PROVO SCHOOL DISTRICT

TIMPVIEW HIGH SCHOOL STAGE

3570 Timpview Drive
Provo, Utah 84604

Specifications

Construction Documents

May 02, 2017

FFKR ARCHITECTS

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SECTION 01 1000 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Access to site.
4. Coordination with occupants.
5. Work restrictions.

1.2 PROJECT INFORMATION

A. Project Identification: Provo School District - Timpview High School Stage.

1. 3570 Timpview Drive; Provo, Utah 84604.

B. Owner: Provo School District.

C. Architect: FFKR Architects, 730 Pacific Avenue, Salt Lake City, Utah 84104, (801) 521-6186.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:

1. Replacement of existing stage floor. Selective demolition includes removal of existing stage floor down to concrete substrate. New construction includes new stage floor and new temporary infill floor at orchestra pit.

A. Type of Contract:

1. Project will be constructed under a single prime contract.

1.4 ACCESS TO SITE

A. Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Limits: Confine construction operations to areas as coordinated with Owner for each phase of construction.

2. Driveways, Walkways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

    a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
    b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.5 COORDINATION WITH OCCUPANTS

A. Partial Owner Occupancy: Owner may occupy the existing building during construction and the premises during entire construction period, with the exception of areas under construction. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations. Maintain existing exits unless otherwise indicated.

1. Arrange each day’s Work to assure that demolition Work does not disrupt students in their regular classes.
2. Coordinate areas of staging of equipment and materials with the District and building’s maintenance personnel to minimize conflict with occupant’s activities.
3. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
4. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

1.6 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.

B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:

1. Notify Owner not less than two days in advance of proposed utility interruptions.
2. Obtain Owner's written permission before proceeding with utility interruptions.

C. Controlled Substances: Use of tobacco products and other controlled substances on Project site is not permitted.

D. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.

E. Sales Tax Exemption: **S**ales tax is not required on construction materials that are clearly identified and installed or that are converted to real property that will be owned by the Provo School District. Coordinate purchases by subcontractors and suppliers to assure that titles to construction materials pass to the School District (or the General Contractor on behalf of the School District) upon delivery to the construction site.

1. Use TC-721G Tax Exemption Certificate.

F. Employee Status Verification: Register and participate in Status Verification System. E-verify work eligibility status of all employees and subcontractor employees. Refer to Utah Code - Title 63G, Chapter 11, Section 103: (63G-11-103: Status verification system – Registration and use – Performance of services –Unlawful practice).

1. Use free online federal program (E-Verify) to check names and identification documents of all employees. The Government offers toll-free assistance with E-Verify by calling 888-464-4218, or E-Verify can be located online at www.uscis.gov/E-Verify.

G. Employee Drug Testing: Maintain drug and alcohol testing policy, during period of construction contract, that applies to every individual hired. Refer to Utah Code - Title 63G, Chapter 6, Section 604: (63G-6-604: Drug and alcohol testing required for state construction contracts).

1. Provide evidence that each worker employed on project has complied with drug and alcohol testing policy for their company.

H. Manufacturers: This specification was prepared under the direction of the Owner with regard to adhering to their established standards. Although the items are the Owner's preferred choice, suppliers may bid other manufacturers as proposed substitutions for the Owner's review. The use of brand names in this specification manual is not intended to limit bidding competition, but to establish a level of quality, performance and characteristics desired.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 1000

SECTION 02 4119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of existing stage floor down to concrete substrate.

1.2 DEFINITIONS

A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.

B. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.

1.3 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.4 PREINSTALLATION MEETINGS

A. Predemolition Conference: Conduct conference at Project site.

1. Inspect and discuss condition of construction to be selectively demolished.
2. Review areas where existing construction is to remain and requires protection.

1.5 INFORMATIONAL SUBMITTALS

A. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property. Indicate proposed locations and construction of barriers.

B. Schedule of Selective Demolition Activities: Indicate the following:

1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's building manager's on-site operations are uninterrupted.
2. Interruption of utility services. Indicate how long utility services will be interrupted.
3. Coordination of Owner's continuing occupancy of portions of existing building.

C. Predemolition Photographs: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by demolition operations.

1.6 FIELD CONDITIONS

A. Owner may occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.

1. Hazardous materials will be removed by Owner before start of the Work.
2. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1.7 COORDINATION

A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.

B. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.

1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

C. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

D. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video.

1. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

3.3 PROTECTION

A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
2. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
3. Cover and protect furniture, furnishings, and equipment that have not been removed.

B. Remove temporary barricades and protections where hazards no longer exist.

3.4 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
2. Maintain adequate ventilation when using cutting torches.
3. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
4. Dispose of demolished items and materials promptly.

B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn demolished materials.

3.6 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 02 4119

SECTION 09 6405 – STAGE WOOD FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Stage wood flooring and substrate.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

1. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Include physical properties of treated materials.

B. Shop Drawings: For floor assembly and accessory. Include plans, elevations, sections, details, and attachments to other work. Include expansion provisions and trim details.

C. Samples: 12 inch square finished floor assemblies.

1.3 INFORMATION SUBMITTALS

A. Qualification Data: For Installer.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For wood floor assemblies and finish systems to include in maintenance manuals.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials described below, before installation begins, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Wood Flooring: Equal to 1 percent of amount installed for hardboard wood flooring indicated.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Specialist in installation of wood flooring materials and regularly engaged in installation of same with not less than 3 years successful experience in installation of Work of similar scope. Qualified bidders must have experience as contractors responsible for the installation of at least two stage floors (references must be provided), and must be familiar with manufacturer's recommendations for installation of materials.

B. Fire-Test-Response Characteristics: For assemblies with fire-resistance ratings, provide materials and construction identical to those of assemblies tested for fire resistance per ASTM E 119 by a testing and inspecting agency acceptable to authorities having jurisdiction.

1. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory."
2. Certification: Provide flooring that carries MFMA mark on each bundle or piece.

C. Mockup: Build mockup of typical stage floor area to set quality standards for sanding and application of field finishes,

1. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver wood stage flooring materials in unopened cartons or bundles.

B. Protect wood stage flooring from exposure to moisture. Do not deliver wood stage flooring until after concrete, masonry, and similar wet work is complete and dry.

C. Store wood stage flooring materials in a dry, warm, ventilated, weathertight location.

D. Stack plywood and other panels flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

1.8 PROJECT CONDITIONS

A. Conditioning period begins not less than seven days before wood stage flooring installation, is continuous through installation, and continues not less than seven days after wood flooring installation.

1. Environmental Conditioning: Maintain an ambient temperature between 65 and 75 deg F and relative humidity planned for building occupants in spaces to receive wood flooring during the conditioning period.
2. Wood Flooring Conditioning: Move wood stage flooring into spaces where it will be installed, no later than the beginning of the conditioning period.

a. Do not install flooring until it adjusts to relative humidity of, and is at same temperature as, space where it is to be installed.
b. Open sealed packages to allow wood stage flooring to acclimatize immediately on moving flooring into spaces in which it will be installed.

B. After conditioning period, maintain relative humidity and ambient temperature planned for building occupants.

PART 2 - PRODUCTS

2.1 WOOD PANEL PRODUCTS, GENERAL

A. Plywood: DOC PS 1.

B. Hardboard Flooring: S2S; with back side sanded.

C. Factory mark panels to indicate compliance with applicable standard.

D. Provide materials that comply with requirements of referenced quality standard for each type of woodwork and quality grade specified unless otherwise indicated.

1. Do not use plain-sawn softwood lumber with exposed, flat surfaces more than 3 inches wide.
2. Wood Moisture Content: 5 to 10 percent.

2.2 FIRE-RETARDANT-TREATED PLYWOOD

A. General: Comply with performance requirements in AWPA C27.

1. Use treatment that does not promote corrosion of metal fasteners.
2. Use Interior Type A, unless otherwise indicated.

B. Kiln-dry material after treatment to a maximum moisture content of 15 percent. Do not use material that is warped or does not comply with requirements for untreated material.

C. Identify fire-retardant-treated plywood with appropriate classification marking of UL, U.S. Testing, Timber Products Inspection, or another testing and inspecting agency acceptable to authorities having jurisdiction.

