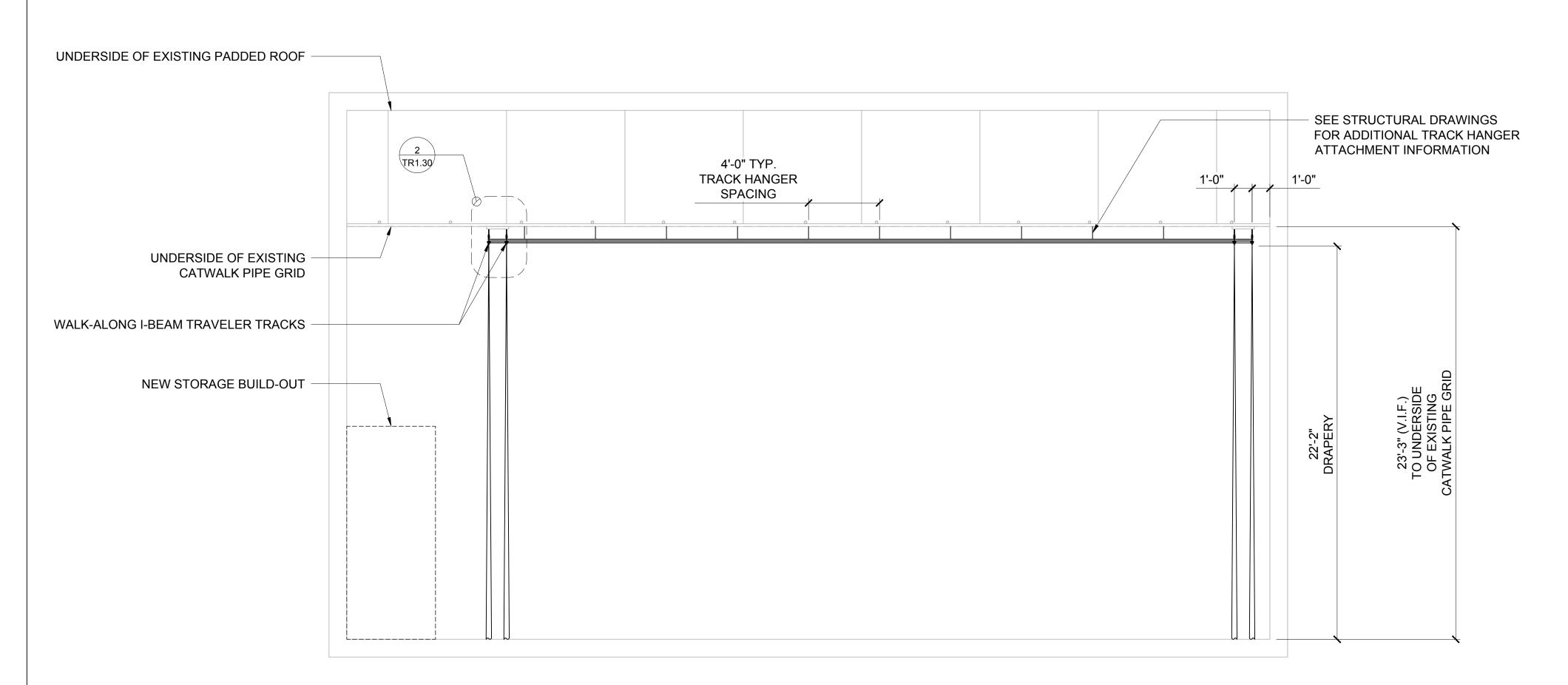
THEATRE RIGGING COMPOSITE SECTIONS

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SHEET NO.

TR1.20





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2. ISSUE FOR BID 06/18/2018 ISSUE FOR BUDGETING 06/04/2018 NO. REVISION/ISSUE DATE

INTERIOR **RENOVATION** MUSIC SOUND STAGE

	DATE:	06/18/2018
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	DRAWN BY:	SEM
	CHECKED BY:	AS
	SCALE:	AS NOTED
1		

DRAWING TITLE

THEATRE RIGGING SECTIONS

SHEET NO.

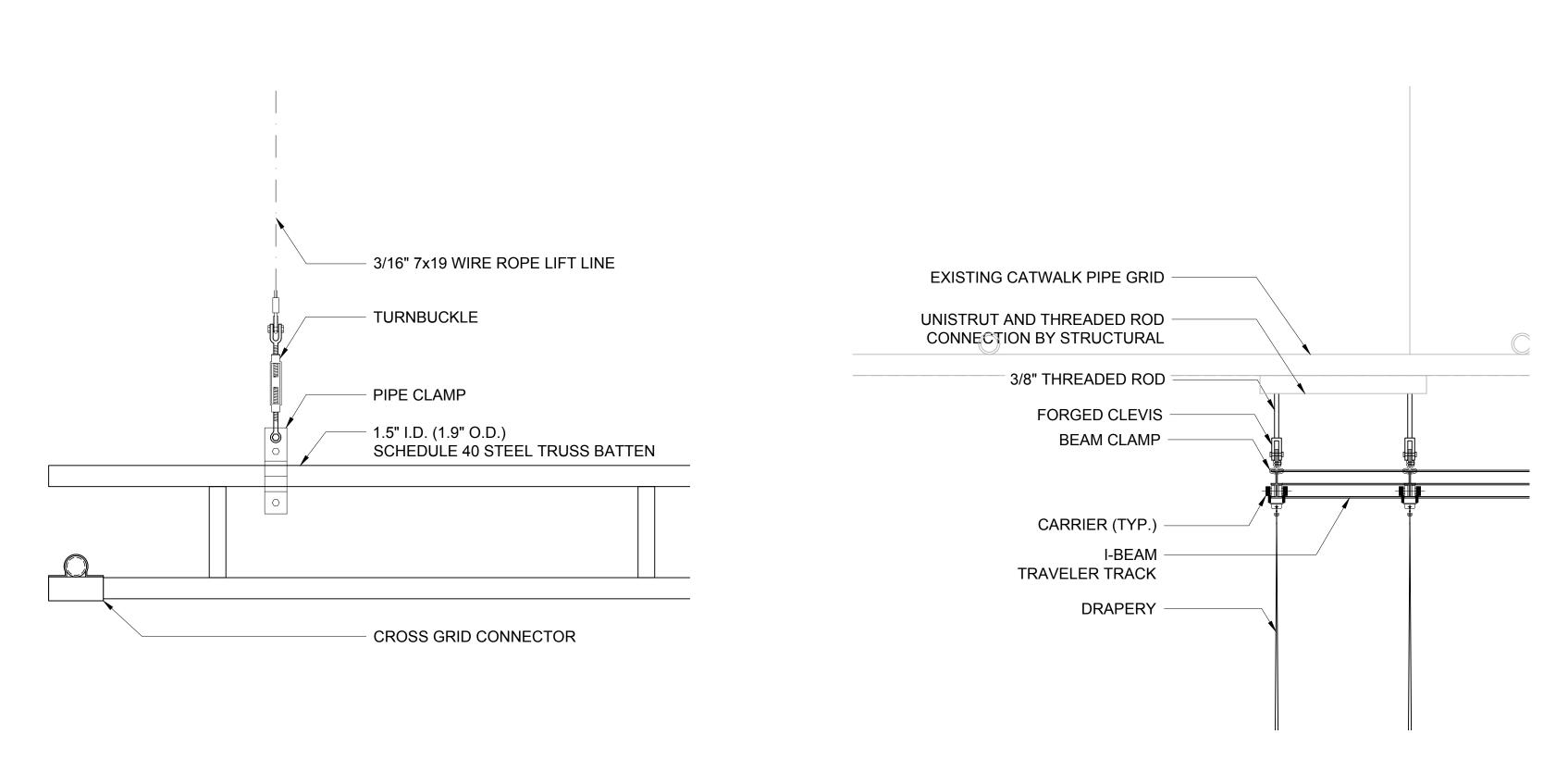
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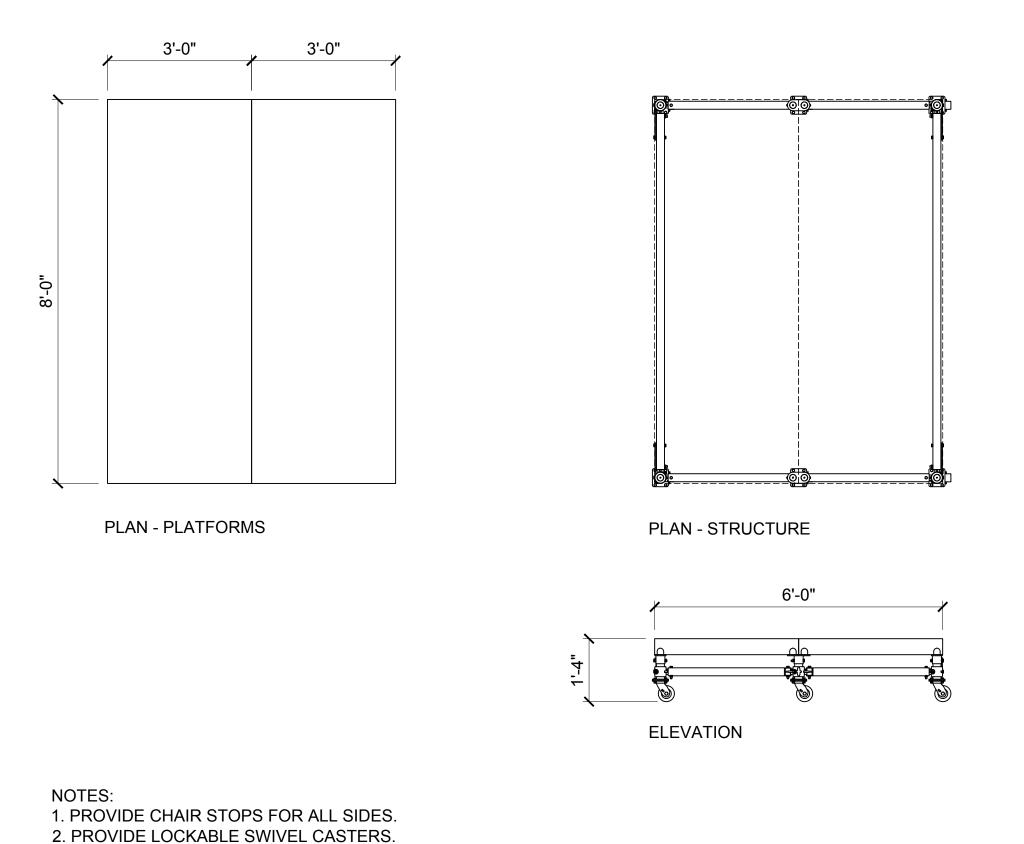
SEPARATE CONTRACT.

