

SPECIFICATIONS

- a. Number Required: **[One]** **[Two]**.
 - b. Mounting: On backsplash.
5. Supply Fittings:
- a. Standard: ASME A112.18.1/CSA B125.1.
 - b. Supplies: Chrome-plated brass compression stop with inlet connection matching water-supply piping type and size.
 - 1) Operation: **[Loose key]** **[Wheel handle]** **<Insert type>**.
 - 2) Risers: **NPS 1/2 (DN 15)**, **[chrome-plated, rigid-copper pipe]** **[chrome-plated, soft-copper flexible tube]** **[ASME A112.18.6, braided or corrugated stainless-steel flexible hose]**.
6. Waste Fittings:
- a. Standard: ASME A112.18.2/CSA B125.2.
 - b. Trap(s):
 - 1) Size: **[NPS 1-1/2 (DN 40)]** **[NPS 2 (DN 50)]**.
 - 2) Material: Chrome-plated, **[two-piece, cast-brass trap and swivel elbow with 0.032-inch- (0.83-mm-) thick brass tube to wall]** **[two-piece, cast-brass trap and ground-joint swivel elbow with 0.032-inch- (0.83-mm-) thick brass tube to wall]** **<Insert trap type>**; and chrome-plated brass or steel wall flange.
 - 3) Material: Stainless-steel, two-piece trap and swivel elbow with **0.012-inch- (0.30-mm-)** thick stainless-steel tube to wall; and stainless-steel wall flange.
 - c. Continuous Waste:
 - 1) Size: **[NPS 1-1/2 (DN 40)]** **[NPS 2 (DN 50)]**.
 - 2) Material: Chrome-plated, **0.032-inch- (0.83-mm-)** thick brass tube.

2.4 HANDWASH SINKS

A. Handwash Sinks **<Insert drawing designation>**: Stainless steel, wall mounted.

- 1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Sloan EHS 1000 Stainless Steel Sink or comparable product by the following:
 - a. **<Insert manufacturer's name>**.
- 2. Fixture:
 - a. Standards: ASME A112.19.3/CSA B45.4 and NSF/ANSI 2.
 - b. Type: Basin with radius corners, back for faucet, and support brackets.
 - c. Nominal Size: **17 by 16 by 5 inches (432 by 406 by 127 mm)**.

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3. Faucet: <Insert sink-faucet designation from "Automatically Operated Sink Faucets" Article>.
4. Supply Fittings: Comply with requirements in "Supply Fittings" Article.
5. Waste Fittings: Comply with requirements in "Waste Fittings" Article.
6. Support: [Type II sink carrier.]<Insert carrier>.
7. Sink Mounting Height: [Standard] [Child] [Handicapped/elderly according to ICC A117.1].

B. Handwash Sinks <Insert drawing designation>: Stainless steel, wall mounted.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Sloan ESS 3000 Stainless Steel Sink or comparable product by the following:
 - a. <Insert manufacturer's name>.
2. Fixture:
 - a. Standards: ASME A112.19.3/CSA B45.4 and NSF/ANSI 2.
 - b. Type: Basin with radius corners, back for faucet, and support brackets.
 - c. Nominal Size: 17 by 16 by 5 inches (432 by 406 by 127 mm).
3. Faucet: <Insert sink-faucet designation from "Automatically Operated Sink Faucets" Article>.
4. Supply Fittings: Comply with requirements in "Supply Fittings" Article.
5. Waste Fittings: Comply with requirements in "Waste Fittings" Article.
6. Support: [Type II sink carrier.]<Insert carrier>.
7. Sink Mounting Height: [Standard] [Child] [Handicapped/elderly according to ICC A117.1].

C. Handwash Sinks <Insert drawing designation>: Stainless steel, wall mounted.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Sloan ESS 2000 Stainless Steel Sink or comparable product by the following:
 - a. <Insert manufacturer's name>.
2. Fixture:
 - a. Standards: ASME A112.19.3/CSA B45.4 and NSF/ANSI 2.
 - b. Type: Basin with radius corners, back for faucet, and support brackets.
 - c. Nominal Size: 17 by 16 by 5 inches (432 by 406 by 127 mm).
3. Faucet: <Insert sink-faucet designation from "Automatically Operated Sink Faucets" Article>.
4. Supply Fittings: Comply with requirements in "Supply Fittings" Article.
5. Waste Fittings: Comply with requirements in "Waste Fittings" Article.
6. Support: [Type II sink carrier.]<Insert carrier>.
7. Sink Mounting Height: [Standard] [Child] [Handicapped/elderly according to ICC A117.1].

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2.5 SACRISTY SINKS

- A. Sacristy Sinks **<Insert drawing designation>**: Stainless steel, two bowl, counter mounted.
1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. **<Insert manufacturer's name>**.
 2. Fixture:
 - a. Standard: ASME A112.19.3/CSA B45.4.
 - b. Type: Self-rimming.
 - c. Material: Stainless steel.
 - d. Nominal Size: Approximately **[22 by 42 inches (560 by 1070 mm)]** **<Insert dimensions>**.
 - e. Cover: Hinged with lock on **[left] [right]** bowl.
 3. Faucet: **<Insert sink-faucet designation from "Sink Faucets" Article>**.
 - a. Location: On **[left] [right]** bowl.
 4. Supply Fittings: Comply with requirements in "Supply Fittings" Article.
 5. Waste Fittings:
 - a. Standard: ASME A112.18.2/CSA B125.2.
 - b. **[Left] [Right]** Bowl:
 - 1) Drain: Cup with stopper and **NPS 1-1/2 (DN 40)** tailpiece.
 - 2) Drain Piping: **NPS 1-1/2 (DN 40)** chrome-plated, tubular-brass direct waste without trap, separate waste piping, and wall flange.
 - c. Opposite Bowl:
 - 1) Drain: Grid with stopper and **NPS 1-1/2 (DN 40)** tailpiece.
 - 2) Trap:
 - a) Size: **NPS 1-1/2 (DN 40)**.
 - b) Material: Comply with requirements in "Waste Fittings" Article.

2.6 AUTOMATICALLY OPERATED SINK FAUCETS

- A. NSF Standard: Comply with NSF/ANSI 61 Annex G, "Drinking Water System Components - Health Effects," for faucet materials that will be in contact with potable water.
- B. Sink Faucets **<Insert designation>**: Automatic-type, Solar (photovoltaic) powered with battery backup, electronic-sensor-operated, integrated mixing valve.

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1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; SOLIS® EAF-275 Faucet or comparable product by the following:
 - a. <Insert manufacturer's name>.
 2. Standards: ASME A112.18.1/CSA B125.1 and UL 1951.
 3. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 4. General: Include hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture hole punchings; coordinate outlet with spout and fixture receptor.
 5. Body Type: [Single hole] <Insert type>.
 6. Body Material: [Commercial] [General-duty], chrome plated constructed metal.
 7. Finish: [Polished chrome plate] <Insert finish>.
 8. Maximum Flow Rate: [0.5 gpm (1.5 L/min.)] <Insert value>.
 9. Mounting Type: [Deck, concealed] [Back/wall, concealed] <Insert type>.
 10. Spout: Rigid type.
 11. Spout Outlet: [Aerator] [Laminar flow] [Spray] <Insert type>.
 12. Drain: [Not part of faucet] <Insert type>.
- C. Sink Faucets <Insert designation>: Automatic-type, Solar (photovoltaic) powered with battery backup, electronic-sensor-operated, integrated mixing valve.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; BASYS® EFX-275 Faucet or comparable product by the following:
 - a. <Insert manufacturer's name>.
 2. Standards: ASME A112.18.1/CSA B125.1 and UL 1951.
 3. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 4. General: Include hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture hole punchings; coordinate outlet with spout and fixture receptor.
 5. Body Type: [Single hole] <Insert type>.
 6. Body Material: [Commercial] [General-duty], chrome plated constructed metal.
 7. Finish: [Polished chrome plate] <Insert finish>.
 8. Maximum Flow Rate: [0.5 gpm (1.5 L/min.)] <Insert value>.
 9. Mounting Type: [Deck, concealed] [Back/wall, concealed] <Insert type>.
 10. Spout: Rigid type.
 11. Spout Outlet: [Aerator] [Laminar flow] [Spray] <Insert type>.
 12. Drain: [Not part of faucet] <Insert type>.
- D. Sink Faucets <Insert designation>: Automatic-type, Solar [battery-powered,] [hard-wired,] electronic-sensor-operated, [mixing] [nonmixing], valve.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; BASYS® EFX-675 Faucet or comparable product by the following:
 - a. <Insert manufacturer's name>.

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2. Standards: ASME A112.18.1/CSA B125.1 and UL 1951.
 3. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 4. General: Include hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture hole punchings; coordinate outlet with spout and fixture receptor.
 5. Body Type: [**4 inch (102 mm) center set**] <Insert type>.
 6. Body Material: [**Commercial**] [**General-duty**], chrome plated constructed metal.
 7. Finish: [**Polished chrome plate**] <Insert finish>.
 8. Maximum Flow Rate: [**0.5 gpm (1.5 L/min.)**] <Insert value>.
 9. Mounting Type: [**Deck, concealed**] [**Back/wall, concealed**] <Insert type>.
 10. Spout: Rigid type.
 11. Spout Outlet: [**Aerator**] [**Laminar flow**] [**Spray**] <Insert type>.
 12. Drain: [**Not part of faucet**] <Insert type>.
- E. Sink Faucets <Insert designation>: Automatic-type, Solar battery-powered, electronic-sensor-operated, [**mixing**] [**nonmixing**], valve.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; BASYS® EFX-250 Faucet or comparable product by the following:
 - a. <Insert manufacturer's name>.
 2. Standards: ASME A112.18.1/CSA B125.1 and UL 1951.
 3. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 4. General: Include hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture hole punchings; coordinate outlet with spout and fixture receptor.
 5. Body Type: [**Single hole**] <Insert type>.
 6. Body Material: [**Commercial**] [**General-duty**], chrome plated constructed metal.
 7. Finish: [**Polished chrome plate**] <Insert finish>.
 8. Maximum Flow Rate: [**0.5 gpm (1.5 L/min.)**] <Insert value>.
 9. Mounting Type: Deck.
 10. Spout: Rigid type.
 11. Spout Outlet: [**Aerator**] [**Laminar flow**] [**Spray**] <Insert type>.
 12. Drain: [**Not part of faucet**] <Insert type>.
- F. Sink Faucets <Insert designation>: Automatic-type, battery-powered, electronic-sensor-operated, mixing valve.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; SOLIS® EAF-250 Faucet or comparable product by the following:
 - a. <Insert manufacturer's name>.
 2. Standards: ASME A112.18.1/CSA B125.1 and UL 1951.
 3. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

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4. General: Include hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture hole punchings; coordinate outlet with spout and fixture receptor.
 5. Body Type: [**Single hole**] <Insert type>.
 6. Body Material: [**Commercial**] [**General-duty**], chrome plated constructed metal.
 7. Finish: [**Polished chrome plate**] <Insert finish>.
 8. Maximum Flow Rate: [**0.5 gpm (1.5 L/min.)**] <Insert value>.
 9. Mounting Type: Deck.
 10. Spout: Rigid type.
 11. Spout Outlet: [**Aerator**] [**Laminar flow**] [**Spray**] <Insert type>.
 12. Drain: [**Not part of faucet**] <Insert type>.
- G. Sink Faucets <Insert designation>: Automatic-type, Solar battery-powered, electronic-sensor-operated, mixing valve.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; BASYS® EFX-650 Faucet or comparable product by the following:
 - a. <Insert manufacturer's name>.
 2. Standards: ASME A112.18.1/CSA B125.1 and UL 1951.
 3. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 4. General: Include hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture hole punchings; coordinate outlet with spout and fixture receptor.
 5. Body Type: [**Single hole**] <Insert type>.
 6. Body Material: [**Commercial**] [**General-duty**], chrome plated constructed metal.
 7. Finish: [**Polished chrome plate**] <Insert finish>.
 8. Maximum Flow Rate: [**0.5 gpm (1.5 L/min.)**] <Insert value>.
 9. Mounting Type: Deck.
 10. Spout: Rigid type.
 11. Spout Outlet: [**Aerator**] [**Laminar flow**] [**Spray**] <Insert type>.
 12. Drain: [**Not part of faucet**] <Insert type>.
- H. Sink Faucets <Insert designation>: Automatic-type, Solar hard-wired, electronic-sensor-operated, mixing valve.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; SOLIS® EAF-200 Faucet or comparable product by the following:
 - a. <Insert manufacturer's name>.
 2. Standards: ASME A112.18.1/CSA B125.1 and UL 1951.
 3. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 4. Transformer: [**24 vdc**] [**6 vdc**] [**None**] <Insert type>.
 5. General: Include hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture hole punchings; coordinate outlet with spout and fixture receptor.
 6. Body Type: [**Single hole**] <Insert type>.

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7. Body Material: [**Commercial**] [**General-duty**], chrome plated constructed metal.
 8. Finish: [**Polished chrome plate**] <Insert finish>.
 9. Maximum Flow Rate: [**0.5 gpm (1.5 L/min.)**] <Insert value>.
 10. Mounting Type: Deck.
 11. Spout: Rigid type.
 12. Spout Outlet: [**Aerator**] [**Laminar flow**] [**Spray**] <Insert type>.
 13. Drain: [**Not part of faucet**] <Insert type>.
- I. Sink Faucets <Insert designation>: Automatic-type, [**battery-powered,**] [**hard-wired,**] electronic-sensor-operated, [**mixing**] [**nonmixing**], solid-brass valve.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; ETF-80 Faucet or comparable product by the following:
 - a. <Insert manufacturer's name>.
 2. Standards: ASME A112.18.1/CSA B125.1 and UL 1951.
 3. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 4. General: Include hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture hole punchings; coordinate outlet with spout and fixture receptor.
 5. Body Type: [**4 inch (102 mm) center set**] <Insert type>.
 6. Body Material: [**Commercial**] [**General-duty**], solid brass.
 7. Finish: [**Polished chrome plate**] <Insert finish>.
 8. Maximum Flow Rate: [**0.5 gpm (1.5 L/min.)**] <Insert value>.
 9. Mounting Type: Deck.
 10. Spout: Rigid type.
 11. Spout Outlet: [**Aerator**] [**Laminar flow**] [**Spray**] <Insert type>.
 12. Drain: [**Not part of faucet**] <Insert type>.
- J. Sink Faucets <Insert designation>: Automatic-type, hard-wired, electronic-sensor-operated, mixing valve.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; BASYS® EFX-200 Faucet or comparable product by the following:
 - a. <Insert manufacturer's name>.
 2. Standards: ASME A112.18.1/CSA B125.1 and UL 1951.
 3. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 4. General: Include hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture hole punchings; coordinate outlet with spout and fixture receptor.
 5. Body Type: [**Single hole**] <Insert type>.
 6. Body Material: [**Commercial**] [**General-duty**], chrome plated constructed metal.
 7. Finish: [**Polished chrome plate**] <Insert finish>.
 8. Maximum Flow Rate: [**0.5 gpm (1.5 L/min.)**] <Insert value>.
 9. Mounting Type: Deck.

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10. Spout: Rigid.
11. Spout Outlet: [Aerator] [Laminar flow] [Spray] <Insert type>.
12. Drain: [Not part of faucet] <Insert type>.

2.7 SINK FAUCETS

- A. NSF Standard: Comply with NSF/ANSI 61 Annex G, "Drinking Water System Components - Health Effects," for faucet-spout materials that will be in contact with potable water.
- B. Sink Faucets <Insert drawing designation>: Manual type, [single-control] [two-lever-handle] <Insert type> mixing valve.
 1. Commercial, Solid-Brass Faucets.
 - a. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - 1) <Insert manufacturer's name>.
 2. General-Duty, Solid-Brass Faucets.
 - a. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - 1) <Insert manufacturer's name>.
 3. Copper- or Brass-Underbody Faucets.
 - a. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - 1) <Insert manufacturer's name>.
 4. Standard: ASME A112.18.1/CSA B125.1.
 5. General: Include hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture hole punchings; coordinate outlet with spout and sink receptor.
 6. Body Type: [Centerset] [Widespread] [Single hole] <Insert type>.
 7. Body Material: [Commercial, solid brass] [General-duty, solid brass] [Copper or brass underbody].
 8. Finish: [Chrome plated] [Polished chrome plate] <Insert finish>.
 9. Maximum Flow Rate: [2.2 gpm (8.3 L/min.)] [4.0 gpm (15 L/min.)] <Insert value>.
 10. Handle(s): [Lever] [Cross, four arm] [Wrist blade, 4 inches (102 mm)] [Elbow, 6 inches (152 mm)] [Not applicable] <Insert handles>.
 11. Mounting Type: [Deck, concealed] [Deck, exposed] [Back/wall, exposed].
 12. Spout Type: [Rigid, solid brass] [Rigid, solid brass with wall brace] [Swing, round tubular] [Swing, shaped tube] [Swing, solid brass] [Rigid gooseneck] [Swivel gooseneck] <Insert type>.
 13. Vacuum Breaker: [Required] [Not required] for hose outlet.

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14. Spout Outlet: [**Aerator**] [**Laminar flow**] [**Hose thread according to ASME B1.20.7**] [**Plain end**] [**Spray**] <**Insert type**>.

2.8 LAMINAR-FLOW, FAUCET-SPOUT OUTLETS

- A. NSF Standard: Comply with NSF/ANSI 61 Annex 61, "Drinking Water System Components - Health Effects," for faucet-spout-outlet materials that will be in contact with potable water.
- B. Manufacturers: Subject to compliance with requirements, provide products by the following:
1. Chronomite Laboratories, Inc.
 2. NEOPERL, Inc.
 3. <**Insert manufacturer's name**>.
- C. Description: Chrome-plated brass, faucet-spout outlet that produces non-aerating, laminar stream. Include external or internal thread that mates with faucet outlet for attachment to faucets where indicated and flow-rate range that includes flow of faucet.

2.9 SUPPORTS

- A. Type II Sink Carrier:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Jay R. Smith Mfg. Co.
 - b. Josam Company.
 - c. MIFAB, Inc.
 - d. Wade Drains.
 - e. Watts; a Watts Water Technologies company.
 - f. <**Insert manufacturer's name**>.
 2. Standard: ASME A112.6.1M.

2.10 SUPPLY FITTINGS

- A. NSF Standard: Comply with NSF/ANSI 61 Annex G, "Drinking Water System Components - Health Effects," for supply-fitting materials that will be in contact with potable water.
- B. Standard: ASME A112.18.1/CSA B125.1.
- C. Supply Piping: Chrome-plated brass pipe or chrome-plated copper tube matching water-supply piping size. Include chrome-plated brass or stainless-steel wall flange.
- D. Supply Stops: Chrome-plated brass, one-quarter-turn, ball-type or compression valve with inlet connection matching supply piping.
- E. Operation: [**Loose key**] [**Wheel handle**] <**Insert type**>.

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F. Risers:

1. [NPS 3/8 (DN 10)] [NPS 1/2 (DN 15)].
2. [Chrome-plated, rigid-copper pipe] [Chrome-plated, soft-copper flexible tube] [ASME A112.18.6, braided or corrugated stainless-steel flexible hose].

2.11 WASTE FITTINGS

A. Standard: ASME A112.18.2/CSA B125.2.

B. Drain: Grid type with NPS 1-1/2 (DN 40) offset and straight tailpiece.

C. Trap:

1. Size: NPS 1-1/2 (DN 40).
2. Material: Chrome-plated, [two-piece, cast-brass trap and swivel elbow with 0.032-inch- (0.83-mm-) thick brass tube to wall] [two-piece, cast-brass trap and ground-joint swivel elbow with 0.032-inch- (0.83-mm-) thick brass tube to wall] [one-piece, cast-brass trap with swivel 0.029-inch- (73-mm-) thick tubular brass wall bend] <Insert trap type>; and chrome-plated brass or steel wall flange.
3. Material: Stainless-steel, two-piece trap and swivel elbow with 0.012-inch- (0.30-mm-) thick stainless-steel tube to wall; and stainless-steel wall flange.

2.12 GROUT

A. Standard: ASTM C 1107/C 1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.

B. Characteristics: Nonshrink; recommended for interior and exterior applications.

C. Design Mix: 5000-psi (34.5-MPa), 28-day compressive strength.

D. Packaging: Premixed and factory packaged.

2.13 SUPPORTS

A. Water Closet Carrier:

1. Standard: ASME A112.6.1M.
2. Description: Waste-fitting assembly, as required to match drainage piping material and arrangement with faceplates, couplings gaskets, and feet; bolts and hardware matching fixture. [Include additional extension coupling, faceplate, and feet for installation in wide pipe space.]

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PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before sink installation.
- B. Examine walls, floors, and counters for suitable conditions where sinks will be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install sinks level and plumb according to roughing-in drawings.
- B. Install supports, affixed to building substrate, for wall-hung sinks.
- C. Install accessible wall-mounted sinks at handicapped/elderly mounting height according to ICC/ANSI A117.1.
- D. Set floor-mounted sinks in leveling bed of cement grout.
- E. Install water-supply piping with stop on each supply to each sink faucet.
 - 1. Exception: Use ball or gate valves if supply stops are not specified with sink. Comply with valve requirements specified in Section 220523.12 "Ball Valves for Plumbing Piping" and Section 220523.15 "Gate Valves for Plumbing Piping."
 - 2. Install stops in locations where they can be easily reached for operation.
- F. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations. Use deep-pattern escutcheons if required to conceal protruding fittings. Comply with escutcheon requirements specified in Section 220518 "Escutcheons for Plumbing Piping."
- G. Seal joints between sinks and counters, floors, and walls using sanitary-type, one-part, mildew-resistant silicone sealant. Match sealant color to fixture color. Comply with sealant requirements specified in Section 079200 "Joint Sealants."
- H. Install protective shielding pipe covers and enclosures on exposed supplies and waste piping of accessible sinks. Comply with requirements in Section 220719 "Plumbing Piping Insulation."

3.3 CONNECTIONS

- A. Connect sinks with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.
- B. Comply with water piping requirements specified in Section 221116 "Domestic Water Piping."

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- C. Comply with soil and waste piping requirements specified in Section 221316 "Sanitary Waste and Vent Piping."

3.4 ADJUSTING

- A. Operate and adjust sinks and controls. Replace damaged and malfunctioning sinks, fittings, and controls.
- B. Adjust water pressure at faucets to produce proper flow.

3.5 CLEANING AND PROTECTION

- A. After completing installation of sinks, inspect and repair damaged finishes.
- B. Clean sinks, faucets, and other fittings with manufacturers' recommended cleaning methods and materials.
- C. Provide protective covering for installed sinks and fittings.
- D. Do not allow use of sinks for temporary facilities unless approved in writing by Owner.

[END OF SECTION]

SPECIFICATIONS

COMMERCIAL URINALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Urinals.
 - 2. Flushometer valves.
 - 3. Supports.

- B. Related Requirements:

- 1. Section 224600 "Security Plumbing Fixtures" for security urinals.

1.3 ACTION SUBMITTALS

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

- 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for urinals.
 - 2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

- B. Sustainable Design Submittals:

- 1. Product Data: For water consumption.

- C. Shop Drawings: Include diagrams for power, signal, and control wiring.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For flushometer valves[**and electronic sensors**] to include in operation and maintenance manuals.

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1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that are packaged with protective covering for storage and identified with labels describing contents.
1. Flushometer-Valve Repair Kits: Equal to [10] <Insert number> percent of amount of each type installed, but no fewer than [one] [six] <Insert number> of each type.
 2. Waterless Urinal Trap-Seal Cartridges: Equal to [200] <Insert number> percent of amount of each type installed, but no fewer than [12] <Insert number> of each type.
 3. Waterless Urinal Trap-Seal Liquid: Equal to [1 gal. (3.8 L)] <Insert volume> for each urinal installed.

PART 2 - PRODUCTS

<https://www.sloan.com/WALL-HUNG URINALS>

- A. Urinals <Insert drawing designation>: Wall hung, back outlet, washout.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Top Spud Urinals - SU-1009 H. E. Series or comparable product by the following:
 - a. <Insert manufacturer's name>.
 2. Fixture:
 - a. Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.
 - b. Material: Vitreous china.
 - c. Type: Washout with extended shields.
 - d. Strainer or Trapway: [Manufacturer's standard strainer] <Insert strainer> with integral trap.
 - e. Water Consumption: [Low][High Efficiency].
 - f. Spud Size and Location: NPS 3/4 (DN 20), [back] [top].
 - g. Outlet Size and Location: NPS 2 (DN 50), back.
 - h. Color: [White] <Insert color>.
 3. Flushometer Valve: <Insert urinal flushometer-valve designation from "Urinal Flushometer Valves" Article>.
 4. Waste Fitting:
 - a. Standard: ASME A112.18.2/CSA B125.2 for coupling.
 - b. Size: NPS 2 (DN 50).
 5. Support: [Type I Urinal Carrier] with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture.[Include rectangular, steel uprights.]<Insert carrier>.
 6. Urinal Mounting Height: [Standard] [Child] [Handicapped/elderly according to ICC A117.1].

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B. Urinals <Insert drawing designation>: Wall hung, rear outlet, washout.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Rear Spud Urinals - SU-1010 Series or comparable product by the following:
 - a. <Insert manufacturer's name>.
2. Fixture:
 - a. Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.
 - b. Material: Vitreous china.
 - c. Drain: Separate removable chrome-plated dome strainer with chrome-plated, **NPS 1-1/2 (DN 40)** tailpiece.
 - d. Strainer or Trapway: Manufacturer's standard strainer and **NPS 1-1/2 (DN 40)** tailpiece.
 - e. Design Consumption: [**Water saving**] [**Low**].
 - f. Inlet Spud Size and Location: **NPS 3/4 (DN 20)**; top.
 - g. Outlet Size and Location: **NPS 1-1/2 (DN 40)**; bottom.
 - h. Color: [**White**] <Insert color>.
3. Flushometer Valve: <Insert urinal flushometer-valve designation from "Urinal Flushometer Valves" Article>.
4. Waste Fitting:
 - a. Standard: ASME A112.18.2/CSA B125.2.
 - b. Trap:
 - 1) Size: **NPS 1-1/2 (DN 50)**.
 - 2) Material: Chrome-plated, [**two-piece, cast-brass trap and swivel elbow with 0.032-inch- (0.83-mm-) thick brass tube to wall**] [**two-piece, cast-brass trap and ground-joint swivel elbow with 0.032-inch- (0.83-mm-) thick brass tube to wall**] [**one-piece, cast-brass trap with swivel 0.029-inch- (73-mm-) thick tubular brass wall bend**] <Insert trap type>; and chrome-plated brass or steel wall flange.
 - 3) Material: Stainless-steel, two-piece trap and swivel elbow with **0.012-inch- (0.30-mm-) thick stainless-steel tube to wall**; and stainless-steel wall flange.
5. Support: [**Type II Urinal Carrier**] with hanger and bearing plates.[**Include rectangular, steel uprights.**]<Insert carrier>.
6. Urinal Mounting Height: [**Standard**] [**Child**] [**Handicapped/elderly according to ICC A117.1**].

C. Urinals <Insert drawing designation>: Wall hung, rear spud, bottom outlet, wash down.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Rear Spud Urinals - SU-1010 H. E. Series or comparable product by the following:
 - a. <Insert manufacturer's name>.

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2. Fixture:
 - a. Standards: ASME A112.19.1/CSA B45.2 and ASME A112.19.5.
 - b. Material: Enameled cast iron.
 - c. Style: Wash sink with back and without pedestal modified for use as urinal.
 - d. Size: [**36 inches (915 mm)**] [**48 inches (1219 mm)**] [**60 inches (1525 mm)**] [**72 inches (1830 mm)**].
 - e. Drain: Separate removable chrome-plated dome strainer with chrome-plated, **NPS 1-1/2 (DN 40)** tailpiece.
 - f. Water Consumption: High Efficiency.
 - g. Flushing Device: Manufacturer's standard self-closing valve with washdown pipe of length matching fixture.
 - h. Outlet Size and Location: **NPS 1-1/2 (DN 40)**; bottom.
 - i. Color: White.
 3. Flushometer Valve:
 - a. Standard: ASME A112.18.1/CSA B125.1.
 - b. Flushing Device: Manufacturer's standard for **NPS 1/2 (DN 15)** supply; self-closing valve; and wash-down pipe of length matching fixture.
 4. Waste Fitting:
 - a. Standard: ASME A112.18.2/CSA B125.2.
 - b. Trap:
 - 1) Size: **NPS 1-1/2 (DN 50)**.
 - 2) Material: Chrome-plated, [**two-piece, cast-brass trap and swivel elbow with 0.032-inch- (0.83-mm-) thick brass tube to wall**] [**two-piece, cast-brass trap and ground-joint swivel elbow with 0.032-inch- (0.83-mm-) thick brass tube to wall**] [**one-piece, cast-brass trap with swivel 0.029-inch- (73-mm-) thick tubular brass wall bend**] **<Insert trap type>**; and chrome-plated brass or steel wall flange.
 - 3) Material: Stainless-steel, two-piece trap and swivel elbow with **0.012-inch- (0.30-mm-) thick stainless-steel tube to wall**; and stainless-steel wall flange.
 5. Support: **[Type I Sink Carrier] <Insert carrier>**.
 6. Sink/Urinal Mounting Height: **[Standard] [Child] [Handicapped/elderly according to ICC A117.1]**.
- D. Urinals **<Insert drawing designation>**: Wall hung, rear spud, bottom outlet, wash down.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Rear Spud Urinals - SU-7019 Small H. E. Series or comparable product by the following:
 - a. **<Insert manufacturer's name>**.
 2. Fixture:

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- a. Standards: ASME A112.19.1/CSA B45.2 and ASME A112.19.5.
 - b. Material: Enameled cast iron.
 - c. Style: Wash sink with back and without pedestal modified for use as urinal.
 - d. Size: [36 inches (915 mm)] [48 inches (1219 mm)] [60 inches (1525 mm)] [72 inches (1830 mm)].
 - e. Drain: Separate removable chrome-plated dome strainer with chrome-plated, NPS 1-1/2 (DN 40) tailpiece.
 - f. Water Consumption: High Efficiency.
 - g. Flushing Device: Manufacturer's standard self-closing valve with washdown pipe of length matching fixture.
 - h. Outlet Size and Location: NPS 1-1/2 (DN 40); bottom.
 - i. Color: White.
 3. Flushometer Valve:
 - a. Standard: ASME A112.18.1/CSA B125.1.
 - b. Flushing Device: Manufacturer's standard for NPS 1/2 (DN 15) supply; self-closing valve; and wash-down pipe of length matching fixture.
 4. Waste Fitting:
 - a. Standard: ASME A112.18.2/CSA B125.2.
 - b. Trap:
 - 1) Size: NPS 1-1/2 (DN 50).
 - 2) Material: Chrome-plated, [two-piece, cast-brass trap and swivel elbow with 0.032-inch- (0.83-mm-) thick brass tube to wall] [two-piece, cast-brass trap and ground-joint swivel elbow with 0.032-inch- (0.83-mm-) thick brass tube to wall] [one-piece, cast-brass trap with swivel 0.029-inch- (73-mm-) thick tubular brass wall bend] <Insert trap type>; and chrome-plated brass or steel wall flange.
 - 3) Material: Stainless-steel, two-piece trap and swivel elbow with 0.012-inch- (0.30-mm-) thick stainless-steel tube to wall; and stainless-steel wall flange.
 5. Support: [Type I Sink Carrier] <Insert carrier>.
 6. Sink/Urinal Mounting Height: [Standard] [Child] [Handicapped/elderly according to ICC A117.1].
- E. Urinals <Insert drawing designation>: Wall hung, bottom outlet, wash down.
1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. <Insert manufacturer's name>.
 2. Fixture:
 - a. Standards: ASME A112.19.1/CSA B45.2 and ASME A112.19.5.
 - b. Material: Enameled cast iron.
 - c. Style: Wash sink with back and without pedestal modified for use as urinal.

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- d. Size: [**36 inches (915 mm)**] [**48 inches (1219 mm)**] [**60 inches (1525 mm)**] [**72 inches (1830 mm)**].
 - e. Drain: Separate removable chrome-plated dome strainer with chrome-plated, **NPS 1-1/2 (DN 40)** tailpiece.
 - f. Water Consumption: Not applicable.
 - g. Flushing Device: Manufacturer's standard self-closing valve with washdown pipe of length matching fixture.
 - h. Outlet Size and Location: **NPS 1-1/2 (DN 40)**; bottom.
 - i. Color: [**White**] **<Insert color>**.
3. Flushometer Valve:
- a. Standard: ASME A112.18.1/CSA B125.1.
 - b. Flushing Device: Manufacturer's standard for **NPS 1/2 (DN 15)** supply; self-closing valve; and wash-down pipe of length matching fixture.
4. Waste Fitting:
- a. Standard: ASME A112.18.2/CSA B125.2.
 - b. Trap:
 - 1) Size: **NPS 1-1/2 (DN 50)**.
 - 2) Material: Chrome-plated, [**two-piece, cast-brass trap and swivel elbow with 0.032-inch- (0.83-mm-) thick brass tube to wall**] [**two-piece, cast-brass trap and ground-joint swivel elbow with 0.032-inch- (0.83-mm-) thick brass tube to wall**] [**one-piece, cast-brass trap with swivel 0.029-inch- (73-mm-) thick tubular brass wall bend**] **<Insert trap type>**; and chrome-plated brass or steel wall flange.
 - 3) Material: Stainless-steel, two-piece trap and swivel elbow with **0.012-inch- (0.30-mm-) thick stainless-steel tube to wall**; and stainless-steel wall flange.
5. Support: [**Type I Sink Carrier**] **<Insert carrier>**.
6. Sink/Urinal Mounting Height: [**Standard**] [**Child**] [**Handicapped/elderly according to ICC A117.1**].

2.2 WATERLESS URINALS

- A. Urinals **<Insert drawing designation>**: Wall hung, back outlet, waterless, vitreous china, designed for liquid-trap-seal operation.
- 1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Waterfree Urinal - WES-1000 or comparable product by the following:
 - a. **<Insert manufacturer's name>**.
 - 2. Fixture:
 - a. Standard: ASME A112.19.2/CSA B45.1, except without water supply.
 - b. Material: Vitreous china.

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- c. Trap-Seal Method: Proprietary cartridge with liquid seal.
 - d. Outlet Size and Location: **[NPS 2 (DN 50)]** <Insert size> flange; back.
 - e. Trap-Sealing Liquid: Proprietary.
 - f. Color: **[White]** <Insert color>.
 3. Waste Fitting:
 - a. Standard: ASME A112.18.2/CSA B125.2 for transition coupling, trap, and waste pipe.
 - b. Size: **[NPS 2 (DN 50)]** <Insert size>.
 4. Support: **[Type I Urinal Carrier]** with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture. **[Include rectangular, steel uprights.]** <Insert carrier>.
 5. Urinal Mounting Height: **[Standard]** **[Child]** **[Handicapped/elderly according to ICC A117.1]**.
- B. Urinals <Insert drawing designation>: Wall hung, back outlet, Hybrid Urinal designed for liquid-trap-seal operation. With Jet Rinse Technology.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Rear Spud Urinals - HYB-1000 Hybrid Urinal or comparable product by the following:
 - a. <Insert manufacturer's name>.
 2. Fixture:
 - a. Standard: ANSI Z124.9, except without water supply.
 - b. Material: Vitreous china.
 - c. Trap-Seal Method: Proprietary cartridge or trap system.
 - d. Outlet Size and Location: **NPS 2 (DN 50)**; back. Include transition coupling.
 - e. Trap-Sealing Liquid: Proprietary.
 - f. Color: **[White]** <Insert color>.
 3. Waste Fitting:
 - a. Standard: ASME A112.18.2/CSA B125.2 for transition coupling, trap, and waste pipe.
 - b. Size: **[NPS 2 (DN 50)]** <Insert size>.
 4. Support: **[Metal plate in wall]** **[Wood blocking in wall]** **[Type I urinal carrier with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture.]** **[Include rectangular, steel uprights.]** <Insert carrier>.
 5. Urinal Mounting Height: **[Standard]** **[Child]** **[Handicapped/elderly according to ICC A117.1]**.

SPECIFICATIONS

2.3 URINAL FLUSHOMETER VALVES

A. Lever-Handle, Diaphragm Flushometer Valves <Insert designation>:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Royal® 186 Flushometer or comparable product by the following:
 - a. <Insert manufacturer's name>.
2. Standard: ASSE 1037.
3. Minimum Pressure Rating: 125 psig (860 kPa).
4. Features: Include integral check stop and backflow-prevention device.
5. Material: Semi red brass body with corrosion-resistant components.
6. Exposed Flushometer-Valve Finish: Chrome plated.
7. Panel Finish: Chrome plated or stainless steel.
8. Style: Exposed.
9. Consumption: [0.125 gal. (0.48 L)] [0.25 gal. (0.95 L)] [0.5 gal. (1.9 L)] [1.0 gal. (3.8 L)] [1.5 gal. (5.7 L)] <Insert value> per flush.
10. Minimum Inlet: [NPS 3/4 (DN 20)] [NPS 1 (DN 25)].
11. Minimum Outlet: [NPS 3/4 (DN 20)] [NPS 1-1/4 (DN 32)].