2.3 HARDBOARD STAGE FLOORING SUBFLOOR SYSTEM

A. Plywood Subflooring: Two layers, APA rated exterior structural, tongue and groove panels, "Sturd-I-Floor" or equal.

1. Nominal Thickness per Layer: Not less than 3/4 inch.

B. Wood Sleepers: Standard grade; continuous; kiln-dried Eastern hemlock, fir, pine, or spruce.

1. Size: Nominal 2 by 4 inches.
2. Sleeper Anchors: Manufacturer's standard, but not less than steel drive pins recommended by anchor manufacturer to achieve minimum 900-lbf pullout strength.
3. Sleeper Shims: In size and type recommended in writing by flooring manufacturer for application indicated.
4. Asphalt Primer: ASTM D 41.
5. Asphalt Mastic: ASTM D 312, Type I, cold-applied dead-level asphalt or Type III, hot-applied steep asphalt, as recommended in writing by manufacturer.

C. Resilient Pads: With air voids for resiliency and installed at manufacturer's standard spacing for product designation indicated above.

1. Type: Mason Industries “Super W” 50 durometer; 4 by 4 inches, or equal.
2. Material: Neoprene.
3. Thickness: 3/4 inch.

2.4 STAGE FIELD FLOORING

A. Hardboard Flooring:

1. Masonite hardboard.

a. Thickness: 3/16 inch.

2.5 ACCESSORY MATERIALS

A. Vapor Retarder: ASTM D 2103, polyethylene sheet not less than 10.0 mils thick.

B. Asphalt-Saturated Felt: ASTM D 4869, Type II.

C. Trowelable Leveling and Patching Compound: Latex-modified, hydraulic-cement-based formulation approved by wood flooring manufacturer.

D. Shims: Galvanized steel or wood, thickness as shown or required.

2.6 HARDBOARD STAGE FLOOR FINISHING

A. Basis of Design Paint: Tough Prime by Rosco, or equal approved by architect.

1. Color: Undiluted flat black.

2.7 VENT COVE WALL BASE

A. Vent cove wall base 4 inches high with 3 inch tow dimension to cover 1 1/2 inch perimeter floor gap at stage field flooring.

1. Basis of Design: Johnsonite Vent Cove Wall Base, synthetic rubber vent cove wall base, satin finish with vertical semi-circular vents along the back surface. Install using manufacturer's recommended adhesive.

2.8 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.

B. Fasteners at Hardboard Stage Floor: Black Flat Head Phillips drywall screws, fully countersunk to be level with surface. Length as required to embed 1/2 inch into substrate.

C. Thresholds and Saddles: To match wood stage flooring. Tapered on each side.

D. Power-Driven Fasteners: NES NER-272.

E. Adhesives: Manufacturer's standard for application indicated.

1. Concrete Primers: Manufacturer's standard for application indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas and conditions, with Installer present, for compliance with requirements for maximum moisture content, installation tolerances, and other conditions affecting performance of wood flooring.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

C. Existing Concrete Slabs: Verify that concrete substrates are dry and moisture-vapor emissions are within acceptable levels according to manufacturer's written instructions.

1. Moisture Testing: Perform tests so that each test area does not exceed 200 sq. ft., and perform no fewer than two tests in each installation area and with test areas evenly spaced in installation areas.

a. Perform anhydrous calcium chloride test per ASTM F 1869, as follows:

1) Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.

b. Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.

3.2 PREPARATION

A. Concrete Slabs: Grind high spots and fill low spots to produce a maximum 1/8-inch deviation in any direction when checked with a 10-foot straight edge.

1. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, and depressions in substrates.

B. Broom or vacuum clean substrates to be covered immediately before product installation. After cleaning, examine substrates for moisture, alkaline salts, carbonation, or dust. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 INSTALLATION

A. Vapor Retarder: Comply with NOFMA's "Installing Hardwood Flooring" for vapor retarder installation and the following:

1. Wood Flooring Nailed to Sleepers over Concrete: Install flooring over a layer of polyethylene sheet with edges overlapped 4 inched minimum over sleepers and turned up behind baseboards. Tape continuously. Tape around penetrations and perimeter.

B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction, unless otherwise indicated.

C. Securely attach to substrate by fastening as indicated, complying with the following:

1. NES NER-272 for power-driven fasteners.

D. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections. Install fasteners without splitting wood.

E. Installation Tolerances: 1/8 inch in 10 feet of variance from level.

3.4 HARDBOARD STAGE FIELD SUBFRAMING INSTALLATION

A. Attach metal shims, or other non-nailable components to adjacent components by suitable adhesive as required to maintain position for life of installation.