TR1.21

2 TRANSVERSE SECTION - WALK-ALONG TRAVELER TRACK



2 WALK ALONG TRAVELER TRACK HANGER DETAIL
1 1/2"=1'-0"



MOBILE CONTROL BOOTH

MOTORIZED PIPE GRID TRUSS BATTEN TERMINATION

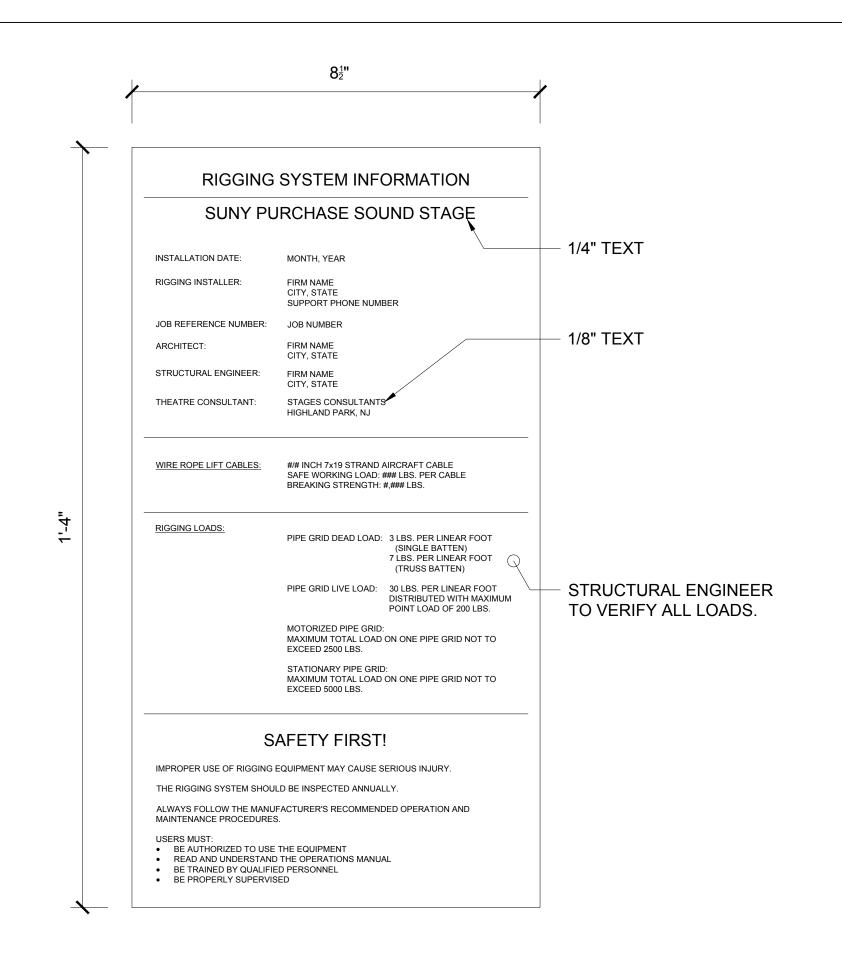
3/8" THREADED ROD FORGED CLEVIS - TURNBUCKLE PIPE CLAMP 1.5" I.D. (1.9" O.D.) SCHEDULE 40 STL PIPE TRUSS BATTEN 1.5" I.D. (1.9" O.D.) SCHEDULE 40 STL PIPE

1. PROVIDE ONE STEP UNIT. 2. PROVIDE FIXED HEIGHT LEGS FOR STEP HEIGHT INDICATED, TOTAL OF FOUR (4) LEGS.

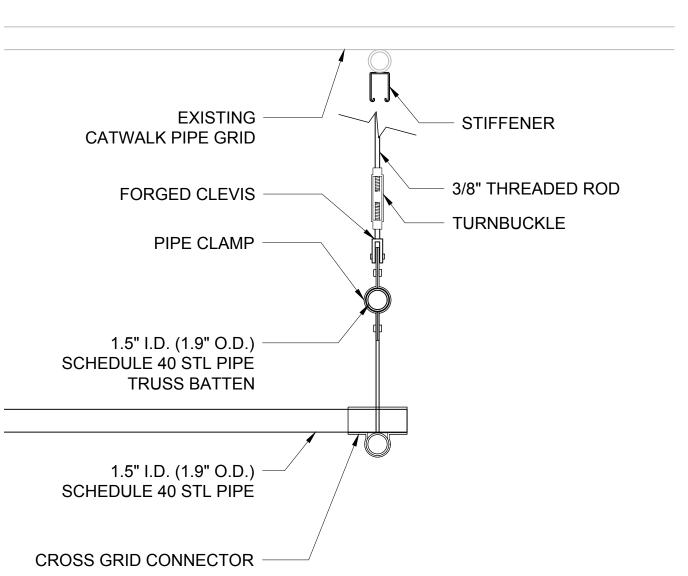
NOTES:

ELEVATION

PLAN



3 RIGGING SIGNAGE
N.T.S.



6 STATIONARY PIPE GRID HANGER
1 1/2"=1'-0"

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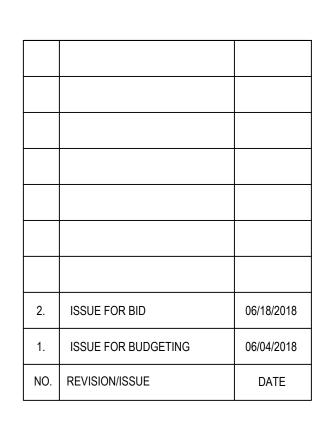
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INTERIOR RENOVATION MUSIC SOUND STAGE

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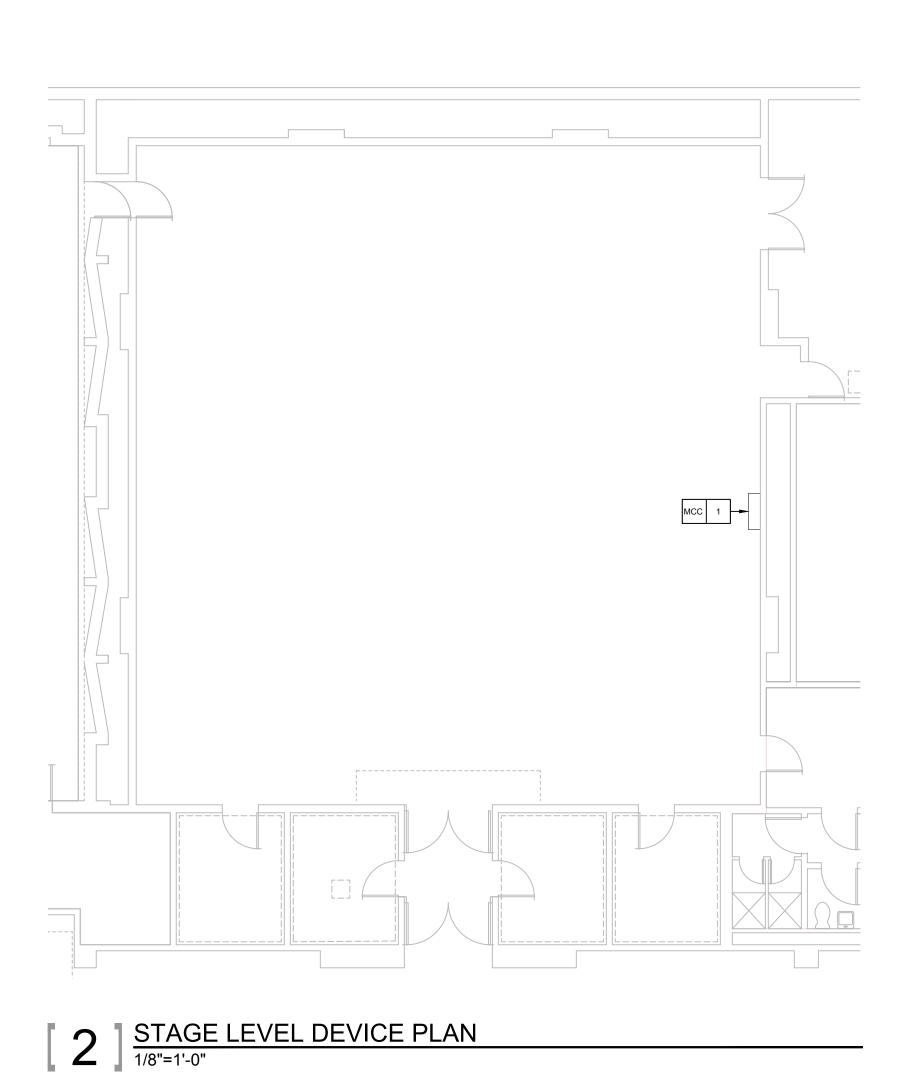
DRAWING TITLE THEATRE RIGGING DETAILS

SHEET NO.