B. Lever-Handle, Diaphragm Flushometer Valves <Insert designation>:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Royal® 186 0.5 H.E. Flushometer or comparable product by the following:
 - a. <Insert manufacturer's name>.
2. Standard: ASSE 1037.
3. Minimum Pressure Rating: 125 psig (860 kPa).
4. Features: Include integral check stop and backflow-prevention device.
5. Material: Semi red brass body with corrosion-resistant components.
6. Exposed Flushometer-Valve Finish: Chrome plated.
7. Panel Finish: Chrome plated or stainless steel.
8. Style: [Exposed] [Concealed].
9. Consumption: 0.5 gal. (1.9 L) per flush.
10. Minimum Inlet: [NPS 3/4 (DN 20)] [NPS 1 (DN 25)].
11. Minimum Outlet: [NPS 3/4 (DN 20)] [NPS 1-1/4 (DN 32)].

C. Solenoid-Actuator, Diaphragm Flushometer Valves <Insert designation>:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Royal 186 ESS or comparable product by the following:
 - a. <Insert manufacturer's name>.
2. Standard: ASSE 1037.
3. Minimum Pressure Rating: 125 psig (860 kPa).
4. Features: Include integral check stop and backflow-prevention device.
5. Material: Semi red brass body with corrosion-resistant components.

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6. Exposed Flushometer-Valve Finish: Chrome plated.
7. Panel Finish: Chrome plated or stainless steel.
8. Style: Exposed.
9. Actuator: Solenoid complying with UL 1951; listed and labeled as defined in NFPA 70, by a qualified testing agency; and marked for intended location and application.
10. Trip Mechanism: Hard-wired electronic sensor complying with UL 1951; listed and labeled as defined in NFPA 70, by a qualified testing agency; and marked for intended location and application.
11. Consumption: 0.125 to 0.5 gal. (0.48 to 0.5 L) per flush.
12. Minimum Inlet: [NPS 3/4 (DN 20)] [NPS 1 (DN 25)].
13. Minimum Outlet: [NPS 3/4 (DN 20)] [NPS 1-1/4 (DN 32)].

D. Solenoid-Actuator, Diaphragm Flushometer Valves <Insert designation>:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Sloan 186 ESS or comparable product by the following:
 - a. <Insert manufacturer's name>.
2. Standard: ASSE 1037.
3. Minimum Pressure Rating: 125 psig (860 kPa).
4. Features: Include integral check stop and backflow-prevention device.
5. Material: Brass body with corrosion-resistant components.
6. Exposed Flushometer-Valve Finish: Chrome plated.
7. Panel Finish: Chrome plated or stainless steel.
8. Style: Exposed.
9. Actuator: Solenoid complying with UL 1951; listed and labeled as defined in NFPA 70, by a qualified testing agency; and marked for intended location and application.
10. Trip Mechanism: Hard-wired electronic sensor complying with UL 1951; listed and labeled as defined in NFPA 70, by a qualified testing agency; and marked for intended location and application.
11. Consumption: 0.125 to 0.5 gal. (0.48 to 0.5 L) per flush.
12. Minimum Inlet: [NPS 3/4 (DN 20)] [NPS 1 (DN 25)].
13. Minimum Outlet: [NPS 3/4 (DN 20)] [NPS 1-1/4 (DN 32)].

E. Solenoid-Actuator, Diaphragm Flushometer Valves <Insert designation>:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Regal 186 ESS or comparable product by the following:
 - a. <Insert manufacturer's name>.
2. Standard: ASSE 1037.
3. Minimum Pressure Rating: 125 psig (860 kPa).
4. Features: Include integral check stop and backflow-prevention device.
5. Material: Brass body with corrosion-resistant components.
6. Exposed Flushometer-Valve Finish: Chrome plated.
7. Panel Finish: Chrome plated or stainless steel.
8. Style: Exposed.

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9. Actuator: Solenoid complying with UL 1951; listed and labeled as defined in NFPA 70, by a qualified testing agency; and marked for intended location and application.
10. Trip Mechanism: Hard-wired electronic sensor complying with UL 1951; listed and labeled as defined in NFPA 70, by a qualified testing agency; and marked for intended location and application.
11. Consumption: 0.125 to 0.5 gal. (0.48 to 0.5 L) per flush.
12. Minimum Inlet: [NPS 3/4 (DN 20)] [NPS 1 (DN 25)].
13. Minimum Outlet: [NPS 3/4 (DN 20)] [NPS 1-1/4 (DN 32)].

F. Battery-Powered Solenoid-Actuator, Diaphragm Flushometer Valves <Insert designation>:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; SOLIS 8186 H.E. Solar-powered Flushometer or comparable product by the following:
 - a. <Insert manufacturer's name>.
2. Standard: ASSE 1037.
3. Minimum Pressure Rating: 125 psig (860 kPa).
4. Features: Include integral check stop and backflow-prevention device.
5. Material: Brass body with corrosion-resistant components.
6. Exposed Flushometer-Valve Finish: Chrome plated.
7. Panel Finish: Chrome plated or stainless steel.
8. Style: Exposed.
9. Actuator: Solenoid complying with UL 1951; listed and labeled as defined in NFPA 70, by a qualified testing agency; and marked for intended location and application.
10. Trip Mechanism: Hard-wired electronic sensor complying with UL 1951; listed and labeled as defined in NFPA 70, by a qualified testing agency; and marked for intended location and application.
11. Consumption: 0.125 to 0.5 gal. (0.48 to 0.5 L) per flush.
12. Minimum Inlet: [NPS 3/4 (DN 20)] [NPS 1 (DN 25)].
13. Minimum Outlet: [NPS 3/4 (DN 20)] [NPS 1-1/4 (DN 32)].

G. Battery-Powered Solenoid-Actuator, Diaphragm Flushometer Valves <Insert designation>:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; G2 8186 H.E. Flushometer or comparable product by the following:
 - a. <Insert manufacturer's name>.
2. Standard: ASSE 1037.
3. Minimum Pressure Rating: 125 psig (860 kPa).
4. Features: Include integral check stop and backflow-prevention device.
5. Material: Brass body with corrosion-resistant components.
6. Exposed Flushometer-Valve Finish: Chrome plated.
7. Panel Finish: Chrome plated or stainless steel.
8. Style: Exposed.
9. Actuator: Solenoid complying with UL 1951; listed and labeled as defined in NFPA 70, by a qualified testing agency; and marked for intended location and application.

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10. Trip Mechanism: Hard-wired electronic sensor complying with UL 1951; listed and labeled as defined in NFPA 70, by a qualified testing agency; and marked for intended location and application.
11. Consumption: 0.125 to 0.5 gal. (0.48 to 0.5 L) per flush.
12. Minimum Inlet: [NPS 3/4 (DN 20)] [NPS 1 (DN 25)].
13. Minimum Outlet: [NPS 3/4 (DN 20)] [NPS 1-1/4 (DN 32)].

H. Battery-Powered Solenoid-Actuator, Diaphragm Flushometer Valves <Insert designation>:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Sloan 8186 Battery-powered Flushometer or comparable product by the following:
 - a. <Insert manufacturer's name>.
2. Standard: ASSE 1037.
3. Minimum Pressure Rating: 125 psig (860 kPa).
4. Features: Include integral check stop and backflow-prevention device.
5. Material: Brass body with corrosion-resistant components.
6. Exposed Flushometer-Valve Finish: Chrome plated.
7. Panel Finish: Chrome plated or stainless steel.
8. Style: Exposed.
9. Actuator: Solenoid complying with UL 1951; listed and labeled as defined in NFPA 70, by a qualified testing agency; and marked for intended location and application.
10. Trip Mechanism: Hard-wired electronic sensor complying with UL 1951; listed and labeled as defined in NFPA 70, by a qualified testing agency; and marked for intended location and application.
11. Consumption: 0.125 to 0.5 gal. (0.48 to 0.5 L) per flush.
12. Minimum Inlet: [NPS 3/4 (DN 20)] [NPS 1 (DN 25)].
13. Minimum Outlet: [NPS 3/4 (DN 20)] [NPS 1-1/4 (DN 32)].

I. Hydraulic-Actuator, Push-Button, Diaphragm Flushometer Valves <Insert designation>:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Royal 986 Flushometer or comparable product by the following:
 - a. <Insert manufacturer's name>.
2. Standard: ASSE 1037.
3. Minimum Pressure Rating: 125 psig (860 kPa).
4. Features: Include integral check stop and backflow-prevention device.
5. Material: Semi red brass body with corrosion-resistant components.
6. Exposed Flushometer-Valve Finish: Chrome plated.
7. Panel Finish: Stainless steel.
8. Style: [Exposed] [Concealed].
9. Consumption: [0.5 gal. (1.9 L)] [1.0 gal. (3.8 L)] <Insert value> per flush.
10. Minimum Inlet: [NPS 3/4 (DN 20)] [NPS 1 (DN 25)].
11. Minimum Outlet: [NPS 3/4 (DN 20)] [NPS 1-1/4 (DN 32)].

J. Lever-Handle, Piston Flushometer Valves <Insert designation>:

SPECIFICATIONS

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Crown® 186-0.5 Flushometer or comparable product by the following:
 - a. <Insert manufacturer's name>.
 2. Standard: ASSE 1037.
 3. Minimum Pressure Rating: 125 psig (860 kPa).
 4. Features: Include integral check stop and backflow-prevention device.
 5. Material: Semi red brass body with corrosion-resistant components.
 6. Exposed Flushometer-Valve Finish: Chrome plated.
 7. Panel Finish: Chrome plated or stainless steel.
 8. Style: [Exposed] [Concealed].
 9. Consumption: [0.5 gal. (1.9 L)] [1.0 gal. (3.8 L)] <Insert value> per flush.
 10. Minimum Inlet: [NPS 3/4 (DN 20)] [NPS 1 (DN 25)].
 11. Minimum Outlet: [NPS 3/4 (DN 20)] [NPS 1-1/4 (DN 32)].
- K. Lever-Handle, Piston Flushometer Valves <Insert designation>:
1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Gem-2® 186-0.5 Flushometer or comparable product by the following:
 - a. <Insert manufacturer's name>.
 2. Standard: ASSE 1037.
 3. Minimum Pressure Rating: 125 psig (860 kPa).
 4. Features: Include integral check stop and backflow-prevention device.
 5. Material: Semi red brass body with corrosion-resistant components.
 6. Exposed Flushometer-Valve Finish: Chrome plated.
 7. Panel Finish: Chrome plated or stainless steel.
 8. Style: [Exposed] [Concealed].
 9. Consumption: [0.5 gal. (1.9 L)] [1.0 gal. (3.8 L)] <Insert value> per flush.
 10. Minimum Inlet: [NPS 3/4 (DN 20)] [NPS 1 (DN 25)].
 11. Minimum Outlet: [NPS 3/4 (DN 20)] [NPS 1-1/4 (DN 32)].
- L. Hard-Wired, Solenoid-Actuator, Piston Flushometer Valves <Insert designation>:
1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company Sloan 186-0.5 or comparable product by the following:
 - a. <Insert manufacturer's name>.
 2. Standard: ASSE 1037.
 3. Minimum Pressure Rating: 125 psig (860 kPa).
 4. Features: Include integral check stop and backflow-prevention device.
 5. Material: Brass body with corrosion-resistant components.
 6. Exposed Flushometer-Valve Finish: Chrome plated.
 7. Panel Finish: Chrome plated or stainless steel.
 8. Style: [Exposed] [Concealed].
 9. Actuator: Solenoid complying with UL 1951; listed and labeled as defined in NFPA 70, by a qualified testing agency; and marked for intended location and application.

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10. Trip Mechanism: Hard-wired electronic sensor complying with UL 1951; listed and labeled as defined in NFPA 70, by a qualified testing agency; and marked for intended location and application.
11. Consumption: [0.5 gal. (1.9 L)] [1.0 gal. (3.8 L)] <Insert value> per flush.
12. Minimum Inlet: [NPS 3/4 (DN 20)] [NPS 1 (DN 25)].
13. Minimum Outlet: [NPS 3/4 (DN 20)] [NPS 1-1/4 (DN 32)].

M. Battery-Powered, Solenoid-Actuator, Piston Flushometer Valves <Insert designation>:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Gem-2 186 SFSM Flushometer or comparable product by the following:
 - a. <Insert manufacturer's name>.
2. Standard: ASSE 1037.
3. Minimum Pressure Rating: 125 psig (860 kPa).
4. Features: Include integral check stop and backflow-prevention device.
5. Material: Brass body with corrosion-resistant components.
6. Exposed Flushometer-Valve Finish: Chrome plated.
7. Panel Finish: Chrome plated or stainless steel.
8. Style: [Exposed] [Concealed].
9. Actuator: Solenoid complying with UL 1951; listed and labeled as defined in NFPA 70, by a qualified testing agency; and marked for intended location and application.
10. Trip Mechanism: Battery-powered electronic sensor complying with UL 1951; listed and labeled as defined in NFPA 70, by a qualified testing agency; and marked for intended location and application.
11. Consumption: [0.5 gal. (1.9 L)] [1.0 gal. (3.8 L)] <Insert value> per flush.
12. Minimum Inlet: [NPS 3/4 (DN 20)] [NPS 1 (DN 25)].
13. Minimum Outlet: [NPS 3/4 (DN 20)] [NPS 1-1/4 (DN 32)].

2.4 SUPPORTS

A. Type I Urinal Carrier:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Jay R. Smith Mfg. Co.
 - b. Josam Company.
 - c. MIFAB, Inc.
 - d. Wade Drains.
 - e. Watts; a Watts Water Technologies company.
 - f. <Insert manufacturer's name>.
2. Standard: ASME A112.6.1M.

B. Type II Urinal Carrier:

SPECIFICATIONS

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Jay R. Smith Mfg. Co.
 - b. Josam Company.
 - c. MIFAB, Inc.
 - d. Wade Drains.
 - e. Watts; a Watts Water Technologies company.
 - f. **<Insert manufacturer's name>**.
 2. Standard: ASME A112.6.1M.
- C. Type I Sink Carrier:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Jay R. Smith Mfg. Co.
 - b. Josam Company.
 - c. MIFAB, Inc.
 - d. Wade Drains.
 - e. Watts; a Watts Water Technologies company.
 - f. **<Insert manufacturer's name>**.
 2. Standard: ASME A112.6.1M.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before urinal installation.
- B. Examine walls and floors for suitable conditions where urinals will be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Urinal Installation:
 1. Install urinals level and plumb according to roughing-in drawings.
 2. Install wall-hung, back-outlet urinals onto waste fitting seals and attached to supports.
 3. Install wall-hung, bottom-outlet urinals with tubular waste piping attached to supports.
 4. Install accessible, wall-mounted urinals at mounting height for the handicapped/elderly, according to ICC/ANSI A117.1.
 5. Install trap-seal liquid in waterless urinals.

SPECIFICATIONS

B. Support Installation:

1. Install supports, affixed to building substrate, for wall-hung urinals.
2. Use off-floor carriers with waste fitting and seal for back-outlet urinals.
3. Use carriers without waste fitting for urinals with tubular waste piping.
4. Use chair-type carrier supports with rectangular steel uprights for accessible urinals.

C. Flushometer-Valve Installation:

1. Install flushometer-valve water-supply fitting on each supply to each urinal.
2. Attach supply piping to supports or substrate within pipe spaces behind fixtures.
3. Install lever-handle flushometer valves for accessible urinals with handle mounted on open side of compartment.
4. Install fresh batteries in battery-powered, electronic-sensor mechanisms.

D. Wall Flange and Escutcheon Installation:

1. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations.
2. Install deep-pattern escutcheons if required to conceal protruding fittings.
3. Comply with escutcheon requirements specified in Section 220518 "Escutcheons for Plumbing Piping."

E. Joint Sealing:

1. Seal joints between urinals and walls and floors using sanitary-type, one-part, mildew-resistant silicone sealant.
2. Match sealant color to urinal color.
3. Comply with sealant requirements specified in Section 079200 "Joint Sealants."

3.3 CONNECTIONS

- A. Connect urinals with water supplies and soil, waste, and vent piping. Use size fittings required to match urinals.
- B. Comply with water piping requirements specified in Section 221116 "Domestic Water Piping."
- C. Comply with soil and waste piping requirements specified in Section 221316 "Sanitary Waste and Vent Piping."
- D. Where installing piping adjacent to urinals, allow space for service and maintenance.

3.4 ADJUSTING

- A. Operate and adjust urinals and controls. Replace damaged and malfunctioning urinals, fittings, and controls.
- B. Adjust water pressure at flushometer valves to produce proper flow.

SPECIFICATIONS

- C. Install fresh batteries in battery-powered, electronic-sensor mechanisms.

3.5 CLEANING AND PROTECTION

- A. Clean urinals and fittings with manufacturers' recommended cleaning methods and materials.
- B. Install protective covering for installed urinals and fittings.
- C. Do not allow use of urinals for temporary facilities unless approved in writing by Owner.

[END OF SECTION]

SPECIFICATIONS

COMMERCIAL WATER CLOSETS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Water closets.
 - 2. Flushometer valves.
 - 3. Toilet seats.
 - 4. Supports.

1.3 DEFINITIONS

- A. Effective Flush Volume: Average of two reduced flushes and one full flush per fixture.
- B. Remote Water Closet: Located more than **30 feet (9.1 m)** from other drain line connections or fixture and where less than 1.5 drainage fixture units are upstream of the drain line connection.
- C. Related Requirements:
 - 1. Section 224100 "Residential Plumbing Fixtures" for residential water closets.
 - 2. Section 224300 "Medical Plumbing Fixtures" for healthcare water closets.
 - 3. Section 224600 "Security Plumbing Fixtures" for security water closets.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for water closets.
 - 2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
- B. Sustainable Design Submittals:
 - 1. Product Data: For water consumption.
- C. Shop Drawings: Include diagrams for power, signal, and control wiring.

SPECIFICATIONS

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For flushometer valves[**and electronic sensors**] to include in operation and maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Flushometer-Valve Repair Kits: Equal to [10] **<Insert number>** percent of amount of each type installed, but no fewer than [one] [six] **<Insert number>** of each type.

PART 2 - PRODUCTS

2.1 FLOOR-MOUNTED, BOTTOM-OUTLET WATER CLOSETS

- A. Water Closets **<Insert drawing designation>**: Floor mounted, bottom outlet, top spud.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Sloan ST 2009A universal fixture or comparable product by the following:
 - a. **<Insert manufacturer's name>**.
 - 2. Bowl:
 - a. Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.
 - b. Material: Vitreous china.
 - c. Type: Siphon jet.
 - d. Style: Flushometer valve.
 - e. Height: [Standard][, complying with ICC/ANSI A117.1].
 - f. Rim Contour: Elongated.
 - g. Water Consumption: 1.1 gal. (4.2 L) to 1.6 gal. (6 L) per flush.
 - h. Spud Size and Location: NPS 1-1/2 (DN 40); top.
 - i. Color: White.
 - 3. Bowl-to-Drain Connecting Fitting: [ASTM A 1045 or]ASME A112.4.3.
 - 4. Flushometer Valve: **<Insert flushometer-valve designation>**.
 - 5. Toilet Seat: **<Insert toilet-seat designation>**.
- B. Water Closets **<Insert drawing designation>**: Floor mounted, bottom outlet, back spud.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Sloan ST 2010A universal fixture or comparable product by the following:
 - a. **<Insert manufacturer's name>**.
 - 2. Bowl:

SPECIFICATIONS

- a. Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.
 - b. Material: Vitreous china.
 - c. Type: Siphon jet.
 - d. Style: Flushometer valve.
 - e. Height: Standard.
 - f. Rim Contour: Elongated.
 3. Water Consumption: **1.28 gal. (4.8 L)** per flush.
 - a. Spud Size and Location: **NPS 1-1/2 (DN 40)**; back.
 - b. Color: White.
 4. Bowl-to-Drain Connecting Fitting: **[ASTM A 1045 or]ASME A112.4.3.**
 5. Flushometer Valve: **<Insert flushometer-valve designation>.**
 6. Toilet Seat: **<Insert toilet-seat designation>.**
- C. Water Closets **<Insert drawing designation>**: Floor mounted, bottom outlet, child's.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Sloan ST 2309A Junior (child's) Bowl or comparable product by the following:
 - a. **<Insert manufacturer's name>.**
 2. Bowl:
 - a. Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.
 - b. Material: Vitreous china.
 - c. Type: Siphon jet.
 - d. Style: Flushometer valve.
 - e. Height: **[Child] 10-3/4 inch (273 mm)** height.
 - f. Rim Contour: Modified elongated or regular.
 - g. Water Consumption: **1.1 gal. (4.2 L) to 1.6 gal. (6 L)** per flush.
 - h. Spud Size and Location: **NPS 1-1/2 (DN 40)**; back.
 - i. Color: White.
 3. Bowl-to-Drain Connecting Fitting: **[ASTM A 1045 or]ASME A112.4.3.**
 4. Flushometer Valve: **<Insert flushometer-valve designation>.**
 5. Toilet Seat: IAPMO/ANSI Z124.5, Type A (residential), Shape 3 (elongated rim), open front, without cover, and shaped to match bowl.

2.2 WALL-MOUNTED WATER CLOSETS

- A. Water Closets **<Insert drawing designation>**: Wall mounted, top spud[, **accessible**].
1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Sloan ST 2459A universal fixture or comparable product by the following:
 - a. **<Insert manufacturer's name>.**

SPECIFICATIONS

2. Bowl:
 - a. Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.
 - b. Material: Vitreous china.
 - c. Type: Siphon jet.
 - d. Style: Flushometer valve.
 - e. Height: Standard.
 - f. Rim Contour: Elongated.
 - g. Water Consumption: 1.28 gal. (4.8 L) to 1.6 gal. (6 L) per flush.
 - h. Spud Size and Location: NPS 1-1/2 (DN 40); top.
3. Flushometer Valve: <Insert flushometer-valve designation>.
4. Toilet Seat: <Insert toilet-seat designation>.
5. Support: [Water closet carrier] <Insert carrier>.
6. Water-Closet Mounting Height: [Standard] [Handicapped/elderly according to ICC/ANSI A117.1].

2.3 FLUSHOMETER VALVES

A. Lever-Handle, Diaphragm Flushometer Valves <Insert designation>:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Royal® 111 Flushometer or comparable product by the following:
 - a. <Insert manufacturer's name>.
2. Standard: ASSE 1037.
3. Minimum Pressure Rating: 125 psig (860 kPa).
4. Features: Include integral check stop and backflow-prevention device.
5. Material: Semi-red brass with Permex rubber components.
6. Exposed Flushometer-Valve Finish: Chrome plated.
7. Style: Exposed.
8. Consumption: [1.28 gal. (4.8 L)] [1.6 gal. (6 L)] [3.5 gal. (13.2 L)] per flush.
9. Minimum Inlet: NPS 1 (DN 25).
10. Minimum Outlet: NPS 1-1/4 (DN 32).

B. Lever-Handle, Diaphragm Flushometer Valves <Insert designation>:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; WES 111 Dual-Flush Flushometer or comparable product by the following:
 - a. <Insert manufacturer's name>.
2. Standard: ASSE 1037.
3. Minimum Pressure Rating: 125 psig (860 kPa).
4. Features: Include integral check stop and backflow-prevention device.
5. Material: Semi-red brass with Permex rubber components.
6. Exposed Flushometer-Valve Finish: Chrome plated.
7. Style: Exposed.

SPECIFICATIONS

8. Consumption: 1.1 gal. (4.8 L) / 1.6 gal. (6 L) per flush, dual flush.
9. Minimum Inlet: NPS 1 (DN 25).
10. Minimum Outlet: NPS 1-1/4 (DN 32).

C. Lever-Handle, Diaphragm Flushometer Valves <Insert designation>:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Sloan 111 Flushometer or comparable product by the following:
 - a. <Insert manufacturer's name>.
2. Standard: ASSE 1037.
3. Minimum Pressure Rating: 125 psig (860 kPa).
4. Features: Include integral check stop and backflow-prevention device.
5. Material: Semi-red brass body with corrosion-resistant components.
6. Exposed Flushometer-Valve Finish: Chrome plated.
7. Style: Exposed.
8. Consumption: [1.28 gal. (4.8 L)] [1.6 gal. (6 L)] [3.5 gal. (13.2 L)] per flush.
9. Minimum Inlet: NPS 1 (DN 25).
10. Minimum Outlet: NPS 1-1/4 (DN 32).

D. Solenoid-Actuator, Diaphragm Flushometer Valves <Insert designation>:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Royal 111 ESS TMO Flushometer or comparable product by the following:
 - a. <Insert manufacturer's name>.
2. Standard: ASSE 1037.
3. Minimum Pressure Rating: 125 psig (860 kPa).
4. Features: Include integral check stop and backflow-prevention device.
5. Material: Semi-red brass body with corrosion-resistant components.
6. Exposed Flushometer-Valve Finish: Chrome plated.
7. Style: Exposed.
8. Actuator: Solenoid complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
9. Trip Mechanism: Hard-wired electronic sensor complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
10. Consumption: [1.28 gal. (4.8 L)] [1.6 gal. (6 L)] [3.5 gal. (13.2 L)] per flush.
11. Minimum Inlet: NPS 1 (DN 25).
12. Minimum Outlet: NPS 1-1/4 (DN 32).

E. Solenoid-Actuator, Diaphragm Flushometer Valves <Insert designation>:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; ECOS 111 Hardwired Dual Flush Flushometer or comparable product by the following:

SPECIFICATIONS

- a. <Insert manufacturer's name>.
 - 2. Standard: ASSE 1037.
 - 3. Minimum Pressure Rating: 125 psig (860 kPa).
 - 4. Features: Include integral check stop and backflow-prevention device.
 - 5. Material: Semi-red brass body with corrosion-resistant components.
 - 6. Exposed Flushometer-Valve Finish: Chrome plated.
 - 7. Style: Exposed.
 - 8. Actuator: Solenoid complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 - 9. Trip Mechanism: Hard-wired electronic sensor complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 - 10. Consumption: [1.28 gal. (4.8 L)] [1.6 gal. (6 L)] per flush.
 - 11. Minimum Inlet: NPS 1 (DN 25).
 - 12. Minimum Outlet: NPS 1-1/4 (DN 32).
- F. Solenoid-Actuator, Diaphragm Flushometer Valves <Insert designation>:
- 1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company G2 8111 Battery Powered Flushometer or comparable product by the following:
 - a. <Insert manufacturer's name>.
 - 2. Standard: ASSE 1037.
 - 3. Minimum Pressure Rating: 125 psig (860 kPa).
 - 4. Features: Include integral check stop and backflow-prevention device.
 - 5. Material: Semi-red brass body with corrosion-resistant components.
 - 6. Exposed Flushometer-Valve Finish: Chrome plated.
 - 7. Style: Exposed.
 - 8. Actuator: Solenoid complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 - 9. Trip Mechanism: Battery powered electronic sensor complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 - 10. Consumption: [1.28 gal. (4.8 L)] [1.6 gal. (6 L)] [3.5 gal. (13.2 L)] per flush.
 - 11. Minimum Inlet: NPS 1 (DN 25).
 - 12. Minimum Outlet: NPS 1-1/4 (DN 32).
- G. Solenoid-Actuator, Diaphragm Flushometer Valves <Insert designation>:
- 1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Solis 8111 Solar Powered Flushometer or comparable product by the following:
 - a. <Insert manufacturer's name>.

SPECIFICATIONS

2. Standard: ASSE 1037.
3. Minimum Pressure Rating: 125 psig (860 kPa).
4. Features: Include integral check stop and backflow-prevention device.
5. Material: Semi-red brass body with corrosion-resistant components.
6. Exposed Flushometer-Valve Finish: Chrome plated.
7. Style: Exposed.
8. Actuator: Solenoid complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
9. Operation: Operates using ambient light to power capacitors, providing battery backup if required. 7-10 battery life.
10. Trip Mechanism: Battery powered electronic sensor complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
11. Consumption: [1.28 gal. (4.8 L) per flush] [1.6 gal. (6 L) per flush] [1.6/1.1 gal. (6/4.2 L) per flush, dual flush].
12. Minimum Inlet: NPS 1 (DN 25).
13. Minimum Outlet: NPS 1-1/4 (DN 32).

H. Solenoid-Actuator, Diaphragm Flushometer Valves <Insert designation>:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; ECOS 8111 Dual Flush Flushometer or comparable product by the following:
 - a. <Insert manufacturer's name>.
2. Standard: ASSE 1037.
3. Minimum Pressure Rating: 125 psig (860 kPa).
4. Features: Include integral check stop and backflow-prevention device.
5. Material: Semi-red brass body with corrosion-resistant components.
6. Exposed Flushometer-Valve Finish: Chrome plated.
7. Style: Exposed.
8. Actuator: Solenoid complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
9. Operation: Designed to operate using ambient light to power capacitors, providing battery backup if required. 7-10 battery life.
10. Trip Mechanism: Hard wired electronic sensor complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
11. Consumption: 1.6/1.1 gal. (6/4.2 L) per flush, dual flush, using smart sense sensor technology.
12. Minimum Inlet: NPS 1 (DN 25).
13. Minimum Outlet: NPS 1-1/4 (DN 32).

I. Hydraulic-Actuator, Push-Button, Diaphragm Flushometer Valves <Insert designation>:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Royal 910 Flushometer or comparable product by the following:

SPECIFICATIONS

- a. <Insert manufacturer's name>.
 - 2. Standard: ASSE 1037.
 - 3. Minimum Pressure Rating: 125 psig (860 kPa).
 - 4. Features: Include integral check stop and backflow-prevention device.
 - 5. Material: Semi-red brass body with corrosion-resistant components.
 - 6. Exposed Flushometer-Valve Finish: Chrome plated.
 - 7. Style: Exposed.
 - 8. Consumption: 1.6 gal. (6 L) per flush.
 - 9. Minimum Inlet: NPS 1 (DN 25).
 - 10. Minimum Outlet: NPS 1-1/4 (DN 32).
- J. Lever-Handle, Piston Flushometer Valves <Insert designation>:
- 1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Crown® 111 Flushometer or comparable product by the following:
 - a. <Insert manufacturer's name>.
 - 2. Standard: ASSE 1037.
 - 3. Minimum Pressure Rating: 125 psig (860 kPa).
 - 4. Features: Include integral check stop and backflow-prevention device.
 - 5. Material: Semi-red brass body with corrosion-resistant components.
 - 6. Exposed Flushometer-Valve Finish: Chrome plated.
 - 7. Style: Exposed.
 - 8. Consumption: [1.28 gal. (4.8 L)] [1.6 gal. (6 L)] <Insert value> per flush.
 - 9. Minimum Inlet: NPS 1 (DN 25).
 - 10. Minimum Outlet: NPS 1-1/4 (DN 32).
- K. Lever-Handle, Piston Flushometer Valves <Insert designation>:
- 1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Gem-2® 111 Flushometer or comparable product by the following:
 - a. <Insert manufacturer's name>.
 - 2. Standard: ASSE 1037.
 - 3. Minimum Pressure Rating: 125 psig (860 kPa).
 - 4. Features: Include integral check stop and backflow-prevention device.
 - 5. Material: Semi-red brass body with corrosion-resistant components.
 - 6. Exposed Flushometer-Valve Finish: Chrome plated.
 - 7. Style: Exposed.
 - 8. Consumption: [1.28 gal. (4.8 L)] [1.6 gal. (6 L)] <Insert value> per flush.
 - 9. Minimum Inlet: NPS 1 (DN 25).
 - 10. Minimum Outlet: NPS 1-1/4 (DN 32).
- L. Battery-Powered, Solenoid-Actuator, Piston Flushometer Valves <Insert designation>:

SPECIFICATIONS

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sloan Valve Company; Gem-2 111 Flushometer with Single Flush Side Mount Operator or comparable product by the following:
 - a. **<Insert manufacturer's name>**.
2. Standard: ASSE 1037.
3. Minimum Pressure Rating: **125 psig (860 kPa)**.
4. Features: Include integral check stop and backflow-prevention device.
5. Material: Semi-red brass body with corrosion-resistant components.
6. Exposed Flushometer-Valve Finish: Chrome plated.
7. Style: Exposed.
8. Actuator: Solenoid complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
9. Trip Mechanism: Battery-powered electronic sensor complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
10. Consumption: [**1.28 gal. (4.8 L)**] [**1.6 gal. (6 L)**] [**3.5 gal. (13.2 L)**] **<Insert value>** per flush.
11. Minimum Inlet: **NPS 1 (DN 25)**.
12. Minimum Outlet: **NPS 1-1/4 (DN 32)**.

2.4 TOILET SEATS

A. Toilet Seats **<Insert drawing designation>**:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Bemis Manufacturing Company.
 - b. Centoco Manufacturing Corporation.
 - c. Church Seats; Bemis Manufacturing Company.
 - d. **<Insert manufacturer's name>**.
2. Standard: IAPMO/ANSI Z124.5.
3. Material: Plastic.
4. Type: [**Commercial (Standard)**] [**Commercial (Heavy duty)**].
5. Shape: [**Elongated rim, open front**] [**Elongated rim, closed front**] **<Insert shape>**.
6. Hinge: [**Check**] [**Self-sustaining**] [**Self-sustaining, check**] [**Self-raising**].
7. Hinge Material: Noncorroding metal.
8. Seat Cover: Not required.
9. Color: [**White**] **<Insert color>**.

2.5 SUPPORTS

A. Water Closet Carrier:

SPECIFICATIONS

1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. <Insert manufacturer's name>.
2. Standard: ASME A112.6.1M.
3. Description: Waste-fitting assembly, as required to match drainage piping material and arrangement with faceplates, couplings gaskets, and feet; bolts and hardware matching fixture.[**Include additional extension coupling, faceplate, and feet for installation in wide pipe space.**]

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before water-closet installation.
- B. Examine walls and floors for suitable conditions where water closets will be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Water-Closet Installation:
 1. Install level and plumb according to roughing-in drawings.
 2. Install floor-mounted water closets on bowl-to-drain connecting fitting attachments to piping or building substrate.
 3. Install accessible, wall-mounted water closets at mounting height for handicapped/elderly, according to ICC/ANSI A117.1.
- B. Support Installation:
 1. Install supports, affixed to building substrate, for floor-mounted, back-outlet water closets.
 2. Use carrier supports with waste-fitting assembly and seal.
 3. Install floor-mounted, back-outlet water closets attached to building floor substrate, onto waste-fitting seals; and attach to support.
 4. Install wall-mounted, back-outlet water-closet supports with waste-fitting assembly and waste-fitting seals; and affix to building substrate.
- C. Flushometer-Valve Installation:
 1. Install flushometer-valve, water-supply fitting on each supply to each water closet.
 2. Attach supply piping to supports or substrate within pipe spaces behind fixtures.

SPECIFICATIONS

3. Install lever-handle flushometer valves for accessible water closets with handle mounted on open side of water closet.
4. Install actuators in locations that are easy for people with disabilities to reach.
5. Install fresh batteries in battery-powered, electronic-sensor mechanisms.

D. Install toilet seats on water closets.

E. Wall Flange and Escutcheon Installation:

1. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations and within cabinets and millwork.
2. Install deep-pattern escutcheons if required to conceal protruding fittings.
3. Comply with escutcheon requirements specified in Section 220518 "Escutcheons for Plumbing Piping."

F. Joint Sealing:

1. Seal joints between water closets and walls and floors using sanitary-type, one-part, mildew-resistant silicone sealant.
2. Match sealant color to water-closet color.
3. Comply with sealant requirements specified in Section 079200 "Joint Sealants."

3.3 CONNECTIONS

- A. Connect water closets with water supplies and soil, waste, and vent piping. Use size fittings required to match water closets.
- B. Comply with water piping requirements specified in Section 221116 "Domestic Water Piping."
- C. Comply with soil and waste piping requirements specified in Section 221316 "Sanitary Waste and Vent Piping."
- D. Where installing piping adjacent to water closets, allow space for service and maintenance.

3.4 ADJUSTING

- A. Operate and adjust water closets and controls. Replace damaged and malfunctioning water closets, fittings, and controls.
- B. Adjust water pressure at flushometer valves to produce proper flow.
- C. Install fresh batteries in battery-powered, electronic-sensor mechanisms.

3.5 CLEANING AND PROTECTION

- A. Clean water closets and fittings with manufacturers' recommended cleaning methods and materials.

SPECIFICATIONS

- B. Install protective covering for installed water closets and fittings.
- C. Do not allow use of water closets for temporary facilities unless approved in writing by Owner.