B. Sleepers:

1. Install perpendicular to direction of flooring, staggering end joints a minimum of 24 inches.
2. Space 24 inches o.c.
3. Shim and level sleepers and install anchors at spacing recommended by manufacturer, but not less than 30 inches o.c.
4. Anchor predrilled sleepers through resilient pads.
5. Allow no air gaps between components of system or between system and concrete.

C. Snubbers: Locate snubbers in areas as indicated in drawings and at transitions between floor types. Attach to concrete slab with suitable adhesive as required to maintain position for life of installation. Maintain 1/8 inch gap between snubber and underside of plywood substrate to limit floor deflection at doorway transitions under heavy loads. Install two runs of snubbers at transitions, 24 inches on center.

3.5 SUBFLOORING INSTALLATION

A. Fastening Methods: Fasten Subflooring to sleepers and blocking as indicated below:

1. Screw plywood sub-flooring to wood framing sleepers and blocking, spaced maximum of 8 inches.
2. Run upper layer of plywood 90 degrees to lower substrate. Overlap each layer over layer below by one half sheet so seams do not line up

3.6 HARDBOARD STAGE FIELD FLOOR INSTALLATION

A. Comply with AHA's "Application Instructions for Basic Hardboard Products" and with hardboard manufacturer's written instructions for preparing and applying hardboard floor.

1. Leaf out into position and leave for 48 hours minimum prior to fastening down hardboard flooring.
2. Trim panels only at perimeter. Lay sheets with 8 foot side parallel to proscenium and 4 foot side perpendicular to proscenium.
3. Lay out hardboard with seam on centerline of room, using full sheets. Overlap plywood subflooring by 1/2 sheet.
4. Fastening Method: Screw down with 1/16 inch to gaps between panels. Countersink screws level with top surface. Do not depress screws below top surface of finished floor material.

    a. Space screws no further than 16 inches apart.

3.7 FLOOR PERIMETER GAP

A. Maintain 1 1/2 inch gap between all sub floor and top hardboard layers and perimeter wall to allow for the floor expansion. Cover the gap with vented cove wall base.

3.8 FRONT OF STAGE SOLID WOOD BOARD INSTALLATION

A. Vapor Retarder: Install manufacturer’s recommended polyethylene film with joints lapped a minimum of 6 inches and sealed.

B. Underlayment: Install perpendicular to direction of flooring, staggering end joints in adjacent rows.

C. Wood Board Trim at Front of Stage: Nail board to wall and nail shoe molding or other trim to baseboard; do not nail to flooring.

D. Installation Tolerances: 1/8 inch in 10 feet of variance from level.

E. Paint board to match hardboard stage floor.

3.9 HARDBOARD FLOOR FINISHING

A. Do not buff or apply a sealer coat.

B. Paint: Apply specified undiluted flat black paint per manufacturer's recommendations.

C. Protect floors from traffic until finish is dry, and as recommended by finish material manufacturer.

3.10 PROTECTION

A. Protect installed wood stage flooring during remainder of construction period with covering of heavy kraft paper or other suitable material. Do not use plastic sheet or film that might cause condensation.

1. Do not move heavy and sharp objects directly over kraft-paper-covered wood flooring. Protect flooring with plywood or hardboard panels to prevent damage from storing or moving objects over flooring.
2. Do not cover solid wood floors after finishing until finish reaches full cure, and not before seven days after applying last finish coat.

END OF SECTION 09 6405

SECTION 11 6100 – ORCHESTRA PIT FILL AND NETTING SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

1. Orchestra pit filler panels and support structures.
2. Orchestra pit safety net.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review proposed orchestra pit filler system.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, performance properties, dimensions of individual components and profiles, calculations for filler panel support system and finishes for platform panels.
2. Include load capacities, assembly characteristics, and furnished accessories.

B. Shop Drawings: Fabrication and installation details for orchestra pit filler system and safety net.

1. Include plans, elevations, sections, assembly drawings, and details.
2. Include load capacities.
3. Show arrangement, locations, and details of filler panel support structure according to engineering design.
4. Complete orchestra pit filler schematics including parts, fastening methods, etc.