TR1.30

SOUND STAGE RIGHT WALL TBD; TWO 3/4" CONDUIT (TYP) N.I.C. (BY OTHERS) POWER AND LIMIT SWITCH TO PIPE GRID MOTOR PIPE GRID #1 CONTROL CABINET WITH PUSH BUTTON POWER AND LIMIT SWITCH TO CONTROLS PIPE GRID #2 5HP, 208Y/120, 3Ф, 5-WIRE FEED FROM DS-101S

1 LINE SHAFT HOIST FUNCTIONAL DIAGRAM N.T.S.



NOTES:

1. THIS DIAGRAM SHOWS THE LAYOUT AND INTERCONNECTION OF THE COMPONENTS IN THE RIGGING ELECTRICAL SYSTEMS TO CONVEY DESIGN INTENT ONLY. FINAL WIRE QUANTITIES, TYPES, AND TOPOLOGY SHALL BE DETERMINED BY THE RIGGING MANUFACTURER.

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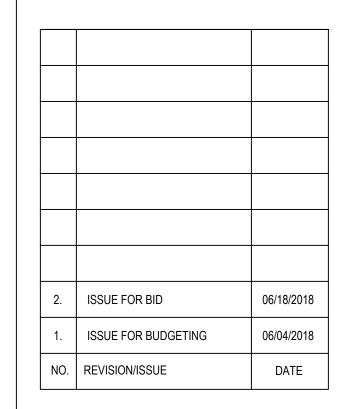
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INTERIOR RENOVATION MUSIC SOUND STAGE

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DRAWING TITLE

THEATRE RIGGING ELECTRICAL DETAILS

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SHEET NO.

TR1.40

SECTION 116133

RIGGING SYSTEMS AND DRAPERIES

PART 1 – GENERAL

- 1.1 GENERAL CONDITIONS
 - THE GENERAL CONDITIONS OF THE CONTRACT DOCUMENTS SHALL APPLY TO THE WORK IN THIS SECTION.

1.2 WORK INCLUDED

- A. THE WORK OF THIS SECTION INCLUDES ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES NECESSARY TO COMPLETE THE STAGE RIGGING AND DRAPERIES INSTALLATION, AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN, INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:
 - MOTORIZED PIPE GRIDS
 - ADDITIONAL SUPPORT STRUCTURES AS REQUIRED TO MEET THE INTENT OF THE CONTRACT DOCUMENTS
 - 3. TRACKED, WALKALONG STUDIO CURTAINS
 - CONTROL DEVICES FOR MOTORIZED RIGGING.
- STATIONARY PIPE GRID (ALTERNATE #1)

1.3 RELATED WORK

- A. RELATED WORK WHICH IS NOT PART OF THE WORK IN THIS SECTION INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:
- SUPPORT STEEL
- FINISHES
- 3. POWER FEEDS AND ELECTRICAL WORK FOR MOTORIZED RIGGING INCLUDING CONDUIT AND WIRE BETWEEN CONTROL COMPONENTS AND TERMINATIONS.
- 4. STAGE LIGHTING SYSTEM, INCLUDING JUNCTION BOXES AND MULTICONDUCTOR CABLES.
- MECHANICAL SYSTEM.
- FIRE PROTECTION SYSTEM.

1.4 DEFINITIONS

- A. FURNISH SUPPLY EQUIPMENT TO THE PROJECT FOR USE OR INSTALLATION BY OTHERS.
- B. INSTALL INSTALL EQUIPMENT PROVIDED TO THE PROJECT BY OTHERS.
- C. PROVIDE SUPPLY AND INSTALL EQUIPMENT

1.5 QUALITY ASSURANCE

- A. ALL EQUIPMENT SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH THE APPLICABLE STANDARDS OF THE FOLLOWING **ORGANIZATIONS:**
- 1. AMERICAN IRON AND STEEL INSTITUTE (AISI).
- AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).
- 3. AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME).
- AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).
- AMERICAN WELDING SOCIETY (AWS).
- ENTERTAINMENT SERVICES AND TECHNOLOGY ASSOCIATION (ESTA).
- 7. INDUSTRIAL FASTENERS INSTITUTE (IFI).
- 8. INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO).
- 9. NATIONAL ASSOCIATION OF CHAIN MANUFACTURERS (NACM).
- 10. NATIONAL FIRE PROTECTION INSTITUTE (NFPA).
- 11. SOCIETY OF AUTOMOTIVE ENGINEERS (SAE).
- 12. AMERICAN GEAR MANUFACTURERS ASSOCIATION (AGMA).
- 13. NATIONAL ELECTRICAL CODE (NEC).
- 14. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA).
- B. MINIMUM DESIGN FACTOR FOR LIFTED LOADS: 8:1. DESIGN FACTOR SHALL INCLUDE THE EFFECTS OF STATIC LOADS, DYNAMIC IMPACT LOADS AND REDUCTIONS FOR END TERMINATIONS AND BENDING RATIOS.
- C. MINIMUM DESIGN FACTOR FOR STATIC LOADS: 6:1. DESIGN FACTOR SHALL INCLUDE THE EFFECTS OF STATIC LOADS AND REDUCTIONS FOR END TERMINATIONS AND BENDING RATIOS.
- D. MAXIMUM FLEET ANGLE: 1-1/2 DEGREES.
- E. CABLE BENDING RATIO FOR MANUALLY OPERATED SYSTEMS SHALL BE AT LEAST 30 TIMES THE DIAMETER OF THE CABLE. MOTORIZED SYSTEMS SHALL COMPLY WITH THE WIRE ROPE MANUFACTURER'S MINIMUM RECOMMENDED BENDING RATIO.
- F. WIRE ROPE CLIPS SHALL BE DROP-FORGED.
- G. FASTENERS TYPICALLY SHALL HAVE A MINIMUM SAE J429 GRADE 5 OR ISO R898 CLASS 8.8 RATING. BOLTS IN TENSION SHALL HAVE NUTS OF EQUIVALENT RATING. FASTENERS SHALL BE SELF-LOCKING OR SECURED BY ALTERNATE MEANS TO PREVENT LOOSENING.
- H. SHACKLES AND TURNBUCKLE JAWS SHALL HAVE SCREW PINS, MOUSED WITH PLASTIC TIE-WRAP AFTER INSTALLATION.
- I. HELICALLY GROOVED DRUMS SHALL ACCEPT THE WIRE ROPE IN A SINGLE LAYER, PLUS 3 DEAD WRAPS. DRUM CONSTRUCTION SHALL BE ALL-WELDED. LIFTING LINES SHALL ENTER THE DRUM THROUGH THE TUBING WALL AT A 45 DEGREE ANGLE, AND SHALL BE RETAINED BY A COPPER NICOPRESS STOP SLEEVE.
- J. OVERSPEED BRAKES SHALL REQUIRE NEITHER ELECTRICITY NOR EXTERNAL PRESSURE FOR OPERATION. THE BRAKE SHALL BE FACTORY SET TO AUTOMATICALLY APPLY ITSELF AT 125 PERCENT OF THE MAXIMUM RATED WINCH SPEED LOCATE THE BRAKE EITHER ON THE LOW SPEED OUTPUT SHAFT OF THE REDUCER, OR DIRECTLY TO THE LIFTING LINE
- K. ROTARY LIMIT CHAIN SPROCKETS SHALL BE PINNED TO PREVENT SLIPPING AND SIZED FOR MAXIMUM USABLE ROTATION OF THE SWITCH CAMS.
- L. LIMIT SWITCH CHAINS AND ENCODER BELTS LOCATED IN TRAFFICKED AREAS SHALL BE FULLY GUARDED.