[END OF SECTION]

SPECIFICATIONS

PHENOLIC-CORE TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Phenolic-core toilet compartments configured as toilet enclosures and urinal screens.
- B. Related Requirements:
 - 1. Section 10 28 00 "Toilet, Bath, and Laundry Accessories" for toilet tissue dispensers, grab bars, purse shelves, and similar accessories mounted on toilet compartments.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for toilet compartments.
- B. LEED Submittals:
 - 1. Product Data for Credit MR 4: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating cost for each product having recycled content.
- C. Shop Drawings: For toilet compartments.
 - 1. Include plans, elevations, sections, details, and attachment details.
 - 2. Show locations of cutouts for compartment-mounted toilet accessories.
 - 3. Show locations of centerlines of toilet fixtures.
 - 4. Show locations of floor drains.
- D. Samples for Initial Selection: For each type of toilet compartment material indicated.
 - 1. Include Samples of hardware and accessories involving material and color selection.
- E. Samples for Verification: For the following products, in manufacturer's standard sizes unless otherwise indicated:

SPECIFICATIONS

1. Each type of material, color, and finish required for toilet compartments, prepared on ~~6-inch~~ (152-mm-) square Samples of same thickness and material indicated for Work.
2. Each type of hardware and accessory.

F. Product Schedule: For toilet compartments, prepared by or under the supervision of supplier, detailing location and selected colors for toilet compartment material.

1.4 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of toilet compartment.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For toilet compartments to include in maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Door Hinges: One hinge(s) with associated fasteners.
2. Latch and Keeper: One latch(es) and keeper(s) with associated fasteners.
3. Door Bumper: One door bumper(s) with associated fasteners.
4. Door Pull: One door pull(s) with associated fasteners.
5. Fasteners: Ten fasteners of each size and type.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of toilet fixtures, walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 75 or less.
2. Smoke-Developed Index: 450 or less.

B. Recycled Content of Phenolic-Core Panel: Postconsumer recycled content plus one-half of preconsumer recycled content not less than <Insert number> percent.

SPECIFICATIONS

- C. Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities for toilet compartments designated as accessible.

2.2 PHENOLIC-CORE TOILET COMPARTMENTS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Accurate Partitions Corp.; ASI Group.
 - 2. American Sanitary Partition Corporation.
 - 3. Ampco Products, LLC.
 - 4. Bobrick Washroom Equipment, Inc.
 - 5. General Partitions Mfg. Corp.
 - 6. Global Partitions; ASI Group.
 - 7. Marlite.
- B. Toilet-Enclosure Style: Floor-to-ceiling anchored.
- C. Urinal-Screen Style: Wall hung.
- D. Door, Panel, Screen, and Pilaster Construction: Solid phenolic-core panel material with melamine facing on both sides fused to substrate during panel manufacture (not separately laminated), and with eased and polished edges and no-sightline system. Provide minimum ~~3/4-inch~~ (19-mm-) thick doors and pilasters and minimum ~~1/2-inch~~ (13-mm-) thick panels.
- E. Pilaster Shoes and Sleeves (Caps): Formed from stainless-steel sheet, not less than ~~0.031-inch~~ (0.79-mm) nominal thickness and ~~3 inches~~ (76 mm) high, finished to match hardware.
- F. Brackets (Fittings):
 - 1. Stirrup Type: Ear or U-brackets, stainless steel.
 - 2. Full-Height (Continuous) Type: Manufacturer's standard design; stainless steel.
- G. Phenolic-Panel Finish:
 - 1. Facing Sheet Finish: One color and pattern in each room.
 - 2. Color and Pattern: As selected by Architect from manufacturer's full range, with manufacturer's standard through-color core matching face sheet.
 - 3. Edge Color: Through-color matching facing sheet color.

2.3 HARDWARE AND ACCESSORIES

- A. Hardware and Accessories: Manufacturer's standard operating hardware and accessories.
 - 1. Material: Stainless steel.
 - 2. Hinges: Manufacturer's standard paired, self-closing type that can be adjusted to hold doors open at any angle up to 90 degrees, allowing emergency access by lifting door.

SPECIFICATIONS

3. Latch and Keeper: Manufacturer's standard recessed latch unit designed for emergency access and with combination rubber-faced door strike and keeper. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible.
4. Coat Hook: Manufacturer's standard combination hook and rubber-tipped bumper, sized to prevent in-swinging door from hitting compartment-mounted accessories.
5. Door Bumper: Manufacturer's standard rubber-tipped bumper at out-swinging doors and entrance-screen doors.
6. Door Pull: Manufacturer's standard unit at out-swinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at compartments designated as accessible.

B. Hardware and Accessories: Manufacturer's heavy-duty operating hardware and accessories.

1. Hinges: Manufacturer's minimum **0.062-inch- (1.59-mm-)** thick stainless-steel paired, self-closing type that can be adjusted to hold doors open at any angle up to 90 degrees, allowing emergency access by lifting door. Mount with through-bolts.
2. Latch and Keeper: Manufacturer's heavy-duty surface-mounted cast-stainless-steel latch unit designed to resist damage due to slamming, with combination rubber-faced door strike and keeper, and with provision for emergency access. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible. Mount with through-bolts.
3. Coat Hook: Manufacturer's heavy-duty combination cast-stainless-steel hook and rubber-tipped bumper, sized to prevent in-swinging door from hitting compartment-mounted accessories. Mount with through-bolts.
4. Door Bumper: Manufacturer's heavy-duty rubber-tipped cast-stainless-steel bumper at out-swinging doors[**and entrance-screen doors**]. Mount with through-bolts.
5. Door Pull: Manufacturer's heavy-duty cast-stainless-steel pull at out-swinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at compartments designated as accessible. Mount with through-bolts.

C. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel, finished to match the items they are securing, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use stainless-steel, hot-dip galvanized-steel, or other rust-resistant, protective-coated steel compatible with related materials.

2.4 MATERIALS

- A. Stainless-Steel Sheet: ASTM A 666, Type 304, stretcher-leveled standard of flatness.
- B. Stainless-Steel Castings: ASTM A 743/A 743M.

2.5 FABRICATION

- A. Fabrication, General: Fabricate toilet compartment components to sizes indicated. Coordinate requirements and provide cutouts for through-partition toilet accessories where required for attachment of toilet accessories.

SPECIFICATIONS

- B. Floor-Anchored Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.
- C. Door Size and Swings: Unless otherwise indicated, provide ~~24-inch-~~ (610-mm-) wide in-swinging doors for standard toilet compartments and ~~36-inch-~~ (914-mm-) wide out-swinging doors with a minimum ~~32-inch-~~ (813-mm-) wide clear opening for compartments designated as accessible.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for fastening, support, alignment, operating clearances, and other conditions affecting performance of the Work.
 - 1. Confirm location and adequacy of blocking and supports required for installation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.
 - 1. Maximum Clearances:
 - a. Pilasters and Panels: ~~1/2 inch~~ (13 mm).
 - b. Panels and Walls: ~~1 inch~~ (25 mm).
 - 2. Stirrup Brackets: Secure panels to walls and to pilasters with no fewer than three brackets attached at midpoint and near top and bottom of panel.
 - a. Locate wall brackets so holes for wall anchors occur in masonry or tile joints.
 - b. Align brackets at pilasters with brackets at walls.
 - 3. Full-Height (Continuous) Brackets: Secure panels to walls and to pilasters with full-height brackets.
 - a. Locate bracket fasteners so holes for wall anchors occur in masonry or tile joints.
 - b. Align brackets at pilasters with brackets at walls.
- B. Floor-Anchored Units: Set pilasters with anchors penetrating not less than ~~2 inches~~ (51 mm) into structural floor unless otherwise indicated in manufacturer's written instructions. Level, plumb, and tighten pilasters. Hang doors and adjust so tops of doors are level with tops of pilasters when doors are in closed position.

SPECIFICATIONS

- C. Urinal Screens: Attach with anchoring devices to suit supporting structure. Set units level and plumb, rigid, and secured to resist lateral impact.

3.3 ADJUSTING

- A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors and doors in entrance screens to return doors to fully closed position.

[END OF SECTION]

SPECIFICATIONS

PLASTIC TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Solid-plastic toilet compartments configured as toilet enclosures and urinal screens.

- B. Related Requirements:

- 1. Section 10 28 00 "Toilet, Bath, and Laundry Accessories" for toilet tissue dispensers, grab bars, purse shelves, and similar accessories mounted on toilet compartments.

1.3 ACTION SUBMITTALS

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

- 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for toilet compartments.

- B. LEED Submittals:

- 1. Product Data for Credit MR 4: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating cost for each product having recycled content.

- C. Shop Drawings: For toilet compartments.

- 1. Include plans, elevations, sections, details, and attachment details.
 - 2. Show locations of cutouts for compartment-mounted toilet accessories.
 - 3. Show locations of centerlines of toilet fixtures.
 - 4. Show locations of floor drains.

- D. Samples for Initial Selection: For each type of toilet compartment material indicated.

- 1. Include Samples of hardware and accessories involving material and color selection.

- E. Samples for Verification: For the following products, in manufacturer's standard sizes unless otherwise indicated:

SPECIFICATIONS

1. Each type of material, color, and finish required for toilet compartments, prepared on ~~6-inch-~~ (152-mm-) square Samples of same thickness and material indicated for Work.
2. Each type of hardware and accessory.

F. Product Schedule: For toilet compartments, prepared by or under the supervision of supplier, detailing location and selected colors for toilet compartment material.

1.4 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of toilet compartment.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For toilet compartments to include in maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents and source.

1. Door Hinges: One hinge(s) with associated fasteners.
2. Latch and Keeper: One latch(es) and keeper(s) with associated fasteners.
3. Door Bumper: One bumper(s) with associated fasteners.
4. Door Pull: One door pull(s) with associated fasteners.
5. Fasteners: Ten fasteners of each size and type.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of toilet fixtures, walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 75 or less.
2. Smoke-Developed Index: 450 or less.

B. Recycled Content of Solid-Plastic Components: Postconsumer recycled content plus one-half of preconsumer recycled content not less than <Insert number> percent.

SPECIFICATIONS

- C. Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities for toilet compartments designated as accessible.

2.2 SOLID-PLASTIC TOILET COMPARTMENTS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. All American Metal Corp.
 - 2. American Sanitary Partition Corporation.
 - 3. Ampco Products, LLC.
 - 4. Bradley Corporation.
 - 5. General Partitions Mfg. Corp.
 - 6. Global Partitions; ASI Group.
 - 7. Marlite.
- B. Toilet-Enclosure Style: Floor-to-ceiling anchored.
- C. Urinal-Screen Style: Wall hung.
- D. Door, Panel, Screen, and Pilaster Construction: Solid, high-density polyethylene (HDPE) panel material, not less than 1 inch (25 mm) thick, seamless, with eased edges, no-sightline system, and with homogenous color and pattern throughout thickness of material.
 - 1. Integral Hinges: Configure doors and pilasters to receive integral hinges.
 - 2. Heat-Sink Strip: Manufacturer's standard continuous, stainless-steel strip fastened to exposed bottom edges of solid-plastic components to hinder malicious combustion.
 - 3. Color and Pattern: in each room as selected by Architect from manufacturer's full range.
- E. Pilaster Shoes and Sleeves (Caps): Manufacturer's standard design; stainless steel.
 - 1. Polymer Color and Pattern: Matching pilaster.
- F. Brackets (Fittings):
 - 1. Stirrup Type: Ear or U-brackets, stainless steel.
 - 2. Full-Height (Continuous) Type: Manufacturer's standard design; stainless steel.
 - a. Polymer Color and Pattern: Matching panel.

2.3 HARDWARE AND ACCESSORIES

- A. Hardware and Accessories: Manufacturer's standard operating hardware and accessories.
 - 1. Material: Stainless steel.
 - 2. Hinges: Manufacturer's standard paired, self-closing type that can be adjusted to hold doors open at any angle up to 90 degrees, allowing emergency access by lifting door.

SPECIFICATIONS

3. Latch and Keeper: Manufacturer's standard recessed latch unit designed for emergency access and with combination rubber-faced door strike and keeper. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible.
 4. Coat Hook: Manufacturer's standard combination hook and rubber-tipped bumper, sized to prevent in-swinging door from hitting compartment-mounted accessories.
 5. Door Bumper: Manufacturer's standard rubber-tipped bumper at out-swinging doors and entrance-screen doors.
 6. Door Pull: Manufacturer's standard unit at out-swinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at compartments designated as accessible.
- B. Hardware and Accessories: Manufacturer's heavy-duty operating hardware and accessories.
1. Hinges: Manufacturer's minimum ~~0.062-inch-~~ (1.59-mm-) thick stainless-steel paired, self-closing type that can be adjusted to hold doors open at any angle up to 90 degrees, allowing emergency access by lifting door. Mount with through-bolts.
 2. Latch and Keeper: Manufacturer's heavy-duty surface-mounted cast-stainless-steel latch unit designed to resist damage due to slamming, with combination rubber-faced door strike and keeper, and with provision for emergency access. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible. Mount with through-bolts.
 3. Coat Hook: Manufacturer's heavy-duty combination cast-stainless-steel hook and rubber-tipped bumper, sized to prevent in-swinging door from hitting compartment-mounted accessories. Mount with through-bolts.
 4. Door Bumper: Manufacturer's heavy-duty rubber-tipped cast-stainless-steel bumper at out-swinging doors and entrance-screen doors. Mount with through-bolts.
 5. Door Pull: Manufacturer's heavy-duty cast-stainless-steel pull at out-swinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at compartments designated as accessible. Mount with through-bolts.
- C. Overhead Bracing: Manufacturer's standard continuous, extruded-aluminum head rail with antigrip profile and in manufacturer's standard finish.
- D. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel, finished to match the items they are securing, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use stainless-steel, hot-dip galvanized-steel, or other rust-resistant, protective-coated steel compatible with related materials.

2.4 MATERIALS

- A. Stainless-Steel Sheet: ASTM A 666, Type 304, stretcher-leveled standard of flatness.
- B. Stainless-Steel Castings: ASTM A 743/A 743M.

SPECIFICATIONS

2.5 FABRICATION

- A. Fabrication, General: Fabricate toilet compartment components to sizes indicated. Coordinate requirements and provide cutouts for through-partition toilet accessories where required for attachment of toilet accessories.
- B. Floor-Anchored Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.
- C. Door Size and Swings: Unless otherwise indicated, provide ~~24-inch-~~ (610-mm-) wide, in-swinging doors for standard toilet compartments and ~~36-inch-~~ (914-mm-) wide, out-swinging doors with a minimum ~~32-inch-~~ (813-mm-) wide, clear opening for compartments designated as accessible.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for fastening, support, alignment, operating clearances, and other conditions affecting performance of the Work.
 - 1. Confirm location and adequacy of blocking and supports required for installation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.
 - 1. Maximum Clearances:
 - a. Pilasters and Panels: ~~1/2 inch~~ (13 mm).
 - b. Panels and Walls: ~~1 inch~~ (25 mm).
 - 2. Stirrup Brackets: Secure panels to walls and to pilasters with no fewer than three brackets attached at midpoint and near top and bottom of panel.
 - a. Locate wall brackets so holes for wall anchors occur in masonry or tile joints.
 - b. Align brackets at pilasters with brackets at walls.
 - 3. Full-Height (Continuous) Brackets: Secure panels to walls and to pilasters with full-height brackets.
 - a. Locate bracket fasteners so holes for wall anchors occur in masonry or tile joints.
 - b. Align brackets at pilasters with brackets at walls.

SPECIFICATIONS

- B. Floor-Anchored Units: Set pilasters with anchors penetrating not less than 2 inches (51 mm) into structural floor unless otherwise indicated in manufacturer's written instructions. Level, plumb, and tighten pilasters. Hang doors and adjust so tops of doors are level with tops of pilasters when doors are in closed position.
- C. Urinal Screens: Attach with anchoring devices to suit supporting structure. Set units level and plumb, rigid, and secured to resist lateral impact.

3.3 ADJUSTING

- A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors and doors in entrance screens to return doors to fully closed position.

[END OF SECTION]

PLASTIC TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Solid-plastic toilet compartments configured as toilet enclosures and urinal screens.
- B. Related Requirements:
 - 1. Section 10 28 00 "Toilet, Bath, and Laundry Accessories" for toilet tissue dispensers, grab bars, purse shelves, and similar accessories mounted on toilet compartments.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for toilet compartments.
- B. LEED Submittals:
 - 1. Product Data for Credit MR 4: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating cost for each product having recycled content.
- C. Shop Drawings: For toilet compartments.
 - 1. Include plans, elevations, sections, details, and attachment details.
 - 2. Show locations of cutouts for compartment-mounted toilet accessories.
 - 3. Show locations of centerlines of toilet fixtures.
 - 4. Show locations of floor drains.
- D. Samples for Initial Selection: For each type of toilet compartment material indicated.
 - 1. Include Samples of hardware and accessories involving material and color selection.
- E. Samples for Verification: For the following products, in manufacturer's standard sizes unless otherwise indicated:

DSA Backcheck

1. Each type of material, color, and finish required for toilet compartments, prepared on ~~6-inch-~~ (152-mm-) square Samples of same thickness and material indicated for Work.
2. Each type of hardware and accessory.

F. Product Schedule: For toilet compartments, prepared by or under the supervision of supplier, detailing location and selected colors for toilet compartment material.

1.4 CODE COMPLIANCE

- A. Toilet Compartments shall comply with the requirements of 2013 CBC.
1. Toilet compartment doors shall be self-closing. A door pull complying with Section 11B-404.2.7 shall be placed on both sides of the door. (CBC 11B-604.8.1.2). Handles shall be U-shaped and located below latch. The latch shall be a flip-over or sliding type.
 2. Coat hooks shall be located within one of the reach ranges specified in Section 11B-308. (CBC 11B-604.8.3) Coat hooks shall be installed at 48" maximum.

1.5 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of toilet compartment.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For toilet compartments to include in maintenance manuals.

1.7 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents and source.
1. Door Hinges: One hinge(s) with associated fasteners.
 2. Latch and Keeper: One latch(es) and keeper(s) with associated fasteners.
 3. Door Bumper: One bumper(s) with associated fasteners.
 4. Door Pull: One door pull(s) with associated fasteners.
 5. Fasteners: Ten fasteners of each size and type.

1.8 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of toilet fixtures, walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Flame-Spread Index: 75 or less.
 - 2. Smoke-Developed Index: 450 or less.
- B. Recycled Content of Solid-Plastic Components: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 20 percent.
- C. Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities for toilet compartments designated as accessible.

2.2 SOLID-PLASTIC TOILET COMPARTMENTS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. All American Metal Corp.
 - 2. American Sanitary Partition Corporation.
 - 3. Ampco Products, LLC.
 - 4. Bradley Corporation.
 - 5. General Partitions Mfg. Corp.
 - 6. Global Partitions; ASI Group.
 - 7. Marlite.
- B. Toilet-Enclosure Style: Floor-to-ceiling anchored.
- C. Urinal-Screen Style: Wall hung.
- D. Door, Panel, Screen, and Pilaster Construction: Solid, high-density polyethylene (HDPE) panel material, not less than 1 inch (25 mm) thick, seamless, with eased edges, no-sightline system, and with homogenous color and pattern throughout thickness of material.
 - 1. Heat-Sink Strip: Manufacturer's standard continuous, stainless-steel strip fastened to exposed bottom edges of solid-plastic components to hinder malicious combustion.
 - 2. Color and Pattern: in each room as selected by Architect from manufacturer's full range.
- E. Pilaster Shoes and Sleeves (Caps): Manufacturer's standard design; stainless steel.
 - 1. Polymer Color and Pattern: Matching pilaster.
- F. Brackets (Fittings):
 - 1. Full-Height (Continuous) Type: Manufacturer's standard design; stainless steel.

2.3 HARDWARE AND ACCESSORIES

- A. Hardware and Accessories: Manufacturer's standard operating hardware and accessories.
 - 1. Material: Stainless steel.
 - 2. Hinges: Manufacturer's standard paired, self-closing type that can be adjusted to hold doors open at any angle up to 90 degrees, allowing emergency access by lifting door.
 - 3. Latch and Keeper: Manufacturer's standard recessed latch unit designed for emergency access and with combination rubber-faced door strike and keeper. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible.
 - 4. Coat Hook: Manufacturer's standard combination hook and rubber-tipped bumper, sized to prevent in-swinging door from hitting compartment-mounted accessories.
 - 5. Door Bumper: Manufacturer's standard rubber-tipped bumper at out-swinging doors and entrance-screen doors.
 - 6. Door Pull: Manufacturer's standard unit at out-swinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at compartments designated as accessible.
- B. Hardware and Accessories: Manufacturer's heavy-duty operating hardware and accessories.
 - 1. Hinges: Manufacturer's minimum **0.062-inch- (1.59-mm-)** thick stainless-steel paired, self-closing type that can be adjusted to hold doors open at any angle up to 90 degrees, allowing emergency access by lifting door. Mount with through-bolts.
 - 2. Latch and Keeper: Manufacturer's heavy-duty surface-mounted cast-stainless-steel latch unit designed to resist damage due to slamming, with combination rubber-faced door strike and keeper, and with provision for emergency access. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible. Mount with through-bolts.
 - 3. Coat Hook: Manufacturer's heavy-duty combination cast-stainless-steel hook and rubber-tipped bumper, sized to prevent in-swinging door from hitting compartment-mounted accessories. Mount with through-bolts.
 - 4. Door Bumper: Manufacturer's heavy-duty rubber-tipped cast-stainless-steel bumper at out-swinging doors and entrance-screen doors. Mount with through-bolts.
 - 5. Door Pull: Manufacturer's heavy-duty cast-stainless-steel pull at out-swinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at compartments designated as accessible. Mount with through-bolts.
- C. Overhead Bracing: Manufacturer's standard continuous, extruded-aluminum head rail with antigrip profile and in manufacturer's standard finish.
- D. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel, finished to match the items they are securing, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use stainless-steel, hot-dip galvanized-steel, or other rust-resistant, protective-coated steel compatible with related materials.

2.4 MATERIALS

- A. Stainless-Steel Sheet: ASTM A 666, Type 304, stretcher-leveled standard of flatness.

- B. Stainless-Steel Castings: ASTM A 743/A 743M.

2.5 FABRICATION

- A. Fabrication, General: Fabricate toilet compartment components to sizes indicated. Coordinate requirements and provide cutouts for through-partition toilet accessories where required for attachment of toilet accessories.
- B. Floor-Anchored Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.
- C. Door Size and Swings: Unless otherwise indicated, provide ~~24-inch-~~ (610-mm-) wide, in-swinging doors for standard toilet compartments and ~~36-inch-~~ (914-mm-) wide, out-swinging doors with a minimum ~~32-inch-~~ (813-mm-) wide, clear opening for compartments designated as accessible.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for fastening, support, alignment, operating clearances, and other conditions affecting performance of the Work.
 - 1. Confirm location and adequacy of blocking and supports required for installation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.
 - 1. Maximum Clearances:
 - a. Pilasters and Panels: ~~1/2 inch~~ (13 mm).
 - b. Panels and Walls: ~~1 inch~~ (25 mm).
 - 2. Stirrup Brackets: Secure panels to walls and to pilasters with no fewer than three brackets attached at midpoint and near top and bottom of panel.
 - a. Locate wall brackets so holes for wall anchors occur in masonry or tile joints.
 - b. Align brackets at pilasters with brackets at walls.

DSA Backcheck

3. Full-Height (Continuous) Brackets: Secure panels to walls and to pilasters with full-height brackets.
 - a. Locate bracket fasteners so holes for wall anchors occur in masonry or tile joints.
 - b. Align brackets at pilasters with brackets at walls.

- B. Floor-Anchored Units: Set pilasters with anchors penetrating not less than **2 inches (51 mm)** into structural floor unless otherwise indicated in manufacturer's written instructions. Level, plumb, and tighten pilasters. Hang doors and adjust so tops of doors are level with tops of pilasters when doors are in closed position.
- C. Urinal Screens: Attach with anchoring devices to suit supporting structure. Set units level and plumb, rigid, and secured to resist lateral impact.

3.3 ADJUSTING

- A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors and doors in entrance screens to return doors to fully closed position.

[END OF SECTION 10 21 13.19]

SPECIFICATIONS

TOILET ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Public-use washroom accessories.
 - 2. Warm-air dryers.
 - 3. Underlavatory guards.

- B. Related Requirements:

- 1. Section 08 83 00 "Mirrors" for frameless mirrors.
 - 2. Section 09 30 13 "Ceramic Tiling" for ceramic toilet and bath accessories.

1.3 COORDINATION

- A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.
- B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

1.4 ACTION SUBMITTALS

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

- 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
 - 2. Include anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
 - 3. Include electrical characteristics.

- B. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required.

- 1. Identify locations using room designations indicated.
 - 2. Identify accessories using designations indicated.

SPECIFICATIONS

1.5 INFORMATIONAL SUBMITTALS

- A. Sample Warranty: For manufacturer's special warranty.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For accessories to include in maintenance manuals.

PART 2 - PRODUCTS

2.1 OWNER-FURNISHED MATERIALS

- A. Owner-Furnished Materials: See Toilet Accessory legend on drawings.

2.2 PERFORMANCE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.3 PUBLIC-USE WASHROOM ACCESSORIES

- A. Source Limitations: Obtain public-use washroom accessories from single source from single manufacturer.

- B. Toilet Tissue (Roll) Dispenser (TA-6):

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Bobrick Washroom Equipment, Inc.
2. Description: Roll-in-reserve dispenser with hinged front secured with tumbler lockset.
3. Mounting: Recessed.
4. Operation: Noncontrol delivery with theft-resistant spindle.
5. Capacity: Designed for 4-1/2- or 5-inch- (114- or 127-mm-) diameter tissue rolls.
6. Material and Finish: Stainless steel, No. 4 finish (satin).

- C. Combination Toilet Tissue Dispenser (TA-3A, TA-3B):

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Bobrick Washroom Equipment, Inc.
2. Description: Combination unit with double-roll toilet tissue dispenser and the following:

SPECIFICATIONS

- a. Removable sanitary-napkin waste receptacle with self-closing, disposal-opening cover (at women's room).
 - b. Seat-cover dispenser with minimum capacity of 500 single or half-fold seat covers.
 3. Mounting: Partition mounted, dual access with two tissue rolls per compartment.
 4. Toilet Tissue Dispenser Capacity: ~~4-1/2- or 5-inch-~~ (114- or 127-mm-) diameter tissue rolls.
 5. Toilet Tissue Dispenser Operation: Noncontrol delivery with theft-resistant spindles.
 6. Material and Finish: Stainless steel, No. 4 finish (satin).
 7. Lockset: Tumbler type.
- D. Paper Towel (Folded) Dispenser (TA-1):
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Bobrick Washroom Equipment, Inc.
 2. Mounting: Surface mounted.
 3. Minimum Capacity: 600 C-fold or 800 multifold towels.
 4. Material and Finish: Stainless steel, No. 4 finish (satin).
 5. Lockset: Tumbler type.
 6. Refill Indicator: Pierced slots at sides or front.
- E. Waste Receptacle (TA-11):
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Bobrick Washroom Equipment, Inc.
 2. Mounting: Surface mounted.
 3. Material and Finish: Stainless steel, No. 4 finish (satin).
 4. Liner: Reusable vinyl liner.
 5. Lockset: Tumbler type for waste receptacle.
- F. Liquid-Soap Dispenser (TA-2):
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Bobrick Washroom Equipment, Inc.
 2. Mounting: Horizontally oriented, surface mounted.
 3. Lockset: Tumbler type.
 4. Refill Indicator: Window type.
- G. Grab Bar (TA-8, TA-9):

SPECIFICATIONS

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Bobrick Washroom Equipment, Inc.
2. Mounting: Flanges with concealed fasteners.
3. Material: Stainless steel, 0.05 inch (1.3 mm) thick.
 - a. Finish: Smooth, No. 4 finish (satin).
4. Outside Diameter: 1-1/2 inches (38 mm).
5. Configuration and Length: As indicated on Drawings.

H. Sanitary-Napkin Disposal Unit (TA-4):

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Bobrick Washroom Equipment, Inc.
2. Mounting: Recessed.
3. Door or Cover: Self-closing, disposal-opening cover.
4. Receptacle: Removable.
5. Material and Finish: Stainless steel, No. 4 finish (satin).

I. Seat-Cover Dispenser (TA-5):

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Bobrick Washroom Equipment, Inc.
2. Mounting: Partition mounted, dual access.
3. Minimum Capacity: 250 seat covers.
4. Exposed Material and Finish: Stainless steel, No. 4 finish (satin).
5. Lockset: Tumbler type.

2.4 WARM-AIR DRYERS

A. Source Limitations: Obtain warm-air dryers from single source from single manufacturer.

B. Warm-Air Dryer (TA-13):

1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. Bobrick Washroom Equipment, Inc.
2. Description: Standard-speed, warm-air hand dryer.
3. Mounting: Surface mounted.
4. Operation: Touch-button activated with timed power cut-off switch.

SPECIFICATIONS

5. Cover Material and Finish: Steel, with white enamel finish.
6. Electrical Requirements: 115 V, 13 A, 1500 W.

2.5 UNDERLAVATORY GUARDS

A. Underlavatory Guard:

1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. Plumberex Specialty Products, Inc.
2. Provide at all accessible sinks and lavatories.
3. Description: Insulating pipe covering for supply and drain piping assemblies that prevents direct contact with and burns from piping; allow service access without removing coverings.
4. Material and Finish: Antimicrobial, molded plastic, white.

2.6 MATERIALS

- A. Stainless Steel: ASTM A 666, Type 304, 0.031-inch (0.8-mm) minimum nominal thickness unless otherwise indicated.
- B. Steel Sheet: ASTM A 1008/A 1008M, Designation CS (cold rolled, commercial steel), 0.036-inch (0.9-mm) minimum nominal thickness.
- C. Galvanized-Steel Sheet: ASTM A 653/A 653M, with G60 (Z180) hot-dip zinc coating.
- D. Galvanized-Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.
- E. Fasteners: Screws, bolts, and other devices of same material as accessory unit and tamper-and-theft resistant where exposed, and of galvanized steel where concealed.
- F. Chrome Plating: ASTM B 456, Service Condition Number SC 2 (moderate service).
- G. General: Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.
- H. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

SPECIFICATIONS

3.1 INSTALLATION

- A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.
- B. Grab Bars: Install to withstand a downward load of at least **250 lbf (1112 N)**, when tested according to ASTM F 446.

3.2 ADJUSTING AND CLEANING

- A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.
- B. Remove temporary labels and protective coatings.
- C. Clean and polish exposed surfaces according to manufacturer's written instructions.

[END OF SECTION]

PRICING MATRIX

PLUMBING			
Product Description		UOM	Price
Commercial Water Closets and Toilets	Floor-mounted, bottom-outlet water closets	Each	\$ 395.00
Commercial Water Closets and Toilets	Wall-mounted water closets	Each	\$ 450.00
Commercial Water Closets and Toilets	Flushometer valves	Each	\$ 195.00
Commercial Water Closets and Toilets	Toilet seats	Each	\$ 35.00
Commercial Lavatories	Counter-mounted lavatories	Each	\$ 265.00
Commercial Lavatories	Wall-mounted lavatories	Each	\$ 215.00
Commercial Lavatories	Solid surface lavatory systems	Each	\$ 315.00
Commercial Lavatories	Shampoo bowls	Each	\$ 85.00
Commercial Lavatories	Automatically operated lavatory faucets	Each	\$ 725.00
Commercial Lavatories	Laminar-flow, faucet-spout outlets	Each	\$ 90.00
Commercial Sinks	Service basins	Each	\$ 90.00
Commercial Sinks	Service sinks	Each	\$ 375.00
Commercial Sinks	Utility sinks	Each	\$ 425.00
Commercial Sinks	Handwash sinks	Each	\$ 555.00
Commercial Sinks	Sacristy sinks	Each	\$ 750.00
Commercial Sinks	Automatically operated sink faucets	Each	\$ 910.00
Commercial Sinks	Sink faucets	Each	\$ 315.00
Commercial Sinks	Laminar-flow, faucet-spout outlets	Each	\$ 90.00

PRICING MATRIX

PLUMBING			
Product Description		UOM	Price
Commercial Urinals	Wall-hung urinals	Each	\$ 285.00
Commercial Urinals	Waterless urinals	Each	\$ 450.00
Commercial Urinals	Urinal flushometer valves	Each	\$ 275.00
Commercial Toilet	Plastic Toilet Partitions	Each	\$ 3,000.00
Toilet Accessories	Framless Mirrors	Each	\$ 350.00
Toilet Accessories	Ceramic Tiling for Ceramic toilet accessories	SF	\$ 18.00
Toilet Accessories	Toilet Tissue (Roll) Dispenser; Stainless Steel, No.4 finish (satin)	Each	\$ 75.00
Toilet Accessories	Combination Toilet Tissue Dispenser; Stainless steel, No.4 finish (satin)	Each	\$ 85.00
Toilet Accessories	Paper Towel (Folded) Dispenser; Stainless Steel, No.4 finish (satin)	Each	\$ 75.00
Toilet Accessories	Waste Receptacle; Stainless Steel, No.4 finish (satin)	Each	\$ 215.00
Toilet Accessories	Liquid-Soap Dispenser; Horizontally oriented, surface mounted, Refill indicator: Window type	Each	\$ 70.00
Toilet Accessories	Grab Bar; Stainless Steel, 0.05in (1.3mm) thick	Each	\$ 95.00
Toilet Accessories	Sanitary-Napkin Disposal Unit; Door or cove: Self-closing, disposal-opening cover. Stainless Steel, No.4 finish (satin)	Each	\$ 125.00
Toilet Accessories	Seat-Cover Dispenser; 250 seat covers, Stainless Steel, No.4 finish (satin)	Each	\$ 70.00
Toilet Accessories	Warm-Air Dryers, operation: touch button activated with timed power cut-off switch. Steel, with white enamel finish. Electrical Requirements: 115V, 13A, 1500W	Each	\$ 800.00
Toilet Accessories	Underlavatory Guards; Antimicrobial, molded plastic, white	Each	\$ 220.00
Toilet Accessories	Toilet Hardware: Latch and Keeper, coat hook, door pull	Each	\$ 50.00
Toilet Accessories	Toilet Hardware: door hinges, latch and keeper, door bumper, door pull, fasteners	Each	\$ 50.00

PRICING MATRIX

PLUMBING			
Product Description		UOM	Price
Toilet Accessories	Urinal-Screen	Each	\$ 60.00
Toilet Accessories	Heat-Sink Strip	Each	\$ 150.00
Ancillary Application	Plumber, Industrial	Hour	\$ 120.00
Ancillary Application	Plumber, Commercial	Hour	\$ 120.00
Ancillary Application	Application Specialist	Hour	\$ 120.00

PRICING MATRIX

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PRICING MATRIX

CLASSROOM FURNITURE			
Product Description		UOM	Price
Culver Newlin: Scholar Craft Fourth-Twelfth Grade Classroom	Student Chair, 18" Shell Dimensions: 17.25 x 17.5"	Each	\$ 139.15
Culver Newlin: Scholar Craft Fourth-Twelfth Grade Classroom	Student desk, mobile, petal shape Top size: 20 x 25 x 31"	Each	\$ 419.15
Culver Newlin: Scholar Craft Fourth-Twelfth Grade Classroom	Teacher chair, heavy duty Shell Dimensions: 17.25 x 17.5" Seat height is: 15-20"	Each	\$ 437.00
Culver Newlin: Scholar Craft Fourth-Twelfth Grade Classroom	Teacher Desk, mobile Top size: 30 x 60"	Each	\$ 2,012.50
Culver Newlin: Scholar Craft Fourth-Twelfth Grade Classroom	Teacher Lectern, mobile, oversized triangle shaped Top: 27.5" x 27.5" x 3/4"	Each	\$ 1,552.50
Culver Newlin: Scholar Craft Fourth-Twelfth Grade Classroom	Flip & Nest Table Work Top size: 24 x 60"	Each	\$ 1,696.25
Culver Newlin: Scholar Craft Fourth-Twelfth Grade Classroom	Storage cabinet 48" wide x 72" high x 28" deep	Each	\$ 2,557.60
Culver Newlin: Scholar Craft Second-Third Grade Classroom	Student Chair, 16" Shell Dimensions: 14 x 14.5"	Each	\$ 124.20
Culver Newlin: Scholar Craft Second-Third Grade Classroom	Student desk, mobile, petal shape Top size: 20 x 25 x 31"	Each	\$ 419.75
Culver Newlin: Scholar Craft Second-Third Grade Classroom	Teacher chair, heavy duty Shell Dimensions: 17.25 x 17.5" Seat Height: 15-20"	Each	\$ 437.00
Culver Newlin: Scholar Craft Second-Third Grade Classroom	Teacher Desk, mobile Top size: 30 x 60"	Each	\$ 2,012.50
Culver Newlin: Scholar Craft Second-Third Grade Classroom	Teacher Lectern, mobile, oversized triangle shaped Top: 27.5" x 27.5" x 3/4"	Each	\$ 1,552.50
Culver Newlin: Scholar Craft Second-Third Grade Classroom	Flip & Nest Table Work Top size: 24 x 60"	Each	\$ 1,696.25
Culver Newlin: Scholar Craft Second-Third Grade Classroom	Storage cabinet 48" wide x 72" high x 28" deep	Each	\$ 2,557.60
Culver Newlin: Scholar Craft First Grade Classroom	Student Chair, 14" Shell Dimensions: 12.25 x 12.75"	Each	\$ 119.60
Culver Newlin: Scholar Craft First Grade Classroom	Teacher chair, heavy duty Shell Dimensions: 17.25 x 17.5"	Each	\$ 437.00
Culver Newlin: Scholar Craft First Grade Classroom	Teacher Desk, mobile Top size: 30 x 60"	Each	\$ 2,012.50
Culver Newlin: Scholar Craft First Grade Classroom	Teacher Lectern, mobile, oversized triangle shaped Top: 27.5" x 27.5" x 3/4"	Each	\$ 1,552.50

