DIVISION 11 – EQUIPMENT

11-40-00 Food Service Equipment

A. The Nutritional Services Program will support each school's population and is expected to serve breakfasts, lunches, suppers and fresh fruit and vegetable snacks each day. The Kitchens will function as a cook to serve operations and will receive and have storage for all deliveries to support the production schedule.

B. Instructions to the Food Service Consultant / Designer: Portland Public Schools Food Service Operation is supported by product deliveries from the District's Central Distribution Center. Product is transported up to twice daily in refrigerated trucks to each school location.

C. Design Criteria

1. Covered loading docks shall be provided. Overhead door (5'min. width) and a 3' man door preferred. If no overhead door, a 4' man door is required at minimum. All doors that open to the exterior are to have air curtains with plunger switch for auto on/off when doors open/close. Note: delivery zone should be kept separate from student areas.
2. Receiving area shall be minimum 10' wide x 10' long for temporary staging with a minimum 6' wide designated aisle to cold and dry storage rooms.
3. ADA access to kitchen/cafeteria areas shall be provided.
4. Size dry and cold storage rooms per the needs of the facility based on student population and anticipated participation. Size should be based on the Ed Spec.
5. Walk-in shelving shall be easily adjustable in 1" increments (up/down) and have cambro finish applicable for refrigerated environment. Bottom shelf shall be reinforced dunnage style. All shelves shall have removable mats sized to fit the warewasher. All shelving shall be mobile. Cambro or equivalent.
6. Dry storage shelving shall be easily adjustable in 1" increments (up/down) and have bright wire finish applicable for dry environment. Bottom shelf shall be reinforced dunnage style. All shelves shall have removable mats sized to fit the warewasher. All shelving shall be mobile. Note: rolling high-density track shelving is not to be used. Cambro or equivalent.
7. Serving lines shall be custom/stationary fixtures including the following:
    a. Stainless steel tops and bases fabricated from a minimum of 14 gauge stainless steel with plastic laminate (per ASTM E-162) front/end panels.
    b. Solid surface tray slides – heights to be confirmed with District on each project. No raised rails.
    c. Open storage under on operator side.
    d. Adjustable decorative food guards to meet Department of Health Codes. Stainless steel or powder coated color finish complimentary to color scheme.
    e. Convertible drop-in hot/cold wells to be provided for menu versatility. Wells are to have individual controls for each well. Wells are to meet standard NSF7 requirements with pans flush with counter top. LTI Quick Switch, Vollrath, or equivalent.
    f. Refrigerated drop-in cold wells. Wells are to meet standard NSF7 requirements with pans flush with counter top. Atlas Metal, LTI, or equivalent.
    g. Recessed control panels.
    h. Electrically wired refrigerated cold wells or steam wells shall have an internal, single point connection, that shall be 'hard wired' to a feeding circuit using a conduit that routes to an electrical disconnecting means. If a junction box is employed, it shall include a disconnecting light switch rated for the steam or cold well's full electrical load and a cover plate that incorporates a permanently mounted, padlock ready lock out device that allows for a

minimum size 5/16-inch diameter hole. If a knife style disconnect switch is used, it shall be fused with 'one-time' or 'non-time delay' fuses and have the same padlock ready requirements as the afore stated light switch option. The location of the disconnecting switch shall be preapproved by the P.P.S. Electrical Shop Foreman during the 'Plan and Review' stage of the project.

i. High School Serving Counter shall have passage ways at each end and at center to allow quick access to salad bars.
j. Designs and Themes to be specified by Nutrition Services Department.

8. No permanent floor mounted serving line stanchions allowed. Stanchions are to be portable with retractable tapes. Tensator or equivalent.
9. Mobile refrigerated salad/variety bars to meet or exceed NSF-7 standards while allowing food pans to remain flush to the counter top and safely hold fresh fruits and vegetables. Modular design shall match serving line except top and tray slide material which shall be solid surface (color TBD). Cabinet bases shall be plastic laminate faced enclosed storage base with locking access doors. Adjustable decorative food guards (matching main serving line) to meet Department of Health Codes.
10. Mobile refrigerated double or single sided refrigerated forced-air milk coolers shall be Energy Star rated. Finish shall be all stainless steel. Two minimum required.
11. Mobile breakfast carts shall have an enclosed base. Cart shall have all welded 14 gauge stainless steel top with 3-pan iced well. Three enclosed sides and open storage on staff side. Include tubular stainless steel side push handle. Casters shall be heavy-duty all-swivel with brakes. Size: 72” long x 30” wide. Hubert #76306 or equivalent.
12. Mobile point of sale stations with solid tray slide surface. Modular design shall match serving line except top and tray slide material which shall be solid surface (color TBD). Cabinet bases shall be faced with plastic laminate. Provide with, utility/cash drawer, bottom stainless steel shelf, and casters with brakes (two locking). Cord drop not needed due to tablet use.
13. Preference is for all mobile serving support equipment (milk coolers, salad bars, and point of sale stations) be located behind the Servery area coiling door so that equipment can remain in place and secured after hours.
14. Mobile frost top condiment bar modular design shall match serving line except top and tray slide material which shall be solid surface (color TBD). Cabinet base shall be plastic laminate faced enclosed storage base with locking access doors. Adjustable decorative food guard (matching main serving line) to meet Department of Health Codes. Unit should be positioned to allow visual oversight from Kitchen Staff and be on the Commons side of the point of sale stations.
15. Hand washing sinks shall be stainless steel with knee valve activation and insta-hot booster heaters. Hand sinks shall be provided at multiple locations throughout Kitchen to cover all working/serving zones. Maximum distance from any given work/serving area to a hand washing sink shall not exceed 20 LF.
16. Three 8’ long x 30” wide work stations are required: prep, hot production, cold food production.
17. Staff lockers shall be half-size to store personal belongings and hang a coat or, if space is restricted, provide box type lockers with a coat hanging rack.
18. Double stack combi-oven/steamers shall be either gas or electric; gas is preferred. Include 48” long gas quick disconnect assemblies with cable restraints. Existing school Kitchen renovations shall include upgrade to gas fired cooking equipment if feasible.
19. Type I canopy hood with Ansul fire protection system. Provide with auto start/on-demand technology as required by code. Type 1 Grease Hood or Type II Vapor

Hood requirements shall be determined based on equipment under hood and local/state codes.