- M. GEARMOTOR SERVICE FACTORS AND LOAD CLASSIFICATIONS SHALL CONFORM TO AGMA RECOMMENDATIONS. THE MINIMUM SERVICE FACTOR SHALL BE 1.0 FOR CONTINUOUS OPERATION AND THE MINIMUM GEARING SERVICE FACTOR SHALL BE 1.0 WITH A MINIMUM MECHANICAL SERVICE FACTOR OF 1.3.
- N. FIXED SPEED MOTORS SHALL HAVE HIGH INERTIA FANS OR ELECTRONIC 'SOFT" STOPPING AND STARTING CHARACTERISTICS AS DICTATED BY THE LOAD CAPACITY AND SPEED OF THE WINCH.
- SHAFTING SHALL BE KEYED AND DESIGNED TO MEET ANSI STANDARDS IN ORDER TO PROPERLY TRANSMIT APPLIED LOADS AND TORQUES WITH ALLOWANCE FOR IMPACT.
- CHAIN TRANSMISSION SHALL BE MADE WITH ROLLER CHAIN SELECTED TO MEET ANSI STANDARDS AND SAFELY TRANSMIT THE FULL LOAD, INCLUDING IMPACT, APPLIED BY THE MOTOR AND THE UNBALANCED SET. THE STRENGTH OF THE CHAIN CONNECTORS SHALL BE EQUAL TO THE STRENGTH OF THE CHAIN. PROVIDE A MEANS OF LUBRICATING AND TIGHTENING THE CHAINS.
- Q. THIS SPECIFICATION SETS FORTH MINIMUM SAFETY STANDARDS, OPERATIONAL CRITERIA, AND MINIMUM STANDARDS FOR QUALITY IN WORKMANSHIP. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN, ENGINEER, FURNISH AND INSTALL A SAFE, FULLY FUNCTIONAL SYSTEM IN COMPLIANCE WITH THE DESIGN INTENT OF THE CONTRACT DOCUMENTS.

1.6 SUBMITTALS

- A. SUBMIT THE FOLLOWING WITH THE BID:
 - BILL OF MATERIALS, WITH PARTS IDENTIFIED BY COMMON INDUSTRY STANDARD NUMBERS AND/OR DESCRIPTIONS.
- SPECIFIED MANUFACTURER'S CATALOG CUT SHEETS OF ALL PRODUCTS CALLED OUT IN THE BILL OF MATERIALS.
- STATEMENT THAT THE MANUFACTURER AGREES TO THE WARRANTY PROVISIONS.
- 4. PROJECTED TIMETABLE LISTING THE TIME IN WEEKS FOR EACH OF THE FOLLOWING ACTIVITIES:
- a. SHOP DRAWING PREPARATION
- FABRICATION
- c. SHIPPING TO SITE
- SYSTEM COMMISSIONING
- e. AS BUILT DRAWING PREPARATION

B. SHOP DRAWINGS

- SUBMIT SHOP DRAWINGS FOR REVIEW. DRAWING SHEET SIZE SHALL BE UNIFORM. SUBMITTALS OF MORE THAN 5 DRAWINGS SHALL BE BOUND.
- SHOP DRAWINGS SHALL BE STAMPED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF NEW YORK.
- 3. SHOP DRAWINGS SHALL INCLUDE:
 - TITLE SHEET LISTING ALL SHEETS IN THE SUBMITTAL.
- SCALE PLANS AND ELEVATIONS.
- c. ALL INFORMATION NECESSARY TO EXPLAIN FULLY THE DESIGN FEATURES, APPEARANCE, FUNCTION, FABRICATION, INSTALLATION, AND USE OF SYSTEM COMPONENTS IN ALL PHASES OF OPERATION.
- d. COUNTRY OF ORIGIN FOR EQUIPMENT
- 4. FABRICATION SHALL NOT COMMENCE UNTIL THE THEATRE CONSULTANT AND THE ARCHITECT DETERMINE THAT THE SHOP DRAWINGS ARE IN COMPLIANCE WITH THE DESIGN INTENT OF THE CONTRACT DOCUMENTS.
- 5. SHOP DRAWINGS SHALL BE REVISED AND RESUBMITTED AS REQUIRED.

MANUALS

- PROVIDE AN OPERATIONS AND MAINTENANCE MANUAL TO THE OWNER AT TIME OF OWNER TRAINING. THE MANUAL SHALL INCLUDE:
 - CONTRACTOR CONTACT INFORMATION
- MANUFACTURER CONTACT INFORMATION
- SYSTEM DESCRIPTION
- OPERATION INSTRUCTIONS, INCLUDING SAFETY MEASURES
- MAINTENANCE INSTRUCTIONS, INCLUDING RECOMMENDED PROCEDURES AND SCHEDULES FOR INSPECTING SYSTEM **COMPONENTS**
- EQUIPMENT DESIGN PARAMETERS INCLUDING SAFE WORKING LOADS AND DUTY CYCLES.
- PARTS AND SUBASSEMBLY LISTS
- REPLACEMENT PARTS SOURCE INFORMATION
- 2. PROVIDE THE ABOVE DOCUMENTS IN PRINTABLE ELECTRONIC FORMAT, SUCH AS PDF OR OTHER UNIVERSAL FORMAT FILES, ON

CATALOG CUTS FOR ALL PURCHASED EQUIPMENT

D. AS-BUILT DRAWINGS

- WITHIN ONE MONTH OF SYSTEM ACCEPTANCE, PROVIDE COMPLETE AS-BUILT DRAWINGS. THE AS-BUILT DRAWINGS SHALL INCLUDE:
 - a. FINAL SHOP DRAWINGS.
- b. FINAL BILL OF MATERIALS.

USB STORAGE DRIVES.

2. PROVIDE THE AS-BUILT DRAWINGS IN PRINTABLE ELECTRONIC FORMAT, SUCH AS PDF OR OTHER UNIVERSAL FORMAT FILES, ON USB STORAGE DRIVES.

1.7 WARRANTY

- THE MANUFACTURER SHALL WARRANT THE EQUIPMENT AS FOLLOWS:
- PART ONE ACCORDING TO THE GUARANTEE PROVISIONS IN THE GENERAL CONDITIONS

- 2. PART TWO ADDITIONALLY, FOR TWO YEARS FROM ACCEPTANCE OF THE SYSTEMS, PROVIDE SERVICES DETAILED BELOW:
 - a. PROVIDE FOR THE OWNER'S OPERATING STAFF A TECHNICAL AND OPERATIONAL ASSISTANCE HOTLINE ADVICE SERVICE AT NO ADDITIONAL COST FOR THE DURATION OF THE WARRANTY PERIOD. SUCH ADVICE TO BE AVAILABLE DURING NORMAL WORKING HOURS AND ON EVENINGS AND WEEKENDS.
 - PROVIDE ALL REQUIRED MAINTENANCE OR REPLACEMENT WITHIN 30 DAYS OF NOTIFICATION BY THE OWNER, WITH THE FOLLOWING EXCEPTION: ALL REQUIRED MAINTENANCE OR REPLACEMENT WHICH AFFECTS THE SAFE OPERATION OF THE INSTALLATION SHALL BE ACCOMPLISHED WITHIN 3 DAYS.

PART 2 – EQUIPMENT

2.1 ACCEPTABLE CONTRACTORS

- A. THE EQUIPMENT SHALL BE FURNISHED, INSTALLED, AND PROVIDED BY ONLY ONE OF THE FOLLOWING:
 - 1. I.WEISS THEATRICAL SOLUTIONS 815 FAIRVIEW AVENUE #10 FAIRVIEW, NJ 07022
 - 2. J. R. CLANCY/WENGER 7041 INTERSTATE ISLAND ROAD SYRACUSE, NY 13209 315.451.3440
 - 3. POOK DIEMONT AND OHL, INC./ TEXAS SCENIC COMPANY 701 EAST 132ND STREET BRONX, NEW YORK, 10454 718.402.2677
- 4. PROTECH THEATRICAL SERVICES 3431 NORTH BRUCE STREET NORTH LAS VEGAS, NV 89030 702.639.0290
- 5. SAPSIS RIGGING 233 NORTH LANSDOWNE AVENUE LANSDOWNE, PA 19050 215.228.0888
- 6. STARLITE 9 WHITTENDALE DRIVE MOORESTOWN, NJ 08057 856.780.8000
- ADDITIONAL COMPANIES WISHING TO BID SHALL SUBMIT THE FOLLOWING A MINIMUM OF 5 BUSINESS DAYS BEFORE SUBMISSION OF BIDS, FOR REVIEW AND APPROVAL BY THE THEATRE CONSULTANT:
- FIRM HISTORY.
- 2. A LIST OF COMPLETED INSTALLATIONS WHICH ARE COMPARABLE IN SCOPE TO THE JOB DESCRIBED HERE.
- 3. A MINIMUM OF 5 REPRESENTATIVE SHOP DRAWING SHEETS
- 4. IF REQUESTED, A CURRENT CERTIFIED FINANCIAL STATEMENT SHOWING SUFFICIENT FINANCIAL BASE FOR THE SIZE OF JOB DESCRIBED HERE.

2.2 FINISHES

- A. METAL PARTS SHALL BE FREE FROM RUST, SCALE, DIRT, AND WELDING SPATTER. ALL WELDMENTS OR OTHER METAL COMPONENTS SHALL RECEIVE A COAT OF CORROSION RESISTANT PRIMER PRIOR TO FINISH COATING AND COMPONENT ASSEMBLY.
- B. FINISH COAT SHALL BE FLAT ALKYD ENAMEL. COLOR SHALL BE BLACK, EXCEPT WHERE NOTED OTHERWISE IN THE CONTRACT DOCUMENTS.