PRICING MATRIX

CLASSROOM FURNITURE			
Product Description		UOM	Price
Culver Newlin: Scholar Craft First Grade Classroom	Storage cabinet 48" wide x 72" high x 28" deep	Each	\$ 2,557.60
Culver Newlin: Scholar Craft First Grade Classroom	Activity table, Ambit Shaped Top size: 24 x 60"	Each	\$ 543.95
Culver Newlin: Scholar Craft First Grade Classroom	Shape table, Undulate Shaped Top size: 36 x 54"	Each	\$ 646.30
Culver Newlin: Scholar Craft First Grade Classroom	Shape table, Ambit Shaped Top size: 30 x 54"	Each	\$ 630.20
Culver Newlin: Scholar Craft Kindergarten Classroom	Student Chair, 14" Shell Dimensions: 12.25 x 12.75"	Each	\$ 119.60
Culver Newlin: Scholar Craft Kindergarten Classroom	Clover Shaped Table Top size: 48" x 48"	Each	\$ 719.90
Culver Newlin: Scholar Craft Kindergarten Classroom	Activity table, Ambit Shaped Top size: 24 x 60"	Each	\$ 543.95
Culver Newlin: Scholar Craft Kindergarten Classroom	Shape table, Undulate Shaped Top size: 36 x 54"	Each	\$ 646.30
Culver Newlin: Scholar Craft Kindergarten Classroom	Shape table, Ambit Shaped Top size: 30 x 54"	Each	\$ 630.20
Culver Newlin: Scholar Craft Kindergarten Classroom	Teacher chair, heavy duty Shell Dimensions: 17.25 x 17.5"	Each	\$ 437.00
Culver Newlin: Scholar Craft Kindergarten Classroom	Teacher Desk, mobile Top size: 30 x 60"	Each	\$ 2,012.50
Culver Newlin: Scholar Craft Kindergarten Classroom	Teacher Lectern, mobile, oversized triangle shaped Top: 27.5" x 27.5" x 3/4"	Each	\$ 1,552.50
Culver Newlin: Scholar Craft Kindergarten Classroom	Cabinet with totes 41 5/16" wide x 48" high x 19" deep	Each	\$ 2,127.50
Culver Newlin: Scholar Craft Kindergarten Classroom	Cubbie storage Cabinet Size: 48" wide x 44" high x 19" deep	Each	\$ 1,281.10
Culver Newlin: Smith System Fourth-Twelfth Grade Classroom	Student desk, mini diamond shape 30.5"W x 27"D	Each	\$ 273.70
Culver Newlin: Smith System Fourth-Twelfth Grade Classroom	Chair 20.5"D x 19.5" W x 18"H	Each	\$ 125.35
Culver Newlin: Smith System Fourth-Twelfth Grade Classroom	Teacher desk, single pedestal peninsula desk 24"D x 60"W x 30"H	Each	\$ 1,071.80
Culver Newlin: Smith System Fourth-Twelfth Grade Classroom	Teacher chair, swivel chair 25"D x 25"W x 16-21"H	Each	\$ 635.95

PRICING MATRIX

CLASSROOM FURNITURE			
Product Description		UOM	Price
Culver Newlin: Smith System Fourth-Twelfth Grade Classroom	Lectern, AV cart podium, movable & lockable 19"D x 29"W x 37"H	Each	\$ 2,012.50
Culver Newlin: Smith System Fourth-Twelfth Grade Classroom	Nest and fold utility table 24"D x 60"W x 26-36"H	Each	\$ 1,177.60
Culver Newlin: Smith System Fourth-Twelfth Grade Classroom	Mega tower with shelves & doors 19"D x 43"W x 61"H	Each	\$ 1,840.00
Culver Newlin: Smith System Second-Third Grade Classroom	Student desk, mini diamond shape 30.5"W x 27"D	Each	\$ 273.70
Culver Newlin: Smith System Second-Third Grade Classroom	Chair 20.5"D x 19.5" W x 18"H	Each	\$ 120.75
Culver Newlin: Smith System Second-Third Grade Classroom	Teacher desk, single pedestal peninsula desk 24"D x 60"W x 30"H	Each	\$ 1,071.80
Culver Newlin: Smith System Second-Third Grade Classroom	Teacher chair, swivel chair 25"D x 25"W x 16-21"H	Each	\$ 635.95
Culver Newlin: Smith System Second-Third Grade Classroom	Lectern, AV cart podium, movable & lockable 19"D x 29"W x 37"H	Each	\$ 2,012.50
Culver Newlin: Smith System Second-Third Grade Classroom	Nest and fold utility table 24"D x 60"W x 26-36"H	Each	\$ 1,177.60
Culver Newlin: Smith System Second-Third Grade Classroom	Mega tower with shelves & doors 19"D x 43"W x 61"H	Each	\$ 1,840.00
Culver Newlin: Smith System First Grade Classroom	3-2-1 Table 50"W x 35"D x 22-34"H	Each	\$ 417.45
Culver Newlin: Smith System First Grade Classroom	Chair 20.5"D x 19.5" W x 18"H	Each	\$ 116.15
Culver Newlin: Smith System First Grade Classroom	Teacher desk, single pedestal peninsula desk 24"D x 60"W x 30"H	Each	\$ 1,071.80
Culver Newlin: Smith System First Grade Classroom	Teacher chair, swivel chair 25"D x 25"W x 16-21"H	Each	\$ 635.95
Culver Newlin: Smith System First Grade Classroom	Lectern, AV cart podium, movable & lockable 19"D x 29"W x 37"H	Each	\$ 2,012.50
Culver Newlin: Smith System First Grade Classroom	Interchange squiggle table 30"D x 60"W	Each	\$ 684.25
Culver Newlin: Smith System First Grade Classroom	Interchange rectangle shape table 24"D x 60"W	Each	\$ 558.90
Culver Newlin: Smith System First Grade Classroom	Mega tower with shelves & doors 19"D x 43"W x 61"H	Each	\$ 1,840.00

PRICING MATRIX

CLASSROOM FURNITURE			
Product Description		UOM	Price
Culver Newlin: Smith System Kindergarten Classroom	Interchange Clover shape activity table, 48"	Each	\$ 702.65
Culver Newlin: Smith System Kindergarten Classroom	Interchange ½ moon activity table 36"D x 72"W	Each	\$ 734.85
Culver Newlin: Smith System Kindergarten Classroom	Chair 20.5"D x 19.5" W x 18"H	Each	\$ 116.15
Culver Newlin: Smith System Kindergarten Classroom	Teacher desk, single pedestal peninsula desk 24"D x 60"W x 30"H	Each	\$ 1,071.80
Culver Newlin: Smith System Kindergarten Classroom	Teacher chair, swivel chair 25"D x 25"W x 16-21"H	Each	\$ 635.95
Culver Newlin: Smith System Kindergarten Classroom	Lectern, AV cart podium, movable & lockable 19"D x 29"W x 37"H	Each	\$ 2,012.50
Culver Newlin: Smith System Kindergarten Classroom	Mega Cabinet Cubby unit 12.5"W x 10"H x 19"D	Each	\$ 684.25
Culver Newlin: Smith System Kindergarten Classroom	Mega tower with totes 19"D x 43"W x 61"H	Each	\$ 558.90
Culver Newlin: Smith System Kindergarten Classroom	Interchange rectangle shape table 24"D x 60"W	Each	\$ 558.90
Culver Newlin: VS Fourth-Twelfth Grade Classroom	Student desk, thumbprint, concave shape	Each	\$ 328.90
Culver Newlin: VS Fourth-Twelfth Grade Classroom	Student desk, thumbprint, convex shape	Each	\$ 328.90
Culver Newlin: VS Fourth-Twelfth Grade Classroom	Student chair, cantilever	Each	\$ 131.10
Culver Newlin: VS Fourth-Twelfth Grade Classroom	Teacher desk, pneumatic height adjustable desk with storage	Each	\$ 1,968.80
Culver Newlin: VS Fourth-Twelfth Grade Classroom	Mobile teacher storage unit with lockable drawer	Each	\$ 1,285.70
Culver Newlin: VS Fourth-Twelfth Grade Classroom	Ergonomic mobility stool	Each	\$ 132.25
Culver Newlin: VS Fourth-Twelfth Grade Classroom	Pneumatic height adjustable teacher lectern	Each	\$ 1,354.70
Culver Newlin: VS Fourth-Twelfth Grade Classroom	Collaborative student group table	Each	\$ 738.30
Culver Newlin: VS Fourth-Twelfth Grade Classroom	Pneumatic height adjustable teacher chair	Each	\$ 458.85
Culver Newlin: VS Second-Third Grade Classroom	Student desk	Each	\$ 271.40
Culver Newlin: VS Second-Third Grade Classroom	Student chair, cantilever	Each	\$ 131.10
Culver Newlin: VS Second-Third Grade Classroom	Teacher desk, pneumatic height adjustable desk with storage	Each	\$ 1,968.80
Culver Newlin: VS Second-Third Grade Classroom	Mobile teacher storage unit with lockable drawer	Each	\$ 1,285.70
Culver Newlin: VS Second-Third Grade Classroom	Ergonomic mobility stool	Each	\$ 119.03
Culver Newlin: VS Second-Third Grade Classroom	Pneumatic height adjustable teacher lectern	Each	\$ 1,354.70

PRICING MATRIX

CLASSROOM FURNITURE			
Product Description		UOM	Price
Culver Newlin: VS Second-Third Grade Classroom	Collaborative student group table	Each	\$ 445.05
Culver Newlin: VS Second-Third Grade Classroom	Pneumatic height adjustable teacher chair	Each	\$ 458.85
Culver Newlin: VS First Grade Classroom	Collaborative two student desk	Each	\$ 336.95
Culver Newlin: VS First Grade Classroom	Student chair, cantilever	Each	\$ 131.10
Culver Newlin: VS First Grade Classroom	Teacher desk, pneumatic height adjustable desk with storage	Each	\$ 1,968.80
Culver Newlin: VS First Grade Classroom	Mobile teacher storage unit with lockable drawer	Each	\$ 1,285.70
Culver Newlin: VS First Grade Classroom	Ergonomic mobility stool	Each	\$ 119.03
Culver Newlin: VS First Grade Classroom	Amoeba shaped group collaborative table	Each	\$ 549.70
Culver Newlin: VS First Grade Classroom	Collaborative student group table	Each	\$ 445.05
Culver Newlin: VS First Grade Classroom	Pneumatic height adjustable teacher chair	Each	\$ 458.85
Culver Newlin: VS Kindergarten Classroom	Collaborative student group table	Each	\$ 491.05
Culver Newlin: VS Kindergarten Classroom	Student chair, cantilever	Each	\$ 131.10
Culver Newlin: VS Kindergarten Classroom	Teacher desk, pneumatic height adjustable desk with storage	Each	\$ 1,968.80
Culver Newlin: VS Kindergarten Classroom	Mobile teacher storage unit with lockable drawer	Each	\$ 1,285.70
Culver Newlin: VS Kindergarten Classroom	Ergonomic mobility stool	Each	\$ 114.43
Culver Newlin: VS Kindergarten Classroom	Amoeba shaped group collaborative table	Each	\$ 549.70
Culver Newlin: VS Kindergarten Classroom	Collaborative student group table	Each	\$ 445.05
Culver Newlin: VS Kindergarten Classroom	Pneumatic height adjustable teacher chair	Each	\$ 458.85
Culver Newlin: VS Kindergarten Classroom	Backpack mobile storage unit	Each	\$ 1,509.95
Culver Newlin: VS Kindergarten Classroom	Storage unit with totes	Each	\$ 1,986.05
Ancillary Application	Furniture Placement (New)	Hour	\$ 90.00
Ancillary Application	Furniture Placement (Existing-Remove & Replace)	Hour	\$ 90.00



Zero* V.O.C., Low Odor Interior/Exterior Latex Eggshell

Architectural Coating - Quality Plus

5300 V-PRO 5000 Eggshell Zero* V.O.C., Low Odor Interior/Exterior Latex Eggshell

Description

V-PRO 5000 (5300 Eggshell) is a zero* VOC, interior/exterior quality latex eggshell for use on primed walls and ceilings including masonry, plaster, concrete, acoustic, wood and metal surfaces. This product offers excellent washability, high scrubability, gloss uniformity and minimizes wall imperfections. **NOTE:** This product contains ingredients which resist the growth of microbes on the surface of the paint film.

Recommended Uses

Designed for commercial and institutional projects where a durable low sheen is required on new interior drywall, plaster, masonry, concrete, block, tilt-ups and acoustic surfaces. NOT recommended for horizontal surfaces such as shelves and paneling.

Colors

Tintable White

Bases: A and D

Packaging

One and five gallon containers

Finish

Eggshell, sheen @ 60° = 14.0 – 17.0%

Surface Preparation

Surfaces must be clean, dry and free from all contaminants that may impair adhesion. Glossy or slick surfaces must be scuff sanded prior to application of paint coatings and may require priming.

Primer

Masonry/Concrete (Int.): V-PRO 5001 Primer

(Ext.): 4000 Uniprime

Drywall (New): V-PRO 5001 Primer

Drywall (Existing): 4000 Uniprime

8000 Carefree Prime-ZALL

Wood: 4000 Uniprime

8000 Carefree Prime-ZALL

Metal: 9600 Protec Metal Prime

Glossy Surfaces: 4000 Uniprime

Application

Brush, roll or spray. Ambient and surface temperatures must be above 55°F and relative humidity below 80%. Light overspray can be cleaned up with water even after drying. Clean tools and equipment with soap and water.

Drying Time

Touch: 1 hour

Recoat: 4 hours

Coverage

Up to 400 square feet per gallon, depending on porosity and texture of the surface.

Mil Thickness

Wet = 4.5 Dry = 1.8

Thinning

Use at package consistency. If thinning is required, use water sparingly.

Composition

Titanium Dioxide 13.4%

Extenders 18.0%

TOTAL PIGMENT 31.4%

Latex Resin 19.2%

Additives 4.3%

Water 45.1%

TOTAL VEHICLE 68.6%

Weights & Measurements +/-3.0%

Solids by Volume: 42.0%

Solids by Weight: 56.1%

VOC: <2 g/l

Weight Per Gal: 11.0 lbs.

Viscosity: 96-102 KU

Conformance

SCAQMD - complies with Rule 1113, Architectural Coatings

LEED - complies with LEED 2009 and LEEDv4

-Low Emitting Materials

CDPH Section 01350 - tested and passed

MPI - #146

*NOTE: Zero VOC is defined as no VOC containing solvents added in the manufacturing process of this product. Slight traces of VOC are present in additives used in manufacturing. This product has less than half the allowable VOC of the SCAQMD Super Compliant Coatings category.

DISCLAIMER: To the best of our knowledge, the technical data contained herein are true and accurate at the date of issuance and offered in good faith. All technical information is subject to change without prior notice. This product is guaranteed to give satisfactory performance if applied and used in accordance with the label instructions. Any liability shall be limited to a refund of the purchase price, or replacement of this product. This warranty does not include labor or cost of labor for the application of a new coat of paint. The user is responsible for determining the suitability of the product for the intended use. Final determination of the suitability of product or intended use is the sole responsibility of the user. Additional information may be obtained from your local sales representative.

Vista Paint Corporation / 2020 E. Orangethorpe Ave, Fullerton CA 92831

Revised 06/18
www.vistapaint.com

Ultra-Premium Interior Paints

SUPREMA®

INTERIOR

Superior Performance for High-end Interiors.



Portable, Modular and Pre-Fabricated Solutions - Piggyback No. 5
Wiseburn Unified School District
May 28, 2018



THE #1 CHOICE OF
PAINTING PROFESSIONALS®

SUPREMA®

is a complete line of ultra-premium, ultra-low VOC, acrylic latex paints. It combines exceptional hide with superior durability, washability and block resistance. It is ideal for use in any interior setting where superior performance is required.

Why SUPREMA® outperforms other interior paints

SUPREMA is formulated using the highest quality resins to provide better scrub resistance, improved block resistance, and superior flow and leveling.

- :: Better block resistance is achieved through tougher resin particles, creating a harder finish
- :: Excellent flow and leveling comes from a special thickening agent that interacts better with the resin
- :: Applies easily and dries to a smooth, uniform finish



Drywall



Metal



Masonry



Wood

	FLAT	VELVET	EGGSHELL	LOW SHEEN	SEMI-GLOSS
Family Room	•	•	•		
Living Room	•	•	•		
Dining Room	•	•	•	•	
Bedroom	•	•	•		
Kids' Room		•	•	•	
Kitchen & Bath				•	•
Hallways	•	•	•	•	
Ceiling	•	•	•		
Office	•	•	•		
Doors, Windows & Shutters				•	•
Moldings					•

These are commonly used gloss levels for surfaces listed above. Gloss may be affected by texture, porosity of the surface and atmospheric conditions. Please contact a Dunn-Edwards representative or your local store for specific product availability.



PRODUCTS BEARING THIS LOGO ARE EG-FREE® AND TAC/HAP-FREE

Ethylene Glycol (EG), a solvent often used in water-based paints, is listed as a Toxic Air Contaminant (TAC) and Hazardous Air Pollutant (HAP). In 1983, we were the first in the industry to voluntarily replace EG with Propylene Glycol, a non-toxic alternative "generally regarded as safe" by the FDA. Also, every Dunn-Edwards product with the EG-Free logo is free of any other TAC or HAP, too.



VOC AND RAVOC RATINGS ON EVERY LABEL

Dunn-Edwards is the first paint company to label its products with RAVOC ratings — Reactivity-Adjusted VOC Content — a better way to measure potential air quality impacts of coatings. To learn more about RAVOC ratings visit dunnedwards.com/RAVOC.



LEED® GOLD-CERTIFIED PAINT MANUFACTURING FACILITY

In 2011, Dunn-Edwards opened the world's first and only LEED® Gold-certified paint manufacturing facility in Phoenix, AZ. Encompassing manufacturing, product development, quality control and more, the 336,000-sq. ft. facility is designed to be the greenest in the industry.

"LEED" and related logo is a trademark owned by the U.S. Green Building Council and is used with permission.



See the **SUPREMA®** difference for yourself

Scrub Resistance

SUPREMA® outperforms other brands in durability after repeated scrub cycles. That means the painted surface will maintain its original appearance longer.

SUPREMA Flat

250 Cycles

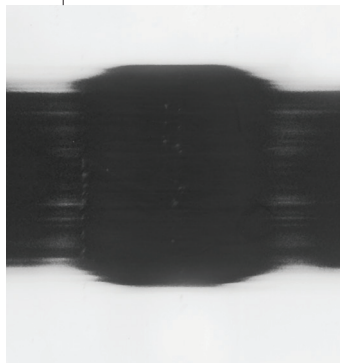
National Brand



SUPREMA Velvet

800 Cycles

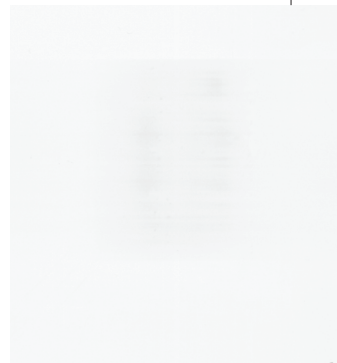
Regional Brand



SUPREMA Eggshell

200 Cycles

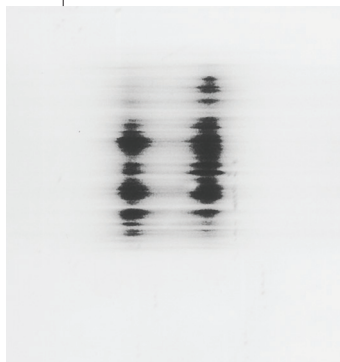
Regional Brand



SUPREMA Low Sheen

600 Cycles

National Brand



SUPREMA Semi-Gloss

400 Cycles

National Brand

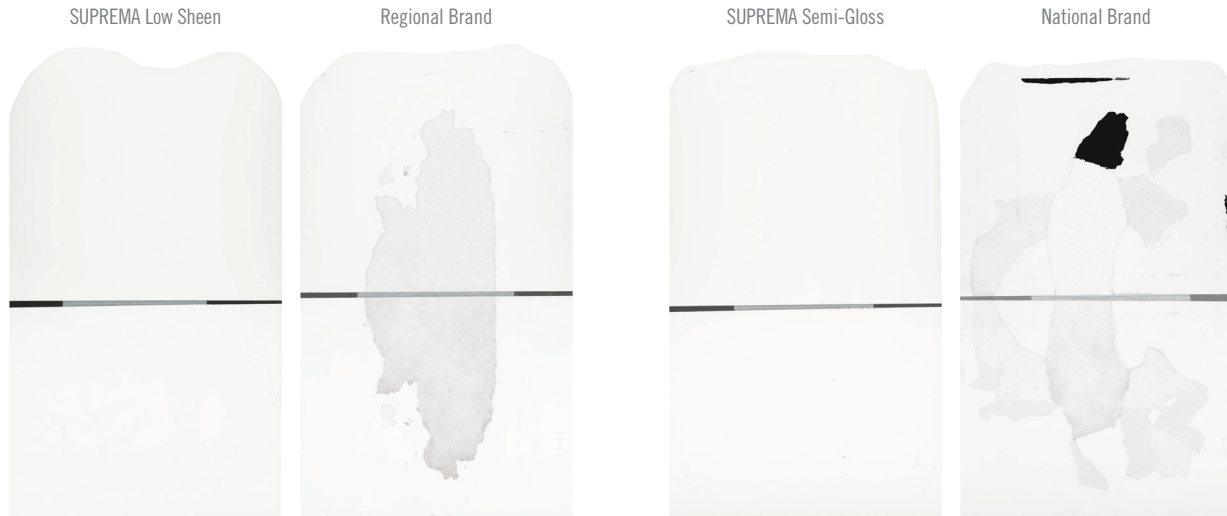


Scrub Resistance Test Method: Paints are applied to black charts. After drying for seven days, the charts are placed in an abrasion testing machine and stopped at the indicated cycle. Complete film deterioration occurs when a full line of black background is exposed.

All test examples are high resolution photographs of the actual test results. The actual test results may be viewed by appointment at the Dunn-Edwards corporate office.

Block Resistance

When two painted surfaces come into contact, such as a door and door jamb, they can stick together, or block. When that happens, the paint can peel from the surface. **SUPREMA** clearly beats the Regional and National Brands, as their paint is sticking together and peeling from the surface.



Flow & Leveling

SUPREMA has better flow & leveling compared to competitive products of the same gloss level. Good flow & leveling ensures that the paint dries to a smooth, uniform finish without any unsightly marks or lines.



Block Resistance Test Method: Paints are applied to black and white charts and allowed to dry for 24 hours. The charts are then cut and folded over each other. A weight is then placed on them to force the painted surfaces together. After 24 hours, the face-to-face charts are pulled apart to see if the dried paint stuck together.

Flow & Leveling Test Method: Paints are applied to black and white charts using a special blade. After drying horizontally for 24 hours, the charts are examined to determine the smoothness of the finish against a standard Leneta scale from 1 = Poor (Not Smooth) to 10 = Excellent (Completely Smooth).

SPECIFICATIONS



A GREEN LEGACY, A GREENER FUTURE.

Dunn-Edwards has a green legacy that makes us proud and inspires us to do more. We are firmly dedicated to the principle of eco-efficiency, which we define as the ability to satisfy human needs in ways that minimize adverse impacts on energy and material resources, environmental quality, and human health and safety. SUPREMA® is yet another example of this commitment.



PHOTOGRAPHS: Paint colors depicted in the photographs in this color card appear differently than on actual surfaces. Photographic processes and lighting will alter color.

COVER PHOTO: Concrete: Porous Stone DE6220 Walls: Silver Fern DE5492
BACK PHOTO: Walls: Birchwood DEC752 Trim: White DEW380

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DUNN-EDWARDS CORPORATION

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**THE #1 CHOICE OF
PAINTING PROFESSIONALS®**

PRICING MATRIX

PAINT			
Product Description		UOM	Price
Acrylic Latex Paint	Interior Flat ultra-premium, ultra-low VOC acrylic latex paints	Per Gallon	\$44.75
Acrylic Latex Paint	Interior Velvet ultra-premium, ultra-low VOC acrylic latex paints	Per Gallon	\$52.25
Acrylic Latex Paint	Interior Eggshell ultra-premium, ultra-low VOC acrylic latex paints	Per Gallon	\$57.25
Acrylic Latex Paint	Interior Low ultra-premium, ultra-low VOC acrylic latex paints	Per Gallon	\$62.50
Acrylic Latex Paint	Interior Sheen ultra-premium, ultra-low VOC acrylic latex paints	Per Gallon	\$62.50
Acrylic Latex Paint	Interior Semi-Gloss ultra-premium, ultra-low VOC acrylic latex paints	Per Gallon	\$62.75
Acrylic Latex Paint	Interior Gloss ultra-premium, ultra-low VOC acrylic latex paints	Per Gallon	\$65.50
Acrylic Latex Paint	Interior/Exterior Block it- Primer	Per Gallon	\$40.50
Acrylic Latex Paint	Interior/Exterior Ultra-Grip Premium Primer	Per Gallon	\$44.25
Acrylic Latex Paint	Exterior Flat ultra-premium, ultra-low VOC acrylic latex paints	Per Gallon	\$56.75
Acrylic Latex Paint	Exterior Velvet ultra-premium, ultra-low VOC acrylic paints	Per Gallon	\$56.75
Acrylic Latex Paint	Exterior Eggshell ultra-premium, ultra-low VOC acrylic latex paints	Per Gallon	\$62.75
Acrylic Latex Paint	Exterior Low ultra-premium, ultra-low VOC acrylic latex paints	Per Gallon	\$67.75
Acrylic Latex Paint	Exterior Sheen ultra-premium, ultra-low VOC acrylic	Per Gallon	\$67.75
Acrylic Latex Paint	Exterior Semi-Gloss ultra-premium, ultra-low VOC acrylic latex paints	Per Gallon	\$68.25
Acrylic Latex Paint	Exterior Gloss ultra-premium, ultra-low VOC acrylic latex paints	Per Gallon	\$70.25
Acrylic Latex Paint	Interior Flat premium, ultra-low VOC acrylic latex paints	Per Gallon	\$34.50
Acrylic Latex Paint	Interior Velvet premium, ultra-low VOC acrylic latex paints	Per Gallon	\$34.75

PRICING MATRIX

PAINT			
Product Description		UOM	Price
Acrylic Latex Paint	Interior Eggshell premium, ultra-low VOC acrylic latex paints	Per Gallon	\$39.25
Acrylic Latex Paint	Interior Low premium, ultra-low VOC acrylic latex paints	Per Gallon	\$44.50
Acrylic Latex Paint	Interior Sheen premium, ultra-low VOC acrylic latex paints	Per Gallon	\$44.50
Acrylic Latex Paint	Interior Semi-Gloss premium, ultra-low VOC acrylic latex paints	Per Gallon	\$44.75
Acrylic Latex Paint	Interior Gloss premium, ultra-low VOC acrylic latex paints	Per Gallon	\$70.25
Acrylic Latex Paint	Interior/Exterior Block it- Primer	Per Gallon	\$89.25
Acrylic Latex Paint	Interior/Exterior Grip Premium Primer	Per Gallon	\$34.50
Acrylic Latex Paint	Exterior Flat premium, ultra-low VOC acrylic latex paints	Per Gallon	\$43.50
Acrylic Latex Paint	Exterior Velvet premium, ultra-low VOC acrylic latex paints	Per Gallon	\$44.50
Acrylic Latex Paint	Exterior Eggshell premium, ultra-low VOC acrylic latex paints	Per Gallon	\$44.75
Acrylic Latex Paint	Exterior Low premium, ultra-low VOC acrylic latex paints	Per Gallon	\$45.25
Acrylic Latex Paint	Exterior Sheen premium, ultra-low VOC acrylic latex paints	Per Gallon	\$45.25
Acrylic Latex Paint	Exterior Semi-Gloss premium, ultra-low VOC acrylic latex paints	Per Gallon	\$47.75
Acrylic Latex Paint	Exterior Gloss premium, ultra-low VOC acrylic latex paints	Per Gallon	\$47.75
Ancillary Application	Industrial Painter	Hour	\$95.00
Ancillary Application	Paint Application	Hour	\$95.00
Ancillary Application	Interior/Exterior Paint Prep Work	Hour	\$95.00

PRICING MATRIX

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Wood Products / Lumber



Western Softwood Lumber

Georgia-Pacific's western softwood lumber has the strength and quality perfect for framing applications. The preferred product on many construction sites, its smooth texture provides easy handling and good installed performance.

 [YouTube](#)

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Details

Georgia-Pacific's western softwood lumber has the strength and quality perfect for framing applications. The preferred product on many construction sites, its smooth texture provides easy handling and good installed performance.

Quality

- To provide a larger nailing surface, Standard & Better and #2 & Better are graded to a proprietary GP standard with tighter wane restrictions.
- Manufactured to American Softwood Lumber Standards (ALSC) PS 20-05
- Treated with anti-stain to maintain the manufactured appearance during shipping and storage
- Grade rules administered at our Coos Bay and Philomath sawmills by the Western Wood Products Association (WWPA)
- Kiln dried lumber is wrapped to keep it dry during shipping and storage.

SPECIFICATIONS

Customer Service and Shipping

- Experienced sales staff to assist with each customer inquiry
- Customer truck, or Georgia-Pacific arranged trucking/delivery
- Rail shipment on the UP at mill location
- Other shipping methods: BNSF rail shipment via Eugene area reload as well as container shipments from Port of Portland.

Douglas-Fir Lumber

Green Douglas-Fir Products

2x4	2x6 - 2x12 Green S4S and 4x6 Green S4S	4x4 Green S4S
<ul style="list-style-type: none">• Graded under Structural Light Framing Rules• Standard & Better• Utility• Economy	<ul style="list-style-type: none">• Graded under Structural Joist & Planks Rules• #2 & Better• #3• Economy	<ul style="list-style-type: none">• Graded under Structural Light Framing Rules• #2 & Better• #3• Economy
8' - 20' lengths	8' - 24' lengths for 2x6 - 2x12 8' - 20' lengths for 4x6	8' - 20' lengths

Kiln Dried Douglas-Fir Products

2x4	2x6, 2x8, 2x10, 2x12
<ul style="list-style-type: none">• Graded under Structural Light Framing Rules• #2 & Better• #3• Economy	<ul style="list-style-type: none">• Graded under Structural Joist & Planks Rules• #2 & Better• #3• Economy
8' - 24' lengths	8' - 24' lengths

Other Douglas-fir products on a specified order basis include laminating stock, timbers, select structural grade, railroad ties, export, and treater stock

Hem-Fir Lumber

Kiln Dried Hem-Fir Products

2x4 KD S4S	2x6 - 2x12 KD S4S
<ul style="list-style-type: none">• Graded under Structural Light Framing Rules• #2 & Better• #3• Economy	<ul style="list-style-type: none">• Graded under Structural Joist & Planks Rules• #2 & Better• #3• Economy
8' - 20' lengths	8' - 24' lengths

Other Hem-Fir products on a specified order basis include timbers, select structural grade, railroad ties, export, treater stock, and green (non-kiln dried) stock.

Timbers and Specialty Products

Green Douglas-Fir and Hem-Fir

6x6 Posts	6x8 - 6x12 Timbers	7x9 and other special dimension RR Ties	2x4 - 2x12 L3 & Better Lam Stock
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SPECIFICATIONS

6x6 Posts	6x8 - 6x12 Timbers	7x9 and other special dimension RR Ties	2x4 - 2x12 L3 & Better Lam Stock
8' - 24' lengths	8' - 24' lengths	8' - 24' lengths	8' - 24' lengths

Georgia-Pacific western sawmills have specialized equipment that allows the manufacturing of a wide array of products to meet the needs of our customers. These products are quoted on a special order basis.

Heat treating stamp (HT) to satisfy export agricultural standards is on all dry lumber products. Contact your Georgia-Pacific western lumber sales representative at (541) 929-9612 for more information.

Safety and Sustainability

Procurement practices certified by the Sustainable Forestry Initiative (SFI)

Call for Sales Information



Georgia-Pacific ships common lengths and grades of western lumber nationwide. For information regarding full truckload or railcar quantities, please contact our Western Lumber Sales Office at (541) 929-9612.

Sustainable Forestry



The procurement of all Georgia-Pacific Lumber is certified by the Sustainable Forestry Initiative® (a trademark of SFI Inc.).

[More Lumber](#)

Southern Yellow Pine Lumber



Southern Yellow Pine Lumber and Studs have a long-standing reputation for providing product reliability and

SPECIFICATIONS

consistency and a
dedication to customer
relationships and
service.

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World Headquarters

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Member of Advanced Polymer Technology Group
109 Conica Lane, PO Box 160 | Harmony, PA 16037 USA

info@advpolytech.com
www.advpolytech.com

THE FOLLOWING IS A GUIDELINE AND SPEC

TYPE OF ROOF: PVC (POLYVINYL CHLORIDE)
PRODUCT: QUALIROOF 601 (NOA # 15-0611.09)
SIZE OF ROOF: OPEN
NUMBER IF PAILS NEEDED: DEPENDING ON SQUARE FOOTAGE

1. CLEAN EXISTING NEW PVC ROOF WITH A 25/1 MIXTURE OF SIMPLE GRREN AND WATER.
2. ALLOW ROOF TO COMPLETELY DRY
3. GRID ROOF AT 17 X 17.
4. PLACE 5-GALLON PAIL IN EACH GRID.
5. TAKE PHOTO OF LIDS LOT # OF THE GREY 601.
6. OPEN PRODUCT AND MIX WITH PADDLE FOR 1-2 MINUTES UNTIL ALL SOLVENT HAS DISAPPEARED.
7. ROLL PRODUCT WITH MED. NAP ROLLER EITHER EAST/WEST OR NORTH/SOUTH FOR FIRST COAT. (DO THE OPPOSITE ON THE SECOND COAT FOR BEST COVERAGE)
8. IF ROOF IS SPRAYED PLEASE USE A GRACO 5900 OR BIGGER TO ALLOW PROPER DISTRIBUTION OF PRODUCT PER COAT.
9. ALLOW 3 HOURS TO DRY BEFORE APPLYING TOP WHITE COAT.
10. RE-GRID ROOF.
11. PHOTOGRAPH LIDS LOT # OF WHITE 601.
12. PADDLE 1-2 MINTUES UNTIL SOLVENT HAS DISAPPEARED
13. ROLL SECOND COAT OF 601 THE OPPOSITE DIRECTION OF THE FIRST COAT.