20. Deep fat fryers and griddles shall not be used.
21. It is important that adequate space is provide between and around all cooking equipment to allow for staff maneuvering, cleaning, and service. Equipment doors, when in an open position, shall not impede on adjacent equipment. Coordination is to occur with the design team to ensure walls, columns, and ceilings are not in conflict with equipment clearances and operational requirements.
22. Reach-in refrigerators and freezers. Sizes and quantity shall be selected to meet the needs of the facility.
23. Food processor with 7-quart stainless steel cutter bowl. Unit shall have variable speed drive with large hoper and round hopper. Standard plates to include grating and slicing discs. Provide hummus disc if available.
24. Stainless steel, self-draining, drain boards with sink at dishwasher infeed to include rack storage below. Drainboards shall be sized for adequate soiled rack load and clean unload. Clean unload table shall allow for minimum four rack accumulation for proper air drying.
25. Waste collector (approved where disposers are prohibited) to reduce bulk food waste up to 50% and recirculate water for pre-washing water plume.
26. Hose reel (wall mount) for periodic clean out of warewasher and dishtables. Unit is to be located on the soiled side of the warewasher wall mounted above the sink table with clearance below the nozzle to allow unobstructed passage of full dishracks.
27. Three compartment stainless steel pot-washing sink table with self-draining drain boards, Provide standard faucet and spray rinse. Sink compartments shall be sized to fully immerse full size sheet pans.
28. Waste receptacles shall be Rubbermaid Slim Jim style.
29. Two compartment stainless steel prep sink table with self-draining drain boards and spray rinse with add-on faucet.
30. Mobile pot and pan shelving units to be provided by prep, production, and warewashing. Metro Max louvered 4-tier unit or equivalent.
31. Floor mats provided at sinks and along kitchen side of serving lines. Specify mats Nitrile antimicrobial with beveled edges. ¾" thick with holes for use in wet areas for non-slip. Mats sized for location.
32. Non-heated air curtain at receiving door when opening directly to loading dock or service yard. Air curtain shall have plunger switch for auto-on when doors open.
33. Reach-in and walk-in coolers, refrigerators and freezers to include remote temperature monitoring. Reach-ins are to be furnished compatible with the NAFEM Data Protocol latest version to allow automated management processes for a variety of administrative functions.
    a. Units to include:
        i. 1 power and 1 data required for each unit.
        ii. For retrofits, Sensor location probe to be installed 12"on interior of intake side of the fan coil unit. ¼" hole for probe conduit; seal with putty. Sensa Tronics heavy duty temperature probe (25') or District approved equal.
        iii. 1 temperature monitor for each probe and located no more than 20' from designated power and data. Sensa Tronics Model E4 or District approved equal.
        iv. PPS IT to configure monitors prior to installation.
        v. Remote refrigeration systems for walk-in cold storage rooms shall be specified with QRC (Quick Response Controller) for 24/7 real-time remote

monitoring and control via internet. System shall allow remote temperature control, email and text alarm notifications, and shall collect/store system data.

34. Ice machines not required.
35. Milk dispenser not allowed.

D. Kitchen finishes:
   1. Shall be smooth, washable, and light in color.
   2. See Division 09 for flooring surfaces. Altro Safety Vinyl is a good product, but a less abrasive finish is necessary for cleanability.
   3. Ceiling height shall be minimum 9'-0". See section 09 51 00 for finishes.
   4. Wall finish shall be smooth, washable, and light in color. Recommended wall finish is a washable material, i.e.: stainless steel, or fiberglass reinforced plastic (FRP) covering preferred full wall height with a minimum splash/crash zone up to 6 feet with a semi-gloss painted wall surface continuing up to the ceiling.
   5. Stainless steel wall flashing shall cover the cooking wall surfaces.

E. Support:
   1. A manager's desk/file cabinet will be located in the Kitchen office with provisions for phone and data lines. If space is restricted and an office is not feasible then a desk/file cabinet shall be located within the Kitchen near receiving.
   2. A Custodian Closet with mop sink and chemical storage will be located within the Kitchen.
   3. Show wall mount eye/face wash station located in warewash/potwash area. Unit should be specified by Plumbing Division. A fold-down style will take up less space when not in use.
   4. The Kitchen waste volume will require a grease removal device sized per code by the plumbing engineer.
   5. Provide dumpster in convenient location to kitchen but separate from loading zone for food.
   6. A single occupancy staff toilet will be located adjacent to staff lockers and within the kitchen.
   7. Service elevator (if applicable) shall be sized for largest delivery cart. Sizes to be confirmed with District applicable to school.
   8. Smoke detectors should be located away from cooking and steam producing equipment.

11-41-23 Kitchen Appliance Standards

A. Reach-in Freezers:
   1. Reach in 1, 2, or 3 section freezer.
   2. Stainless steel front, doors.
   3. Aluminum interior.
   4. All surfaces to be unpainted metal.
   5. Full height solid doors, right hinged right, left hinged left, self-closing, w/door locks.
   6. Epoxy coated or stainless steel adjustable shelves, 3 shelves per section.
   7. 4" or 6" casters, 2 with brakes.
   8. Self-contained refrigeration, Top mount compressor.
   9. 404A refrigerant, thermostatic expansion valve.
   10. Freezer temperature must maintain -5F.

11. Lighted interior activated by door switch.
12. Exterior mounted temperature display.
    a. Penetrations for electrical conduits must be sealed off on the outside and inside nearest junction points to prevent the buildup of condensation within light fixtures and electrical devices caused by humid warm air coming in contact with colder air. Sealant must be U.L. rated for contact with electrical wiring and associated products such as trade name "Duct Seal".
13. 120v 1ph, electrical cord with attached plug.
14. UL or equal, NSF, Energy Star rated from the joint program of the US Environmental Agency and the Department of Energy. Must be listed on the current Energy Star list of Qualified Commercial Freezers.
15. Warranty – 1 yr. parts and labor, 2 year Control Warranty (parts and labor) 5 year Compressor Warranty
16. Traulsen, Victory, or District approved equal.

B. Reach-in and pass-thru refrigerators:
1. Reach in 1, 2, or 3 section refrigerator.
2. Stainless steel front, doors. Note: doors shall be glass at serving area.
3. Aluminum interior.
4. All surfaces to be unpainted metal.
5. Full height solid doors, right hinged right, left hinged left, self-closing, w/door locks.
6. Epoxy coated or stainless steel adjustable shelves, 3 shelves per section.
7. 4” or 6” casters, 2 with brakes.
8. Self-contained refrigeration, Top mount compressor.
9. 404A refrigerant, thermostatic expansion valve.
10. Refrigerator temperature must maintain 34F – 38F.
11. Lighted interior activated by door switch.
    a. Exterior mounted temperature display.
12. Penetrations for electrical conduits must be sealed off on the outside and inside nearest junction points to prevent the buildup of condensation within light fixtures and electrical devices caused by humid warm air coming in contact with colder air. Sealant must be U.L. rated for contact with electrical wiring and associated products such as trade name "Duct Seal".
13. 120v 1ph, electrical cord with attached plug.
14. UL or equal, NSF, Energy Star rated from the joint program of the US Environmental Agency and The Department of Energy. Must be listed on the current Energy Star list of Qualified Commercial Refrigerators.
15. Warranty – 1 yr parts and labor, 2 year Control Warranty (parts and labor) 5 year Compressor Warranty.
16. Traulsen, Victory, or District equal.