2.3 LIFTING LINES

- A. LIFTING LINES SHALL BE OF SUFFICIENT DIAMETER AND APPROPRIATE CLASSIFICATION TO SUIT THE SYSTEM OPERATIONAL REQUIREMENTS.
- MINIMUM STANDARD FOR OVERHEAD LIFTING: 7X19 IWRC B. DO NOT USE ANY DAMAGED OR PERMANENTLY DEFORMED WIRE ROPE.
- C. USE CONTINUOUS LINES FROM THE SAME SPOOL, FREE OF KNOTS, SPLICES OR INTERMEDIATE FASTENERS UNLESS SPECIFICALLY CALLED FOR ELSEWHERE IN THE CONTRACT DOCUMENTS.

2.4 PIPE GRID TERMINATIONS

- LIFTING LINE TERMINATIONS AT THE MOTORIZED PIPE GRIDS SHALL CONSIST OF A THIMBLE, A COPPER NICOPRESS FITTING, A JAW/JAW TURNBUCKLE, AND A PIPE CLAMP. MOUSE TURNBUCKLES WITH PLASTIC TIE WRAP. WIRE MOUSING IS NOT ACCEPTABLE.
- SECURE THE LOOSE ENDS OF THE WIRE ROPE TO THE STANDING PORTION OF THE LINES WITH PLASTIC TIE WRAP.
- C. SECURE THE LOOSE ENDS OF THE WIRE ROPE TO THE STANDING PORTION OF THE LINES WITH PLASTIC TIE WRAP.
- PROVIDE PIPE GRID HANGERS FOR STATIONARY PIPE GRID AS SHOWN ON THE DRAWINGS. DESIGN THE HANGER ASSEMBLIES FOR THE DEAD LOAD OF THE PIPE GRID, PLUS A MINIMUM LIVE LOAD OF 30 LBS. PER LINEAR FOOT TO MAXIMUM ANTICIPATED TOTAL LIVE LOADS AS NOTED:
- 1. STATIONARY PIPE GRID MAXIMUM ANTICIPATED LIVE LOAD IS 5000 POUNDS.

2.5 PIPE GRID

- THE PIPE GRID SHALL CONSIST OF 1-1/2-INCH NOMINAL DIAMETER STANDARD WEIGHT (SCHEDULE 40) PIPE CONNECTED WITH CLAMPS.
- CLAMPS SHALL BE JR CLANCY "CROSS GRID CONNECTORS", OR APPROVED SUBSTITUTE. PROVIDE A CLAMP AT EVERY PIPE INTERSECTION.
- C. PIPE SPLICES SHALL BE MADE WITH AN 18-INCH-LONG, 1-9/16-INCH DIAMETER DOM TUBE WITH A MINIMUM WALL THICKNESS OF 3/16-INCH. WELD ONE END OF THE SPLICE TUBE. FASTEN THE OTHER END WITH TWO
- 3/8-INCH BOLTS. D. PAINT THE PIPE GRID AND HANGER ASSEMBLIES BLACK.

2.6 SHEAVES

- A. SHEAVES FOR MANUAL SETS SHALL BE MADE FROM HIGH STRENGTH NYLON RESIN OR REINFORCED POLYMER COMPOSITE.
- SHEAVE GROOVES SHALL CONFORM TO CABLE AND ROPE MANUFACTURERS' STANDARDS FOR GROOVE SHAPE AND TOLERANCE
- C. SHEAVES SHALL HAVE PRECISION BALL BEARINGS. BEARINGS SHALL BE RATED FOR THE MAXIMUM STATIC AND DYNAMIC LOADS AT 300 FEET PER MINUTE MAXIMUM RPM, PLUS MANUFACTURER'S RECOMMENDED SAFETY
- D. SHAFTS SHALL BE MADE OF MACHINED STEEL.

FACTOR. MINIMUM LIFESPAN RATING: 2000 HOURS.

- SHEAVE HUBS SHALL BE SIZED TO PROVIDE ADEQUATE LOAD SUPPORT FOR THE BEARING ASSEMBLY. HUB BORES SHALL CONFORM TO THE TOLERANCES OF THE BEARING MANUFACTURER.
- F. SHEAVES SHALL ROTATE PLUMB AND TRUE WITHOUT TOUCHING THE SIDE PLATES.

2.7 LOFT BLOCKS

- A. LOFT BLOCKS SHALL BE DESIGNED AND FABRICATED TO SUPPORT A 500-POUND MINIMUM MANUFACTURER'S RECOMMENDED WORKING LOAD.
- B. LOFT BLOCK SHEAVES SHALL BE 8 INCHES IN DIAMETER.
- C. SHEAVES SHALL HAVE 5/8-INCH MINIMUM DIAMETER SHAFTS.
- D. SIDE PLATE THICKNESS SHALL BE 12-GAUGE MINIMUM. PROVIDE PIPE SPACERS TO STIFFEN THE SIDE PLATES AND PREVENT THE WIRE ROPE FROM LEAVING THE GROOVES.
- E. BASE ANGLES SHALL BE 1-1/2 X 1-1/2-INCH MINIMUM.
- F. EACH LOFT BLOCK SHALL HAVE A SINGLE-LINE SHEAVE.
- G. LOFT BLOCKS SHALL BE LABELED WITH THE FOLLOWING INFORMATION:
 - MANUFACTURER CONTACT INFORMATION
- RECOMMENDED WEIGHT LIMIT CAPACITY.

2.8 PIPE GRID HOIST

- A. LINE SHAFT HOISTS SHALL HAVE THE FOLLOWING FEATURES:
- 1. CAPACITY: 2500 POUNDS
- 2. SPEED: 20 FEET PER MINUTE
- SPRING APPLIED, ELECTRICALLY RELEASED MOTOR BRAKE RATED FOR 125% OF THE MOTOR FULL LOAD TORQUE
- 4. SECONDARY MECHANICAL BRAKE (LOAD OR OVERSPEED)
- 5. ROTARY LIMIT SWITCH FOR HIGH AND LOW TRAVEL AND OVERTRAVEL TRIMS.
- ROPE. DRUMS SHALL ACCEPT THE WIRE ROPE IN A SINGLE LAYER, PLUS THREE DEAD WRAPS.

C. MAINTENANCE AND SETUP CONTROLS SHALL BE PROVIDED.

B. DRUMS SHALL BE 8-INCH DIAMETER, HELICALLY GROOVED FOR WIRE

2.9 CABLE MANAGEMENT

2.10 MOTORIZED RIGGING CONTROLS

A. PROVIDE PLASTIC OR WOODEN TUBS TO COLLECT AND DEPLOY STAGE LIGHTING POWER AND CONTROL CABLE AS THE GRIDS RAISE AND LOWER. PAINT THE ASSEMBLY BLACK.

A. THE CONTROLS FOR THE RIGGING SYSTEM SHALL BE INTEGRAL TO THE

MOTOR CONTROL CABINET AND SHALL INCLUDE THE FOLLOWING 1. KEY OPERATED POWER SWITCH.

2. HOLD-TO-OPERATE UP AND DOWN OPERATION PUSHBUTTONS WITH

INDICATOR LIGHTS THAT ILLUMINATE WHEN A BUTTON IS PRESSED

AND THE MOTOR HAS REACHED ITS CORRESPONDING LIMIT.

3. DEDICATED E-STOP BUTTON

- 2.11 SIGNAGE A. PROVIDE "RIGGING INFORMATION" SIGNS, AS ILLUSTRATED IN THE
- DRAWINGS. WALL MOUNT ADJACENT TO RIGGING CONTROLLER. B. PROTECT THE ABOVE SIGNS WITH 1/8-INCH-THICK TRANSPARENT PLASTIC

SHEETS SCREWED TO THE WALL.

2.12 STAGE DRAPERY SCHEDULE A STUDIO DRAPERY SCHEDULE IS AS FOLLOWS:

Α.	STODIO DIVAFENT SCHEDOLE IS ASTOLLOWS			
	DESCRIPTION BLACKOUT	QUANTITY 4	HEIGHT 22'-0"	WIDTH 30'-0"
	CYC	1	22'-0"	50'-0"

APPROVED EQUAL. COLOR: BLACK.

GREEN SCREEN

2.13 FABRICS A. BLACKOUT DRAPES: 24 OUNCE, 100% TREVIRA CS POLYESTER. INHERENTLY FLAME RETARDANT VELOUR, KM FABRICS' "CHARISMA", OR

22'-0" 50'-0"

- B. MUSLIN CYCLORAMA: 100 PERCENT COTTON, .7 OUNCE PER SQUARE FOOT, SEAMLESS FABRIC. COLOR: BLEACHED WHITE.
- POLY PRO, OR APPROVED EQUAL. COLOR: CHROMA KEY GREEN. D. FABRICS SHALL BE FLAME TREATED IN A MANNER APPROVED BY THE APPROPRIATE LOCAL AGENCY, WHERE APPLICABLE. A NOTARIZED AFFIDAVIT SHALL ACCOMPANY THE DRAPERIES ATTESTING THAT ALL

C. GREEN SCREEN: 62" WIDE, INHERENTLY FLAME RETARDANT, ROSE BRAND

- FABRICS HAVE BEEN FLAME TREATED IN THE APPROVED MANNER. E. NO PIECED HORIZONTAL OR SPLIT WIDTHS OF FABRIC SHALL BE
- INCORPORATED IN ANY PART OF ANY DRAPERY. F. FABRICS OF 1 COLOR SHALL BE FROM 1 DYE LOT.
- G. VELOUR NAP SHALL RUN IN A CONSISTENT DIRECTION. NAP SHALL RUN UP FOR BLACK VELOUR MASKING PIECES.