**** PLEASE NOTE THAT YOU SHOULD HAVE PAINT BRUSHES AS WELL AS SMALL ROLLERS FOR THE DRIP EDGE FOR BETTER COVERAGE. PRODUCT WILL RUN OVER TO THE FACE OF THE DRIP EDGE SO YOU MAY WANT TO COAT ALL OF THE DRIP EDGE TO MAKE THE PROJECT LOOK EVEN AND AESTHETICALLY PLEASING.**

*****IF THE ROOF PITCH IS GREATER THAN 3/12 ROOF APPLY PRODUCT AT 10 MILS EACH COAT TO PREVENT PRODUCT FROM COLLECTING AT EAVE OF THE ROOF.**

******THERE IS NO NEED FOR ANY PRIMER, MESH OR FABRIC FOR ANY OF THE PENETRATIONS ON THE ROOF. QUALIROOF 601 WILL ADHERE TO ALL METAL VENTS, A/C STANDS AND LEAD STACKS.**

PRICING MATRIX

ROOFING			
Product Description		UOM	Price
Roofing	Lightweight Structural Concrete Roofing	Square Foot	\$29
Roofing	Structural Concrete 2500 PSI or Greater Roofing	Square Foot	\$32
Roofing	Granule Modified Bitumen Roofing	Square Foot	\$36
Roofing	Smooth Modified Bitumen Roofing	Square Foot	\$36
Roofing	Granule Modified Bitumen Peel-N-Stick Roofing	Square Foot	\$37
Roofing	Smooth Modified Bitumen Peel-N-Stick Roofing	Square Foot	\$32
Roofing	Standing Seam 16-18" Panel with 1" Riser with 90 Degree Crimp Metal Roofing	Square Foot	\$56
Roofing	Standing Seam 16-18" Panel with 1" Riser with 180 Degree Crimp Metal Roofing	Square Foot	\$44
Roofing	Standing Seam 16-18" Panel with 1" Riser or 5V Crimp Metal Roofing	Square Foot	\$60
Roofing	Thermoplastic Polyolefin (TPO) Single Ply Roofing	Square Foot	\$24
Roofing	Ethylene Propylene Diene Terpolymer (EPDM) Roofing	Square Foot	\$36
Roofing	Polyvinyl Chloride (PVC) Roofing	Square Foot	\$12
Ancillary Application	Roof Installation	Square Foot	\$25

PRICING MATRIX

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PRICING MATRIX

GUTTERS AND DOWN SPOUTS			
Product Description		UOM	Price
Gutter	Commercial 6" Roll Form Box Gutter, 24-gauge Steel	Linear Foot	\$30
Gutter	Commercial 7" Roll Form Box Gutter, 24-gauge Steel	Linear Foot	\$32
Gutter	Commercial 6" Roll Form Box Gutter, .032 Aluminum	Linear Foot	\$36
Gutter	Commercial 6" Roll Form Box Gutter, .040 Aluminum	Linear Foot	\$39
Gutter	Commercial 7" Roll Form Box Gutter, .032 Aluminum	Linear Foot	\$40
Gutter	Commercial 7" Roll Form Box Gutter, .040 Aluminum	Linear Foot	\$44
Gutter	Commercial 6" Roll Form Box Gutter, Copper	Linear Foot	\$30
Gutter	Commercial 6" Roll Form Box Gutter, Stainless Steel	Linear Foot	\$32
Gutter	Commercial 7" Roll Form Box Gutter, Copper	Linear Foot	\$26
Gutter	Commercial 7" Roll Form Box Gutter, Stainless Steel	Linear Foot	\$29
Gutter	Commercial 6" Half Round Gutter	Linear Foot	\$36
Gutter	Commercial 5" Gutter, Old-Gothic Style	Linear Foot	\$87
Gutter	Commercial 6" Gutter, Old-Gothic Style	Linear Foot	\$95
Gutter	Commercial 7" Gutter, Old-Gothic Style	Linear Foot	\$101
Down Spout	Commercial Smooth Metal "A" Elbow Down Spout	Linear Foot	\$21.21
Down Spout	Commercial Corrugated Pipe Metal "A" Elbow Down Spout	Each	\$14.45
Down Spout	Commercial Round Metal "A" Elbow Down Spout	Each	\$14.45
Down Spout	Commercial Smooth Metal "B" Elbow Down Spout	Each	\$31.15

PRICING MATRIX

GUTTERS AND DOWN SPOUTS			
Product Description		UOM	Price
Down Spout	Commercial Corrugated Pipe Metal "B" Elbow Down Spout	Each	\$18.15
Down Spout	Commercial Round Metal "B" Elbow Down Spout	Each	\$18.15
Down Spout	Commercial Square Down Spout	Each	\$49.90
Conductor/Leader Head	Commercial Conductor/Leader Head, Steel	Each	\$110.60
Conductor/Leader Head	Commercial Conductor/Leader Head, Aluminum	Each	\$124.90
Conductor/Leader Head	Commercial Conductor/Leader Head, Copper	Each	\$195.75
Conductor/Leader Head	Commercial Conductor/Leader Head, Stainless Steel	Each	\$325.30
Accessories	Commercial Coping	Each	\$66.80
Accessories	Commercial Gravel/High-Stop Drip Edge, ES-I	Each	\$42.90
Accessories	Commercial Pitch Pan, Round	Each	\$44.80
Accessories	Commercial Pitch Pan, Square	Each	\$44.80
Accessories	Commercial Roof Jack, Galvanized Copper	Each	\$218.80
Accessories	Commercial Roof Jack, Painted Steel	Each	\$160.35
Accessories	Commercial Roof Jack, Aluminum	Each	\$110.10
Accessories	Commercial Round-Square Spout Adaptor	Each	\$97.90
Accessories	Commercial Square-Round Spout Adaptor	Each	\$97.90
Accessories	Commercial Star Cap	Each	\$55.50
Accessories	Commercial Vented Cap	Each	\$65.50

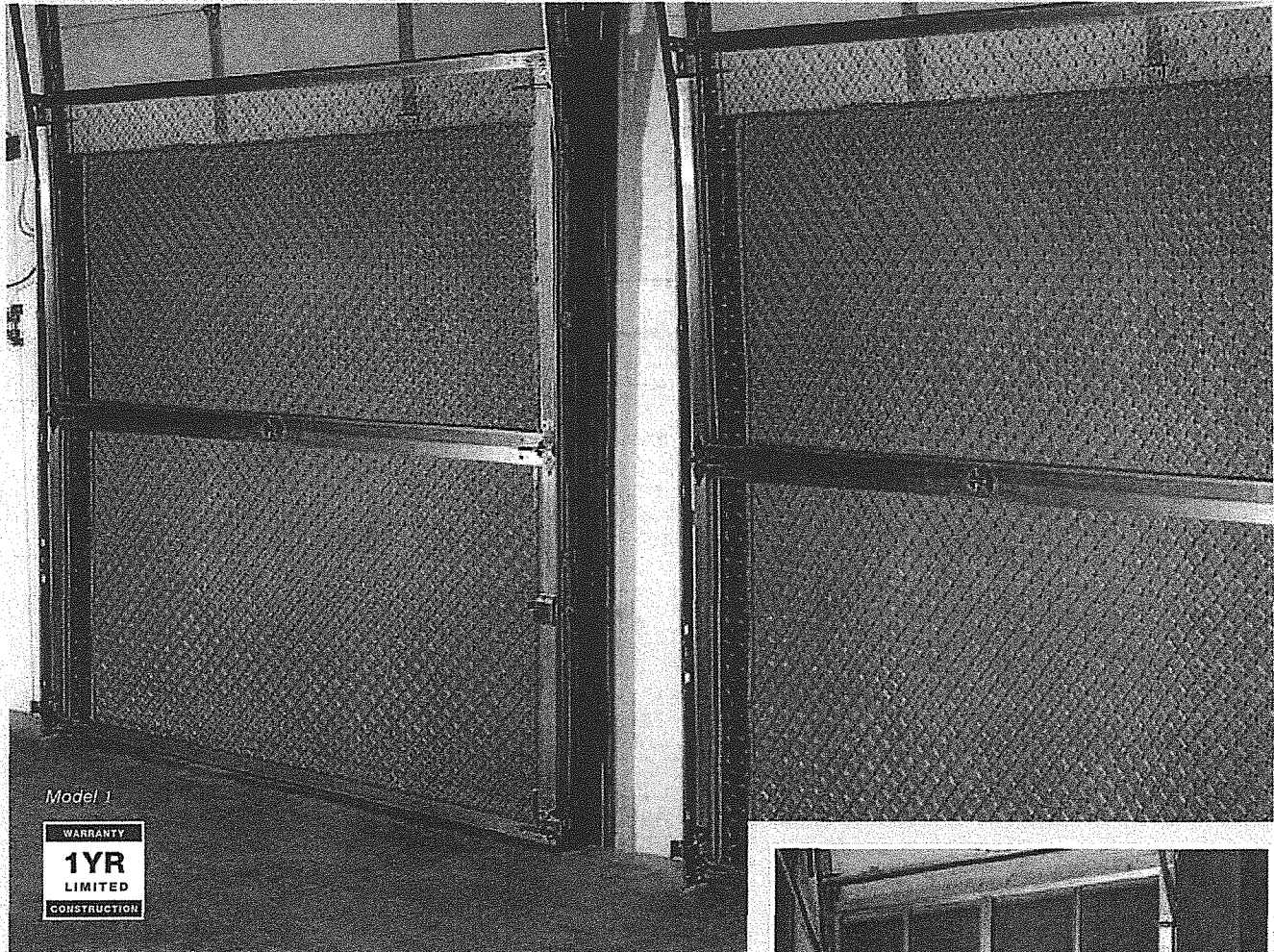
PRICING MATRIX

GUTTERS AND DOWN SPOUTS			
Product Description		UOM	Price
Ancillary Application	Fascia Replacement	Hour	\$95
Ancillary Application	Drainage Installer	Hour	\$95

PRICING MATRIX

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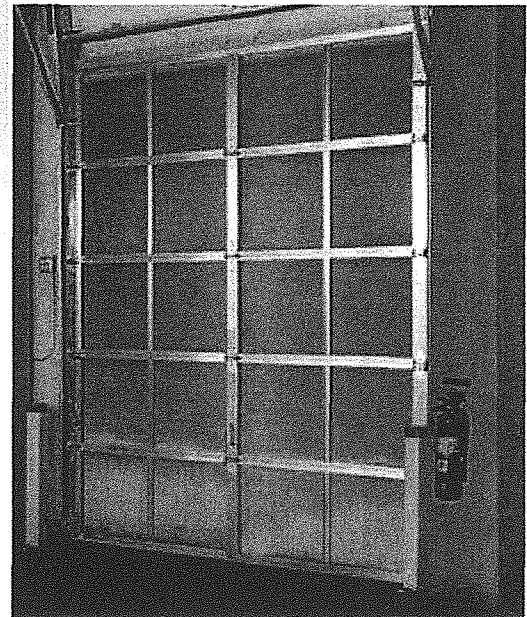
COMMERCIAL – aluminum security doors



SECURITY DOORS

Chain link (1) or screen (2) security doors are cost effective ways to add cooling, ventilation and security to your building.

- Model 1 meets Homeland Security guidelines and is optimal in parking garages, jail Sally ports and other secured buildings.
- Model 2 is ideal in areas where pest control is necessary such as in health, beauty warehouses and manufacturing facilities.



Model 2 with 30" x 30" Mesh

FEATURES

- Aluminum frame construction
- 2" (50.8 mm) diamond galvanized steel mesh
- Single track with switch or dual track design
- The advantages of natural air flow
- High visibility in a secure environment
- Meets Homeland Security guidelines

2-INCH DIAMOND FENCING



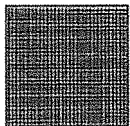
The chain link security door is a cost-effective way to add cooling, ventilation and security to your facility.

APPLICATIONS

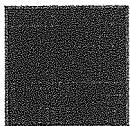
- Distribution centers
- Mezzanine gates
- Manufacturing facilities
- Parking garage
- Secured buildings
- Jail sally ports

FEATURES

- Anodized aluminum frame construction
- Stainless steel wire mesh that meets Federal Specification STD A-A-1037B
- .023" (.58 mm) 12 x 12 mesh for security doors
- .011" (.28 mm) 30 x 30 mesh for food applications
- The advantages of visibility and natural air flow without the problems created by insects



.023" 12 x 12 mesh



.011" 30 x 30 mesh

The screen security door is a cost-effective way to add security, pest control and ventilation to your facility.

APPLICATIONS

- Food and food product warehouses
- Health and beauty warehouses and manufacturing facilities
- Warehouses and manufacturing facilities in areas prone to insect infestations
- Paper mills

Quality Assurance – The doors shall be aluminum framed sectional overhead type as manufactured. Each door is provided as one complete unit including sections, brackets, tracks, counterbalance mechanisms, hardware (list options) to suit the opening and headroom available. Standard maximum size 24'2" x 18' (7.4 m x 5.5 m).

Materials and Construction – Model 1 section frames shall be formed of 2-1/2" x 1-1/2" (63.5 mm x 38.1 mm) aluminum extrusions. The corners shall be internally braced with 10 gauge galvanized steel plates. The fence screen material shall be 11 gauge galvanized in 2" (50.8 mm) diamond shapes within the aluminum frame. Meeting rails to be flat. Bottom bumpers shall be provided for a soft closing. Model 2 section frames shall be formed of 1-1/2" (38.1 mm) or 1-7/8" (47.6 mm) thick aluminum extrusions. The standard screen material shall be 304 stainless steel in 12 x 12, .023" (.58 mm) diameter mesh. The fine screen material shall be 304 stainless steel in 30 x 30, .011" (.28 mm) diameter mesh.

Finish – Door to have a mill aluminum finish. The frame in powder coat paint finishes is optional.

Hardware – All hinges and brackets to be standard commercial grade, 11 gauge galvanized hinges. 10-ball bearing, long-stem, steel rollers, full floating in case-hardened steel races, mounted to fit the taper of the track.

Track – Vertical tracks to be a minimum of 16 gauge galvanized steel tapered and mounted for wedge-type closing. Horizontal tracks to be minimum 14 gauge galvanized steel, reinforced with minimum 13 gauge galvanized angles as required. Optional track switch available for single vertical track installations. 2" (50.8 mm) or 3" (76.2 mm) track as required.

Spring Counterbalance – Door assembly to be operated by a torsion spring counterbalance mechanism, with a helically wound, oil tempered torsion spring mounted on a galvanized steel tube or a solid steel shaft as required. Springs shall have a minimum 15,000 cycle life. Cable drums are die cast aluminum with minimum 5:1 safety factor. Lift cables are high strength galvanized aircraft cable with minimum 7:1 safety factor.

Locking – Inside spring loaded slide bolt lock, on end stile, shall engage slot in track.

ADDITIONAL OPTIONS

High Cycle Spring – Available in 25,000, 50,000, or 100,000 cycles.

Track – Vertical lift and high lift track types available. Track switch available for single vertical track installations.

Weatherstripping – Complete perimeter seals available.

Electric Operation – Electric Interlock Switch available for motor operated doors with track switch installations.

Hood Cover – Outside building hood cover available for exterior mounted doors.

MADE IN USA

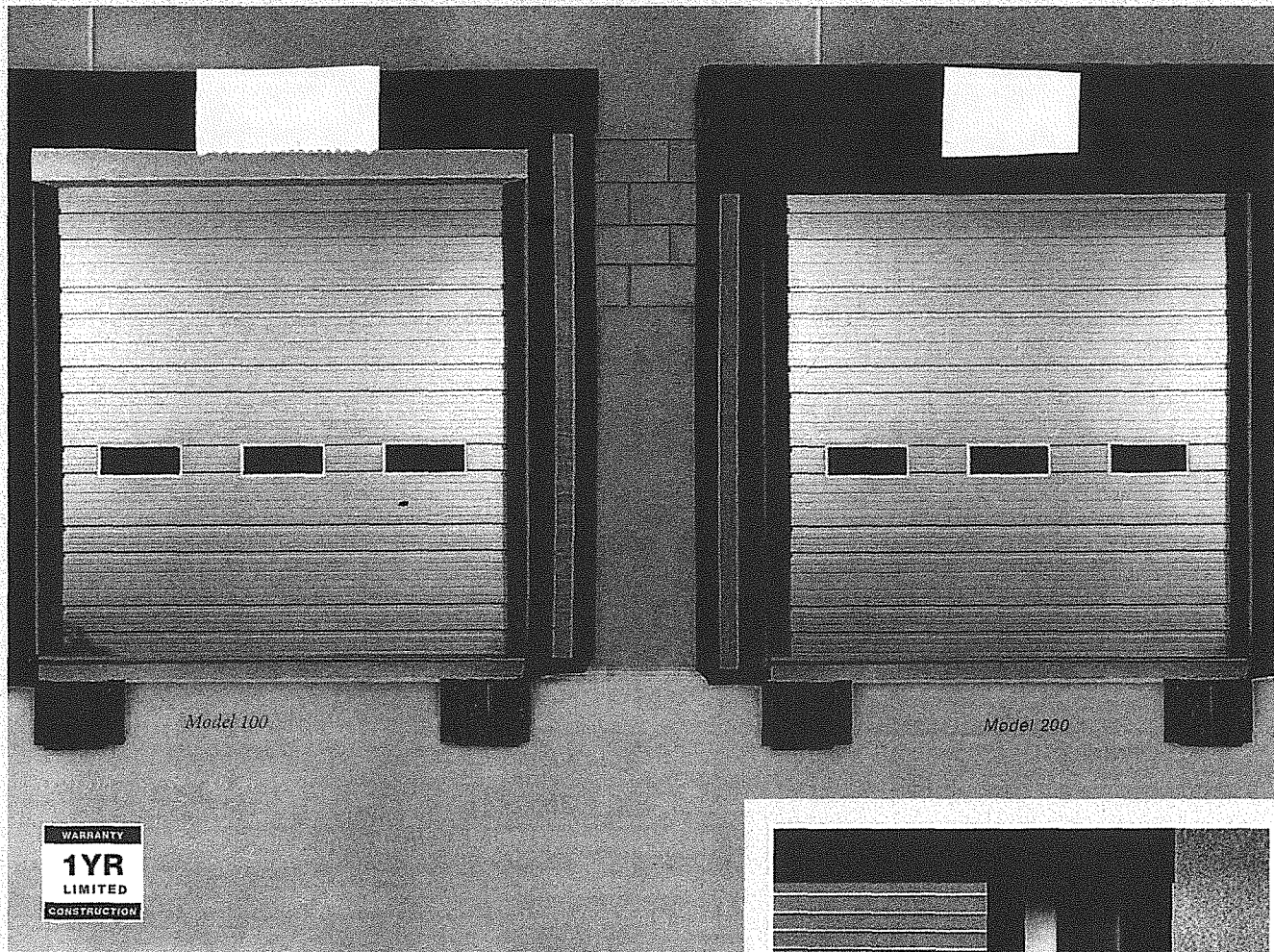


ARCAT



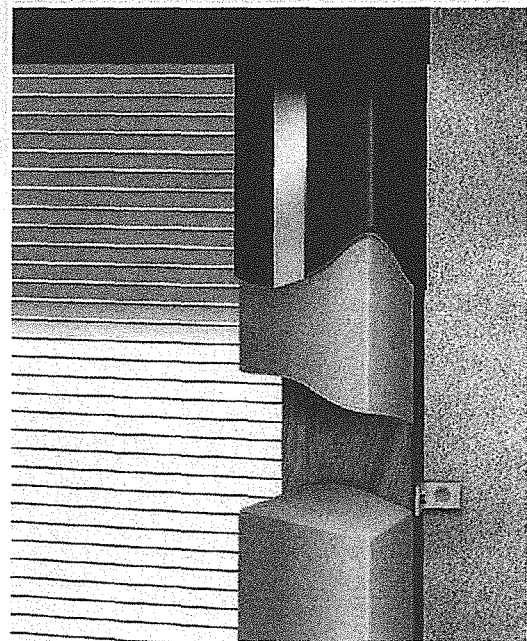
IDA www.dma.org

COMMERCIAL – MODELS dock seals, shelters and bumpers



FEATURES

- Bonded to quality pressure-treated wood framing.
- High density polyurethane foam.
- Beveled seal to accommodate differing truck widths.
- 3" (76.2 mm) wide yellow guide stripe to aid in trailer positioning.
- Available in 22 oz., 40 oz. or 50 oz. vinyl-coated polyester fabric.
- Suited to inclined, level or declining loading dock ramps.
- Bottom skirt to seal transition from dock seal to dock leveler.
- Available with foam pad header seal (Model 100), curtain top header seal (Model 140) or rigid dock shelter (Model 200).
- Laminated bumpers also available in popular sizes.



COMPRESSIBLE FOAM DOCK SEAL MODEL 100

The **Model 100** is a dock seal that consists of three foam pads that provide a seal for the sides and top of a trailer when backed into a loading bay. Each pad consists of highly resilient virgin polyurethane foam, which is chemically welded with nonflammable adhesives to a pressure-treated wood frame which prevents weathering and rotting. Each pad is enclosed by a 22 oz. vinyl-coated polyester cover. The cover wraps behind the wood frame and is secured for a weather-tight construction. The standard color is black. The face of the side pads is reinforced with an additional layer of 22 oz. vinyl-coated polyester (unless optional upgraded cover material is selected). Side pads include a full length, highly visible 3" (76.2 mm) yellow guide stripe for easy spotting by driver. Nylon mesh breather panels on side and head pads allow air and moisture to be released. All mounting hardware has a rust-resistant coating.

OPTIONS

- 40 oz. and 50 oz. vinyl-coated polyester covers.
- Colors: brown, blue, green; 50 oz. vinyl available only in black.
- Projections 8" (20.3 cm), 10" (25.4 cm), 12" (30.5 cm), 14" (35.6 cm) and 16" (40.6 cm).
- Side and top seal are available with beveled edges to accommodate multiple trailer sizes.
- Seals in tapered designs to match the incline or decline of the loading dock ramp.
- Wear pleats applied to full height of side pads and corners of head pad, available in 4" (10.2 cm), 8" (20.3 cm) or 16" (40.6 cm) exposure.
- Weighted drop curtain – can be ordered with touch and hold attachment.
- Galvanized steel back with 16 ga. steel C-channel frame instead of wood frame.
- Flame retardant construction.

ADJUSTABLE HEAD CURTAIN DOCK SEAL MODEL 140

The **Model 140** is a dock seal that consists of two foam pads that provide a seal for the side of a trailer and a full width head curtain that conforms to the top of the trailer. The side pads are as **Model 100** listed above. The head cap is constructed of 22 oz. vinyl-coated polyester. The 24" (61 cm) high head cap is made adjustable by means of 24" (61 cm) splits and hook and loop fastener stays. The head curtain is weighted to create stability. The **Model 140** is designed for door openings up to 10' (3.1 m) wide by 10' (3.1 m) high.

OPTIONS

- **Adjustable Pull-Up System** – Attachments that allow the drop curtain to be stored out of the way when not in use.
- **Foam Face** – Foam pad incorporated into the head curtains to allow the unit to mold to vehicle irregularities.



 MADE IN USA

DOCK SHELTERS MODEL 200

The **Model 200** is a rigid dock shelter that consists of fabric side and top curtains mounted over a rigid frame. The **Model 200** is intended for situations that require the best weather protection and unobstructed access to the trailer. The minimum dimensions of the **Model 200** are 11' 6" (3.5 m) wide by 11' 0" (3.4 m) high, with 24" (61 cm) projection. The head and side curtain fabric is 40 oz. vinyl-coated polyester. The standard color is black. The side curtains are reinforced with 40 oz. vinyl-coated polyester with heavy clear PVC bottom panels, equipped with a highly visible yellow guide stripe. The head curtain has vinyl-coated wear pleats at each end and is stabilized by wind straps. All curtains contain vinyl covered "spring steel" stays.

The shelter consists of a pressure-treated wood frame with translucent fiberglass top and translucent 32 oz. white vinyl sides. The header is sloped to provide for drainage. The exterior frame corners are trimmed with aluminum angle. One pair of foam draft pads is furnished per shelter. The unit also includes two 6" (15.2 cm) steel channel guards to support the frame and provide protection from incoming vehicles.

OPTIONS

- Colors: brown, blue, green; 50 oz. vinyl available only in black.
- Flat head curtain for low headroom situations.
- False header.
- Rigid steel frame – instead of wood frame.
- Tapered units to accommodate an inclined or declined approach.
- Fire retardant construction.
- Translucent fiberglass side panels.

LAMINATED DOCK BUMPERS

Dock bumpers to prevent damage to the dock area.

Available in 4-1/2" (11.4 cm) and 6" (15.2 cm) thicknesses.

Available 10" (25.4 cm) high by 12" (30.5 cm) or 24" (61 cm) long.

Available 20" (50.8 cm) high by 11" (28 cm) long.



SPECIFICATIONS

CANYON RIDGE® collection

LIMITED EDITION SERIES | ULTRA-GRAIN® SERIES



America's Favorite Garage Doors®



Canyon Ridge® Collection Limited Edition Series Design 13, Shown in Dark Finish with Mahogany Cladding, Mahogany Overlays and REC13 Window Design (Model CAN213MMREC13)

Portable, Modular and Pre-Fabricated Solutions - Piggyback No. 5
Wiseburn Unified School District
May 28, 2018

TAB C-Garage Doors
819

CANYON RIDGE® collection

Clopay offers a complete portfolio of design options for homeowners who love the look of wood, but not the upkeep.

Constructed in durable, low-maintenance steel and composite, these faux wood alternatives offer the best of both worlds – the realism and beauty of a natural stained wood appearance combined with the strength and energy efficiency of insulated steel.

Clopay's extensive selection of faux overlays, designs, windows, decorative hardware and finish colors can complement any home style and budget.



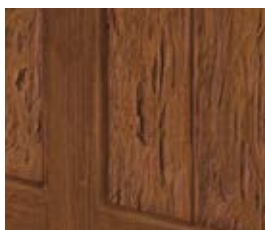
Canyon Ridge® Collection Limited Edition Series Design 11; Shown in Dark Finish with Pecky Cypress Cladding, Clear Cypress Overlays and ARC3A Window Design (Model CAN211PCARC3A)

CANYON RIDGE® COLLECTION LIMITED EDITION SERIES

Beautiful and unique, Canyon Ridge® Collection Limited Edition Series carriage house doors are constructed of an energy efficient, durable steel core and finished with full composite cladding and overlays that have the appearance of authentic wood doors.

The cladding and overlay materials are molded from actual wood pieces to reproduce the natural texture and intricate grain patterns of the species they emulate. These two layers are attached to an Intellicore® polyurethane insulated steel door for added strength and energy efficiency.

The end result is a distinctive, customized wood-look door that is often indistinguishable from the real thing.



Surface Detail



Canyon Ridge® Collection Limited Edition Series Design 21; Shown in Dark Finish with Clear Cypress Cladding, Clear Cypress Overlays and ARCH3 Window Design (Model CAN221CCARCH3)

TAB C-Garage Doors
820



Canyon Ridge® Collection Ultra-Grain® Series Design 12; Shown in Medium Finish with Clear Cypress Overlays and REC14 Window Design (Model CAN212NCREC14)

CANYON RIDGE® COLLECTION ULTRA-GRAIN® SERIES



Canyon Ridge® Collection Ultra-Grain® Series Design 22; Shown in Medium Finish with Clear Cypress Overlays and REC13 Window Design (Model CAN222NCREC13)

An attractive and more economical alternative to the Limited Edition Series, this door features a 2" Intellicore® polyurethane insulated steel base door with Ultra-Grain®, a durable, natural-looking, woodgrain paint finish. Stained Clear Cypress composite overlays are applied to the steel door surface to create beautiful carriage house designs.



Surface Detail



faux wood. REAL BEAUTY.

Canyon Ridge® Collection Limited Edition Series Design 22; Shown in Medium Finish with Clear Cypress Cladding, Mahogany Overlays and ARCH4 Window Design (Model CAN222CMARCH4)

LIMITED EDITION SERIES

5-LAYER CONSTRUCTION

intellcore®
insulation technology
Warmer. Quieter. Stronger.

Canyon Ridge® Collection Limited Edition Series doors featuring Intellicore® insulation technology represent the ultimate smart choice for homeowners. Clopay's Intellicore® is a proprietary polyurethane foam that is injected into a garage door, expanding to fill the entire structure. The result is a door with incredible strength and durability. Its dense insulation also produces a quieter door, and with one of the industry's leading R-values of 20.4, it provides year-round comfort and improved energy efficiency. Smart, indeed.



- ① Composite Overlay
- ② Composite Cladding
- ③ Steel
- ④ 2" Intellicore® Polyurethane Insulation
- ⑤ Steel



2"
POLYURETHANE
INSULATION

COMPOSITE OVERLAY
DELAMINATION
**LIMITED
5YR
WARRANTY**

EFFICIENCY
20.4
R-VALUE

HARDWARE
**LIMITED
5YR
WARRANTY**

Canyon Ridge® Collection not applicable for new construction in California areas designated as "Fire Hazard Severity Zones".

Calculated door section R-value is in accordance with DASMA TDS-163.

MATERIAL DESIGN OPTIONS

Composite
Cladding
Materials

C

Clear Cypress

M

Mahogany

P

Pecky Cypress

Composite
Overlay
Materials

C

Clear Cypress

M

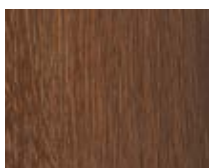
Mahogany

Note: Cladding and Overlay material options may be mixed and matched.



Canyon Ridge® Collection Limited Edition Series Design 12; Shown in Whitewash Finish with Mahogany Cladding, Mahogany Overlays and SQ23 Window Design (Model CAN212MMSQ23)

COLORS



Walnut Finish



Dark Finish



Medium Finish



Whitewash Finish



Primed

Cladding and Overlays are finished in the same color. Whitewash Finish available only on Mahogany Cladding and Overlays. Doors can be ordered Primed for those homeowners wishing to custom paint or stain their doors. Door stain color will vary slightly within a door due to finishing process. Due to the printing process, above colors may vary.

DOOR DESIGNS

SERIES 1



Design 01



Design 11



Design 12



Design 13

SERIES 2



Design 21



Design 22



Design 23

SERIES 3



Design 31



Design 32



Design 33



Design 34



Design 35



Design 36



Design 37



Design 38

Door widths available 6'2" to 20'0" wide in 2" increments. Designs 22, 23, 34 and 35 are not available 10'2" to 14'10" wide.
Door heights available 6'0" to 10'0" high in 3" increments. 6'3" high doors are not available with windows. See your Clopay Dealer for details.

WINDOW DESIGNS / TOP SECTIONS

Top sections are available in solid panels or with windows in Rectangular, Square and Arched Designs. 1/8" DSB glass is standard. Frosted, Seeded, Obscure and Rain glass is also available as well as insulated versions of all glass types. Glass available on Series 1 and 2 only.

Additional charges for optional glass apply.



Clear



Frosted



Seeded



Obscure



Rain



Attractive beveled edge clip-in grilles are removable for easy cleaning.

SERIES 1 & 2

Solid Top Sections Not Applicable to Design 01 and Series 3



TOP11



TOP12



TOP13



ARCH1

Window Designs Not Applicable to Design 01 and Series 3



REC11



ARCH1



ARCH3



ARCH4



REC13



REC14



ARCH13



ARCH14



SQ23



SQ24

SERIES 3

Solid Top Sections Not Applicable to Series 1 and 2



TOP11



TOP12



TOP13



ARCH1



ARCH1



ARCH1

ARC1A, ARC3A and ARC4A double door top sections not shown. See below for more information on additional sizes or ask your Clopay Dealer for more details.

ADDITIONAL SIZES & WINDOWS

Due to the extensive design options, not all sizes, window and top sections are shown.

See your Clopay Dealer or go to www.clopay.com for more details.

ARCH1 WINDOWS



10'4" – 14'10" WIDE DOORS

ARC1A WINDOWS



15'0" – 20'0" WIDE DOORS

ARCH1 WINDOWS



TAB C-Garage Doors



CLASSIC and REFINED.

Canyon Ridge® Collection Ultra-Grain® Series Design 11; Shown in Walnut Finish with Clear Cypress Overlays and REC13 Window Design (Model CAN211NCREC13)

ULTRA-GRAIN® SERIES

4-LAYER CONSTRUCTION

intellcore®

insulation technology

Warmer. Quieter. Stronger.

Canyon Ridge® Collection Ultra-Grain® Series doors featuring Intellicore® insulation technology represent the ultimate smart choice for homeowners. Clopay's Intellicore® is a proprietary polyurethane foam that is injected into a garage door, expanding to fill the entire structure. The result is a door with incredible strength and durability. Its dense insulation also produces a quieter door, and with one of the industry's leading R-values of 18.4, it provides year-round comfort and improved energy efficiency. Smart, indeed.



- 1 Composite Overlay
- 2 Steel with Ultra-Grain® Paint Finish
- 3 2" Intellicore® Polyurethane Insulation
- 4 Steel



2"
POLYURETHANE
INSULATION

EFFICIENCY
18.4
R-VALUE

STEEL
PAINT SYSTEM
**LIMITED
LIFE
WARRANTY**

COMPOSITE OVERLAY
DELAMINATION
**LIMITED
5YR
WARRANTY**

HARDWARE
**LIMITED
5YR
WARRANTY**

Canyon Ridge® Collection not applicable for new construction in California areas designated as "Fire Hazard Severity Zones".

Calculated door section R-value is in accordance with DASMA TDS-163.



MATERIAL DESIGN OPTIONS

Ultra-Grain®
Steel Base Door



*Note: Cladding is not present on
Ultra-Grain® Series Models.*

N = No Cladding.

Composite
Overlay
Material



Canyon Ridge® Collection Ultra-Grain® Series Design 36; Shown in Medium Finish with Clear Cypress Overlays and TOP11 (Solid) Top Section (Model CAN236NCTOP11)

COLORS



Ultra-Grain® Cypress
Walnut Finish



Ultra-Grain® Cypress
Medium Finish

Due to the printing process, above colors may vary.

Composite Overlays and Window Grilles are finished in the same color as the Ultra-Grain® base door.

Door stain color will vary slightly within a door due to finishing process.

DOOR DESIGNS

SERIES 1



Design 11



Design 12



Design 13

SERIES 2



Design 21



Design 22



Design 23

SERIES 3



Design 31



Design 32



Design 33



Design 34



Design 35



Design 36



Design 37



Design 38

Portable, Modular and Pre-Fabricated Solutions - Piggyback No. 5
Door widths available 6'0" to 8'0" wide. Door heights available 6'0" to 10'0" high in 3" increments. 6'3" high doors are not available with windows. See your Clopay Dealer for details.
Wiseburn Unified School District
May 28, 2018

WINDOW DESIGNS / TOP SECTIONS

Top sections are available in solid panels or with windows in Rectangular, Square and Arched Designs. 1/8" DSB glass is standard. Frosted, Seeded, Obscure and Rain glass is also available as well as insulated versions of all glass types. Glass available on Series 1 and 2 only.

Additional charges for optional glass apply.



Clear



Frosted



Seeded



Obscure



Rain



Attractive beveled edge clip-in grilles are removable for easy cleaning.

SERIES 1 & 2

Solid Top Sections Not Applicable to Series 3



TOP11



TOP12



TOP13



ARCH1

Window Designs Not Applicable to Series 3



REC11



ARCH1



ARCH3



ARCH4



REC13



REC14



ARCH13



ARCH14



SQ23



SQ24

SERIES 3

Solid Top Sections Not Applicable to Series 1 and 2



TOP11



TOP12



TOP13



ARCH1



ARCH1



ARCH1

ARC1A, ARC3A and ARC4A double door top sections not shown. See below for more information on additional sizes or ask your Clopay Dealer for more details.

ADDITIONAL SIZES & WINDOWS

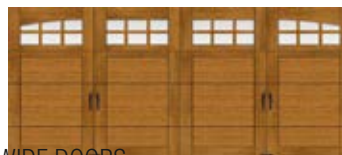
Due to the extensive design options, not all sizes, window and top sections are shown.

See your Clopay Dealer or go to www.clopay.com for more details.

ARCH3 WINDOWS



ARC3A WINDOWS



ARCH3 WINDOWS



10'4" – 14'10" WIDE DOORS

Portable, Modular and Pre-Fabricated Solutions - Piggyback No. 5
Wiseburn Unified School District
May 28, 2018

15'0" – 20'0" WIDE DOORSTAB C-Garage Doors

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DESIGNING YOUR DOOR

Use the information below to select the appropriate model number.

CANYON RIDGE® LIMITED EDITION SERIES

Canyon Ridge Door Insulation Thickness* Design Cladding Material† Overlay Material† Window Design/Top Section

CAN 2 13 P C REC13

* 2 = 2" Polyurethane. † See cladding and overlay design options.

CANYON RIDGE® ULTRA-GRAIN® SERIES

Canyon Ridge Door Insulation Thickness* Design Cladding Material (Does Not Apply) Overlay Material† Window Design/Top Section

CAN 2 13 N C REC13

* 2 = 2" Polyurethane. † See overlay design options.

ADDITIONAL FEATURES

- Replaceable vinyl bottom weatherseal in a rust-resistant aluminum retainer helps seal out the elements.
- 10-ball nylon rollers for quiet operation.
- Heavy-duty 14 gauge steel hinges for long-lasting performance.
- Patented Safe-T-Bracket® prevents serious injury that could occur if the bottom bracket were removed with the garage door closed and under tension.
- Product complies with 2015 IECC air infiltration requirement of 0.40 cfm/ft² or less (IECC, Section C402.5.2).

FINISHING AND CARE

Proper care and maintenance are imperative for long-term performance and appearance of Canyon Ridge® Collection doors. Periodic inspection and maintenance of the composite cladding and overlays are required. Complete finishing and maintenance instructions are provided with the door and are also available from your Clopay Dealer or online at www.clopay.com.



A FOCUS ON green

Clopay is committed to designing, manufacturing and distributing garage doors that enhance the beauty, safety and value of your home while minimizing the impact on the environment.

The Canyon Ridge® Collection helps conserve natural resources by providing a durable, reliable, low-maintenance, energy efficient door insulated with polyurethane. The steel used in Clopay's doors is made from over 75% recycled content. All Clopay doors are made in the U.S., minimizing shipping, damage and handling.

For more details on Clopay's green practices visit clopaydoor.com/green



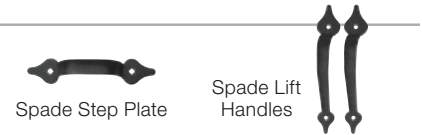
For more detailed product specification information or availability of our Canyon Ridge® Collection Garage Doors, please contact your Clopay Dealer. To locate a dealer to help you select the right door for your home, just go to www.clopaydoor.com/dealer or call 1-800-2CLOPAY (225-6729).