C. Roll-in refrigerators:
1. 2 Section, 66” inside height roll-in refrigerator.
2. Stainless steel interior and exterior.
3. All surfaces to be unpainted metal.
4. Solid doors with door locks, self-closing with stay open feature when loading/unloading.
5. Stainless steel loading ramp for each section.

6. Self-contained refrigeration, top mount compressor.
7. 404A refrigeration, thermostatic expansion valve, temperature must maintain 34F – 38F.
8. Lighted interior activated by door switch.
    a. Exterior mounted temperature display.
9. Penetrations for electrical conduits must be sealed off on the outside and inside nearest junction points to prevent the buildup of condensation within light fixtures and electrical devices caused by humid warm air coming in contact with colder air. Sealant must be U.L. rated for contact with electrical wiring and associated products such as trade name "Duct Seal".
10. 120v 1ph, electrical cord with plug.
11. UL or equal, NSF, Energy Star rated from the joint program of the US Environmental Agency and The Department of Energy. Must be listed on the current Energy Star list of Qualified Commercial Refrigerators.
12. 1 yr. parts and labor, 2 year Control Warranty (parts and labor) 5 year Compressor Warranty
13. Traulsen, Victory, or District approved equal.

D. Walk-in Cold Storage Rooms:
1. Specify with positive airtight seal.
2. Doors to have spring assisted hinges.
3. Refrigeration equipment to meet State Seal and Federal Standards for walk-ins, UL, NSF rated. CFC Free
4. Wall, ceiling, and door insulation shall be at least R-25 for coolers and R-32 for freezers. Freezer floor insulation shall be at least R-28.
5. Install in floor depression complete with 6” Class 1 DOW Freezermate Insulation (three 2” thick layers).and vapor barrier of 15 lb. felt protective slip sheet applied over insulation and flashed up height of cove and joints lapped 6” minimum.
6. Expansion valve system.
7. All refrigeration lines to be insulated and hung with insulated hangers to avoid heat transfer.
8. Provide flush mount, press type switches with Hypalon covers mounted inside and outside of each room as indicated on electrical plan.
9. All electrical conduits shall be run concealed within the walk-in walls or above the ceiling panels (coordinate with electrician).
10. Sealants for all walk-in panel penetrations: 1-part or 2-part, polyurethane or silicone based, liquid elastomeric sealant, non-solvent release type, Shore A hardness of 30, except 45 if subject to traffic. Sealants shall be N.S.F. Listed for use in food zones. Installation shall comply with applicable requirements of N.S.F. Standards.
11. Refrigeration lines to be ACR copper, no soft-drawn copper.
12. Use Silfoss solder or equivalent high presser solder.
13. Specify sufficient clearance for fast economical servicing.
14. District standard freezer refrigerant: R-448.
15. District standard cooler refrigerant R-448.
16. High efficiency Electronically Commutated (EC) Motors for the evaporator coils.
17. Refrigeration systems shall be outdoor air cooled hermetic units with QRC Controller (Controller to be mounted inside Kitchen Office or at Manager’s Desk).

QRC System shall interconnect with building alarm system to include remote notification off hours should systems fail. Coordinate specific requirements with District IT Department. Equipment to be provided with crankcase heaters and fan control.

18. Walk-ins to be energy efficient to be eligible for Energy Trust of Oregon rebates and tax credit from the Oregon Department of Energy.

E. Additional requirements for indoor walk-in cold storage rooms:
   1. Cold storage rooms to meet the needs of the facility based on student population and anticipated participation.
   2. Specify to meet Oregon State Seal approval.
   3. Walk-ins shall be designed to meet or exceed all Federal and State energy-efficiency standards including the Energy Independence and Security Act of 2007 (EISA). Walk-in wall panels shall be insulated using 245fa blowing agent, allowing a 4-inch panel to meet the R-32 requirements. Floors shall be insulated and depressed to avoid ramps. Pit material shall be6" DOW FREEZERMATE Insulation (2" thick layers).
   4. Specify High Density Framed Urethane Panels, not wood frame. High-density polyurethane "hard-rail" frames every panel to support all doors or windows, to strengthen every corner, adding enhanced structural properties to the panels. This enables wall panels to be built taller and ceiling panels longer before the need for internal or external steel support. Additionally, the hard-rail framing firmly holds the cam locks in place to keep the panels sealed together without crushing the foam. This maintains the integrity of the insulation as well as the ability to unlock, move or add to walk-ins in the future.
   5. Interior finish: 26ga galvanized steel except ceiling which shall be .040 aluminum with baked white acrylic finish
   6. Exterior finish: 20 gauge stainless steel exposed; unexposed 26ga galvanized steel (verify with District).
   7. Provide 36" high 1/8" polished aluminum diamond treadplate wainscot on exposed exterior face of walk-in cold storage rooms.
   8. Insulated walls and ceiling panels to meet current Federal Standards for commercial walk-in coolers.
   9. 36" x 78" Self-Closing cooler swing door with window and 36" high 1/8" polished aluminum diamond treadplate interior and exterior kick plates. Include bottom door sweep. Panel mount door stops shall be installed to prevent damage to the wall panels. Doors to have a 14" x 14" viewport; heated for freezer.
   10. Include pair of 24" x 79" CDS FS Advantage Series cooler glass doors (6" base, 3'-11 5/8" x 6'-7 ¼" opening); Smooth Silver finish; include LED lights, on/off switch, and door locks.
   11. Specify interior door lock release.
   12. Specify LED interior lights.
   13. Specify 2" flush mount exterior thermometer.
   14. Equipment to be UL, NSF listed. CFC Free.
   15. Walk-ins shall be installed by specified manufacturer or specified manufacturer's certified installer only and must have a minimum 5 years' experience installing specified walk-ins.

F. Mobile Food Warmer Cabinet:
   1. Heated Hot Holding Cabinet, full size, insulated.
   2. Insulated polymer dent/impact/stain resistant cool-to-touch exterior finish.
   3. Mobile cabinet with casters, 2 w/ brakes.

4. Clear polycarbonate insulated door, right hand hinge.
5. Magnetic pull door latch with lever action release.
6. Universal adjustable wire slides on 1.5” centers, 18 pairs included.
7. Drip trough w/catch pan.
8. Removable bottom mount heater, fan, and control module to control moisture at any temperature.
9. Forced air heating system.
10. Exterior digital thermometer, thermostat control to 200F, on/off switch with power on light.
11. Non-heated water container in bottom module.
12. 2000 watt, 120v, 1ph, NEMA 5-20P plug.
    a. Food Warmer receptacles shall be a single NEMA 5-20R Canadian (20 Amp only), such as Hubbell part number HBL 6331 ICN. The electrical code required GFCI protection for kitchen receptacles [NEC code ref. Art. 210.8, (B), (2)] shall be a "faceless" GFCI yoke mounted device adjacently to, or located in the same enclosure with the receptacle with a "1 or 2 gang" stainless plate and screws to match or, with approval of the P.P.S. Electrical Foreman, the GFCI protection may be at the electrical panel in the form of a GFCI circuit breaker.
13. Equipment to be UL, NSF Listed, Energy Star.
14. Metro or District approved equal.