FOR COORDINATION ONLY PROCURED UNDER SEPARATE CONTRACT.

PURCHASE COLLEGE

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735 ANDERSON HILL RD

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ARCHITECT

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2. ISSUE FOR BID 06/18/2018 ISSUE FOR BUDGETING 06/04/2018

NO. | REVISION/ISSUE

SEAL

PROJECT

INTERIOR

RENOVATION

MUSIC SOUND STAGE

DATE

AS NOTED

DATE: 06/18/2018 PROJECT NO: DA 1845 / SU-062518 DRAWN BY: SEM CHECKED BY:

DRAWING TITLE THEATRE RIGGING SPECIFICATIONS

SCALE:

SHEET NO.

TR 2.01

2.13 FABRICS

- A. BLACKOUT DRAPES: 24 OUNCE, 100% TREVIRA CS POLYESTER, INHERENTLY FLAME RETARDANT VELOUR, KM FABRICS' "CHARISMA", OR APPROVED EQUAL. COLOR: BLACK.
- B. MUSLIN CYCLORAMA: 100 PERCENT COTTON, .7 OUNCE PER SQUARE FOOT, SEAMLESS FABRIC. COLOR: BLEACHED WHITE.
- C. GREEN SCREEN: 62" WIDE, INHERENTLY FLAME RETARDANT, ROSE BRAND POLY PRO, OR APPROVED EQUAL. COLOR: CHROMA KEY GREEN.
- D. FABRICS SHALL BE FLAME TREATED IN A MANNER APPROVED BY THE APPROPRIATE LOCAL AGENCY, WHERE APPLICABLE. A NOTARIZED AFFIDAVIT SHALL ACCOMPANY THE DRAPERIES ATTESTING THAT ALL FABRICS HAVE BEEN FLAME TREATED IN THE APPROVED MANNER.
- E. NO PIECED HORIZONTAL OR SPLIT WIDTHS OF FABRIC SHALL BE INCORPORATED IN ANY PART OF ANY DRAPERY.
- F. FABRICS OF 1 COLOR SHALL BE FROM 1 DYE LOT.
- G. VELOUR NAP SHALL RUN IN A CONSISTENT DIRECTION. NAP SHALL RUN UP FOR BLACK VELOUR MASKING PIECES.

2.14 DRAPERY FABRICATION

- A. ALL DRAPERIES ARE SEWN FLAT AND ARE UNLINED.
- B. REINFORCE THE TOP OF EACH PIECE WITH POLYESTER WEBBING WEIGHING A MINIMUM OF 2.8 OUNCES PER YARD, AND DOUBLE STITCHED AT THE TOP. PROVIDE MACHINE-SET BLACK ANODIZED NO. 3 GROMMETS ON 1-FOOT CENTERS.
- C. PROVIDE EACH TRACKED PIECE WITH OBLONG SPRING, CARABINER TYPE SNAPS.
- D. HEM THE BOTTOMS WITH A 6-INCH-DEEP DOUBLE TURNED HEM WITH A SEPARATE CANVAS CHAIN POCKET APPROXIMATELY 3 INCHES ABOVE THE BOTTOM OF THE FACE FABRIC. PROVIDE NO. 8 ZINC COATED CHAIN.
- E. SEW BACK THE FACE FABRIC OF EACH PIECE 4 INCHES ON BOTH SIDES. THE SIDES OF EACH DRAPERY PIECE SHALL HANG PLUMB WITHIN 2 INCHES.
- F. LABEL EACH PIECE AT BOTH BOTTOM CORNERS WITH THE DIMENSIONS OF THE PIECE, THE MANUFACTURER, AND THE DATE OF MANUFACTURE.

2.15 TRAVELER TRACK

- A. VARIABLE ACOUSTIC TRACK IS MANUAL, "WALK-ALONG" STYLE AND SHALL BE H&H SPECIALTIES MODEL 501WB TRACK, OR APPROVED EQUAL. COLOR: BLACK
- B. PROVIDE CARRIERS ON 1-FOOT CENTERS, TRACK, SPLICE CLAMPS, AND END STOPS AS REQUIRED.
- C. MASTER AND SINGLE CARRIERS SHALL HAVE URETHANE-TIRED, BALL BEARING WHEELS. CARRIERS SHALL HAVE SWIVEL EYES AND TRIM CHAINS, AND RUBBER BUMPERS.
- D. PROVIDE MEANS OF ATTACHING THE TRACK TO THE UNISTRUT SUPPORT STRUCTURE.

PART 3 – EXECUTION

3.1 COORDINATION

- A. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING ALL DRAWINGS, SPECIFICATIONS, AND FIELD CONDITIONS WHICH AFFECT THE WORK IN THIS SECTION. NOTIFY THE ARCHITECT WHENEVER FIELD MEASUREMENTS, ANALYSIS OF THE DRAWINGS AND SPECIFICATIONS, OR PROGRESS OF OTHER TRADES INDICATES THAT THE WORK IN THIS SECTION CANNOT BE COMPLETED AS SPECIFIED OR AS SCHEDULED.
- B. WITHIN 6 WEEKS OF THE AWARD OF CONTRACT, AND PRIOR TO THE PREPARATION OF SHOP DRAWINGS, THE STAGE RIGGING CONTRACTOR SHALL SUBMIT A WRITTEN REVIEW OF RELATED WORK AS IT APPEARS ON THE CONTRACT DOCUMENTS. THE REVIEW SHALL IDENTIFY ERRORS, OMISSIONS OR OBSTRUCTIONS RELATED TO THE INSTALLATION AND OPERATION OF THE EQUIPMENT IN THIS SECTION. THE SOLE INTENT OF THIS WRITTEN REVIEW IS TO IDENTIFY POTENTIAL PROBLEMS AS SOON AS POSSIBLE. IT IS UNDERSTOOD THAT SOME ERRORS, OMISSIONS OR OBSTRUCTIONS MAY NOT BE EVIDENT UNTIL THE RIGGING CONTRACTOR PREPARES SHOP DRAWINGS.

3.2 JOB CONDITIONS

- A. THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS. THE CONTRACTOR SHALL ALSO BE FAMILIAR WITH THE WORK OF ADJOINING TRADES AND COORDINATE WITH THEIR WORK.
- B. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR THE EQUIPMENT FITTING THE INTENDED SPACES WITHOUT INTERFERENCE.

3.3 INSTALLATION

- A. ONLY TRAINED PERSONNEL SHALL INSTALL THE EQUIPMENT IN THIS SECTION.
- B. PROVIDE SCAFFOLDING AND PLATFORMS AS REQUIRED FOR INSTALLATION.
- C. WIRE ROPES SHALL BE ALIGNED AND MULED SO AS NOT TO TOUCH ANYTHING EXCEPT THEIR SHEAVE GROOVES AND TERMINATIONS.
- D. TURNBUCKLES SHALL BE MOUSED WITH PLASTIC TIE WRAP AFTER ADJUSTMENT. WIRE MOUSING IS NOT ACCEPTABLE.

TO THE MANUFACTURER'S RECOMMENDED TORQUE.

- E. SHACKLE SCREW PINS SHALL BE MOUSED WITH PLASTIC TIE WRAP. WIRE
- MOUSING IS NOT ACCEPTABLE.

 F. WIRE ROPE CLIPS SHALL BE SPACED AND BOLTS SHALL BE TIGHTENED
- G. ATTACH NICOPRESS SLEEVES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS. CHECK THE CRIMPS WITH THE MANUFACTURER'S GO/NO-GO GAUGE. CHECK THE ADJUSTMENT OF THE NICOPRESS TOOL

AFTER EVERY 50 CRIMPS. MAXIMIZE THE NUMBER OF IN-SHOP NICOPRESS

H. USE LOCK WASHERS WITH ALL PIPE CLAMPS.

ATTACHMENTS.

- SECURE ALL LOOSE EQUIPMENT, TOOLS AND DEBRIS FROM FALLING FROM THE GRIDIRON AND GALLERIES DURING ALL PHASES OF THE INSTALLATION.
- . AT THE END OF EACH DAY DURING THE INSTALLATION PERIOD, REMOVE ALL REFUSE AND SCRAP MATERIALS TO COLLECTION POINTS SPECIFIED BY THE OWNER UPON COMPLETION OF THE INSTALLATION, LEAVE ALL AREAS BROOM CLEAN.
- K. LOCATE ALL LOOSE SYSTEM PARTS AS DIRECTED BY THE OWNER.