Follow us on       

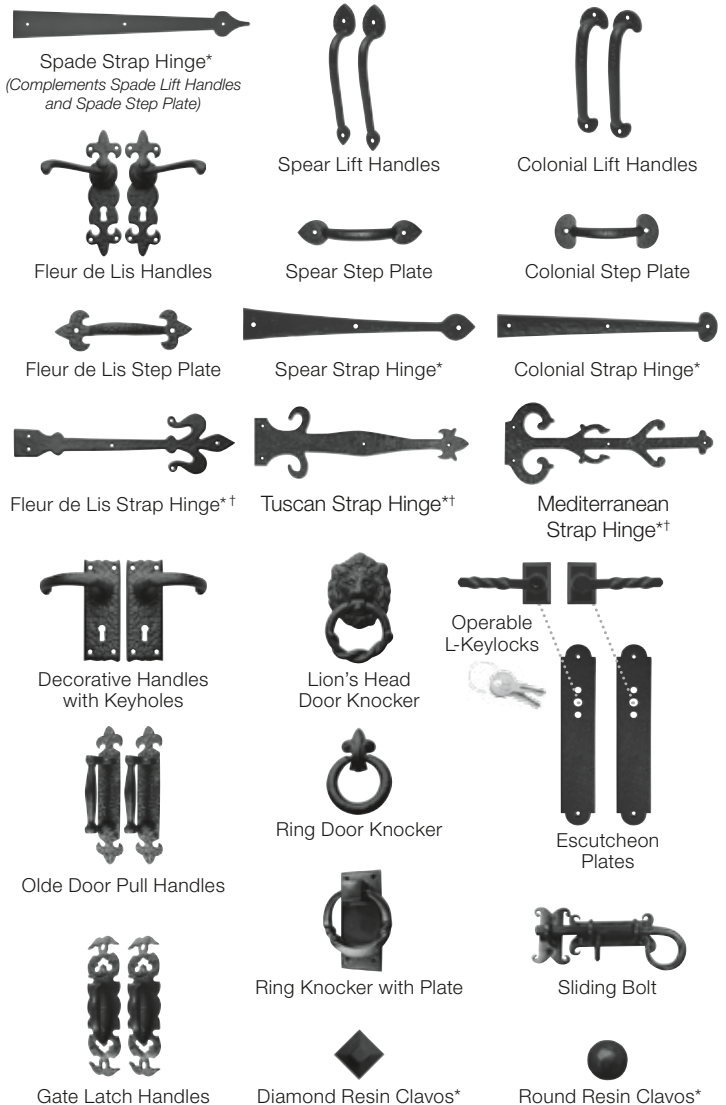
DECORATIVE HARDWARE

Attractive black powder coated grip handles and step plates are provided standard to further enhance the carriage house design. Optional antique black iron hardware, including handles, operable L-keylocks, strap hinges, door knockers and studs, are available to provide the look of a classic carriage house door.

STANDARD



OPTIONAL



*Door may not open properly if installed near the top depending on opening dimensions and lift type. See your Clopay Dealer for more details.
† Hardware may not fit on all door designs. See your Clopay Dealer for more details.

RSDR-CANYONRIDGESS-12_REV0817



The Original Sheet Door

MODEL, 211, 231, 232, 233



Standard Features:

1. Greaseless Nylon Bearings

This exclusive feature delivers longer life than metal bearings without costly maintenance.

2. Drum Assembly

The counterbalancing mechanism is housed in this unique, roll-up assembly, forming a self enclosed hood.

3. Lock Seam

The sections are lock seamed together. If one section is damaged beyond repair, it can be easily replaced.

4. Weather Seal

A blade astragal made from E.P.D.M., a highly resilient and flexible rubber compound, runs the full length of the bottom angle to seal the threshold of the opening. This forms a barrier against weather, dirt, insects, and rodents.

5. Guides

Roll formed single piece guides are standard on all Model 200 doors.

6. Chain Operation

Smooth hand-chain provides safe and comfortable operation (On models that include chain)

7. Locking Assembly

Exclusive tamper-proof slide bolt lock accommodates two padlocks for double protection.

8. Galvanized Steel Curtain

A continuous sheet of .021" galvanized steel delivers maximum security.

Model 200: The Original Sheet Door

Porvene's 200 Series Sheet Doors are the "Original Sheet Door", introduced into the United States in the 1960's. Its ease of operation and economical price has made it an industry standard within the construction industry. This complete product line is available, depending on size, as hand operation or chain operation and can be upgraded to electric operation.

**Commercial Door Model 211**

This model offers an economical price without sacrificing superior performance. Porvene's exclusive Nylofelt side strip prevents metal to metal contact and eliminates the need to lubricate the door guides.

**Industrial Door Model 231**

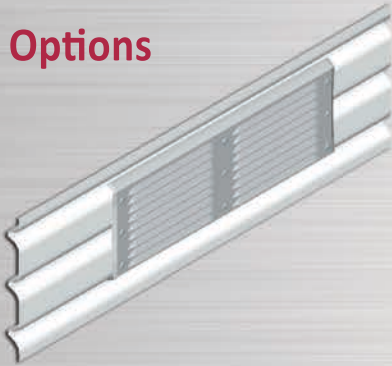
This model incorporates a structural steel bottom angle and heavier gauge steel guides. Larger sizes include wide steel band side strip for added strength, a Porvene exclusive.

**Insulated Door Model 232**

This model offers a factory applied Mylar backed insulation which provides an insulating value of R-5.24 and U-0.191, and includes a top and side draft stop.

**Windlocked Model 233**

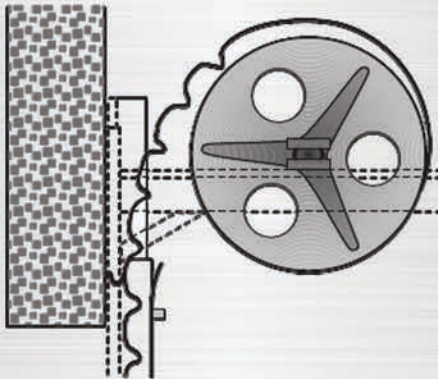
This model is manufactured for use in high wind areas. The Porvene Windlock System is designed to meet windload ratings up to 60 P.S.F. (150 mph).

Options

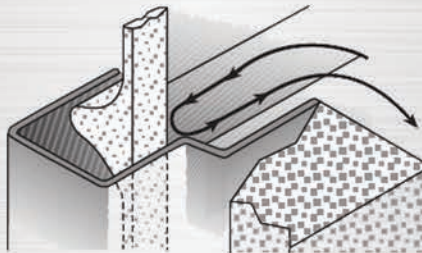
Vents: For air circulation



Vision Lites: For viewing convenience
Lexan® window 22" wide x 7 1/2" high



Top Draft Stop: Made of resilient rubber to insure a tight seal at the header



Side Draft Stop: To help prevent wind and weather from penetrating the side jambs of the opening



Wicket Door For personal access and added efficiency and convenience

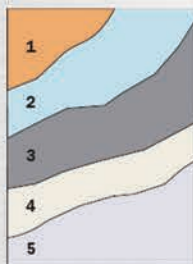
Option: Panic Hardware

Other Options:

Reversed curtain for exterior mounting
Slope strip (for sloped floors)
Available in tan or brown
Hoods/fascia panels
Contact factory for other available options

Dura-Finish Paint Process

The Porvene process is designed to give a longer life with less maintenance and much better protection against the elements such as weather and dust. Our method produces one of the best systems in our industry for a longer lasting and more maintenance free finish. Our system produces one of the thickest top coat finishes in our industry.



1. Strip steel as per ASTM A-653.
2. Hot dip galvanized G60 coating per ASTM A-653.
3. Bonded for prime coat adhesion.
4. Corrosion inhibiting primer-minimum thickness (.2) mils on each side.
5. Dura finish (white polyester top coat thickness 1.0 mil front side, .5 mil back side.)

SPECIFICATIONS

Suggested Engineering Specifications Clopay Model 811 Chain-Link Security Door

To provide a CHAIN-LINK SECURITY DOOR which shall be installed in conjunction with an existing overhead or side sliding or rolling steel type door. The CHAIN-LINK SECURITY DOOR shall use either the existing door's vertical track, or a separate dual track that shall mount behind the existing door.

The operation shall allow either the standard door or the CHAIN-LINK SECURITY DOOR to be lowered. The CHAIN-LINK SECURITY DOOR shall provide free area for ventilation, while restricting access to unauthorized entry.

A separate track shall be used to allow independent door operation. This is the preferred configuration. As an alternative, a track switch may be used, if required for close spacing. The track switch shall allow the CHAIN-LINK SECURITY DOOR and existing door to share the lower vertical track. The track switch shall be installed in the existing track and provide automatic switching between the existing door and the CHAIN-LINK SECURITY DOOR.

The CHAIN-LINK SECURITY DOOR frame shall be 2-1/2 inch by 1-1/2 inch, aluminum extrusions. The corners shall be **internally** braced with 10 gauge galvanized steel plates. The fence screen material shall be captivated within the aluminum frame. The mounting hardware shall be standard commercial grade, 11 gauge, 2 inch or 3 inch ten ball long stem rollers and track. The deep reverse angle used for rolling steel doors shall be of 14 gauge galvanized steel construction. Bottom bumpers shall be provided for a soft closing. The springs shall have a minimum 15,000 cycle life.

The CHAIN-LINK SECURITY DOOR height to be a multiple configuration of 4' 1" and/or 5' 1" panels, with a maximum door size of 16' 2" wide x 20' 4" high.

The fence screening material shall be 11 gauge galvanized steel as follows:

	<u>WIRE DIAMETER</u>	<u>OPENING SIZE</u>
STANDARD Galvanized	0.120 inch	2 inch Diamonds

PRICING MATRIX

GARAGE DOORS			
Product Description		UOM	Price
Garage Door	Commercial Chain Link Security Door, Aluminum Frame, 2" Diamond Galvanized Steel Mesh, Single Track	Each	\$958
Garage Door	Commercial Chain Link Security Door, Aluminum Frame, 2" Diamond Galvanized Steel Mesh, Dual Track	Each	\$1,157
Garage Door	Commercial Screen Security Door, Aluminum Frame, .023" 12 x 12 Stainless Steel Wire Mesh	Each	\$1,089
Garage Door	Commercial Screen Security Door, Aluminum Frame, .011" 30 x 30 Stainless Steel Wire Mesh	Each	\$1,210
Garage Door	Commercial Compressible Foam Dock Seal, 40 oz. Vinyl-Coated Polyester Cover	Each	\$1,150
Garage Door	Commercial Compressible Foam Dock Seal, 50 oz. Vinyl-Coated Polyester Cover	Each	\$1,450
Garage Door	Commercial Adjustable Head Curtain Dock Seal, 22 oz. Vinyl-Coated Polyester Cover	Each	\$1,550
Garage Door	Commercial Dock Shelter, 40 oz. Vinyl-Coated Polyester Cover	Each	\$1,750
Garage Door	Commercial Laminated Dock Bumper, 4.5" Thick	Each	\$95.50
Garage Door	Commercial Laminated Dock Bumper, 6" Thick	Each	\$187.50
Garage Door	5-Layer Steel Garage Door with Faux Wood Composite Cladding and Overlay, 2" Polyurethane Insulation	Each	\$5,880
Garage Door	4-Layer Steel Garage Door with Faux Wood Paint Finish and Composite Overlay, 2" Polyurethane Insulation	Each	\$6,120
Garage Door	Commercial Galvanized Steel Curtain Sheet Door, Roll Up Assembly	Each	\$6,257
Garage Door	Industrial Galvanized Steel Curtain Sheet Door with Structural Steel Bottom, Roll Up Assembly	Each	\$7,159
Garage Door	Insulated Galvanized Steel Curtain Sheet Door with Mylar Backed Insulation, Roll Up Assembly	Each	\$12,150
Garage Door	Windlocked Galvanized Steel Curtain Sheet Door with Windlock System, Roll Up Assembly	Each	\$16,150
Garage Door	Sikkens Wood Finishes	Each	\$650
Ancillary Application	Application Specialist	Hour	\$150

PRICING MATRIX

ASPHALT, SLURRY AND STRIPING

ROLLED SLURRY SEAL ON EXISTING PAVEMENT

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Asphalt emulsion slurry seal.

EDIT NOTE: USE THIS SECTION FOR PAVEMENT REMEDIATION WHEN EXISTING PAVEMENT IS IN FAIR CONDITION AND DOES NOT NEED TO BE REMOVED-AND- REPLACED. DO NOT USE THIS SECTION FOR PLAYGROUND OR PARKING LOTS.

1.02 RELATED REQUIREMENTS

- A. Division 01 - General Requirements.
- B. Section 32 01 17 - Asphalt Pavement Repair.

1.03 REFERENCE STANDARDS

- A. SSPWC - Greenbook: Standard Specifications for Public Works Construction; latest adopted edition.

1.04 SUBMITTALS

- A. Shop Drawings: Submit plan confirming extent of areas to be sealed.
- B. Product Data: Submit mix design.

1.05 QUALITY ASSURANCE

- A. Comply with the following as a minimum requirement: Standard Specifications for Public Works Construction, (SSPWC) current edition.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Slurry Seal: Provide the following material grades in accordance with Section 203 - Bituminous Materials of the SSPWC.
 - 1. Emulsified Asphalt: Slow set type grade CSS-1h.
 - 2. Grading of the combined aggregate and percentage of emulsified asphalt shall conform to Type I slurry requirements.
 - 3. Installed slurry seal shall be sufficiently cured to permit vehicle traffic within one day after application.

PART 3 - EXECUTION

3.01 REPAIRING AND ROLLED SLURRY SEAL EXISTING SURFACES

- A. Preparation of Surfaces:

1. Before starting slurry seal operations, existing bituminous surfacing shall be cleaned of loose material, oil spots, vegetation, and other objectionable material.
2. Dampen surface to receive slurry seal with a light application of water to ensure coverage and proper bond.
3. Provide adequate protection over manholes, yard boxes, utility vaults and other improvements adjacent to the areas to receive slurry seal.
 - a. Project Inspector shall inspect surfaces before the installation of slurry seal.
- B. Repair of Existing Surfacing: Cracks more than ½ inch wide, low areas, holes or depressions in existing surfacing shall be repaired as specified in Section 32 01 17 - Asphalt Pavement Repair, prior to the installation of slurry seal.
- C. Rolled Slurry Seal: Work shall be performed in accordance to Sub-section 302-4, Slurry, of the SSPWC.
 1. Roll slurry surfacing with a 10-ton pneumatic roller with a tire pressure of 50 psi and equipped with a water spray system.
 2. Roll as soon as the surfacing is sufficiently cured and will not pick up on tires of roller.
 3. Surfaced areas shall receive a minimum of two coverage passes by roller.
 4. Provide a smooth surface free from ridges or surface variations.
 5. Depressions occurring in cracks after initial slurry seal installation shall be filled with sand slurry before rolling and seal coat installation.

3.02 CLEAN UP

- A. Remove rubbish, debris and waste materials and legally dispose of off the Project site.

3.03 PROTECTION

- A. Protect the Work of this section until Substantial Completion.

END OF SECTION

SECTION 32 01 17

ASPHALT PAVEMENT REPAIR

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Bituminous Surfacing Repair: Areas removed for utility trenches, heaved by tree roots, cracked areas, protruding areas where pavement meets hard surfaces, depressed areas, holes and areas around new structures, and raveled bituminous pavement.
- B. Areas heaved by tree roots, cracked areas, holes, trenches, and areas around new structures.

1.02 RELATED REQUIREMENTS

- A. Division 01 - General Requirements.
- B. Section 32 12 36 - Seal Coat for Asphalt Surfacing: Bituminous Surfacing.

1.03 REFERENCE STANDARDS

- A. SSPWC - Greenbook: Standard Specifications for Public Works Construction; latest adopted edition.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to the start of the work of this section; require attendance by all affected installers.
- B. Sequencing: Ensure that maintenance of temporary pedestrian and vehicular traffic flow is achieved in an orderly and expeditious manner.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's product literature, technical data, materials, and products, .
- C. Shop Drawings: Indicate areas to be repaired.
- D. Certificate: Certify that products of this section meet or exceed specified requirements.
- E. Field Reports: Indicate procedures followed, ambient temperatures, humidity, wind velocity during application, and supplementary instructions given.

1.06 QUALITY ASSURANCE

- A. Single Source Responsibility: Provide products by the same manufacturer.
- B. Comply with SSPWC.
- C. Installer Qualifications: Company specializing in performing the work of this section with minimum three years of experience.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Seal materials: Refer to Section 32 12 36 - Seal Coat for Asphalt Surfacing.
- B. Bituminous Materials:
 - 1. Provide materials and products of the class, grade or type indicated, conforming to relevant provisions of Section 203 - Bituminous Materials of the latest SSPWC.

PART 3 EXECUTION

3.01 PAVEMENT REMOVAL

- A. Remove bituminous and concrete pavement in accordance with applicable provisions of Section 300 - Earthwork of the SSPWC.
- B. Pavement Heaved By Roots:
 - 1. Remove pavement to limits of distortion and expose roots.
 - 2. Trim roots to provide at least 12 inch clearance to pavement.
- C. Remove protruding bituminous surfaces flush with the surrounding grade using a suitable tool or equipment so that adjacent finishes are not blackened.
- D. Remove raveled and depressed bituminous pavement to limits indicated or required.
- E. Saw cut existing improvements, trim holes and trenches in bituminous and concrete pavement to permit mechanical hand tampers to compact the fill.
- F. Remove broken concrete by saw cutting. If the required cut line is within 30 inches of a score or joint line or edge, cut and remove to the score, joint line, or edge.

3.02 EXCAVATING, BACKFILLING AND COMPACTING

- A. Where subgrade or base is deemed to be unstable or otherwise unsuitable, excavate such materials to firm earth, and replace with a required material. Install and compact fill materials in accordance with the requirements of related Specification sections.

3.03 HEADERS

- A. Install headers along edge of bituminous surfacing abutting turf, earth, or planting area, unless indicated otherwise.
- B. Install headers so the bottom surface has continuous bearing on solid grade.
 - 1. Where excavation for headers is undercut, thoroughly tamp soil under the header.
 - 2. Compact backfill on both sides of header to the density of the adjacent undisturbed grade.
- C. Fasten headers in place with redwood or Douglas fir stakes of length necessary to extend into solid earth a minimum of 12 inches.
 - 1. Stakes shall be of sound material, neatly pointed, driven vertically, and securely nailed to headers.
 - 2. Space stakes, not to exceed 4 feet on centers with top of stakes set one inch below top of header.

3. Provide a minimum of two 12d galvanized common nails through each stake.
- D. Remove existing headers where new surfacing is installed adjacent to existing surfacing.
- E. Install temporary headers at transverse joints of paving where continuous paving operations are not maintained.
- F. Provide additional stakes and devices as required to fasten headers.

3.04 BASE COURSE

- A. Unless otherwise indicated, base course shall be crushed aggregate base, fine grade, 3 inches thick or equal to thickness of the existing base, whichever is greater.

3.05 RESURFACING

- A. Holes and Trenches:
 1. Remove loose dirt and backfill with cement-sand slurry allowing for surfacing one inch thicker than existing.
 2. Resurface flush with existing adjoining pavement installing the same type of materials and section provided in existing improvements.
- B. Other Areas:
 1. Other surface improvements damaged or removed shall be cut to a neat even line and excavated one inch below the bottom of the existing pavement.
 2. Resurface by following the original grades and installing the same type of materials provided in existing improvements.
- C. Where bituminous surfacing abuts concrete, masonry, walks or paving, tamp joint smooth, if necessary, as described above to obtain a uniformly even joint, true to line and grade. Tamp and smooth materials before asphalt cools.

3.06 REPAIRING AND RESEALING EXISTING SURFACES

- A. Preparation of Surfaces: Prior to filling cracks, clean existing bituminous surfacing of loose and foreign materials and coat with a film of asphalt emulsion.
- B. Repair of Existing Surfacing:
 1. Fill cracks 1/2 inch wide and less with RS-1 emulsion and silica sand or other required material.
 2. Cracks larger than 1/2 inch wide shall be filled with Type C2 Asphalt Concrete as specified.
 - a. Cracks shall be filled to the level of adjacent surfacing.
 3. Where low areas, holes, or depressions occur in existing surfacing, repair with emulsified asphalt.
 - a. Install material, strike off the emulsified asphalt with a straightedge flush with adjoining surfacing.
 - b. Finish with a steel trowel, and after dehydration, compact by rolling or tamping.
- C. Testing:
 1. Flood test entire area in presence of the Project Inspector.
 2. Entire area tested shall be free of standing water or puddles.

D. Surface Seal:

1. After surface has been repaired and tested, install seal coat over entire area indicated.
2. Surface seal shall be as specified in Section 32 12 36 - Seal Coat for Asphalt Surfacing.

3.07 CLEANING

- A. Remove all stains on the Project site and adjacent properties caused by or attributed to the Work of this section.
- B. Remove rubbish, debris, and waste materials and legally dispose of off the Project site.

3.08 PROTECTION

- A. Protect installed Work from subsequent construction operations.

END OF SECTION

SEAL COAT FOR ASPHALT SURFACING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Surface sealer over existing asphalt surfacing.

1.02 RELATED REQUIREMENTS

- A. Division 01 - General Requirements.
- B. Section 32 01 17 - Asphalt Pavement Repair.

1.03 REFERENCE STANDARDS

- A. SSPWC - Greenbook: Standard Specifications for Public Works Construction; latest adopted edition.

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's product information and application procedures for bituminous surfacing.
- B. Samples: Submit a 2 quart sample of undiluted seal coat at no additional cost to the District.
- C. Extra Materials: Provide 10 gallons in unopened containers.

1.05 QUALITY ASSURANCE

- A. Comply with SSPWC 203-9, "SEAL COAT – ASPHALT BASED".
- B. Obtain materials from same source throughout.
- C. Schedule a pre-construction conference at jobsite in advance of beginning of Work.
- D. Review and resolve conflicts involving requirements of specifications. Record discussions and furnish copies to all attendees.
- E. Beginning of Work means Contractor accepts all conditions.
- F. Agitate bulk materials during transport.

1.06 REGULATORY REQUIREMENTS

- A. Comply with local air quality management district regulations for emissions maximums.
- B. Maintain control of vehicular and pedestrian traffic during seal coating operations as required for other construction activities and in accordance with local traffic authorities having jurisdiction.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Asphalt Coating Engineering; Sure Seal.
- B. Diversified Asphalt Product; Over Kote: www.diversifiedasphalt.com.

- C. SealMaster Pavement Products & Equipment; MasterSeal: sealmaster.net.
- D. Vulcan Materials Company; GuardTop: www.vulcanmaterials.com.
- E. Western Colloid Products; Park Top: www.westerncolloid.com.
- F. Substitutions: See Division 01.

2.02 MATERIALS

- A. Seal Coat: Materials for seal coat to conform to Section 203-9 – “Seal Coat – Asphalt Based” of the SSPWC.

PART 3 - EXECUTION

3.01 PREPARATION OF SURFACES

- A. Before placing the seal coat, clean the pavement surface cleaned by sweeping, flushing or other means necessary to removal all loose particles of paving, all dirt, and all other extraneous material.
 - 1. Include vegetation in pavement cracks and between pavement and curb/gutter.
 - 2. Spray where vegetation exists, prior to removal an approved herbicide leaving behind a visible blue marker dye.
 - 3. Clean surface contaminates, grease or oil spots to allow for proper adhesion.
- B. Prior to applying seal coat material, cracks wider than 1/8 inch: Clean and treat with weed killer, then fill with an asphalt-based crack filler (large cracks may require several applications).
 - 1. For best quality, remove and patch all broken asphalt patched with new asphalt.
 - 2. Fill extreme low spots with new asphalt.
 - 3. New asphalt must cure 30 days before application of seal coat.
 - 4. Immediately before commencing the seal coat operations, protect all surface metal utility covers (including survey monuments) by thoroughly covering the surface with an appropriate adhesive and oiled or plastic paper.
 - a. Do not allow adhesive material to cover, seal or fill the joint between the frame and cover of the structure.
 - b. Place a vertical tab on each cover for locating after the seal application is complete.
 - c. Extend the tab at least 3 inches above the existing pavement surface.
 - d. Uncover and clean covers of asphalt emulsion material by the end of the same work day.
 - e. Inspector shall inspect surfaces before the installation of seal coat.
- C. For best results, the asphalt, just prior to being sealed, should be sprayed with a mist of water in an amount that will leave the surface damp but with no puddles or visible water.
 - 1. This procedure is critical when ambient temperature is hot with bright sunlight or when the pavement is excessively aged or porous.
 - 2. A prime or tack coat may be necessary on surfaces that have weathered excessively or are dusted.
 - a. Suggested Solution: Dilute the primer with three parts clean, potable water and one part SS-1h emulsion and apply at the rate of 0.05 gallon per square yard.

3. Install barricades as required to divert traffic from operations. Install temporary “no parking” signs and similar notices.

3.02 APPLICATION

- A. Install seal coat in accordance with manufacturer's written directions and recommendations.
- B. Seal coat may be mixed with water to obtain desired consistency for job requirements to a maximum of 20% of the total volume.
 1. Care should be taken not to over dilute.
 2. Mix material after dilution with a mechanical agitator to maintain consistency and ease of application.
 3. Note that as the pavement increases in roughness, the amount of dilution should be decreased.
- C. Apply seal coat when the atmospheric temperature is greater than 55 degrees F and if rain is not forecast for the period of 24 hours after application.
- D. On aged asphalt surfaces: For the first coat add 3 pounds of 30 mesh sand to each gallon. Apply second coat without the sand additive to the surface.
- E. Apply seal coat material in two applications. Unless otherwise specified, the total quantity applied (before dilution) to be 50 gallons per 1,000 square feet.
- F. Apply seal coat material using a truck-mounted tank or wheeled container in continuous parallel lines and spread by means of brooms or rubber-faced squeegees either by hand or machine and in such a manner as to eliminate all ridges, lap marks, and air pockets.
- G. Have available hand tools in order to remove spillage. Ridges or bumps in the finished surface will not be permitted.
 1. Seal coat material to be homogeneous prior to spreading, with no visible separation of solids and liquids.
- H. When the first coat has completely dried to the touch, apply the second coat. While misting is not normally required before second coat, surface should be clean with no foreign materials on it.
- I. Install two coats of surface seal to new asphalt surfacing.
 1. First Coat: Install before flood testing.
 - a. When the first coat has completely dried to the touch, apply the second coat. While misting is not normally required before second coat, surface should be clean with no foreign materials on it.
 2. Clean surface and allow to dry before installing second coat.
 3. Second Coat: Installed after asphalt surfacing has passed flood test.
- J. Where new asphalt surfacing is installed adjacent to existing asphalt surfacing, overlap surface seal a minimum of 12 inches onto existing asphalt surfacing.
- K. Where existing asphalt surfacing is indicated to be patched and sealed, install two coats of surface seal after patching.
- L. Drying Time:
 1. Seal coat should be allowed to dry 24 – 48 hours before permitting traffic.

2. When asphalt is cold or in shade, or air temperature is below 75 degrees F, based on general weather, humidity and temperature conditions, drying time may need to be extended.

3.03 PROTECTION OF SURFACES

- A. Protect sealed and unsealed surfaces from damage and traffic during performance of the Work of this section and until surface seal has thoroughly set and cured.
- B. Do not permit traffic of any kind for at least 24 hours after completion of installation.
- C. Protect the Work of this section until Substantial Completion.

3.04 TESTING

- A. District reserves the right to obtain samples, perform tests to ensure compliance with the Specifications, and to review weight slips and invoices of materials delivered to the Project site.

3.05 CLEAN UP

- A. Remove rubbish, debris and waste materials and legally dispose of off the Project site.
- B. Striping for parking or traffic flow should be done only after the seal coat has thoroughly dried. Provide water based traffic line paint.

END OF SECTION

PRICING MATRIX

ASPHALT SLURRY AND STRIPING		UOM	Price
Product Description			
Asphalt	Asphalt Paving	SF	\$15
Asphalt	Asphalt Slurry	SF	\$3.50
Asphalt	Asphalt ADA Upgrade	SF	\$100
Asphalt	Asphalt Paver Stone	SF	\$20
Asphalt	Asphalt Overlaying	SF	\$15
Asphalt	Asphalt Seal Coating	SF	\$15
Asphalt	Asphalt Wheel Stop	SF	\$250
Asphalt	Asphalt Bollard	SF	\$1,000
Asphalt	Asphalt Signage	SF	\$500
Asphalt	Asphalt Letter Stenciling	SF	\$100
Asphalt	Asphalt Striping	SF	\$3
Asphalt	Asphalt Repair	SF	\$12
Asphalt	Asphalt Restoration	SF	\$12
Asphalt	Asphalt Removal	SF	\$8
Asphalt	Parking Stall	SF	\$3
Asphalt	Handicap Parking Stall	SF	\$3
Asphalt	Directional Arrow	Each	\$150
Ancillary Application	Slurry Sealer Mixer	Hour	\$120

PRICING MATRIX

ASPHALT SLURRY AND STRIPING			
Product Description		UOM	Price
Ancillary Application	Asphalt Application	Foot	\$6
Ancillary Application	Concrete Curb Application	Square Foot	\$7
Ancillary Application	Line Application	Square Foot	\$4

PRICING MATRIX

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PRICING MATRIX

CONCRETE			
Product Description		UOM	Price
Self-Leveling Concrete	One-Coat Moisture Control System for Concrete to Receive Concrete	Per 25lb Bag	\$535.50
Self-Leveling Concrete	Ultra Prime	Per 25lb Bag	\$125.30
Self-Leveling Concrete	Premium Self-Leveling Underlayment	Per 25lb Bag	\$92.50
Self-Leveling Concrete	Self-Drying, Self-Leveling Concrete Topping	Per 25lb Bag	\$115.30
Self-Leveling Concrete	Two-Part, Low Viscosity Rigid Polyurethane Crack & Joint Repair	Per 25lb Bag	\$75.40
Self-Leveling Concrete	Semi-Rigid Joint Sealant	Per 25lb Bag	\$67.40
Self-Leveling Concrete	Exterior Self-Leveling Concrete Topping	Per 25lb Bag	\$101.50
Self-Leveling Concrete	Moisture Resistant Patch for Concrete	Per 25lb Bag	\$78.50
Self-Leveling Concrete	Rapid Setting Latex Smoothing Leveling Compound	Per 25lb Bag	\$91.25
Quikrete Concrete	Concrete Mix	Per 25lb Bag	\$6.25
Quikrete Concrete	Fast-Setting Concrete	Per 25lb Bag	\$9.30
Quikrete Concrete	FastSet Concrete Mix	Per 25lb Bag	\$9.30
Quikrete Concrete	FastSet DOT Mix	Per 25lb Bag	\$10.10
Quikrete Concrete	Green Concrete Mix	Per 25lb Bag	\$22.10
Quikrete Concrete	Quikrete 5000 High Early Strength Concrete Mix	Per 25lb Bag	\$10.60
Quikrete Concrete	Crack Resistant Concrete Mix	Per 25lb Bag	\$10.95
Quikrete Concrete	Countertop Mix	Per 25lb Bag	\$32.50
Quikrete Concrete	Fiber-Reinforced Deck Mix	Per 25lb Bag	\$13.25

PRICING MATRIX

CONCRETE			
Product Description		UOM	Price
Quikrete Concrete	Polymer Modified Fiber-Reinforced Deck Mix	Per 25lb Bag	\$34.25
Quikrete Concrete	Cement Color - Liquid	Per 25lb Bag	\$11.75
Quikrete Concrete	Q Max Pro	Per 25lb Bag	\$21.95
Concrete Topping	Self-Leveling Floor Resurfacer	Per 25lb Bag	\$82.80
Concrete Topping	Fast-Setting Self-Leveling Floor Resurfacer	Per 25lb Bag	\$74.70
Concrete Topping	Concrete Resurfacer	Per 25lb Bag	\$108.50
Concrete Topping	Sand/Topping Mix	Per 25lb Bag	\$74.70
Concrete Topping	Concrete Acrylic Fortifier	Per 25lb Bag	\$44.20
Concrete Topping	Concrete Bonding Adhesive	Per 25lb Bag	\$76.50
Ancillary Application	Exterior Self-Leveling Concrete Topping	Hour	\$90
Ancillary Application	Mason/Finisher	Hour	\$90

PRICING MATRIX

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PRICING MATRIX

PLAYGROUND			
Product Description		UOM	Price
Playground Stations	Adventure Preschool line, Ages 2-5, Capacity 21	Each	\$44,500
Playground Stations	Adventure Preschool line, Ages 2-5, Capacity 30	Each	\$46,500
Playground Stations	Adventure Preschool line, Ages 2-5, Capacity 40	Each	\$71,000
Playground Stations	Adventure Preschool line, Ages 2-5, Capacity 50	Each	\$132,000
Playground Stations	Adventure Preschool line, Ages 2-5, Capacity 62	Each	\$148,000
Playground Stations	Adventure Park School Line, Ages 5-12, Capacity 77	Each	\$180,000
Playground Stations	Adventure Park School Line, Ages 5-12, Capacity 82	Each	\$140,000
Playground Stations	Adventure Park School Line, Ages 5-12, Capacity 115	Each	\$230,000
Playground Stations	Adventure Park School Line, Ages 5-12, Capacity 121	Each	\$240,000
Playground Stations	Adventure Park School Line, Ages 5-12, Capacity 131	Each	\$325,000
Playground Stations	Large Tree Stump Tower	Each	\$29,000
Playground Stations	Extra Large Tree Stump Tower	Each	\$49,000
Playground Stations	Tree Trunk Slice Climber 1	Each	\$8,200
Playground Stations	Tree Trunk Slice Climber 2	Each	\$8,700
Playground Stations	Tree Trunk Slice Climber 3	Each	\$13,250

PRICING MATRIX

PLAYGROUND			
Product Description		UOM	Price
Playground Stations	Tree Trunk Slice Climber 4	Each	\$8,150
Playground Stations	Tree Trunk Slice Climber 5	Each	\$10,250
Playground Stations	Tree Top Steppers	Each	\$2,150
Playground Stations	Half Steady Tree Trunk	Each	\$2,600
Playground Stations	Log Balance Beam	Each	\$6,500
Playground Stations	Fallen Tree Trunk	Each	\$5,750
Playground Stations	Split Log Balance Beam	Each	\$6,500
Playground Stations	Hollow Tree Trunk	Each	\$6,100
Playground Stations	Slanted Log	Each	\$6,100
Playground Stations	Half Tree Trunk	Each	\$6,000
Playground Stations	Tree Branch	Each	\$6,100
Playground Stations	Gnarly Log	Each	\$7,300
Playground Stations	Tree Tower	Each	\$36,700
Playground Stations	Evergreen Climber 1	Each	\$12,900
Playground Stations	Evergreen Climber 2	Each	\$27,500

PRICING MATRIX

PLAYGROUND			
Product Description		UOM	Price
Playground Stations	Evergreen Climber 3	Each	\$36,880
Playground Stations	Evergreen Climber 4	Each	\$22,300
Playground Stations	Tree House	Each	\$37,950
Playground Stations	Tree Trunk Climber	Each	\$10,200
Playground Stations	Spiral Trunk Climber	Each	\$31,850
Playground Stations	Log House	Each	\$10,200
Playground Stations	Carved Stump	Each	\$7,450
Playground Stations	Grass Meadow	Each	\$7,450
Playground Stations	Log Straws	Each	\$10,200
Playground Stations	Log Pile	Each	\$8,950
Playground Stations	Acorn Steppers	Each	\$2,600
Playground Stations	Stone Steppers	Each	\$3,500
Playground Stations	Tree Trunk Steppers	Each	\$2,750
Playground Stations	Boulder Steppers	Each	\$3,480
Playground Stations	Log Steppers	Each	\$1,650

PRICING MATRIX

PLAYGROUND			
Product Description		UOM	Price
Playground Stations	Rock Steppers	Each	\$2,950
Playground Stations	Rock Climber 1	Each	\$14,400
Playground Stations	Rock Climber 2	Each	\$11,100
Playground Stations	Rock Climber 3	Each	\$15,900
Playground Stations	Rock Climber 4	Each	\$15,500
Playground Stations	Rock Climber 5	Each	\$15,900
Playground Stations	Rock Climber 6	Each	\$11,150
Playground Stations	Rock Climber 7	Each	\$15,750
Playground Stations	Rock Climber 8	Each	\$6,950
Playground Stations	Rock Climber Plus 1	Each	\$34,500
Playground Stations	Rock Climber Plus 2	Each	\$21,450
Playground Stations	Rock Climber Plus 3	Each	\$36,600
Playground Stations	Rock Climber Plus 4	Each	\$21,850
Playground Stations	Track Discovery	Each	\$1,950
Playground Stations	Fossil Discovery 1	Each	\$2,150

PRICING MATRIX

PLAYGROUND			
Product Description		UOM	Price
Playground Stations	Fossil Discovery 2	Each	\$2,250
Playground Stations	Fossil Discovery 3	Each	\$2,310
Playground Stations	Fossil Discovery 4	Each	\$6,470
Playground Stations	Stone Bench	Each	\$3,120
Playground Safety Surfacing	EnduraFlex Up to 5' CFH	SF	\$23.15
Playground Safety Surfacing	EnduraFlex Over 5' CFH, Less than 8'	SF	\$23.95
Playground Safety Surfacing	EnduraFlex 8' CFH to less than 10' CFH	SF	\$25.05
Playground Safety Surfacing	EnduraFlex 10'-12'CFH	SF	\$25.85
Playground Safety Surfacing	FlexGrass Up to 5' CFH	SF	\$24.75
Playground Safety Surfacing	FlexGrass Over 5' CFH, Less than 8'	SF	\$25.65
Playground Safety Surfacing	FlexGrass 8' CFH to less than 10' CFH	SF	\$27.55
Playground Safety Surfacing	FlexGrass 10'-12'CFH	SF	\$28.15
Playground Safety Surfacing	UltraFlex Up to 5' CFH	SF	\$27.15
Playground Safety Surfacing	UltraFlex Over 5' CFH, Less than 8'	SF	\$28.35
Playground Safety Surfacing	UltraFlex 8' CFH to less than 10' CFH	SF	\$29.95
Playground Safety Surfacing	UltraFlex 10'-12'CFH	SF	\$31.50
Playground Safety Surfacing	FlexTop, 1/2" depth	SF	\$17.20
Playground Safety Surfacing	FlexTop 1.5" depth	SF	\$22.50
Playground Safety Surfacing	FlexGrout	SF	\$12.15
Playground Safety Surfacing	Xtreme Surfacing, 1/2" rubber depth	SF	\$22.50
Playground Safety Surfacing	KoolFlex 1/4" rubber with FlexGrout	SF	\$14.65
Playground Safety Surfacing	FlexCoat Aromatic	SF	\$2.87

PRICING MATRIX

PLAYGROUND			
Product Description		UOM	Price
Playground Safety Surfacing	FlexCoat Aliphatic	SF	\$5.19
Playground Safety Surfacing	Compacted AB Sub Base, 4"	SF	\$6.88
Playground Safety Surfacing	Additional 1" thickness of AB sub base over 4"	SF	\$2.25
Playground Safety Surfacing	Upgrade to 100% Standard color	SF	\$3.69
Playground Safety Surfacing	Upgrade to Aliphatic Urethane	SF	\$3.69
Playground Safety Surfacing	Upgrade with design work	SF	\$2.95
Playground Safety Surfacing	Minimum Charge Per Job	Per Job	\$6,500
Playground/Landscape Turf	Heavy Use: Specification #1	SF	\$3.75
Playground/Landscape Turf	Heavy Use: Specification #2	SF	\$3.85
Playground/Landscape Turf	Heavy Use: Specification #3	SF	\$3.85
Playground/Landscape Turf	Heavy Use: Specification #4	SF	\$4.95
Playground/Landscape Turf	Heavy Use: Specification #5	SF	\$3.55
Playground/Landscape Turf	Heavy Use: Specification #6	SF	\$4.95
Playground/Landscape Turf	Heavy – Moderate Use: Specification #7	SF	\$3.95
Playground/Landscape Turf	Moderate – Light Use: Specification #8	SF	\$4.25
Playground/Landscape Turf	Moderate – Light Use: Specification #9	SF	\$4.50
Playground/Landscape Turf	Moderate – Light Use: Specification #10	SF	\$3.25
Playground/Landscape Turf	Natural 48- 48oz, 1.5" ht, 3/8" gauge: Specification #11	SF	\$3.25
Playground/Landscape Turf	Natural 60- 62oz, 1.75" ht, 3/8" gauge: Specification #12	SF	\$4.20
Playground/Landscape Turf	Natural 75- 80oz, 1.75" ht, 3/8" gauge: Specification #13	SF	\$4.90
Playground/Landscape Turf	Fresh 48- 50oz, 1.5" ht, 3/8" gauge: Specification #14	SF	\$3.25
Playground/Landscape Turf	Fresh 60- 62oz, 1.75" ht, 3/8" gauge: Specification #15	SF	\$3.95

PRICING MATRIX

PLAYGROUND			
Product Description		UOM	Price
Playground/Landscape Turf	Fresh 75- 80oz, 1.75" ht, 3/8" gauge: Specification #16	SF	\$4.35
Playground/Landscape Turf	Multi-Play Sport- 60oz, 1.0" ht, 1/5" gauge: Specification #17	SF	\$4.25
Playground/Landscape Turf	Active (ST45)- 55oz, 1.75" ht, 1/2" gauge: Specification #18	SF	\$3.40
Airport Synthetic Turf	Special Use: Specification #19	SF	\$4.50
Playground Pad	4x6 Panels with 5/8 Pound Density: Specification #32	SF	\$5.15
Playground Pad	4x6 Panels with 5/7 Pound Density: Specification #33	SF	\$5.25
Ancillary Application	Application of Playground Pad	SF	\$2.25
Ancillary Application	Application of Composite Board	SF	\$3.50
Ancillary Application	Application of Synthetic Turf and Infill	SF	\$2.25
Ancillary Application	Application of Pour in Play Surface	SF	\$7.50
Ancillary Application	Application and Compaction of Base	SF	\$7.50

PRICING MATRIX

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SPECIFICATIONS

BASIC FENCE SPECIFICATIONS

The following specifications are commonly referenced in the fence industry. The appropriate paragraphs from these specs are also shown, along with a brief, edited summary of the included information.