G. Canopy Hood with Fire Protection System
1. Hoods shall be properly engineered to cover the cooking equipment below.
2. 18 Gauge type 304 stainless steel external welded construction, in compliance with the latest edition of N.F.P.A. No.96, including all applicable appendices. Exposed welds to be ground and polished. External surfaces shall have a #4 finish.
3. Grease Removal: U.L. classified, non-adjustable, stainless steel grease filters, with drip-channel gutters, drains and collection basins.
4. On demand control system for energy efficiency as required by code; transfer air engineered by the project Mechanical Engineer can offset the need for a costly DCV system.
5. Light Fixtures: LED fixtures shall be U.L. listed for hoods, N.S.F. approved, with sealed safety lenses, with stainless steel exposed conduit for wiring.
6. Exhaust Duct(s): Furnish welded stainless steel formed duct collars at ceiling or wall duct connections, where exposed. Furnish exposed to view ductwork as specified. Verify size and location of duct connections required in this contract, before fabrication. Other ductwork will be by the Mechanical Section.
7. Fire Extinguishing System: Pre-piped liquid chemical fire suppressant system; complying with applicable local and N.F.P.A. regulations. Wet chemical fire suppression systems shall comply with UL 300 Standards.
8. Coordination with Mechanical Engineer to ensure proper fan sizing.
9. Coordination with Mechanical Engineer for tempered supply air requirements.
10. Type 1 Grease Hood or Type II Vapor Hood requirements shall be determined based on equipment under hood and local codes.
11. Hood water wash requirements shall be addressed with the District on a per school basis.
12. Gaylord or District approved equal.

H. Electric convection oven standards:

1. Electric Convection Ovens, double stack, full size.
2. Ovens on 6” heavy-duty caster wheels with front caster brakes.
3. Standard depth, to accept five 18” x 26” full size baking pans in left to right positions.
4. Full angle-iron frame.
5. Solid mineral fiber insulation at top, back, sides and bottom.
6. Stainless Steel front, sides, and top.
7. Porcelainized interior.
8. Lighted interior.
9. 5 adjustable plated racks on 1-5/8” centers.
10. Solid state manual controls with separate dials to control thermostat and timer.
11. Thermostat control range 200F – 500F.
12. Control area cooling fan.
13. Simultaneous operated doors with thermal glass windows, single door handle.
14. Height of double stack not to exceed 70”.
15. 2 speed fan, 1/3 hp motor.
16. 208, 240, or 480 Volt to match the supply Voltage. 11 Kilowatts per oven. 3-Phase is preferred to Single (1) Phase. Certified to applicable US standards: NSF, CSA, UL or ETL, Energy Star.
17. Certified to applicable US standards: NSF, CSA, Design Certified, Energy Star.
18. Two year parts and one year labor warranty. Five year limited oven door warranty.
19. Ovens delivered and set in place.
20. Separate oven disconnects for each oven. Disconnect switches shall be of the knife switch type and be fused when feeding a single phase motor load or non fused when feeding a 3 phase motor load. Fuses when used in a service disconnect should be of the "dual element" or "time delay" type. The location of the disconnecting switch(s) shall be preapproved by the P.P.S. Electrical Shop Foreman during the 'Plan and Review' stage of the project.
21. Blodgett or District approved equal.

I. Gas Convection Oven standards:

1. Gas Convection Ovens, double stack, full size.
2. Ovens on 6” heavy-duty caster wheels with front caster brakes.
3. Standard depth with each oven to accept five 18” x 26” full size baking pans in left to right position.
4. Full angle-iron frame.
5. Solid mineral fiber insulation at top, back, sides and bottom.
6. Dual flow gas system combines direct and indirect heat.
7. Manual gas service cut-off switch located on the front of the control panel.
8. Stainless Steel front, sides, and top.
9. Porcelainized interior.
10. Lighted interior.
11. 5 adjustable chrome plated racks on 1-5/8” centers.
12. Solid state manual controls with separate dials to control thermostat and timer.
13. Thermostat control range 200F – 500F.
14. Control area cooling fan.

15. Simultaneous operated doors with thermal glass windows, single door handle.
16. 2 speed fan, 1/3 hp motor.
17. Electronic spark ignition.
18. Separate oven disconnects and individual gas connections for each oven.
19. Manual Gas shut-off switch on front control panel.
20. 48" long Dormont or equal gas quick disconnect assembly with cable restraint.
21. Height of double stack ovens not to exceed 74".
22. Input rate 55,000 BTU/hr. per oven.
23. Electrical supply – 115VAC 1ph, 6' electrical cord.
24. Certified to applicable US standards: NSF, CSA, Design Certified, Energy Star.
25. Two year parts and one year labor warranty. Five year limited oven door warranty.
26. Ovens delivered and set in place.
27. Blodgett or District approved equal.

J. Combi-Oven/Steamer standards:
   1. Electric or gas as site allows; gas preferred. Double stack or single on a stand to be determined for each facility based on student population and participation.
   2. Boilerless combination-oven/steamer with capability to cook with pressureless steam (212F), hot air, or combination of steam and hot air (operating range 140F to 500F), cooking and holding, rethermalizing, cool down mode, and steam on demand steam injection system.
   3. Interior capacity to accept seven (7) 18" x 26" sheet pans or fourteen (14) 12" x 20" x 2-1/2" deep hotel pans per oven. Five wire shelves per oven.
   4. Heavy-duty caster set with front caster brakes.
   5. 48" long Dormont or equal gas quick disconnect assembly with cable restraint.
   6. Fully welded stainless steel frame.
   7. Fully insulated cooking chamber.
   8. Stainless steel top, front, sides, and back.
   9. Cooking chamber shall be constructed with 316 series with 2B dull stainless steel finish and coved corners.
   10. 4-speed bi-directional fan with vent switch to control humidity in the cooking chamber.
   11. Dual pane thermal glass window with 180 degree door swing, two-step safety door-latch (to vent steam before fully opening door), adjustable door hinges, and door mounted drip pan.
   12. Detachable 4" core temperature probe.
   13. Interior halogen lights.
   14. Retractable hose reel to include front water shut off valve.
   15. Front access service user interface control panel and service diagnosis system.
   16. Water filtration system to meet water quality factory criteria.
   17. Three fry baskets.
   18. Blodgett or District approved equal.

K. Tilting Skillet standards:
   1. Electric or gas as site allows; gas preferred.
   2. Gallon capacity to be determined for each facility based on the Kitchen program requirements.
   3. Open leg base, power tilt with hand override.