C. Samples: Samples of each component of product specified.

D. Delegated-Design Submittal: For orchestra pit filler system indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

A. Test Data: Submit test data from independent testing agencies demonstrating orchestra pit filler compliance with structural or performance standards.

B. Contractor Qualification Statement: Non-prequalified Contractors shall submit for approval, brochures bound in flexible binders containing a statement of the Contractor's qualifications. Include at least the following:

1. A list of orchestra pit filler systems of comparable size and scope to that described herein, completed by the Contractor in the last five years. Show project name, address, year of completion, and the name and telephone number of a person to contact who is a representative of the Owner or User.
2. A personal resume of formal education and experience of the qualified staff engineer who would direct the work.
3. A description of the Contractor's capabilities and facilities for assembly, shop fabrication, repair and servicing of theatre systems.

C. Operation and Maintenance Data: For orchestra pit filler panels to include in operation and maintenance manuals.

D. Sample warranty.

E. Record Drawings:

1. Submit to the Owner after final acceptance. Provide record drawing set that is 100 percent complete.
2. Stamp and date each drawing "Record Drawing."
3. Update Record Drawings if any revisions or modifications occur during warranty period.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Approved manufacturer listed in this section, with minimum 5 years of experience in manufacture of orchestra pit fillers in use in similar environments. Obtain orchestra pit fillers through one source from a single approved manufacturer.

B. Contractor’s Qualifications: Work of this Section shall be performed by a single firm. Provide complete systems complying with specifications and drawings together. Installer shall comply with the following requirements:

1. Install shall be experienced in the installation of professional theatre systems indicated and have completed within the past five years at least three projects of a size and scope comparable to the project described.
2. Installer shall have capabilities and in-house facilities for installation, shop fabrication and repair service of the specified orchestra pit filler systems.

    a. Supervisor shall be responsible for supervision of engineering work required to execute the contract, and approve and sign shop drawings.
    b. Supervisor shall represent the Installer at all meetings and conferences, and be present at the job site for final inspection.
    c. Supervisor shall be at the site during the entire installation period.

1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, and handle orchestra pit fillers in accordance with manufacturer's recommendations. Ship to jobsite only after roughing-in, painting work, and other related finish work has been completed and installation areas are ready to accept units and recommended temperature and humidity levels will be maintained during the remainder of construction.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions of openings and construction contiguous with stage curtains, rigging and openings by field measurements before fabrication and indicate measurements on Shop Drawings.

1.8 WARRANTY

A. Orchestra Pit Filler: Manufacturer's written warranty indicating manufacturer's intent to repair or replace components of orchestra pit fillers that fail in materials or workmanship within 5 years from date of Substantial Completion. Failures are defined to include, but are not limited to, the following:

1. Fracturing or breaking of unit components which results from normal wear and tear and normal use other than vandalism.
2. Delamination or other failures of glue bond of components.
3. Warping of components not resulting from leaks, flooding, or other uncontrolled moisture or humidity.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

1. Pre-qualified bidders are as follows:

a. JR Clancy, 7041 Interstate Island Road, Syracuse, NY 13209, 315-451-3440.
b. Norcostco, 825 Rhode Island Avenue S, Golden Valley, MN 55426, 763-221-8900.
c. Oasis Stage Werks, 249 South Rio Grande Street, Salt Lake City, UT 84101, 801-363-0364.
d. Protech Theatrical Services, Inc., 3431 North Bruce Street, North Las Vegas, NV 89030, 702-639-0290.

2.2 PERFORMANCE REQUIREMENTS (FOR BASE DESIGN)

A. Delegated Design: Engage a qualified professional engineer to design orchestra pit filler panel systems support (front and back support angles and its attachment).

B. Structural Performance: Orchestra pit filler panel and components shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

1. Structural Performance, Orchestra Pit Filler:

a. Uniform Live Load: 125 lbf/sq. ft. (6 kN/sq. m).
b. Point Load: No permanent deformation from 500 lb (227 kg) load on 2-inch (50 mm) diameter rubber wheeled caster.
c. Deflection: Not exceeding L/360 at design live load for 72 inch (1829 mm) long panel and span.

2. Structural Performance of Orchestra Pit Safety Net:

a. System meets or exceeds OSHA and ANSI standards for the safe protection of walking/working surfaces.
b. Net support the weight of a person falling from the stage.