These specifications do not necessarily agree with any design/build or “standard methods and practices” used in the industry or, specifically any of those used by a fencing vendor. The specific, detailed information (not the specification) must be shown on the crew’s work order if a specific requirement is to be met.

Note: ASTM nomenclature generally shows the specification number followed by the year (“-“ two digit year) that the spec was modified. If no new modification date is shown, the most recent year it has been reviewed will be shown in parentheses. In general, ASTM will review each specification every four years, or before.

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Chain Link Fencing

- 1.0 General Specifications
- 2.0 Repair of Welded Chain Link Fabrications
- 3.0 Security Fencing Guidelines
- 4.0 Additional Related Specifications
- 5.0 APWA – Standard Specifications
- 6.0 Federal Specs: RR-F 191

Gates

Ornamental Metal Fencing

- 1.0 General Specifications
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Wood and Related Fencing

PVC (Solid Vinyl) Fencing

Welded and Expanded Wire Mesh

Automation Systems

Post Footings

CHAIN LINK FENCING

1.0 GENERAL SPECIFICATIONS

ASTM A 53-06 SCHEDULE 40 AND SCHEDULE 80 PIPE.
Covers black pipe, hot-dipped, zinc coated, welded and seamless varieties.

Caution: A53 can be considered equal to F1083-06 schedule 40 pipe however, based on how the A53 is referenced in the specification section, F1083-06 may or may not be substituted.

SPECIFICATIONS

ASTM A 90/A90M-09 TESTING ZINC COATING ON STEEL ARTICLES

ASTM A 116-05 METALLIC COATED STEEL-WOVEN WIRE FENCE FABRIC

ASTM A 121-07 METALIC COATED STEEL BARBED WIRE

Design Number 12-4-5-14R is "twisted 12 gage, four point, 5" on-center.

Design Number 12-4-3-14R is "twisted 12 gage, four point, 3" on-center.

Coatings:

Type A – Aluminum coated, .3 oz/sq.ft.

Type Z – Class 3- Galvanized coated, .80 oz/sq.ft.

Type ZA – Zinc-5% aluminum-mischmetal alloy.

ASTM A 123 ZINC (HOT DIP GALVANIZED) COATED IRON AND STEEL

The minimum coating is 2.3 oz. per sq. ft.

ASTM A 392-07 ZINC COATED CHAIN LINK FABRIC

11.1.1 Class 1. 1.2 oz zinc coating.

11.1.2 Class 2. 2.0 oz zinc coating.

It can be GBW (galvanized before weaving) or GAW (galvanized after weaving) fabric.

Standard chain link fabric dimensions, Table 4:

12 ½ GA .099" diameter wire.

11 ½ GA .113"

11 GA .120"

9 GA .148"

6 GA .192"

Fabric sizes now includes: 3/8", ½", 5/8", ¾", 1", 1 ¼", 1 ½", 1 ¾", and 2" mesh.

ASTM A 491-07 ALUMINUM COATED CHAIN LINK FABRIC

11.1 Aluminum coating "aluminized".

6 – 9 Gage .40-oz/sq. ft.

11 Gage .35

11 ½ Gage .30

ASTM B 429-06 ALUMINUM ALLOY PIPE AND TUBING

Covers schedule 40, aluminum pipe.

ASTM A 500-03 COLD FORMED STEEL (WELDED AND SEAMLESS)

Tensile strength varies by grade.

ASTM A 501-01 HOT-FORMED STEEL (WELDED AND SEAMLESS)

ASTM F 552-02 (08) TERMINOLOGY, CHAIN LINK FENCING

ASTM F 567-07 (Revised) INSTALLATION OF CHAIN LINK FENCE

4.1 Post spacing – 10' o.c.

SPECIFICATIONS

- 5.1 Fence Post footings for:
Posts 4" O.D. or less – 4 x post diameter and 24" deep + 3" per foot of height over 4'.
4 ½" O.D. and larger – 3 x post diameter and 24" deep + 3" per foot of height over 4'.
Limited to a maximum of 60" deep, and a maximum post height of 20'.

5.12.1 Commercial and Industrial Swing Gate Posts. (Each leaf).

Width	Height	Post Size	Hole Size (Diameter x Depth)
≤4'	6'	2 3/8"	10" x 30"
>4' - ≤10'	6'	2 7/8"	12" x 36"
>10'	6'	4"	12" x 36"
≤6'	>6'	2 7/8"	12" x 36"
>6' - ≤12'	>6'	4"	12" x 36"
>12' - ≤18'	>6'	6 5/8"	20" x 42"
>18' – 24'	>6'	8 5/8"	26" x 48"

6. Bracing and mid-rails.
6.1 With top-rail: no bracing for ≤6' h.
>6' high – mid brace.
>12' high – mid rail required.
Without top-rail.
Brace required – 2/3's up.
7.2 Tension wire in lieu of top rail.
Bottom tension wire is optional.
8. Chain Link Fabric
8.4 Fabric to line posts (tie wire) 15" spaces.
Fabric to tension wire (hog rings) 24" spaces.

ASTM F 626-08 FENCE FITTINGS

3. Post Caps and Eye-tops. Pressed steel or cast iron, 1.2 oz galvanized coating.
4. Rail Ends and Brace Type Rail Ends. Pressed steel or cast iron, 1.2 oz galvanized coating.
5. Top Rail Sleeves. Pressed steel or round steel tubing, 1.2 oz galvanized coating.
6. Tie Wires and Clips
6.1.1 Standard Round Ties
6.1.1.1 Twelve Gage Steel. 0.8 oz galvanized coating.
6.1.1.2 Nine Gage Steel. 0.9 oz galvanized coating.
6.1.1.3 Nine Gage Aluminum
6.1.2 High Security Round Ties. More....
7.1 Tension Bands and Brace Bands. Steel, 1.2 oz galvanized coating.
7.2 Tension Bands – minimum 14 gage, x ¾" wide.
7.3 Brace Bands – minimum 12 gage, x ¾" wide.
8. Tension Bars
8.1 Steel tension bars. 1.2 oz galvanized coating.
8.2 Fiberglass tension bars.
8.4 Tension bars for 1 ¾" and 2" chain link up to 5' high – 3/16" x 5/8".
Over 5' high – 3/16" x ¾".
For 1" chain link mesh, - ¼" x 3/8".
9. Truss Rod Assembly
9.1 Steel truss rods, 5/16" diameter rod with 1.2 oz galvanized coating.

SPECIFICATIONS

- 9.3 Truss rod tightener shall hold 2000#.
- 10. Barb Wire Arms
 - 10.1 Arms are pressed steel or cast iron with 1.2 oz galvanized coating.
 - 10.2.1 Type I – single slant arm for 3 strands wire.
 - 10.2.2 Type II – single vertical arm.
 - 10.2.3 Type III – “V” arm for 6 strands.
 - 10.2.4 Type IV – “A” shaped, for 5 strands of barb wire.
- 11.2 Color Coated Fittings – polymer coated

ASTM A 653-03 ZINC COATING OF STEEL SHEET OR ALLOY COATED

Defines various zinc coating standards. G 90 is a coating of .9 oz. per sq. ft. (.45 oz. per side), .75 mills per side. Specifies acceptable test ranges for samples. E.g.: for G90, the Triple-Spot Test must read .32 oz per side. A Single Spot test must read .80 oz total, both sides.

ASTM F 654-07 RESIDENTIAL CHAIN LINK GATES

- 3.2 Any gate leaf wider than 6’ or taller than 6’ is not classified as a residential gate. See F 900.

ASTM F 668-07 PVC AND OTHER COATED CHAIN LINK FABRICS

Note: The steel core wire is the specified wire gage, not the outside of the coating.

Organic polymer coating is also standard. Fused polyolefin is also quoted by vendors to comply.

- 6.1 Class 1 – Extruded coating.
- 6.2 Class 2a – Extruded and adhered.
- 6.3 Class 2b – Fused and adhered.

ASTM F 669 LIGHT INDUSTRIAL AND COMMERCIAL PIPE AND TUBING

This spec has been obsoleted and is replaced by ASTM F 1043, see below.

ASTM A 787/A787M -09 WELDED STEEL PIPE AND TUBING SPECIFICATIONS

Defines the sizes, shapes and thicknesses for steel pipe and tube. Frequently used in conjunction with ASTM A653 to define galvanized coatings, including hot-dipped and G-90 standards.

ASTM A 817-03 METALIC COATED STEEL WIRE.

Note: It has been reported that “Galfan” has recently been approved as well – a formulation of zinc, aluminum + Cerium/Lanthanum. 6/08. Commonly called “Mischmetal Alloy”.

ASTM A 824-01 (07) COATED STEEL MARCELLED TENSION WIRE

- 1.1.2 Type II is zinc coated steel wire (galvanized) per ASTM A 817.
- 5.2 Wire is 0.177” diameter, “7 gage” only. Nothing covers “6 gage”.
- 5.3.1 Type I – Aluminum coated.
- 5.3.2 Type II – Zinc Coated.
- 5.3.3 Type III – 5% Zinc coating.

Note: It has been reported that “Galfan” has recently been approved as well – a formulation of zinc, aluminum + Cerium/Lanthanum. 6/08. Commonly called “Mischmetal Alloy”.

ASTM F 900-05 COMMERCIAL AND INDUSTRIAL SWING GATES

Post footing – see ASTM F 567.

Automated Vehicle Gates – see ASTM F 2200.

- 4.2.5 Barb wire on gates must be supported every 8’ or less.

SPECIFICATIONS

4.2.6 Barbed Tape – per ~~ASTM F 2200~~ **ASTM F 1910-98 (08)**

5.2 Gate Frames.

Height	Gate Frame Size	Weight	Class
<=6'	1 5/8"	1.83 #/Ft.	Structural
> 6'	1 7/8"	2.28 #/Ft.	Structural

5.2.2 Gate Posts. Width is for each gate leaf. Post size is O.D.

Width	Height	Post Size	Hole Size	Weight (Min.)
<=4'	6'	2 3/8"	10" x 30"	3.11 #/Ft.
>4' - <=10'	6'	2 7/8"	12" x 36"	4.64 #/Ft.
>10'	6'	4"	14" x 36"	8.65 #/Ft.
<=6'	>6'	2 7/8"	10" x 36"	4.64 #/Ft.
>6' - <=12'	>6'	4"	12" x 36"	8.65 #/Ft.
>12' - <=18'	>6'	6 5/8"	16" x 42"	18.02 #/Ft.
>18' – 24'	>6'	8 5/8"	18" x 48"	27.12 #/Ft.

Vertical stiffeners every 8' or more. Horizontal stiffeners if greater than 8' high.

ASTM F 934-96 (08) COLORS FOR POLYMER-COATED CHAIN LINK MATERIALS

ASTM F 969-07 CHAIN LINK TENNIS COURT FENCING

5.3 Fences with windscreen should use stronger framework, with posts closer together.

6.1.2 Type II classification for chain link fabric is a Class 1 galvanized, per ASTM A 392.

6.1.4 Type IV classification is for PVC coated chain link fabric of any grade.

8.1.4 Chain link mesh shall be 1 3/4".

New: Gates must swing outward.

New: CLFMI Wind Load Guide (WLG2445) is now called out if wind screen is added to the tennis court.

ASTM F 1043-08 STRENGTH AND COATINGS (GALVANIZED POSTS AND RAILS) FOR CHAIN LINK FRAMEWORK

Note: CLFMI Wind Load Guide (WLG2445) is now called out and cautioned.

Fused polyolefin is also quoted by vendors to comply.

5.0 Strength Requirements.

5.1 Industrial – acceptable materials are schedule 40 or “high strength 40”.

Group IA is Schedule 40.

Group IC is the manufacturer’s “high strength 40” grade.

Light Industrial/Commercial – acceptable materials are “high strength 20”.

O.D. coating is “B”, I.D. coating is “D”.

6.0 Strength Calculations for alternate designs (not shown in this specification) could be presented whereby imported, “Structural Grade” would comply with the “Light Industrial/Commercial” classification.

7.0 Coating Requirements.

7.1 External coatings now identified separately.

SPECIFICATIONS

- 7.1.1 Type A – Zinc, 1.8 oz/ft².
- 7.1.2 Type B – Zinc, 0.9 oz/ft², with organic overcoat of a verifiable polymer film, using:
- 7.1.3 Type C – Zinc, 5%.
- 7.2 Internal Coatings same as above.
- 8.1.3 PVC, polyester polymer or polyolefin elastomer coating.

Table 3 calls out Heavy Industrial fence framework

Table 4 calls out Light Industrial/Commercial fence framework.

ASTM F 1083-08 GALVANIZED FENCE STRUCTURES (GALVANIZED PIPE)

- 6.1.1.1 Regular grade tensile strength is 48,000 psi, minimum.
- 6.1.1.2 Intermediate strength is 60,000 psi, minimum. This is SS 40 or equal.
- 6.1.1.3 High strength is 85,000 psi, minimum. **Not commercially available.**
- 6.1.2.1 Regular grade yield strength is 30,000 psi, minimum.
- 6.1.2.2 Intermediate strength is 50,000 psi, minimum. This is SS 40 or equal.
- 6.1.2.3 High strength is 83,000 psi, minimum. **Not commercially available.**
- 7.1 Weight of galvanized coating – 1.8 oz/ ft².

12.1 By this specification, pipe may be schedule 40 or schedule 80.

Note: Schedule 80 is called “Extra Strong”, not “High Strength”.

ASTM F 1183-96 (06) ALUMINUM ALLOY CHAIN LINK FABRIC

ASTM F 1184-05 COMMERCIAL AND INDUSTRIAL HORIZONTAL SLIDE GATES For “Cantilever Roll Gates”.

This is not applicable for standard chain link roll gates with ground wheels and pipe track.

ASTM F 1345-96 (08) GALFAN/GAVINAL FABRIC Aluminum coated fabric. Commonly called “Mischmetal Alloy”.

ASTM F 1379-95 (08) BARBED TAPE (RAZOR RIBBON) TERMINOLOGY

ASTM F 1553-06 GUIDELINE FOR SPECIFYING CHAIN LINK FENCE

ASTM F 1664-08 POLYMER COATED TENSION WIRE. The gage is always the “core wire” gage.

ASTM F 1665-08 POLYMER COATED BARBED WIRE. The gage is always the “core wire” gage.

ASTM F 1712-06 CHAIN LINK MATERIALS FOR HIGH SECURITY APPLICATIONS 4.2 Fabric meshes larger than 1” shall be 6 gage or 9 gage. 1” mesh shall be 9 gage. Smaller than 1” mesh shall be 11 gage. 4.3.2 Tie wires shall be 9 gage.

ASTM F 1908-08 RESIDENTIAL OUTDOOR SWIMMING POOL FENCES This standard is adopted from the U.S. Consumer Product Safety Commission Standard. Local city standards take precedence over these general guidelines, but these should be considered as the minimum. 6.1 Minimum height above grade (as measured from the outside) - 48”.

SPECIFICATIONS

- 6.2 Visibility – at least 65% open area as viewed from the outside supervising area.
- 6.3 Ground clearance – 4” or less.
- 6.4 Solid barriers – masonry walls shall have no indentation or protrusion greater than 3/8”.
- 6.5 Horizontal and vertical members (wood, vinyl and iron fences):
 - If the distance between the tops of the horizontal members is <45” then the vertical space are $\leq 1 \frac{3}{4}$ ”.
 - If the distance between the tops of horizontal members is ≥ 45 ” then the vertical spaces are <4” with no horizontal cutout (decoration) $> 1 \frac{3}{4}$ ”.
- 6.6 Chain link fences – 1 $\frac{1}{4}$ ” mesh. (1 $\frac{3}{4}$ ” across the diagonal measurement).
- 6.7 Diagonal members (lattice) maximum spaces of 1 $\frac{3}{4}$ ”
- 6.8 Access gates.
 - 6.8.1 Double leaf gates must be (key) locked when not in use. Key type padlock is acceptable.
 - 6.8.2 Single leaf gates must open away from the pool and be a self-closing and self-latching. If the latching device is <54” above grade, use $\frac{1}{2}$ ” mesh within 18”
- 6.9.1 Building doors are not part of any fence project.
- 6.9.1.2 Self-latching devices must be 54” above the floor or properly screened and protected.
- 7.2 Clear zone – the fence shall be at least 48” away from any climbable structure.

Additional references have been added in this specification for:

ASTM F 1346 – SAFETY COVERS.
ASTM F 2286 - REMOVABLE MESH FENCE.
ASTM F 2518 – SAFETY AUDITS.

ASTM F 1910-98 (08) LONG BARBED OBSTACLE TAPE (RAZOR RIBBON)

- 7.1 Material Standards are:

Item #	Description
1.	18” Single Coil, Stainless Steel
2.	18” Single Coil, Galvanized Steel
5.	24” Single Coil, Stainless Steel
13.	30” Single Coil, Stainless Steel
21.	24”/30” Double Coil, Stainless Steel
23.	24”/30” GPBTO, Type II.
24.	24” Single Coil, 300 Series Stainless Steel.
25.	30” Single Coil, 300 Series Stainless Steel.

ASTM F 1911-05 INSTALLATION OF BARBED TAPE (RAZOR RIBBON) Much more to read.....

- 7.1 Concertina Security Coils (Table 1) 18” diameter:

Coil Loops/Roll	Spacing	Yield, l.f.
31 - 18” Diameter	12”	15’

- 7.2 Helical Security Coils

Coil Loops/Roll	Spacing	Yield, l.f.
33 - 18” Diameter	18”	50’

- 7.3 **Minimum Height (Warning). 7’ to the bottom of the coil.**

ASTM F 2000-06 FENCES FOR BALLFIELDS AND OTHER SPORTS FACILITIES

- 6.1 Permanent Outfield Fence.
 - 6.1.1 Minimum height is 8’.

SPECIFICATIONS

- 6.1.2 Bottom ground clearance shall be not more than 1 “.
- 6.1.6 Minimum of 2” mesh, 9 gage chain link, knuckle-knuckle.
- 6.7 Backstop Fencing.
- 6.7.3 Center panel no less than 25’ behind home plate. Side panels no less than 25’ from the foul lines.
- 6.7.4 Minimum height 16’.
- 6.8.2 Single leaf access gates shall swing away from the field and be self-closing and self-latching.

- 7.2 Foul line fence – minimum of 10’ from the foul line.
Layout drawings are provided for:
Junior Baseball – 200’ to minimum outfield fence.
Baseball Field – 350’ to minimum outfield fence.
Softball Field – 200’ to minimum outfield fence.
- 7.3 Spectator protective fence – minimum of 8’ high.
- 7.4 Player protective fence – minimum of 6’ high.

FIELD LAYOUT DRAWINGS (Pages 133, 134)

Junior Baseball Field – 200’ minimum to outfield fence.
Baseball Field – 350’ recommended to outfield fence.
Softball Field – 200’ minimum to outfield fence.

ASTM F 2049-09b FENCES FOR COMMERCIAL, PUBLIC AND MULTI-FAMILY PLAY AREAS

- 7.1 If classified as “Continuous Barrier”, fence must withstand a 10,000 lb point load.
 - 7.4 Fences
 - 7.4.1 Height – minimum of 4’ high.
 - 7.4.2 Visibility – must maintain visibility for supervised surveillance.
 - 7.4.3 Ground Clearance – maximum of 4”.
 - 7.4.4 Solid barriers (block walls etc.) no protrusion greater than 3/8”.
 - 7.5 Fence types.
 - 7.5.1 Horizontal and vertical members.
If the distance between the tops of the horizontal rails is less than 45”, they shall be on the outside of the play area, and the vertical members (pickets) spaces shall be no greater than 1 ¾”.
If the tops of the rails are greater than 45” apart, then the spaces between the vertical members shall be no greater than 4”.
 - 7.5.2 Chain link mesh – 1 ¼”.
 - 7.5.3 Lattice – no greater than 1 ¾” in the greatest dimension.
 - 7.6 Access Gates.
 - 7.6.1 Double drive gates shall be padlocked.
 - 7.6.2 Pedestrian gates shall swing outward, with self-closing and self-latching devices. The release mechanism shall be 48” above grade with ½” mesh within 18” of the latch.
 - 7.8 Wall – 4’ high minimum. If fence is above, the bottom gap < 2”
 - 7.9 Picket or Ornamental Fence – same as above.
- Note: Latch height is also specified.
- 8.2 Clear Zone – There must be at least 72” between the fence and any structure that could be

SPECIFICATIONS

- 8.3 Vulnerable Play Zone. Consideration for placement of fences to limit hazards. Potential hazards are: RR tracks, bodies of water, streets, parking lots, electrical equipment et. al. Level I (top priority) where the hazard is less than 30' from the play equipment.
Level II from 30' – 100'.
Level III from 100' – 200'.
- 9.1 Responsibility of property owner, occupant or tenant to maintain the fences and gates, including lock operation.

ASTM F 2453/F2453M – 05 (NEW) WELDED WIRE MESH FABRIC $\leq 6 \text{ in}^2$. IN PANELS OR ROLLS. UNIFORM MESHES.

See Welded and Expanded Metal Mesh Fencing Section – below.

ASTM F 2548-06 (NEW) EXPANDED METAL FENCE SYSTEMS FOR SECURITY PURPOSES.

See Welded and Expanded Metal Mesh Fencing Section – below.

ASTM F 2611-06 DESIGN AND CONSTRUCTION OF CHAIN LINK SECURITY FENCING

6.1 Chain Link Fabric.

6.1.1 Security Chain Link Mesh Configurations

CONSIDERATION

MESH / GAGE

Standard Commercial Industrial

2", 9 ga

Bolt Cutters Required to Breach

2", 6 ga

More Difficult to Climb, More Time to Cut

1 3/4", 9 ga

More Difficult to " ", Bolt Cutters

1 3/4", 6 ga

Increasingly More Difficult to Climb, Cut

1", 11 ga

Increasingly " ", Longer to Cut

1", 9 ga

Eliminates Finger Holes to Climb

5/8", 11 ga

Requires Special Equipment to Cut

1/2", 11 ga

More Time to Cut Through

3/8", 11 ga

6.2.1 Line post selection with wind load considerations per CLMFI – WLG 2445.

6.2.1.1 Terminal posts usually one size larger than line post, except for 6" and 8" line posts.

7.9 Bottom rails can be further secured byread more.

7.12 Anti-Ram Systems.....read more.

Note: Wind Loading is also referenced in CLFMI – WLG 2445.

ASTM F 2630-07 GUIDE FOR SELF-CLOSING, SELF-LATCHING GATES.

5.1 Self-closing – must close from 12" away and 90 degrees.

5.2 Self-latching – must latch from 12" away and 90 degrees.

ASTM F 2631-07 STANDARD PRACTICE FOR INSTALLING CHAIN LINK FENCE FOR OUTDOOR SPORTS FIELDS, COURTS AND RECREATIONAL FACILITIES.

Specs are quite detailed for materials, sizes, heights, field sizes.

Sports included are: soccer, 6 & 8 man football, field hockey, lacrosse, rugby, handball, basketball, racquetball, badminton, volleyball, paddle tennis.

ASTM F 2656 07 STANDARD TEST METHOD FOR VEHICLE CRASH TESTING OF PERIMETER BARRIERS

SPECIFICATIONS

ANTI-RAM SECURITY FENCE CRASH RATINGS:

- K-4 MP30 - 15,000# vehicle, 30 mph, < 36" penetration.
- K-8 MP40 - 15,000# vehicle, 40 mph, < 36" penetration.
- K-12 MP50/P1 - 15,000# vehicle, 50 mph, < 36" penetration.

ASTM F 2698-08 FENCES FOR SKATE PARKS

- 6.1 72" minimum height.
- 6.2 At least 50% visibility required.
- 6.3 2" ground clearance maximum.
- 6.4 Chain link – 2" mesh, 9 gage.
- 6.5 Welded wire mesh 2" X 2"
- 6.6 Ornamental and pick fences.
- 6.10 Access gates.
- 6.11 Grounding.
- 8. Safety and danger warning signs are required.

ASTM F 2699-08 FENCES FOR PUBLIC WATER SPRAY/PLAY AREAS

ASTM F 2780-09 EXPANDED METAL SECURITY FENCES AND BARRIERS

Detailed specifications are referenced, including:

- Crash Testing per ASTM F 2548.
- U.S. Department of Defense – UFC 4-010 Antiterrorism and UFC 4-020 Security Engineering Facilities.
- G.S.A. Site Security Design.
- ASCE – Design Loads – wind.

ASTM F 2781-09 TESTING FORCED ENTRY RESISTANCE FOR SECURITY FENCES

Provides standard methods to test a list of entry tools and time-to-breach various security fences. The threat levels are defined as:

- 1.1.1 Low Threat Level (L)
- 1.1.2 Medium Threat Level (M)
- 1.1.3 Aggressive Threat Level (A)

New report published by CLFMI (9/9/2010) followed this procedure and produced the following summarized results.

- 1. Mesh sizes smaller than 1" significantly increase penetration resistance times.
- 2. 1/2" mesh x 9 GA provides greater penetration resistance than 3/8" mesh x 11 GA.
- 3. 3/8" mesh x 11 GA and 1/2" mesh x 9 GA provide more penetration resistance than expanded metal panel fencing at Low Threat Levels.
- 4. 1/2" mesh x 9 GA provides more penetration resistance at a Low and Medium Threat Level than expanded metal panel fencing.
- 5. Unraveling of security grade chain link wire pickets with the fence under tension was deemed "not a practical means of penetration" during testing due to the excessive time required to pull and pry a wire for 2" x 6 GA fabric and 1" x 9 GA fabric. Unraveling was considered "not doable" for wire sizes of at least 11 GA with mesh sizes less than 1 inch.
- 6. Tunneling resistance increases significantly (11 minutes to 26 minutes) when burying security grade chain link fabric below ground and backfilling with stone and soil.

SPECIFICATIONS

These findings are conclusive and can be used in the specification of security fencing based on anticipated threat levels and security personnel response times. For more information about security grade chain link fence, visit chainlinkinfo.org and see Security Fencing Guidelines.

PENITRATION TEST 4' SQ. (Hole)	3/8" Mesh x 11 Ga	1/2" Mesh x 9 Ga
Low: 1 man, hand tools	L 12.5 minutes.	L 10.9 minutes.
Medium: 2 man, battery operated power tools	M 1.8 minutes.	M 10.9 minutes.
Aggressive: 2 men, gas powered tools	A 7.0 minutes.	A 1.2 minutes.

TEST	2" Mesh x 6 Ga	1" Mesh x 9 Ga	3/8" Mesh x 11 Ga.
Time to unravel	10 minutes	8 minutes	Not breached

TEST	No Buried Fence	Buried Fence
Time to tunnel below grade	11.1 minutes	25.8 minutes

2.0 **REPAIR OF WELDED CHAIN LINK FABRICATIONS** – Repair of pre-galvanized materials after welding.

ASTM A 780 Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings. Uses zinc rich (65% zinc) paint, zinc solder or metalizing.

MIL P-15145 Repair of damaged coatings (galvanized) using a spray-on, zinc oxide dust paint. See the mfr.: "LPS brand Cold Galv." conforms to MIL P-46105, 26915A, and T-26433.

MIL P-21035 Repair of damaged coatings (galvanized). Two coats, same as above.

APWA 206-6.8 Repair of damaged coatings (galvanized) using the "Galv-a-loy" solder process.

S.C. EDISON Repair of damaged coatings (galvanized) using "Galvanox, Type 1", manufactured by Subox, Inc., Koppers Organic Zinc, or SCE approved equal.

LAUSD – Gal-Viz or Galvabar.

3.0 **SECURITY FENCING GUIDELINES - CLMFI**

This guideline, in its entirety can be found at:

<http://codewriters.com/asites/page.cfm?usr=clfma&pageid=887>

To summarize:

SPECIFICATIONS

The various mesh sizes available in the three previously discussed gauges are listed in the order of their penetration resistance/security:

A. Extremely high security	3/8" mesh 11 gauge
B. Very high security	1" mesh 9 gauge
C. High security	1" mesh 11 gauge
D. Greater Industrial security	2" mesh 6 gauge
E. Industrial security	2" mesh 9 gauge
F. Commercial grade security	2" mesh 11 gauge
G. Residential grade	2 ¼" mesh 11 ½ gauge

See **ASTM F 2781-09** above, for additional details.

4.0 ADDITIONAL RELATED SPECIFICATIONS

AASHTO M 181 –95 FEDERAL STATE HIGHWAY FENCE SPECIFICATION.

Note: Grade 2 is for SS-40.

APWA – 600 AMERICAN PUBLIC WORKS SPECIFICATION for chain link fences.

Cal-Trans M-80 CALIFORNIA DEPARTMENT OF TRANSPORTATION SPECIFICATION FOR FENCES.

CLFMI Chain Link Fence Manufacturers Institute – generally uses ASTM standards.

CLFMI – WLG 2445 Selection of Post Spacings with Wind Loading.

I.C.B.O. INL. CONFERENCE OF BUILDING OFFICIALS. Specifications for fasteners among other things.

U.B.C. Uniform Building Code and the CA edition – C.B.C.

F – 162 F.A.A. Specification for chain link fences.

Note that 162-1 is for SS-40.

AFH 32-1084 U.S. Air Force Specification for chain link fences.

U.F.C. 4-022-01	Security Engr. Entry Control Facilities/Access Control Points
-02	Selection and Application of Vehicle Barriers
-03	Fences, Gates and Guard Facilities
4-026-01	Design to Resist Forced Entry

TSA Pub. A-001 U.S. Dept. of Homeland Security, Security Guidelines for General Aviation Airports. May 2004. Very ambiguous, no details.

SPECIFICATIONS

DOD 0-2000.12H Directive for AT/FP Program.

OPNAVINST 5530.14C. Navy Physical Security.

U.F.G.S. High-Security Fence and Gates, section: 32 31 15.53.

MUTCD – Manual on Uniform Traffic Control Devices, Section 2B.68 Gates.

Paragraph 2:

A gate typically features a gate arm that is moved from a vertical to a horizontal position or is rotated in a horizontal plane from parallel to traffic to perpendicular to traffic. Traffic is obstructed and required to stop when the gate arm is placed in a horizontal position perpendicular to traffic.

Another type of gate consists of a segment of fence (usually on rollers) that swings open and closed, or that is retracted to open and then extended to close.

Paragraph 3:

Gates are sometimes used to enforce a required stop. Some examples of such uses are the following:

A. Parking facility entrances and exits,

B. Private community entrances and exits,

C. Military base entrances and exits,

D. Toll plaza lanes,

E. Movable bridges (see Chapter 4J),

F. Automated Flagger Assistance Devices (see Chapter 6E), and

G. Grade crossings (see Part 8).

Paragraph 15:

Except as provided in Paragraph 16, rolling sections of fence, if used, shall include either a horizontal strip of retroreflectorized sheeting on both sides of the fence with vertical stripes alternately red and white at 16-inch intervals measured horizontally to simulate the appearance of a gate arm in the horizontal position, or one or more Type 4 object markers (see Section 2C.66), or both. If a horizontal strip of retroreflectorized sheeting is used, the bottom of the sheeting shall be located 3.5 to 4.5 feet above the roadway surface.

5.0 APWA – STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

“GREEN BOOK” 2009 Edition

Drawing – Standard Plan 600 –2 or 600-0 (Southern California Chapter)

Section 201 – Concrete For fence and guardrail post foundations.

Concrete: 201-1.1.2(A) Specifies Class 500-C-2500.

201-1.4.1 Allows hand mixing where machine mixing is impractical.

201-1.4.4 Hand Mixing is permitted for less than 1 cubic yard. Each batch not to exceed 1/3 cu. yd.

Section 206 – Miscellaneous Metal Items

206-6 Chain Link Fence

206-6.1 Materials – Class 1 or 1A for pipe and references ASTM F 1083

SPECIFICATIONS

206-6.2 Posts, rails, braces and gates.