4. Stainless steel clad 5/8" cooking surface with coved corners and gallon and liter markings.
5. All stainless steel construction.
6. Adjustable electronic thermostat controls temperature from 100F to 425F. Fast heat-up and recovery time in 11 minutes, full capacity from cold to boiling in 60 minutes. High limit safety device set at 475F.
7. Anti-splash pouring lip.
8. Spring assist cover with adjustable vent and full width handle.
9. Sliding drain drawer with splash screen.
10. Double pantry faucet with mounting bracket.
11. 2" tangent draw-off valve.
12. Lip and drain strainers.
13. Pan carrier (removable).
14. Cleveland or District approved equal.

L. Tilting Kettle standards:
1. Electric with solid state temperature controls.
2. Gallon capacity to be determined for each facility based on the Kitchen program requirements.
3. Open leg base with manual tilt
4. Tilting self-contained 2/3 steam jacketed; tilt mechanism of roller bearings and case hardened self-locking worm and segment gear.
5. Water resistant controls; splash-proof construction.
6. Stainless steel exterior surfaces of type 304 with #4 finish.
7. Welded-in heating elements.
8. Solid state temperature controls with operating temperature range from 145F to 260F. LED indicators for heat cycle and low water. Adjustable temperature control dial. 50 psi steam jacket rating for higher cooking temperatures; 50 psi safety valve.
9. Reinforced rolled rim with large pouring lip.
10. Spring assist hinged stainless steel cover.
11. Double pantry faucet with mounting bracket.
12. 2" tangent draw-off valve.
13. Lip and drain strainers.
14. Measuring strip.
15. Kettle accessory kit (clean-up brush, 36" kettle whip, draw-off brush, 36" kettle paddle, 36" kettle brush, and 24 oz. ladle).
16. Cleveland or District approved equal.

M. Open Burner Cook Top standards:
1. 17" wide minimum for stability.
2. Two burners with removable heads rated 30,000 BTU each; cast iron grates; one piece stainless steel drip tray.
3. Stainless steel front and sides.
4. Stainless steel front rail.
5. 6" heavy-duty casters set with front caster brakes. Provide unit with caster positioning floor guides if unit is positioned at end of cook line.
6. 48" long Dormont or equal gas quick disconnect assembly with cable restraint.

7. Electric spark ignition on all pilots.
8. Total flame failure protection for each burner.
9. Storage base.
10. Garland or Nutrition Services Director approved equal.

N. Scrap Collector standards: An approved alternate to prohibited waste disposers.
1. Scrapping, pre-flushing, waste collecting system with recirculating water.
2. Pre-wired control panel and with stainless steel NEMA 4 watertight enclosure.
3. Stainless steel tank, adjustable legs, and control panel.
4. Salvage basin and removable scrap basket – high impact polymer.
5. Plume height adjustment valve.
6. Extra scrap basket.
7. Watertight conduit/fittings; separate component grounding, thermally protected motor, and safety line disconnect.
8. Corrosion resistant components, automatic water blender, solenoid valve, unions, check valves, incoming water valves, non-clogging pump design, and backflow prevention device.
9. Salvajor or District approved equal.

O. Dish Washer standards: Provide a dishwasher in all new kitchens and where space allows in existing kitchens per the following dishwasher standards:
1. Rack conveyor, 44-in single-tank dual rinse dish machine. Energy Star Rated. The dual rinse system shall not consume any more than 112 gallons of fresh washer an hour while distributing over 300+ gallons of rinsing action.
2. Fully automatic, constructed of heavy-gauge stainless steel, with stainless steel angle frame to form rigid support for machine components. Shall have top mounted controls with single point electrical connection, all electrical components including booster heater inter-wired and inter-plumbed. Tanks and hoods are water-tight single unit construction. Doors are leak-proof, insulted hinged, and allow easy access for cleaning. Doors shall have safety switches to stop the conveyor if the door is opened in operation. Drain to ball valves to be leak proof. All stainless steel manifold and copper plumbing.
3. Perforated stainless steel refuse screens and pump intake strainers shall be easily removed for cleaning. Pumps have motor overload protection, and are mounted directly on the frame with service from the front of the machine. Shall have "energy sentinel" switch to activate pump motors only when racks enter machine. Upper and lower arm assemblies shall be one piece cast stainless steel. Rinse water shall be 180oF.
4. The built-in booster shall be nested beneath the wash tank. The booster is not to exceed 30KW for 70°F rise. The "power on" switch shall automatically fill the tanks and turn on tank heaters and booster heater. Wash temperatures are thermostatically controlled with electric heating elements, and shall have low water protection.
5. Rack conveyor shall be reciprocating dual pawl bar, anti-jam conveyor drive system, and a standard 20 ¾” chamber to accept 20" x 20" racks and 18" x 26" sheet pans through vertical opening. Shall have stainless steel enclosure panels on front and sides, stainless steel base and feet, and stainless steel splash shields. Includes 2 peg and 1 flat dish racks.
6. Dimensions: 44" long x 25” wide x 58 ½ ” high.
7. Utility requirements: 3/4” hot water, 120oF; 3/4” cold water, Voltage to be determined, including built-in booster, interwired for single point electrical connection.

8. Direction of operation: To be determined.
9. Optional equipment to be included:
    a. Built-in 30KW water saving booster heater, 70 degree rise.
    b. Two (2) vent cowls with 304 grade stainless steel exhaust ducts.
    c. Heat Recovery System.
    d. Drain Water Tempering Kit (installed at factory for shipping).
    e. 90 degree corner rack unload if space constraints demand.
    f. Table Limit Switch.
    g. Insulated Hinged Doors.
    h. Ventless design shall be a consideration.
10. NSF, UL, Energy Star.
11. Hobart or District approved equal.

P. Panini standards:
1. (2) Electric radiant ridged cast iron plates.
2. (2) adjustable thermostats.
3. Pull-out tray.
4. Insulated handles.
5. Stainless steel construction.
6. Nuova or equivalent.

Q. Hand washing sink standards:
1. Wall mount with faucet activated by push of front panel.
2. One piece deep drawn sink bowl design; 10” x 14” x 5” deep.
3. Stainless steel apron bolts to sink; apron conceals plumbing on all three sides.
4. Hot water adjustment valve accessed by raising front panel.
5. Hands free splash mounted gooseneck faucet furnished with aerator.
6. Keyhole wall mount bracket.
7. Stainless steel basket drain 1-1/2” IPS.
8. Heavy gauge type 304 stainless steel.
9. All fittings are brass/chrome plated.
10. Advance Tabco or District approved equal.

R. Air Curtain standards:
1. Ambient – variable speed.
2. Stainless steel cabinet.
3. Direct drive motors.
4. Wall mount design.
5. Micro-switch of automatic on/off operation when door opens/closes.
6. Size dependent on doors it serves.

S. Hose Reel standards:
1. Wall mount unit (located above dishtable).
2. Exposed hose style.
3. 35’ hose length 3-ply fiber reinforced rubber hose.
4. Self-locking reel.
5. Shower spray valve pattern; 2.65 GPM at 80 PSI.
6. Temp: 40F minimum to 140F maximum.
7. Hose reel control box; wall recess mount with stainless steel frame.
    -temperature adjusting valve.
    -thermometer.
    -shut-off valve.
    -in-line backflow preventer.
    -padlock hasp on door.