C. Code Compliance:

1. Provide products equal to or better than that which is required by governing codes, ordinances, rules, and regulations.
2. Manufacturer systems in accordance with applicable standards and recommended practices and as indicated by the following.

a. American Standards for Testing and Materials (ASTM)

1) ASTM B 209: Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
2) ASTM B 221: Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
3) ASTM B 429: Specification for Aluminum-Alloy Extruded Structural Pipe and Tube.

b. National Association of Architectural Metal Manufacturers (NAAMM): Metal Finishes Manual for Architectural and Metal Products, 1988.
c. United States Institute for Theatre Technology (USITT)
d. American Hardboard Association (AHA): AHA A135.4-95: Basic Hardboard.
e. U.S. Department of Commerce, National Institute of Standards and Technology: DOC PS 1: U.S. Product Standard for Construction and Industrial Plywood.
f. Aluminum Association's Aluminum Standards and Data.

D. All bid proposals shall be based on materials, and installation as herein specified. Any and all deviations and exceptions to the specifications must be approved by addendum.

E. Field Welding: Conform to ASME standards. Welders employed to be certified and recertified within previous six months for position, rods, and types of steel used.

2.3 MATERIALS

A. General:

1. Fabricate components to resist rust and corrosion. Remove rust appearing during the Warranty period at no expense to the Owner.
2. Provide metal parts free from rust, scale, dirt, or welding spatter. All weldments or other metal components shall receive a coat of rust inhibitor primer prior to component assembly. Paint metal assemblies with finish coat.
3. Provide materials that are new and of first quality.

2.4 ORCHESTRA PIT FILLER

A. Orchestra Pit filler; General: Design and provide complete removable filler panel system and support structure for existing orchestra pit, including platform and support structure. Provide labor, materials, accessories, shipping, and services required for complete installation of the following:

1. For the BASE DESIGN provide orchestra pit filler panels that span the existing orchestra pit opening, resting on permanent steel angles at two sides of pit. Provide the following:

    a. Portable, interlocking platform system with individually-removable, acoustically-isolated, honeycomb panels. Align panel surface with surface of new stage floor.
    b. Platform and beam storage carts.
    c. Pit filler system shall spans orchestra pit opening without use of columns or legs.

2. For the ALTERNATE DESIGN provide orchestra pit filler panels that is resting on the existing orchestra pit floor.

B. Basis of Design: Orchestra pit filler design is based upon products of the manufacturer listed below. Provide basis of design product or approved comparable product.

1. Wenger, Strata Orchestra Pit Filler.
2. The use of columns for supporting pit cover is not acceptable.

C. Acceptable Alternates:

1. StageRight Corp., Honeycomb Core Deck with ME-1000 System.
2. Staging Concepts, SC90.

D. Materials:

1. Aluminum:

    a. Sheet and Plate: ASTM B 209 (ASTM B 209M).
    b. Extruded Bars, Profiles, and Tubes: ASTM B 221 (ASTM B 221M), 6063T alloy.
    c. Extruded Structural Pipe and Tube: ASTM B 429.

2. Softwood Plywood: DOC PS 1.
3. Hardboard: AHA A135.4, tempered grade.

E. Fabrication, General: Provide orchestra pit fillers meeting requirements of System Description and Performance Requirements Articles in Part 1, with the following characteristics:

1. Portable and storable in space indicated.
2. Easily set up and disassembled without use of special tools or loose fasteners.

F. Orchestra Pit Filler Framing Components:

1. Steel Angles: ASTM A 36/A 36M.

a. Anchors, General: Anchors capable of sustaining, without failure, a load equal to four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488/E 488M, conducted by a qualified independent testing agency.
b. Fabricate steel angles of sizes indicated and for attachment to concrete framing. Provide horizontally slotted holes to receive 3/4-inch bolts, spaced not more than 6 inches from ends and 24 inches o.c., unless otherwise indicated.
c. Provide mitered and welded units at corners.
d. Paint angles black to match stage.

2. Removable Main Support Beams:

a. Extruded aluminum with dual fastener tracks for panel connection and adjustable beam-to-stage connection bracket fastened to stage using threaded insert and 3/8 inch (9.5 mm) diameter threaded locking device.
b. Support beams to have threaded leveling feet allowing for adjustment.
c. Cross Beams: Extruded aluminum with single fastener track for panel connection, attached to main support beams with pin and socket connection requiring no tools.