3.4 PROTECTION OF EQUIPMENT

- A. PROTECT THE EQUIPMENT IN THIS SECTION FROM DAMAGE AND DETERIORATION, INCLUDING RUST, DURING ALL PHASES OF THE WORK, FROM THE TIME OF MANUFACTURE TO INSTALLATION.
- B. NOTIFY THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGER IN WRITING OF JOBSITE CONDITIONS THAT WOULD ADVERSELY AFFECT THE EQUIPMENT AFTER INSTALLATION. DO NOT INSTALL THE EQUIPMENT IF JOBSITE CONDITIONS BEYOND THE CONTROL OF THE RIGGING CONTRACTOR WILL RESULT IN DAMAGE OR DETERIORATION, INCLUDING RUST.
- C. RUST RESULTING FROM FLAWS IN MANUFACTURING AND FINISHING SHALL BE COVERED UNDER THE WARRANTY.

3.5 CLEANING AND REPAIR

- A. WHEN CONSTRUCTION IS COMPLETE, RESTORE ALL SYSTEM COMPONENTS TO THEIR DELIVERED CONDITION. THIS INCLUDES DUSTING, CLEANING, AND REMOVAL OF CONSTRUCTION MATERIALS SUCH AS FIREPROOFING.
- B. REPAIR ANY WORK OR FINISHES THAT ARE DAMAGED DURING INSTALLATION BY THE CONTRACTOR FOR THE WORK IN THIS SECTION. THIS INCLUDES THE WORK IN THIS SECTION AND THE WORK OF OTHERS. WHERE THE WORK OF OTHERS IS DAMAGED, REIMBURSE THE APPROPRIATE CONTRACTOR FOR THE REPAIR.

3.6 OPERATION OF EQUIPMENT

- A. PRIOR TO COMPLETION OF THE INSTALLATION AND TURNOVER TO THE OWNER, THE EQUIPMENT IN THIS SECTION SHALL BE OPERATED BY EMPLOYEES OF THE CONTRACTOR, THOSE AUTHORIZED BY THE CONTRACTOR, OR THOSE UNDER THE CONTRACTOR'S SUPERVISION.
- B. THE CONTRACTOR SHALL ADVISE THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGER IN WRITING OF ANY UNAUTHORIZED OPERATION OF THE EQUIPMENT.

3.7 DRAPERY INSTALLATION

- A. HANG ALL DRAPERIES FOR INSPECTION AND ACCEPTANCE. THE OWNER SHALL ASSUME RESPONSIBILITY FOR SOILING AND DAMAGE AFTER ACCEPTANCE.
- B. DO NOT HANG THE DRAPERIES IF ENVIRONMENTAL CONDITIONS IN THE BUILDING WILL BE DETRIMENTAL TO THE GOODS. NOTIFY THE ARCHITECT AND THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGER IN WRITING OF ANY ADVERSE ENVIRONMENTAL CONDITIONS.

3.8 COMMISSIONING AND PUNCHLISTING

- A. THE CONTRACTOR SHALL WORK WITH THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGER TO ARRANGE FOR A PUNCHLISTING PERIOD FOR THE WORK IN THIS SECTION. THE PUNCHLISTING PERIOD SHALL TAKE PLACE AT LEAST 2 MONTHS BEFORE THE FIRST SCHEDULED REHEARSAL ON STAGE. PUNCHLISTING SHALL CONSIST OF A MINIMUM OF AN 8-HOUR DAY. THE BUILDING SCHEDULE SHALL BE SUCH THAT NO OTHER CONFLICTING OR OBSTRUCTING ACTIVITY IS TAKING PLACE. PUNCHLISTING SHALL INCLUDE THE OPERATION OF EVERY COMPONENT OF EACH SYSTEM SPECIFIED HERE.
- B. PRIOR TO PUNCHLISTING, THE RIGGING CONTRACTOR SHALL COMMISSION THE SYSTEM AND CERTIFY THAT THE INSTALLATION IS COMPLETE AND READY FOR PUNCHLISTING BY THE THEATRE CONSULTANT. IF SUBSTANTIAL PORTIONS OF THE INSTALLATION ARE NOT COMPLETE, REQUIRING THE CONSULTANT TO MAKE ANOTHER PUNCHLIST TRIP, THE RIGGING CONTRACTOR SHALL COMPENSATE THE CONSULTANT FOR TIME SPENT AND TRAVEL EXPENSES. COMPENSATION SHALL BE AT THE CONSULTANT'S PREVAILING HOURLY AND PER DIEM RATES.

3.9 TRAINING

A. ASSIST THE OWNER IN BECOMING FAMILIAR WITH THE COMPLETED INSTALLATION AND PERSONALLY INSTRUCT REPRESENTATIVES OF THE OWNER IN THE PROPER OPERATION AND MAINTENANCE OF ALL EQUIPMENT PROVIDED.

3.10 OWNER'S ACCEPTANCE

- A. THE OWNER WILL ACCEPT THE WORK IN THIS SECTION UPON THE SATISFACTORY COMPLETION OF ALL PUNCH LIST ITEMS.
- B. PRIOR TO FINAL ACCEPTANCE, THE OWNER RESERVES THE RIGHT TO USE ANY COMPLETED PORTION OF THE WORK IN THIS SECTION AT NO ADDITIONAL COST, UNLESS SAID USE POSES A POTENTIAL HAZARD TO PERSONNEL OR RISKS DAMAGE TO THE WORK IN THIS SECTION OR THE WORK OF OTHERS.
- C. THE WARRANTY PERIOD SHALL COMMENCE UPON FINAL ACCEPTANCE BY THE OWNER.

END OF SECTION

SECTION 266010

RIGGING SYSTEMS ELECTRICAL WORK

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

- A. THE WORK OF THIS SECTION INCLUDES ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES NECESSARY TO COMPLETE THE STAGE RIGGING AND DRAPERIES INSTALLATION, AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN, INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:
 - 1. MOTORIZED PIPE GRIDS
- 3. THE CONTRACTORS FOR THE ABOVE WORK WILL FURNISH THE CONTROL SYSTEM COMPONENTS. THE ELECTRICAL CONTRACTOR SHALL INSTALL THE SYSTEM COMPONENTS, PROVIDE CONDUIT AND WIRE RUNS BETWEEN COMPONENTS, AND PERFORM ALL TERMINATIONS.
- C. ELECTRICAL SERVICE FOR THE ABOVE WORK IS SHOWN ON THE E-SERIES DRAWINGS.
- D. THE TR-SERIES CONTRACT DRAWINGS PROVIDE BLOCK DIAGRAMS AND EQUIPMENT LOCATIONS. THE FINAL DESIGN OF THE CONTROL SYSTEMS IS THE RESPONSIBILITY OF THE RESPECTIVE CONTRACTORS, WHO WILL SUPERVISE THE ELECTRICAL CONTRACTOR'S WORK.

1.3 PRACTICES AND PROCEDURES

A. PRACTICES AND PROCEDURES FOR THE WORK IN THIS SECTION SHALL CONFORM TO APPLICABLE SECTIONS IN THIS DIVISION.

END OF SECTION

SECTION 116123

DEMOUNTABLE PLATFORMS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 WORK INCLUDED

- A. THE WORK IN THIS SECTION IS PART OF THE BASE BID AND INCLUDES ALL LABOR, MATERIALS AND EQUIPMENT TO FURNISH AND INSTALL THE FOLLOWING:
- MOBILE CONTROL BOOTH

1.3 RELATED WORK

- A. RELATED WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:
- FINISHED SOUND STAGE FLOOR.

1.4 POST-BID SUBMITTALS

- A. SUBMITTAL PROCEDURES SHALL BE AS DICTATED BY THE ARCHITECT.
- B. SUBMIT SHOP DRAWINGS FOR FABRICATION AND INSTALLATION. INCLUDE PLANS, DETAIL SECTIONS, AND RELATED CONDITIONS. INDICATE MATERIALS, METHODS, FINISHES, ATTACHMENTS, AND ACCESSORY
- C. SHOP DRAWINGS SHALL REFLECT FIELD SURVEY INFORMATION.
- D. SUBMIT LOAD DATA FOR THE PLATFORM SYSTEM, INCLUDING SAFE WORKING LOADS, PROOF LOADS, AND ANY SPECIAL CONDITIONS RELATING TO THE USE OF THE PLATFORM SYSTEM.
- E. UPON COMPLETION OF THE INSTALLATION, PROVIDE 1 REDUCED SET OF THE SHOP DRAWINGS IN A 3-RING BINDER FOR THE OWNER. IN ADDITION, PROVIDE ELECTRONIC COPIES OF THE SHOP DRAWINGS FOR THE OWNER, THE ARCHITECT AND THE THEATRE CONSULTANT. ELECTRONIC COPIES SHALL BE IN PDF FORMAT.
- F. PROVIDE 1 HARD COPY OF AN INSTRUCTION AND MAINTENANCE MANUAL FOR THE OWNER. IN ADDITION, PROVIDE ELECTRONIC COPIES OF THE MANUAL FOR THE OWNER, THE ARCHITECT AND THE THEATRE CONSULTANT. ELECTRONIC COPIES SHALL BE IN PDF FORMAT. THE MANUAL SHALL INCLUDE:

G. SYSTEM DESCRIPTION.

- . OPERATION INSTRUCTIONS, INCLUDING SAFETY MEASURES.
- 2. MAINTENANCE INSTRUCTIONS, INCLUDING RECOMMENDED PROCEDURES AND SCHEDULES FOR INSPECTING SYSTEM COMPONENTS.
- 3. CATALOG CUTS FOR ALL PURCHASED EQUIPMENT
- H. INSTRUCTION AND MAINTENANCE MANUALS SHALL BE PROVIDED AT THE TIME OF OWNER TRAINING

1.5 WARRANTY

A. WARRANT THE EQUIPMENT IN THIS CONTRACT TO BE FREE OF DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF 2 YEARS AFTER ACCEPTANCE OF THE COMPLETED INSTALLATION BY THE OWNER. DEFECTIVE WORK SHALL BE REPAIRED AND REPLACED AT NO COST TO THE OWNER. THE WARRANTY SHALL NOT COVER THE RESULTS OF NORMAL USE, NOR SHALL IT COVER DAMAGE DUE TO NEGLECT OR IMPROPER USE OF THE EQUIPMENT.