T. Pass-thru Hot/Cold Cabinet standards:
1. Stainless steel exterior and interior.
2. Microprocessor control system.
3. Temperature adjustment and on/off switch for heated compartment.

4. Balanced self-contained refrigeration system with scroll blower type evaporator fan and biased return air duct.
5. Self-closing full size doors (glass on student side).
6. Cam-Lift Hinges and Door Handles (with lifetime guarantee)
7. Adjustable universal type stainless steel tray slides 4" on-center for 12" x 20" and/or 18" x 26" pans.
8. Controllable anti-condensate door perimeter heaters.
9. Stainless steel one-piece louver assembly and heater guards.
10. 9' long cord and plug attached.
11. 6" high stainless steel adjustable leg set.
12. 3-year parts and labor warranty.
13. 5-year compressor warranty.

U. Pizza Prep Top Refrigerator standards:
1. Top, sides, and ends constructed of 18 gauge stainless steel.
2. Mechanically cooled refrigerated raised rail at the rear with openings to accommodate pans.
3. Rail interior is 22-gauge stainless steel.
4. Raised rail openings to have 18 gauge stainless steel removable lids.
5. Equipped with separate expansion valve and on/off switch for refrigerated rail.
6. Temperature in top openings maintains 33F to 41F with pans recesse3d 2" at 86F ambient room temperature to meet NSF 7 requirements.
7. Exterior back and bottom to be 24 gauge galvanized steel.
8. Interior base shall have stainless steel back and bottom. Interior sides and door frames to be thermoformed ABS plastic.
9. One epoxy coated wire shelf per door.
10. Doors to be 22 gauge stainless steel exterior front with a thermoformed ABS plastic interior liner and shall include locks.
11. Base insulation to be 2" high density foamed in place envrironmentally friendly, Kyoto Protocol Compliant, NON ODP (ozone depletion potential) , non GWP (global warming potential) polyurethane.
12. Self-contained HFC-404A refrigeration system with one blower coil assembly with expansion valve. Independently controlled thermostat, solenoid valve, and condensate evaporator. Refrigerated base to maintain 36F to 40F temperature.
13. Front breathing.
14. Equipment to be mounted on 5" diameter casters with front brakes.

V. Drop-in Hot/Cold Wells standards:
1. To meet NSF4 and NSF7 requirements while flush with counter top,.
2. Fully insulated for use in any counter – 1-1/2" to 2" urethane insulation.
3. Top frame to be 14 gauge stainless steel (welded and polished) with a thermal break between top and refrigerated interior. ½" turn down hugged edge.
4. Interior pan to be 18 gauge stainless steel with ¾" open drain. Manifold drains.
5. Individual solid state digital controls; individual well flexibility to switch from hot to cold operation.
6. Refrigeration system to be 1/3 hp hermetically sealed compressor operating on R-507 (HFC) refrigerant with controls.
7. Energy efficient hot food wells use digitally controlled 500 watt heat source.
8. All switches and controls are fully accessible and are provided with cord and plug. Single electrical connection.

W. Drop-in Hot Wells standards:
1. Top mount drop-in one-piece stainless steel top flange and heavy gauge deep drawn stainless steel warming pans.
2. Sides, front, back, and bottom are to be fully insulated for energy savings and efficiency.
3. Individual thermostatic controls for each well.
4. High limits to prevent overheating.

5. Temperature-ready indicator lights.
6. Tubular heating elements located under the warming pans.
7. Auto-fill and ½" manifolded drains.
8. Suitable for wet or dry operation.

X. Drop-in Cold Wells standards:
1. 18 gauge, type 304, stainless steel die stamped top with raised perimeter beaded edge.
2. Inner liner shall be one piece all welded 18 gauge, type 304, stainless steel. All corners are coved with minimum ¼" radius.
3. Liner to have copper tubing firmly soldered to the exterior bottom.
4. ¾" diameter drain with strainer, 4" PVC nipple, and valve to be provided.
5. Pan to be fully insulated with high density polystyrene, 1" t hick on all sides, 1-1/2" thick on the bottom and enclosed with a 22 gauge galvanized steel outer case.
6. Unit to hold standard 12" x 20" x 4" deep pans. Provide with stainless steel separator channels.
7. Refrigeration system compressor housing shall be fabricated from 14 gauge galvanized and bolted to the base of the unit. Self-contained condensing unit with a hermetically sealed compressor and thermostat control shall be included. System to be fully charged with CFC free refrigerant and ready to operate.
8. Provide with cord and plug.

Y. Drop-in Heated Pizza Platform standards:
1. Flush top installation.
2. Hardcoated aluminum top and blanket-type foil element for uniform heat distribution.
3. Fiberglass insulation to keep heat at the holding surface with built-in adjustable thermostatic controls to control surface temperature.
4. 3' flexible conduit channels the power lines from the shelf to a remote-control enclosure. Control enclosure to come with a control thermostat with a range of 80F to 181F, an illuminated on/off switch, and mounting brackets.
5. Provide with cord and plug.

Z. Mobile Double-Sided Refrigerated Milk Cooler standards:
1. Stainless steel exterior and interior.
2. Oversized forced air refrigeration system to maintain milk temperatures of 33F to 38F. Self-contained capillary tube system using environmentally friendly (CFC free) refrigerant. Sealed caste iron self-lubricating evaporator fan motor(s) and larger fan blades for efficient low velocity high volume airflow design. Condensing unit accessed from behind back grill and to slide out for easy cleaning and maintenance.
3. Exterior digital temperature display
4. Entire cabinet structure to be foamed-in-place high density polyurethane insulation that has zero ODP (ozone depletion potential) and GWP (global warming potential).
5. Welded heavy-duty steel frame rail; black powder coated for corrosion protection. Frame rail fitted with four easy roll 4" diameter all-swivel casters; front casters provided with locks.
6. Drop front and hold-open flip-up top with door support bumpers. Magnetic door gaskets of one-piece construction and removable without tools for ease of cleaning.
7. Door locks.
8. Reinforced interior floor.
9. Clean out drain with PVC drain plug.
10. Provide with cord and plug.

AA. Mobile Double-Sided Refrigerated Salad Bar standards:
1. To meet or exceed NSF-7 standards while allowing food pans to remain flush to the counter top.