3. Composite Panel Deck:

a. Thickness: 3 9/16 inch (90 mm) overall.
b. Panel Faces: Softwood Plywood, 11/32 inch (8.7 mm) thick, A-C Group One exterior.
c. Core: Phenolic impregnated paper honeycomb, 2 3/4 inch (70 mm) thick.
d. Panel Edges: Extruded PVC, with glass-filled nylon corners.
e. Panel Attachments: Integral spring-loaded screw assemblies.
f. Traffic Surface: Hardboard, tempered, 1/8 inch (3.2 mm), painted black to match stage wood floor.

4. Accessories: Storage and Transport Carts: Manufacturer's standard steel tube-framed transport carts configured for panel and frame components, with heavy-duty casters and clamping safety strap, configured deck units or framing members.

G. Finishes:

1. Metal Finishes:

a. Aluminum: Mill finish.
b. Steel: Powder-coated finish.

2. Hardboard Opaque Finish: 100 percent acrylic latex primer, specially formulated for adhesion to impermeable surfaces, 2-coat, satin finish, black.

    a. Basis of design product: Rosco, Tough Coat Primer.

2.5 ORCHESTRA PIT SAFETY NET

A. Orchestra Pit Safety Net: Provide a safety net system for the orchestra pit that complies with the following requirements.

1. Provide netting that allows conductor to conduct without impediment and allows adequate line of sight between the conductor, the musicians and the performers.
2. Provide netting that allows ventilation and light to the orchestra pit.
3. Provide netting that extends entire width and depth of the orchestra pit opening.
4. Provide netting that is acoustically transparent.

B. Netting: Removable, InCord Model N-820H, orchestra pit net to cover entire orchestra pit opening. Comply with the following:

1. Provide conductor flap in net that can be closed when not in use.
2. Cord Diameter: 3/16-inch.
3. Mesh Size: 2-1/2-inch square opening.
4. Breaking Strength: 719 pounds.
5. Dynamic Drop Test: 12,075 ft-lbs (16,373 N-m) ANSI A10.11 test method, 350 pound test weight dropped 34.5 feet into 17x24 foot bordered net without deformation.
6. Color: Black.

C. Anchor System: Anchor system at the walls and stage lip of the orchestra pit opening that allows safe loading and weight distribution is equal on all sides, per manufacturer's instructions. A diagrammatic layout is provided in the RS drawings. Coordinate dimensions and requirements with the structural contractor and the orchestra pit safety net manufacturer.

PART 3 - EXECUTION

3.1 SITE INSPECTION

A. Verify site conditions before beginning work. Provide work required to properly install and secure items in place. Any cutting or drilling of existing structural work shall be done only with prior approval.

B. Examine areas and conditions, with Installer present, for compliance with requirements for supporting members, blocking, installation tolerances, clearances, and other conditions affecting performance of stage-curtain work. Examine inserts, clips, blocking, or other supports required to be installed by others to support tracks and battens.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 WORKMANSHIP

A. Provide a trained foreman to supervise installation. All work shall be performed by mechanics skilled in their trade and in accordance with accepted shop drawings.

3.3 INSTALLATION

A. Install items true to plumb, line or level. Supply all material, hardware, supports and other items required for a complete and correct installation.

B. Cut and patch as necessary for proper installation of the system and repair any damage that occurs during construction.

C. Install work neatly, plumb and square. Keep the job adequately staffed at all times. Designate a field supervisor to be present on the job site and in responsible charge during all phases of installation and check out. Maintain same supervisor throughout the execution of the work unless circumstances beyond the control of the Contractor intervene. Execute without claim for extra payment, moderate moves or changes as are necessary to accommodate other equipment or preserve symmetry and pleasing appearance.

D. Paint all new supporting structures and enclosures that do not have a standard factory paint finish.

E. Orchestra Pit Filler:

1. Install orchestra pit fillers in location indicated to verify components are complete and operational.
2. Train Owner's personnel to assemble, adjust, operate, and maintain orchestra pit fillers.
3. Disassemble units following approval and store in location indicated.
4. Turn over operation and maintenance instructions to Owner.
5.

END OF SECTION 11 6100