1.6 APPLICABLE STANDARDS

A. ALUMINUM ASSOCIATION:

- 1. AA STANDARD AA-M12C22A41.
- 2. AA STANDARD AA-M12C22A42/44.
- B. AMERICAN INSTITUTE OF STEEL CONSTRUCTION: AISC MANUAL OF STEEL CONSTRUCTION
- C. AMERICAN PLYWOOD ASSOCIATION: US. PRODUCT STANDARD PS 1-83
- D. AMERICAN SOCIETY FOR TESTING AND MATERIALS

AND STUDS, 60,000 PSI TENSILE STRENGTH.

- ASTM A36: STANDARD SPECIFICATION FOR STRUCTURAL STEEL.
 ASTM A283: STANDARD SPECIFICATION FOR LOW AND
- INTERMEDIATE TENSILE STRENGTH CARBON STEEL PLATES.

 3. ASTM A307: STANDARD SPECIFICATION FOR CARBON STEEL BOLTS
- ASTM A325: STANDARD SPECIFICATION FOR HIGH-STRENGTH BOLTS FOR STRUCTURAL STEEL JOINTS.
- 5. ASTM A500: STANDARD SPECIFICATION FOR COLD-FORMED WELDED AND SEAMLESS CARBON STEEL STRUCTURAL TUBING IN ROUNDS AND SHAPES.
- 6. ASTM A501: STANDARD SPECIFICATIONS FOR HOT-FORMED WELDED AND SEAMLESS CARBON STEEL STRUCTURAL TUBING.

ASTM A570: STANDARD SPECIFICATION FOR STEEL, SHEET AND

STRIP, CARBON, HOT-ROLLED, STRUCTURAL QUALITY.

8. ASTM B209: STANDARD SPECIFICATION FOR ALUMINUM-ALLOY

SHEET AND PLATE. E. AMERICAN WELDING SOCIETY (AWS):

- AWS D1.1 STRUCTURAL WELDING CODE-STEEL
- 2. AWS D1.3 STRUCTURAL WELDING CODE-SHEET STEEL, SECOND EDITION.
- F. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA): NFPA 102: STANDARD FOR ASSEMBLY SEATING, TENTS, AND MEMBRANE STRUCTURES.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS AND PRODUCTS

A. THE FOLLOWING ARE ACCEPTABLE PRODUCTS AND MANUFACTURERS:

. "SC90" SINGLE SIDED DECK STAGING CONCEPTS

8400 WYOMING AVENUE NORTH, SUITE 100

MINNEAPOLIS, MN 55445

2. "ALL PURPOSE STAGE DECK" DECK STAGERIGHT CORPORATION 495 PIONEER PARKWAY CLARE, MICHIGAN 48617 (800) 438-4499

3. "VERSALITE" DECK

(763)533-2094

WENGER CORPORATION 555 PARK DRIVE OWATONNA MINNESOTA 55060 (507) 455-4100

- B. TYPICAL PLATFORM DETAILS
- C. PLATFORMS SHALL SUPPORT A MINIMUM LIVE LOAD OF 150 POUNDS PER SQUARE FOOT.
- PLATFORMS SHALL HAVE INTEGRAL LOCKS FOR ATTACHING ADJACENT
- E. PLATFORM EDGING SHALL BE EXTRUDED ALUMINUM WITH A MILLED FINISHED DESIGNED TO ACCEPT ACCESSORY COMPONENTS.
- F. SUPPORT LEGS SHALL PERMIT 2 INCH FINE-LEVELING ADJUSTMENT WITH A NON-MARRING SCREW FOOT.
- G. BRIDGE SUPPORTS ARE ACCEPTABLE, IF APPLICABLE TO A MANUFACTURERS' SYSTEM.
- H. FLOOR SURFACE SHALL BE TEMPERED BOARD PAINTED BLACK TO MATCH THE STAGE FLOOR, (IF PAINTED HARDBOARD FLOOR FINISH).
- I. PROVIDE CHAIR STOPS FOR ALL SIDES OF MOBILE UNIT.

BE COMPLETED AS SPECIFIED OR AS SCHEDULED.

PART 3 – EXECUTION

3.1 COORDINATION
 A. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING ALL DRAWINGS,
 SPECIFICATIONS, AND FIELD CONDITIONS WHICH AFFECT THE WORK IN
 THIS CONTRACT. NOTIFY THE OWNER WHENEVER FIELD MEASUREMENTS,
 ANALYSIS OF THE DRAWINGS AND SPECIFICATIONS, OR PROGRESS OF

3.2 JOB CONDITIONS

A. THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS. THE CONTRACTOR SHALL ALSO BE FAMILIAR WITH THE WORK OF ADJOINING TRADES AND COORDINATE WITH THEIR

OTHER TRADES INDICATES THAT THE WORK IN THIS CONTRACT CANNOT

B. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR THE EQUIPMENT FITTING THE INTENDED SPACES WITHOUT INTERFERENCE.

3.3 PROTECTION OF EQUIPMENT

A. PROTECT THE EQUIPMENT IN THIS SECTION FROM DAMAGE AND DETERIORATION, INCLUDING RUST, DURING ALL PHASES OF THE WORK, FROM THE TIME OF MANUFACTURE TO INSTALLATION.

3.4 CLEANING AND REPAIR

A. REPAIR ANY WORK OR FINISHES THAT ARE DAMAGED DURING INSTALLATION BY THE CONTRACTOR FOR THE WORK IN THIS SECTION. THIS INCLUDES THE WORK IN THIS CONTRACT AND THE WORK OF OTHERS. WHERE THE WORK OF OTHERS IS DAMAGED, REIMBURSE THE APPROPRIATE CON TRACTOR FOR THE REPAIR.

3.5 COMMISSIONING AND PUNCHLISTING

- A. THE CONTRACTOR SHALL WORK WITH THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGER TO ARRANGE FOR A PUNCHLISTING PERIOD FOR THE WORK IN THIS SECTION. PUNCHLISTING SHALL CONSIST OF A MINIMUM OF ONE 4-HOUR DAY. THE BUILDING SCHEDULE SHALL BE SUCH THAT NO OTHER CONFLICTING OR OBSTRUCTING ACTIVITY IS TAKING
- B. DURING THE PUNCHLISTING PERIOD, THE MOBILE CONTROL UNIT SHALL
 BE DEPLOYED IN EACH OF ITS INTENDED POSITIONS. THE CONTRACTOR
 SHALL PROVIDE LABOR AS REQUIRED FOR THE SPECIFIED PUNCHLISTING.
- C. PRIOR TO PUNCHLISTING, THE CONTRACTOR SHALL COMMISSION THE SYSTEM AND CERTIFY THAT THE INSTALLATION IS COMPLETE AND READY FOR PUNCHLISTING BY THE THEATRE CONSULTANT. IF SUBSTANTIAL PORTIONS OF THE INSTALLATION ARE NOT COMPLETE, REQUIRING THE CONSULTANT TO MAKE ANOTHER PUNCHLIST TRIP, THE CONTRACTOR SHALL COMPENSATE THE CONSULTANT FOR TIME SPENT AND TRAVEL EXPENSES. COMPENSATION SHALL BE AT THE CONSULTANT'S

3.6 TRAINING

A. DEPLOYMENT OF THE MOBILE CONTROL UNIT DESCRIBED ABOVE FOR PUNCHLISTING SHALL ALSO SERVE AS THE OWNER TRAINING SESSION

END OF SECTION

PREVAILING HOURLY AND PER DIEM RATES.

FOR COORDINATION ONLY PROCURED UNDER SEPARATE CONTRACT.

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2. ISSUE FOR BID 06/18/2018

1. ISSUE FOR BUDGETING 06/04/2018

DATE

PROJECT

NO. | REVISION/ISSUE

SEAL

INTERIOR RENOVATION MUSIC SOUND STAGE

DATE: 06/18/2018

PROJECT NO: DA 1845 / SU-062518

DRAWN BY: SEM

CHECKED BY: AS

SCALE: AS NOTED

DRAWING TITLE

THEATRE RIGGING SPECIFICATIONS

SHEET NO.

TR2.02