2. Top and tray slide material shall be solid surface (color TBD). Cabinet bases shall be plastic laminate faced enclosed storage base with locking access doors.
3. Adjustable decorative food guards (matching main serving line) to meet Department of Health Codes.
4. Cold pans to be one piece all welded 18 gauge stainless steel with ¼" coved corners. Cold pans shall be pitched to a 1" drain which shall extend to a valve below the base. Cold pans shall have urethane insulation on bottom and all four sides of pans. Pans shall be fully separated from the top by a full perimeter breaker strip. Unit shall accommodate up to a 6" deep pans supported by brackets.
5. Temperature to be maintained by a static air system utilizing ½" copper coils attached to the liner bottom and sides to a level 1" above the food pans. Unit to have a fully hermetic condensing unit operating with environmentally friendly (CFC free) refrigerant.
6. Body shall be seamless molded fiberglass with smooth exterior surfaces and rounded corners. To be constructed by a hand lay-up process with four layers of 1.5 oz continuous strand fiberglass mat plus 24 oz layer of woven roving on the bottom for added strength. Fiberglass to be flame retardant per ASTM E-162 having a flame spread of 25 or less. Finished exterior to be plastic laminate in color/pattern as selected by the Project Architect.
7. Body interior to be reinforced at each end with 4" wide 12 gauge galvanized channels welded to form integral 'U' frame for maximum stress relief. Rear body to have enclosed storage base with locking doors.
8. Unit to have 4" diameter ball bearing swivel type casters. Casters to be non-marking and have brakes on all wheels. Casters to be mounted through two 12 gauge channels for extra rigidity.
9. Provide with cord and plug.

FOOD SERVICE EQUIPMENT LIST (2 pages inserted here)

Food Service Equipment	High School	Middle School	Notes
Air Curtain(s)	1-2	1	To be located at receiving man door and coiling door (for exterior doors only)
Staff Lockers (half size)	10	6	
Walk-in Cold Storage rooms	2	2	Refrigerator and Freezer, 1 each
Refrigeration Systems	2	2	
Walk-in Cooler and Freezer Shelving/Dunnage	Lot	Lot	Layout to maximize room storage capacity
Dry Storage Shelving/Dunnage	Lot	Lot	Layout to maximize room storage capacity
Can Storage Racks	2		By Owner / Project Team
Sheet Pan Racks	4	4	By Owner / Project Team
Manager's Work Station with Storage Cabinet			By Owner / Project Team
Eye Wash Station	1	1	Specified by Plumbing Division
Corner/Channel guards	Lot	Lot	To be located at all kitchen exposed corners
Hand Washing Sinks with Point of Use Hot Water Heaters	3	3	Quantity to be as needed to cover all work zones per code
Slim Jim Waste Receptacles	3	3	Quantity to match hand washing sinks.
Utility Carts	4	2	By Owner / Project Team
Sheet Pan Racks	6	4	By Owner / Project Team
Mobile Pot & Pan Shelving	4	2	By Owner / Project Team
Soiled Dishtable with Potwashing Sinks	1	1	
Mobile Waste Receptacles	4	4	By Owner / Project Team
Waste Collector	1	1	
Hose Reel with Recessed Control Cabinet	1	1	
Conveyor Warewasher with Booster Heater	1	1	
Vapor Exhaust Ducts	2	2	
Clean Dishtable with Rollers	1	1	
Prep Support Table with Sink	1	1	
Food Processor	1	1	By Owner
Food Service Equipment	High School	Middle School	Notes
Prep Sink Table	1	1	
Canopy Hoods with Fire Protection System	1-2	1	Quantity depends on layout
Stainless Steel Wall Flashing	Lot	Lot	Runs full length of canopy hood plus return wall if applicable

Double Stack Convection Ovens	3	1	
Double Stack Combi-Oven/Steamer	1	1	
Open Burner Cook Top	1	1	2 burner maximum
40-Gallon Tilting Kettle with Floor Trough	0	1	
40-Gallon Tilting Skillet with Floor Trough	1	1	
20-Quart Tilting Kettle with Stand	1	0	
Island Cook's Tables with Oval Pot Racks	2	2	
Cook's Support Table with Sink	1	-	
Pass-thru Hot/Cold Cabinets (2-section)	2	2	
Serving Support Tables with Hand Sinks	2	-	
Pizza Prep Top Refrigerator	1	-	
Exhibition Canopy Hood with Fire Protection System	1	-	
Stainless steel Wall Flashing	Lot	-	Runs full length of canopy hood plus return wall if applicable
Double Stack Convection Ovens (Exhibition)	1	-	
Serving Counter	1	1	Passage ways to be located at each end and in center to access Servery
Drop-in Hot/Cold Wells (4 - 5-wells)	4	3	# of wells dependent on school project/design needs & space
Drop-in Heated Pizza Platform	1	-	Sized for four 16" diameter pies
Panini (double) with Portable Ventilator	1	-	By Owner / Project Team
Refrigerated Grab 'N Go Merchandising Case	1	-	Preferred; not required
Mobile Double-Sided Refrigerated Salad Bars	2	-	
Mobile Double-Sided Refrigerated Milk Coolers (16-case)	2	-	
Mobile Double-Sided Refrigerated Milk Coolers (8-case)	-	3	
Mobile Double-Sided Pay Stations	2		
Point of Sale System	4	4-6	By Owner / Project Team
Portable Traffic Control Railings	Lot	Lot	Quantity TBD based on layout
Mobile Double-Sided Iced Condiment Counters	3	3	

11-61-61 Stage Rigging and Draperies @ Theatre

A. Middle Schools – New and Renovated Stage
   1. Refer to separate technical guideline for Performing Arts theatres and drama classrooms in new or renovated existing Middle Schools, where the performance and rehearsal / teaching spaces are built new or are significantly renovated.

B. High Schools – New theatre facilities at renovated or new construction high schools.
   1. Refer to separate technical guideline for Performing Arts theatres and drama classrooms in new or renovated existing High Schools, where the performance and rehearsal / teaching spaces are built new.

C. High Schools – Renovated theatre facilities, Early and Mid 20th Century
   1. Refer to separate technical guideline for Performing Arts theatres and drama classrooms in renovated existing High Schools, where the performance and rehearsal / teaching spaces are existing and will be significantly renovated.

11-61-63 Orchestra Pit and Trap Filler Systems @ Theatre

A. High Schools – New theatre facilities at renovated or new construction high schools.
   1. Refer to separate technical guideline for Performing Arts theatres and drama classrooms in new or renovated existing High Schools, where the performance and rehearsal / teaching spaces are built new.

B. High Schools – Renovated theatre facilities, Early and Mid 20th Century
   1. Refer to separate technical guideline for Performing Arts theatres and drama classrooms in renovated existing High Schools, where the performance and rehearsal / teaching spaces are existing and will be significantly renovated.
   2. This feature should be considered as an enhancement whose inclusion is dependent upon the existing structure and building provision ability to easily incorporate without substantial demolition and structural augmentation.

11-61-64 Flown Acoustic Concert Reflectors and Portable Towers @ Theatre

A. Middle Schools – New and Renovated Stage
   1. Refer to separate technical guideline for Performing Arts theatres in new or renovated existing Middle Schools, where the performance and rehearsal / teaching spaces are built new or are significantly renovated.

B. High Schools – New theatre facilities at renovated or new construction high schools.
   1. Refer to separate technical guideline for Performing Arts theatres and drama classrooms in new or renovated existing High Schools, where the performance and rehearsal / teaching spaces are built new.

C. High Schools – Renovated theatre facilities, Early and Mid 20th Century
   1. Refer to separate technical guideline for Performing Arts theatres and drama classrooms in renovated existing High Schools, where the performance and rehearsal / teaching spaces are existing and will be significantly renovated.

11-61-65 Theatrical Pipe Grid for Production Venues

A. Middle Schools – New and Renovated Stage

1. Refer to separate technical guideline for Performing Arts theatres and drama classrooms in new or renovated existing Middle Schools, where the performance and rehearsal / teaching spaces are built new or are significantly renovated.

B. High Schools – New theatre facilities at renovated or new construction high schools.
   1. Refer to separate technical guideline for Performing Arts theatres and drama classrooms in new or renovated existing High Schools, where the performance and rehearsal / teaching spaces are built new.

C. High Schools – Renovated theatre facilities, Early and Mid 20th Century
   1. Refer to separate technical guideline for Performing Arts theatres and drama classrooms in renovated existing High Schools, where the performance and rehearsal / teaching spaces are existing and will be significantly renovated.

11-61-65 Theatrical Tracks and Drapes for Drama Classroom / Black Box

A. Middle Schools – New and Renovated Stage
   1. Refer to separate technical guideline for Drama Classroom / Black Box Studio in new or renovated existing Middle Schools, where the performance and rehearsal / teaching spaces are built new or are significantly renovated.

B. High Schools – New theatre facilities at renovated or new construction high schools.
   1. Refer to separate technical guideline for Drama Classroom / Black Box Studio in new or renovated existing High Schools, where the performance and rehearsal / teaching spaces are built new.

C. High Schools – Renovated theatre facilities, Early and Mid 20th Century
   1. Refer to separate technical guideline for Drama Classroom / Black Box Studio in renovated existing High Schools, where the performance and rehearsal / teaching spaces are existing and will be significantly renovated.

11-61-65 Theatrical Portable Production Lighting Fixtures and Accessories

A. Include sufficient types and quantities to allow creative lighting looks for dramatic, concert, dance and general presentation events. This includes not less than the stage lighting fixtures, lamps and accessories as follows:
   1. Ellipsoidal spotlights in varying fixed focus versions, and variable focus versions, with high efficiency halogen lamp and reflector system. Basis of Design should be ETC SourceFour Ellipsoidal spot.
   2. Profile spotlights in varying fixed focus versions, and variable focus versions, with wide-gamut array of color and white LED emitters, lens collimated to a single beam. Basis of Design should be ETC SourceFour Series 2 Lustre Profile Spot for Main Theatre and ETC ColorSource Spot for Drama Classroom/Black Box. Control should be by high-resolution DMX/RDM.
   3. Adjustable 6” Fresnel Spotlight, variable focus, with high efficiency halogen lamp and reflector system. Basis of Design should be ETC SourceFour Fresnel.
   4. Cyclorama wash lighting fixture, with wide-gamut array of color and white LED emitters. Control should be by high-resolution DMX/RDM. Provide enough units to uniformly wash cyclorama or painted drop at full height and width, with fixtures spaced no greater than 8 ft apart when located no closer than 5 ft from cyclorama and/or painted drop. Basis of Design should be ETC ColorSourceCyc +Indigo for Main Theatre and Drama Classroom / Black Box.

5. Additional specialty fixtures in halogen or preferably LED configuration may be included under special circumstances. All equipment must be professional grade for theatre use. Nightclub, pro-sumer or consumer equipment is not acceptable.

B. Include assembly, bench focus, hanging and aiming as turnkey package with equipment, to be handled separate from rigging or dimming system provision, by a specialty theatre lighting dealer.

C. Require the specialty theatre lighting dealer to mount all lighting fixtures in accordance with a basic repertory hang layout which shall be prepared by the Theater Consultant and supplied to contractor at the time of submittal review.

D. Provide user training in maintenance and operation.

E. Provide spare parts for lamps and other typical components subject to wear and damage..

F. All equipment shall be UL Listed and Labeled for Theater Lighting Use.

11-66-53 Gymnasium Dividers

A. Middle and high schools.

1. Fabricated solid polyester reinforced 19-22 oz vinyl fabric in the lower 12 feet and white woven vinyl and polyester netting above 12 feet. (Note: current industry standard doesn't provide for a vinyl alternative. However, consider alternatives when available).
2. Self-extinguishing, rot and mildew resistant and waterproof.
3. Ballasted or secured bottom hem limiting movement.
4. Passageway

11-68-13 Playground Equipment

Teen Parent Childcare and other Certified Child Care Centers are required to meet the requirements outlined in the Rules for Certified Child Care Centers https://oregonearlylearning.com/wp-content/uploads/2017/02/CRT-132-CC-Rule-book-3-27-17-FINAL.pdf

A. Playground Equipment

1. The district guidelines for successful play structures https://www.pps.net/Page/2139
2. All playground structures and equipment shall comply with the safety guidelines described in the Consumer Product Safety Commission (CPSC) Public Playground Safety Handbook.
3. Playground must be designed to be accessible to children with disabilities and follow all the requirements of ADAAG. The equipment should provide equivalent challenges and opportunities for all children.
4. No decks on play structures shall be higher than 6 feet.
5. If pre-school or Head Start programs are offered at a school, provide a separate play area for children 4 years and under.
6. All play structures and equipment must be approved by Portland Public Schools Facilities and Asset Management prior to order. Equipment to be reviewed for safety, durability, maintenance and replacement costs, and accessibility.
7. Manufacturers required to be engaged in the production of playground equipment for a minimum of 5 years.

B. Athletic Field Equipment.

1. Athletic Field Equipment should be permanently installed where applicable. Where removable equipment is provided, adequate storage should also be provided to store equipment when not in use.
2. Includes.
    a. Baseball/softball backstops
    b. Soccer goals
    c. Football goalposts: Goalposts to be removable.
    d. Basketball standards and goals
    e. Volleyball standards
    f. Pole vault planting box: Fiberglass planting box set in concrete base. Provide ½" dia. drain in corner of box, open graded drain rock below.
    g. Other related equipment

C. Playground and athletic field equipment Installation procedures.
1. All playground structures shall be installed as per Portland Public School's Steps to a Successful Play Structure (Volunteer Handbook) and manufacturers printed instructions. Manufacturer's instructions shall take precedence.
2. All playground and athletic equipment shall be installed as per the manufacturer's printed instructions.
3. Installer: Experienced in the installation of playground equipment for at least 3 years.
4. See Division 12-93-00 for site furnishings and Division 32 for playground and athletic field surfacing.

11-68-13 Track & Field Equipment

A. Long jump pits:
1. Provide recessed stainless steel hooks in concrete curb with tarp to cover when not in use.
2. Surround with minimum 3' of hard surfacing on all sides.
3. Where 3' of hard surfacing is not possible, provide recessed sand catchment system with removable flush metal grills to prevent sand from migrating onto field.