Fences < 6' high

Terminal and gate posts 2 3/8"

Line posts 1 7/8"

Fences >= 6' high

Terminal and gate posts 2 7/8"

Line posts 2 3/8"

Gate Posts

Single swing gates or double gates (two leaves)

<= 6' wide leaf x 5' h 2 3/8"

<= 6' wide leaf x 6' h 2 7/8"

<= 13' wide leaf 4" schedule 40 or 3 1/2" High Strength (Class 1A)

>13', <= 18' leaf 6 5/8"

> 18' leaf 8 5/8"

Slide gates >6' wide 4" "

Top Rail and Braces 1 5/8"

Gates

Frames 1 7/8"

Interior Braces 1 5/8"

206-6.3 Chain Link Fabric

206-6.3.1 Galvanized - ASTM A 392

5' high – 11 gage

>= 6' high 9 gage

206-6.3.2 PVC Coated

ASTM F668, Class 1 or Class 2.

206-6.4 Tension and Tie Wires.

7 gage Marcellled tension wire.

11 gage galvanized steel or 6 gage aluminum tie wires.

Tension bars 3/16" x 3/4".

206-6.5 Truss or Tension Rods – 3/8" diameter galvanized steel.

206-6.6 Fittings – galvanized steel.

206-6.7 Barb Wire – 4 point galvanized steel, 5" spacing.

206-6.8 Repair of Damaged Coatings – Galvabar or Zinc Dust Paint per below:

Section 210 Paint and Protective Coatings

210-3.5 Repair of Damaged Zinc Coatings

210-3.5.3 Zinc Dust Paint per ASTM A780 – 90% minimum zinc by weight.

210-3.5.4 Zinc Based Solders per ASTM A 780 – minimum 5 mils thickness.

Section 304 Metal Fabrication and Construction

304-3.2 Chain Link Fence

Footings

5' high fence

Line posts 30" deep x 8" diameter

>= 6' high fence

Line posts 36" deep x 8" diameter

All others per plans or 36" deep x 12" diameter, minimum.

SPECIFICATIONS

6.0 FEDERAL SPECS: RR-F-191, AMMEMDED 2008

General – All military specifications include the “By America Act”, requiring all domestic materials. Where schedule 40 pipe is shown, you can substitute SS-40, if available, *unless noted otherwise*.

RR-F-191/1E CHAIN LINK FENCE FABRIC

1.2 Classifications

- Type I – Zinc coated steel. 1.2 oz
 - Type II – Aluminum coated steel
 - Type III – Aluminum alloy
 - Type IV – PVC coated over zinc or aluminum
- Only ASTM F 668, Class 2b qualifies.*

Mesh Sizes

- 1”, 9 and 11 gage.
- 1 ¾”, all gages.
- 2”, all gages.
- 2 1/8”, all gages.

Wire Gages

- 11 gage - .120”
- 9 gage - .148”
- 6 gage - .192”

Fabric Height

- 36”, 42”, 48”, 60”, 72”, 84”, 96”, 120”, and 144”.

3.10 Selvage

- (a) ≤ 60” high, 2” mesh, K-K (knuckle-knuckle)
 - (b) > 60” high, 2’ mesh, T-K (twisted top)
 - (c) All 1” and 1 ¾” mesh, K-K
- Unless specified otherwise.

3.3 Wire diameter is always “core” diameter.

3.7 Type IV. PVC coated. Minimum is .0007”.

6.2 Zinc –coated, 1.2 oz per sq. ft., or 2.0 mils.

RR-F-191/2E CHAIN LINK GATES

1.2 Classifications

- Type I – Single swing.
- Type II – Double swing.
- Type III – Single cantilever sliding or wheel sliding. (Verify gate frame sizes).
- Type IV – Double cantilvever or wheel sliding. “
- Type V – Single overhead sliding.

SPECIFICATIONS

Type VI – Double overhead sliding.

Type VII – Vertical lift.

Type VIII – Special.

3.2.1 Frames can be pregalv with shop cold zinc touchup unless noted otherwise.

3.2.2 Colored gate frames can be shop welded and touch-up with matching spray paint.

3.4 Barb wire top. Extend frames 1', use 3 strands.

RR-F-191/3E CHAIN LINK POSTS, RAILS, FRAMES

1.2 Classifications

Class 1 – steel pipe

Grade A – hot dipped, 1.8 oz.

Grade B – hot dipped or sprayed, .9 oz. Per (3.4.1), it also must be over-coated with clear acrylic or polyester and the inside must also be protected.

Sizes – the wall thickness shown is for “SS-40”. Check plans to verify if “only full-weight” is shown.

SP1 – 1 5/8” x 0.111” wall thickness (“SS 40” or full weight)

SP2 – 1 7/8” x 0.12”

SP3 – 2 3/8” x 0.13”

SP4 – 2 7/8” x 0.16”

SP5 – 4” x 0.226”

SP6 – 6 5/8” x 0.28”

SP7 – 8 5/8” x 0.322”

Other classes are not listed here. They cover square, aluminum, “C” and “H” section posts.

3.0 Requirements

3.1 Zinc coating, unless otherwise noted, all steel material shall be (Grade A) 1.8 oz of zinc, inside and out.

3.4.1 Class 1 steel pipe, grades A and B.

Schedule 40 must conform to ASTM F 1083.

“SS-40” must be 50,000 psi – minimum yield strength (this is standard).

3.5 Posts (Table I)

Post Type	Fabric Heights	Size
Terminal	<= 6 ft	2 3/8”
	> 6 ft	2 7/8”
Line	<= 6 ft	1 7/8”
	>6, <= 8 ft	2 3/8”
	>8 ft	2 7/8”
Gate	Leaf Width	
	<=6 ft	2 7/8”
	<=13 ft	4”
	<=18 ft	6 5/8”
	<=23 ft	8 5/8”

SPECIFICATIONS

3.6 Top rails – see drawings or ordering info.

3.6.2 Braces

If no top rail – must brace gates and terminals.

If ≥ 6 ft high, braces must be included. 5/16" truss rod and tightener.

If > 9 ft high, double braces must be included.

RR-F-191/4E CHAIN LINK FENCE ACCESSORIES

3.2 Zinc coating. All steel items, minimum of 1.2 oz.

3.3 Color. If specified, see previous.

3.4 Pressed steel is allowed.

3.4.4 Wire ties – 15" spacing for line posts. 24" spacing for top rail or for hog-rings. If hog-rings, size \Rightarrow fabric size and material.

3.4.5 Brace and tension bands – 3/4" wide by .1" thk, 15" spacing.

3.4.6 Tension bars

For 1 3/4" and 2" fabric – 3/4" x 3/16".

For 1" mesh, 3/8" x 3/16" or equal cross section ($\geq .0703$ sq. in).

3.4.7 Tension wire must be used if no top rail. Marcellled. Bottom always. 7 gage .177" core dia. 1.2 oz.

4.4.3 Barb arms – must withstand a vertical load on the end of 250#.

GATES

Section 142.3 California Labor Code, 11-22-2007. General Industrial Safety Orders/Horizontal Sliding Gates.

S3324 Horizontal Sliding Gates.

(a) Must be equipped with positive stops or devices that limit the gate travel to the designed fully open and closed positions.

(b) These stops shall be constructed, installed and maintained by a qualified person to resist impact loads in order to safely contain sliding gate components within the designed stop limits.

(c) Employees responsible for operating or inspecting the gates shall be instructed in the safe operation of such gates.

(d) Repairs to gate hardware shall only be performed by a qualified person.

ORNAMENTAL METAL

1.0 GENERAL SPECIFICATIONS

ASTM A 702-89 SPECIFICATION FOR WROUGHT IRON

ASTM F 900-05 COMMERCIAL AND INDUSTRIAL SWING GATES

Post footing – see ASTM F 567.

Automated Vehicle Gates – see ASTM F 2200.

Fabrication:

Gates $\leq 6'$ high – 1 1/2" sq TS frame, 1.84 #/ft, minimum (11 gage).

Gates $> 6'$ high – 2" sq TS frame, 2.52 #/ft, minimum (11 gage).

SPECIFICATIONS

ASTM F 1908-98 RESIDENTIAL OUTDOOR SWIMMING POOL FENCES –See details, above.

ASTM F 2049-09b FENCES FOR COMMERCIAL, PUBLIC AND MULTI-FAMILY PLAY AREAS – See details above in Chain Link.

ASTM F 2408-09 ORNAMENTAL FENCES USING GALVANIZED STEEL PICKETS

5.1 Tubular picket fences shall be galvanized before or after forming by the hot-dip process.

5.1.1 Galvanized after forming – minimum .3 oz/sq. ft. outside, and .3 mils interior.

5.1.2 Materials.

G-90 coating is also acceptable - .9 oz/ft².

Sizes:

Application	Component	Cross Section	Wall thknss.
Residential	Picket	5/8" x 5/8 "	18 ga.
	Rail	1" x 1"	18 ga.
	Post	2" x 2 "	16 ga.
Light Ind. (Comm.)	Picket	3/4" x 3/4 "	16 ga.
	Rail	1 3/8" x 1 1/2"	14 ga.
	Or	1 1/2" x 1 1/2"	
	Post	2 1/2" x 2 1/2 "	14 ga.
Industrial	Picket	1" x 1 "	16 ga.
	Rail	1 3/8" x 1 1/2"	14 ga.
	Or	1 1/2" x 1 1/2"	
	Post	3" x 3 "	12 ga.

Material Coatings

Industrial or Commercial, hot-dip coating minimum .9 oz/sq.ft or G-90.

Residential - minimum .6oz./sq.ft or G-60.

5.2.1 Polyester or epoxy – minimum 3 mils. Polyolefin – 7 mils. PVC – 10 mils.

8.1 Structural testing is also identified. Expensive.

ASTM F 2453/F2453M – 05 (NEW) WELDED WIRE MESH FABRIC ≤ 6 in². IN PANELS OR ROLLS. UNIFORM MESHES.

4.1.1 Type 1 – pregalvanized wire, welded wire mesh.

4.1.2 Type 2 – galvanized after weaving and welding.

4.1.3 Type 3 – 5% zinc aluminum-mischmetal.

4.1.4 Type 4 – uses zinc coated wire.

4.1.5 Polymer coated Type 1 or Type 2.

For mesh made in panels – see Table 1 and for mesh made in rolls – see Table 2.

Table 1 – Mesh in panels.

Vertical Spacing – 1/2" and 2" using 6 1/2 - 11 gage wire.

Horizontal Spacing – 2" and 3".

Table 2 – Mesh in rolls.

Vertical Spacing – 1" through 3" using 6 1/2 - 12 gage wire.

Horizontal Spacing – 1/2" though 2.4".

12. Also specifies testing. Expensive.

SPECIFICATIONS

ASTM F 2548-06 (NEW EXPANDED METAL FENCE SYSTEMS FOR SECURITY PURPOSES.

4.1 Materials must meet ASTM F 1267

4.2.1 Type 1 – Expanded metal mesh.

4.2.2 Type 2 – Expanded and flattened metal mesh.

4.3.1 Class 1 – uncoated.

4.3.2 Class 2 – hot dip zinc coated.

4.3.3 Class 3 – corrosion resisting steel.

Specs include: diamond orientation, gage, panel size, framework, gates, fittings, anti-climb and below grade tunneling prevention and wind load caution.

ASTM F 2598-06 ORNAMENTAL FENCES USING STEEL PICKETS

4.1 Tubular picket fences shall be made from ASTM A 500 or A501 steel with a minimum yield strength of 45,000 psi.

4.2 Organic Coating Materials.

4.2.1 Powder coatings, any of the following:

Polyester or polyester and epoxy – minimum 3 mils.

Polyolefin elastomer – minimum 7 mils.

PVC – minimum 10 mils.

4.2.2 Wet coatings (painted), any of the following, in a two-coat process:

One coat epoxy, polyester or polyurethane primer and,

One coat polyester, polyurethane or acrylic finish, to a minimum combined thickness of 2 mils.

5.1.1 Material Sizes:

Application	Component	Cross Section	Wall thknss.
Residential	Picket	5/8" x 5/8 "	18 ga.
	Rail	1" x 1"	18 ga.
	Post	2" x 2 "	16 ga.
Light Ind. (Comm.)	Picket	3/4" x 3/4 "	16 ga.
	Rail	1 3/8" x 1 1/2"	14 ga.
	Or	1 1/2" x 1 1/2"	
	Post	2 1/2" x 2 1/2 "	14 ga.
Industrial	Picket	1" x 1 "	16 ga.
	Rail	1 3/8" x 1 1/2"	14 ga.
	Or	1 1/2" x 1 1/2"	
	Post	3" x 3 "	12 ga.

7. Structural testing is required – expensive.

ASTM F 2656-07 STANDARD TEST METHOD FOR VEHICLE CRASH TESTING OF PERIMETER BARRIERS

ANTI-RAM SECURITY FENCE CRASH RATINGS:

K-4 MP30 - 15,000# vehicle, 30 mph, < 36" penetration.

K-8 MP40 - 15,000# vehicle, 40 mph, < 36" penetration.

K-12 MP50/P1 – 15,000# vehicle, 50 mph, < 36" penetration.

SPECIFICATIONS

2.0 ADDITIONAL SPECIFICATIONS

Preparation of steel surfaces prior to painting or coating.

SSPC-SP 1 SOLVENT CLEANING OF STEEL SURFACES – Standard shop practice.

SSPC-CP 2 CLEANING WITH HAND TOOLS – additional shop labor required.

SSPC-CP 3 CLEANING WITH POWER TOOLS – additional, greater shop labor required.

SSPC-CP 5 and beyond – outside subcontract cleaning and coating.

3.0 FENCE CRASH RATINGS

SD-STD-02.01 U.S. Department of State, Federal Crash Ratings.

K 4 – 30 mph, 15,000 # vehicle, penetration < 1 meter.

K 8 – 40 mph.

K 12 – 50 mph.

WOOD AND RELATED MATERIALS

ASTM F 537-01 (2007) DESIGN, FABRICATION AND INSTALLATION OF WOOD FENCES

4. Fence Types.

4.2 Type I – Rail fences.

4.3 Type II – Board fences.

4.4 Type III – Picket fences.

4.5 Type IV – Solid panel fences.

5. See Standard Tables 1-8 for materials by species, specifications, grading, classifications.

8. Species of Wood. See Tables 9-11 for general properties comparisons for softwoods and hardwoods.

11.5 Post footings – see Table 14 for hole sizes.

11.6 Metal Posts.

11.7 Fasteners. See Table 15 for type and length.

12. Finishes on wood fences.

ASTM F 1908-98 RESIDENTIAL OUTDOOR SWIMMING POOL FENCES-See above.

PVC FENCES (RIGID POLY VINYL CHLORIDE)

ASTM F 964-09 RIGID POLY (PVC) EXTERIOR PROFILES FOR FENCES AND RAILS
Dimensional, physical, structural and other performance requirements.

ASTM F 1999-00 (06) INSTALLING PVC FENCES

7.1.1 Post holes. Diameter - 4" greater than largest cross-section of the post.

Depth – 24" minimum plus 3" per foot of height over 4'.

7.1.2 Add 6" to depth in frost/freeze zones.

SPECIFICATIONS

WELDED AND EXPANDED WIRE MESH

ASTM F 2453 & 2453 M-06 WELDED WIRE MESH AND COATED MESHES,
For 6" square or less, uniform panels.

- 4.1.1 Type 1 is zinc coated GBW (galvanized before welding).
- 4.1.2 Type 2 is GAW.
- 4.1.3 Type 3 is Zinc-5% coated aluminum mischmetal alloy.
- 4.1.4 Type 4 is zinc coated is GBW, polymer coated.

ASTM F 2548-06 EXPANDED METAL MESH SYSTEM FOR SECURITY PURPOSES.

- 4.2 Type.
- 4.2.1 Type 1 – expanded.
- 4.2.2 Type 2 – expanded and flattened.
- 4.3 Class.
- 4.3.1 Class 1 – uncoated.
- 4.3.2 Class 2 – hot dip coated.
- 4.3.3 Class 3 – corrosion resistant steel.

ALSO SEE CHAIN LINK SPEC SECTION FOR ADDITIONAL DETAILS

AUTOMATION SYSTEMS

1.0 GENERAL SPECIFICATIONS

ASTM F 2200-05 CONSTRUCTION OF AUTOMATED VEHICLE GATES

- 3.3 Class I Gate – residential automated gate for 1-4 single family dwellings.
- 3.4 Class II Gate – for commercial and multi-family housing (5 or more).
- 3.5 Class III Gate – for industrial buildings, not intended for the general public.
- 3.6 Class IV Gate – for guard controlled gates, (visible, manual control only – pushbuttons).
- 4.2 Gates shall be designed and constructed to not fall over more than 45 degrees when detached from the supporting hardware. (Design assumptions – roll gate with ground wheel and roller guide wheels are “gone”. Gate safety post and/or gate hook framework prevents “fall-over” and gate stops prevent gate from going beyond the welded gate stops. “Worst-case scenario” is: gate tries to pivot and fall over in the closed position.
- 4.4 Minimum height for barbed tape is 8’. Per ASTM F 1911-05, the bottom of the coil shall be, at minimum 7’.
- 4.5 Minimum height for barbed wire is 6’ above grade.
- 4.7 No gate latches on automated gates.
- 4.8.6 Bottom gate retainers shall be allowed on Class IV applications.
- 4.9 Gate movement shall not be initiated by gravity when the automatic gate operator is disconnected.
- 4.10 Pedestrian gates shall not be incorporated into a vehicular gate.
- 5.0 Any non-automated gate shall comply with these standards when automated.
- 6. Vehicle Horizontal Slide Gates.
- 6.1 For Class I through III
- 6.1.1 All weight bearing, exposed rollers shall be guarded or covered up to 8’ above grade.

SPECIFICATIONS

- 6.1.2 All exposed openings shall be limited to 2 ¼" up to 48" above grade.
- 6.1.3 All exposed openings shall be limited to 4" above 48" above grade.
- 6.1.4 Gaps shall be as in 6.1.2, above.
- 6.1.5 Positive stops shall be required.
- 6.1.6 Gates shall enter a receiver stop.
- 6.1.6.1 Gates shall be recessed behind the leading edge of the receiver post.
- 7. Vehicle Swing Gates.
- 7.1 For Class I through III
- 7.1.1 No entrapment area allowed between the gate and supporting structure.
- 7.1.1.1 Gaps shall not exceed 4" unless...
- 7.1.1.2 they exceed 16".

UL-325 MINIMUM REQUIREMENTS FOR AUTOMATED VEHICLE GATES

Swing gates: see A-1 Standard Drawing UL-325SW.

Roll gates: see A-1 Standard Drawing UL-325RL.

POST FOOTINGS

ASTM C 33 ROCK (In concrete mix) As standard, we use rock that meets this specification.

ASTM C 150 CEMENT As standard, we use Type II / V Cement for post footings. 2500 psi.

ASTM C1107 M - 08 STANDARD SPECIFICATION FOR PACKAGED DRY, HYDRAULIC-CEMENT GROUT (NONSHRINK)

ASTM C 1600 RAPID HARDENING HYDRAULIC CEMENT

If needed, the mix design for this is ASTM C 928.

"Por Rok" is one of many brand named rapid hardening hydraulic cements.

ASTM F 567-07 FOOTING SIZE For size of post footings, see above details.

APWA "GREEN BOOK" 2009 Edition

Concrete: 201-1.1.2(A) Specifies Class 500-C-2500.

201-1.4.1 Allows hand mixing where machine mixing is impractical.

201-1.4.4 Hand Mixing is permitted for less than 1 cubic yard. Each batch not to exceed 1/3 cu. yd.

***Notice:** This information is subject to change without notice. It is offered without consideration for the exclusive benefit of the customer. Duplication or copying of this information is strictly prohibited.*

PRICING MATRIX

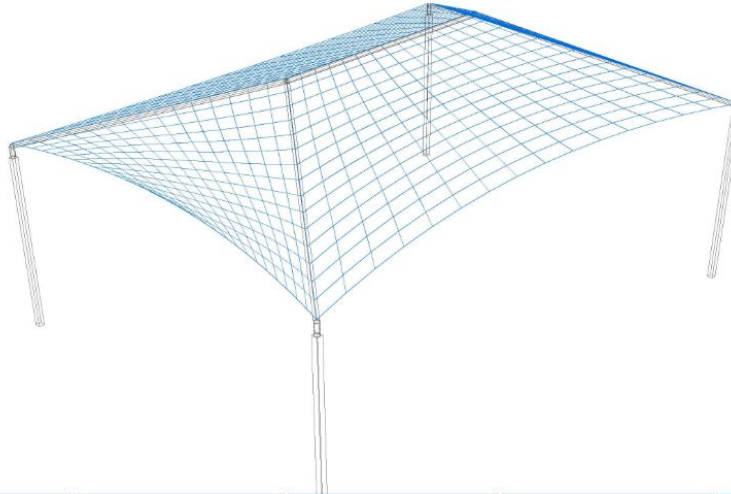
FENCING			
Product Description		UOM	Price
Steel Fencing	2 Rail Flush Steel FB3:D20+B3:D20encing 3' H; 5/8"W Picket, 3 11/16" Picket Spacing, Black, 2"x2" Post with Pressed Cap	Foot	\$95.67
Steel Fencing	2 Rail Flush Steel Fencing 4' H; 5/8"W Picket, 3-11/16" Picket Spacing, Black, 2"x2" Post with Pressed Cap	Foot	\$102.33
Steel Fencing	2 Rail Flush Steel Fencing 5' H; 5/8"W Picket, 3-11/16" Picket Spacing, Black, 2"x2" Post with Pressed Cap	Foot	\$120
Steel Fencing	2 Rail Flush Steel Fencing 6' H; 5/8"W Picket, 3-11/16" Picket Spacing, Black, 2"x2" Post with Pressed Cap	Foot	\$130
Steel Fencing	2 Rail Flush Steel Fencing 8' H; 5/8"W Picket, 3-11/16" Picket Spacing, Black, 2"x2" Post with Pressed Cap	Foot	\$150
Steel Fencing	Gates Self Closing with Panic Bars - Single up to 5' W	Each	\$3,367.67
Steel Fencing	Gates Self Closing with Panic Bars - Double up to 12' W	Each	\$7,757.67
Chain Link Fencing	9GA Chain Link with Top Rail; 3' H, Top Rail, Galvan, Pressed Cap	Foot	\$88
Chain Link Fencing	9GA Chain Link with Top Rail; 4' H, Top Rail, Galvan, Pressed Cap	Foot	\$93
Chain Link Fencing	9GA Chain Link with Top Rail; 5' H, Top Rail, Galvan, Pressed Cap	Foot	\$95.50
Chain Link Fencing	9GA Chain Link with Top Rail; 6' H, Top Rail, Galvan, Pressed Cap	Foot	\$99.50
Chain Link Fencing	9GA Chain Link with Top Rail; 8' H, Top Rail, Galvan, Pressed Cap	Foot	\$135.50
Chain Link Fencing	Gates Self Closing with Panic Bars - Single up to 5' W	Each	\$3,150
Chain Link Fencing	Gates Self Closing with Panic Bars - Double up to 12' W	Each	\$7,789
Chain Link Fencing	Core Drill or Plate on Concrete Add	Foot	\$20
Chain Link Fencing	Core Drill or Plate on Asphalt Add	Foot	\$15
Fencing Application	Removal and Disposal of Existing Fencing	Foot	\$60
Fencing Application	Fence Installation	Foot	\$60

PRICING MATRIX

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HIP

Hip



HIP

One of our most cost-effective and versatile designs, Hip structures are available in sizes from 120 to 1,600 square feet and can be joined to create even larger shaded spaces.

Specifications

		
WIDTH	HEIGHT	DEPTH
10' MIN to 40' MAX	7' MIN to 16' MAX	12' MIN to 40' MAX

- Available length 12' (min) ~ 40' (max), width 10' ~ 40'; entry height 7' ~ 16' (front)
- Base Plate, Recessed Base Plate, and Embed mounting designs
- Shadesure® or Colourshade® FR fabrics available
- Common accessories include logos and fan/light brackets

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SHADE STRUCTURE			
Product Description		UOM	Price
Shade Structure Designs	20'x30' Hip Structure up to 12' H	SF	\$26,795
Shade Structure Designs	25'x25' Hip Structure up to 12' H	SF	\$30,585
Shade Structure Designs	30'x30' Hip Structure up to 12' H	SF	\$32,984
Shade Structure Designs	40'x30' Hip Structure up to 12' H	SF	\$44,185
Shade Structure Designs	18'x18' Single Post Hex up to 12' H	SF	\$24,308
Shade Structure Designs	40'x40' Hip Shade Structure up to 14' H	SF	\$61,384
Ancillary Application	Shade Installation	Unit	\$15,000

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LANDSCAPE			
Product Description		UOM	Price
Replica Plants	Barberry Bush 23"x14"	Each	\$74.80
Replica Plants	Barberry Bush 23"x18"	Each	\$118.50
Replica Plants	Barberry Bush 24"x24"	Each	\$225
Replica Plants	Barberry Bush 36"x21"	Each	\$275.80
Replica Plants	Eucalyptus Bush – Single Stem 18"x10"	Each	\$67.50
Replica Plants	Savannah Grass 40"x18"	Each	\$128.50
Replica Plants	Savannah Grass 40"x22"	Each	\$225.70
Replica Plants	Savannah Grass 40"x28"	Each	\$322.80
Replica Plants	Savannah Grass 46"x32"	Each	\$465.50
Replica Plants	Field Grass 26"x12"	Each	\$67.50
Replica Plants	Field Grass 26"x14"	Each	\$96.50
Replica Plants	Field Grass 28"x18"	Each	\$172.50
Replica Plants	Ribbon Grass 21"x10"	Each	\$47.85
Replica Plants	Ribbon Grass 21"x12"	Each	\$74.80
Replica Plants	Ribbon Grass 21"x16"	Each	\$95.75
Replica Plants	Ribbon Grass – Multi Stem 48"x25"	Each	\$595.70
Replica Plants	Boxwood Ball – Single Stem, 1 Ball 23" Dia 42"x23"	Each	\$1,178.50
Replica Plants	Boxwood Ball – 2 Ball 28" Dia 8'x28"	Each	\$3,195.50

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LANDSCAPE			
Product Description		UOM	Price
Replica Plants	Boxwood Ball – 3 Ball 18", 23", 28" Dia 8'x28"	Each	\$3,450.80
Replica Plants	Boxwood Bush Large Leaf 19"x10"	Each	\$69.20
Replica Plants	Boxwood Bush Large Leaf 26"x15"	Each	\$124.75
Replica Plants	Boxwood Bush – Multi Stem 3'x18"	Each	\$875.80
Ceramic / Glazed / Concrete Pots	Large ceramic painted/glazed pot 36" x 36"	Each	\$1,295.50
Ceramic / Glazed / Concrete Pots	Vase style ceramic painted/glazed pot 30" x 36"	Each	\$1,195.50
Ceramic / Glazed / Concrete Pots	Ceramic painted/glazed pot 30" x 30"	Each	\$1,165.50
Ceramic / Glazed / Concrete Pots	Ceramic painted/glazed pot 27" x 25"	Each	\$1,140.50
Ceramic / Glazed / Concrete Pots	Ceramic painted/glazed pot 20" x 25"	Each	\$1,114.50
Ceramic / Glazed / Concrete Pots	Large concrete stained pot 36" x 36"	Each	\$1,195.50
Ceramic / Glazed / Concrete Pots	Vase style concrete stained pot 30" x 36"	Each	\$1,165.50
Ceramic / Glazed / Concrete Pots	Concrete Stained pot 30" x 30"	Each	\$1,140.50
Ceramic / Glazed / Concrete Pots	Concrete Stained pot 27" x 25"	Each	\$1,114.50
Ceramic / Glazed / Concrete Pots	Concrete Stained pot 20" x 25"	Each	\$1,195.50
Rocks and Boulders	Mountain	Per Pound	\$0.77
Rocks and Boulders	Jesse Red	Per Pound	\$0.70
Rocks and Boulders	Arizona Slabs	Per Pound	\$0.70
Rocks and Boulders	Cherokee Red Boulders	Per Pound	\$0.70

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LANDSCAPE			
Product Description		UOM	Price
Rocks and Boulders	Palm Springs Gold	Per Pound	\$0.85
Rocks and Boulders	Yosemite	Per Pound	\$0.85
Playground/Landscape Turf	Heavy Use: Specification #1	SF	\$3.75
Playground/Landscape Turf	Heavy Use: Specification #2	SF	\$3.85
Playground/Landscape Turf	Heavy Use: Specification #3	SF	\$3.85
Playground/Landscape Turf	Heavy Use: Specification #4	SF	\$3.85
Playground/Landscape Turf	Heavy Use: Specification #5	SF	\$3.55
Playground/Landscape Turf	Heavy Use: Specification #6	SF	\$4.95
Playground/Landscape Turf	Heavy – Moderate Use: Specification #7	SF	\$3.95
Playground/Landscape Turf	Moderate – Light Use: Specification #8	SF	\$4.25
Playground/Landscape Turf	Moderate – Light Use: Specification #9	SF	\$4.50
Playground/Landscape Turf	Moderate – Light Use: Specification #10	SF	\$3.25
Playground/Landscape Turf	Natural 48- 48oz, 1.5" ht, 3/8" gauge: Specification #11	SF	\$3.25
Playground/Landscape Turf	Natural 60- 62oz, 1.75" ht, 3/8" gauge: Specification #12	SF	\$4.20
Playground/Landscape Turf	Natural 75- 80oz, 1.75" ht, 3/8" gauge: Specification #13	SF	\$4.90
Playground/Landscape Turf	Fresh 48- 50oz, 1.5" ht, 3/8" gauge: Specification #14	SF	\$3.25
Playground/Landscape Turf	Fresh 60- 62oz, 1.75" ht, 3/8" gauge: Specification #15	SF	\$3.95
Playground/Landscape Turf	Fresh 75- 80oz, 1.75" ht, 3/8" gauge: Specification #16	SF	\$4.35

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LANDSCAPE			
Product Description		UOM	Price
Playground/Landscape Turf	Multi-Play Sport- 60oz, 1.0" ht, 1/5" gauge: Specification #17	SF	\$4.25
Playground/Landscape Turf	Active (ST45)- 55oz, 1.75" ht, 1/2" gauge: Specification #18	SF	\$3.40
Airport Synthetic Turf	Special Use: Specification #19	SF	\$4.50
Ancillary Application	Synthetic Plants Placement and application	Each	\$750
Ancillary Application	Boulder Placement	Each	\$2,500
Ancillary Application	Application of Synthetic Turf - Landscape	SF	\$3.50
Ancillary Application	Application of Synthetic Turf - Playground	SF	\$3.50
Ancillary Application	Earthwork and Substrate Preparation	Foot	\$4.50

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ARTIFICIAL TURF AND SPORTS TRACK			
Product Description		UOM	Price
Golf	Rooftop / Heavy Use: Specification #20	SF	\$4.75
Golf	Putting / Heavy Use: Specification #21	SF	\$5.50
Golf	Tee Box / Heavy Use: Specification #22	SF	\$16.75
Golf	Putting Impact Pad / Standard Use: Specification #23	SF	\$2.55
Heavy Duty Specialty Turf/ Sports	TLS Activity: Specification #24	SF	\$4.25
Heavy Duty Specialty Turf/ Sports	TLS1 Activity: Specification #25	SF	\$4.25
Heavy Duty Specialty Turf/ Sports	TLS2 Activity: Specification #26	SF	\$5.50
Heavy Duty Specialty Turf/ Sports	Monofilament- 42oz, 2.375" ht, 1/2" gauge: Specification #27	SF	\$2.95
Heavy Duty Specialty Turf/ Sports	Fibrillated- 44oz, 2.375" ht, 1/2" gauge: Specification #28	SF	\$2.97
Heavy Duty Specialty Turf/ Sports	Blend- 44oz, 2.375" ht, 1/2" gauge: Specification #29	SF	\$2.97
Heavy Duty Specialty Turf/ Sports	Custom Manufactured Turf- Sport fiber, 1/2" gauge, Sport/Olive	SF	\$6.75
Drainage Tiles	24x24 Underlayment: Specification #30	SF	\$3.25
Drainage Tiles	Customized Base Tiles 28x28 Spec #31	SF	\$3.50
Infill Materials	Envirofill Specification #34	Per Pound	\$0.75
Infill Materials	TPE- Thermoplastic Elastomer Infill Specification #35	Per Pound	\$2.35
Infill Materials	Cal Silica 12/20 Green/Black Sand	Per Pound	\$0.70
Infill Materials	Natural Mesh 20 Silica Sand	Per Pound	\$0.40
Infill Materials	Zeo Fill Specification #36	Per Pound	\$0.65

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ARTIFICIAL TURF AND SPORTS TRACK			
Product Description		UOM	Price
Construction Glues	PL Premium Adhesive: Specification #37	Per Cartridge	\$31.75
Construction Glues	Synthetic Turf Adhesive: Specification #38	Per Gallon Pail	\$185.50
Line Inset Material for Synthetic Grass	Heavy to Moderate: See Specification #5	SF	\$14.40
Turf Infill	Organic semi round sand	Per Pound	\$0.95
Turf Infill	Acrylic coated sand	Per Pound	\$1.65
Turf Infill	Antimicrobial infill	Per Pound	\$2.15
Turf Infill	Cryogenic rubber and silica sand	Per Pound	\$1.45
Turf Infill	Cork infill	Per Pound	\$1.37
Turf Infill	Rubber infill	Per Pound	\$1.37
Turf Infill	Composite Nailer Board 2x4x20	Per LF	\$3.65
Seam Stitching	Seam Stitching	Per LF	\$90.95
Seam Stitching	6" Seam Tape	Per LF Roll	\$128.75
Seam Stitching	12" Seam Tape	Per LF Roll	\$189.75
Sports Tracks	New Tracks 13mm in depth Red	Per SY	\$52.50
Sports Tracks	New Tracks 13mm in depth Black	Per SY	\$37.30
Sports Tracks	New Tracks 15mm in depth Red	Per SY	\$79.70
Sports Tracks	New Tracks 15mm in depth Black	Per SY	\$86.50
Sports Tracks	Re-top of old tracks 7mm in new depth Red	Per SY	\$102.25










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ARTIFICIAL TURF AND SPORTS TRACK			
Product Description		UOM	Price
Sports Tracks	Re-top of old tracks 7mm in new depth Black	Per SY	\$89.80
Sports Tracks	Spray Coat with .5-1.5mm rubber Red	One Each	\$76,250
Sports Tracks	Spray Coat with .5-1.5mm rubber Black	One Each	\$76,250
Sports Tracks	Spray Coat with .5-1.5mm rubber (2 Layer's) Red	2 Layers	\$85,750
Sports Tracks	Spray Coat with .5-1.5mm rubber (2 Layer's) Black	2 Layers	\$85,750
Sports Tracks	Spray Coat Binder only (any color)	One Each	\$56,250
Sports Tracks	Painting/ Re-Painting (High School)	One Each	\$8,1750
Sports Tracks	Painting/ Re-Painting (College)	One Each	\$9,590
Ancillary Application	New Tracks 13mm in depth	SY	\$86.60
Ancillary Application	New Tracks 15mm in depth	SY	\$95.60
Ancillary Application	Re-top of old tracks 7mm in depth	SY	\$62.50












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DISINFECTANT CHEMISTRY






SPECIFICATIONS

SKU	MFG SKU	UPC Code	PRODUCT NAME	UOM	CASE COUNT	MAIN CATEGORY	Short Description	Long Description	Comments
SD-102	SD-102	00852001007010	SD Labs SD Pro, 1 GL	EA	1	(1)Disinfectants General / Multipurpose Restroom Sanitation	(2) SD Pro Surface Coating Provides Continuous Control of Bacteria, Mold and Algae for Up To 1 Year. 1 GL.	<ul style="list-style-type: none"> • 1 Gallon OEM Version of SD Pro Product. • Creates a Self-Cleaning Surface Coating that Lasts for Up to 1 Year Per Application. • Controls Mold, Fungi, Algae and Bacteria that Can Cause Stains, Odors or Surface Damage. • Non-Leaching Technology that Will Not Wash Off a Surface. • Estimated Coverage: 3,750 Square Feet of Surface Area Per Gallon. • Applied with SD Labs Approved Electrostatic Spray Devices and SD Labs EST-200 Sprayer. • SD Pro is Classified as a Treated Article Under US EPA FIFRA Regulations. • Dries in 1 Hour After Application at 70° F Room Temperature and 30% Relative Humidity • Safety Data Sheet: http://www.globalshieldolutions.com/v/vspfiles/PDFs/SDS%20SD%20Pro.pdf • SD Pro Application Video: https://www.youtube.com/watch?v=X80hokdDN60 	
SD-105	SD-105	NA	SD Labs SD Pro, 1 GL, 4/Case	CS	4	(1)Disinfectants General / Multipurpose Restroom Sanitation	(2) SD Pro Surface Coating. Provides Continuous Control of Bacteria, Mold and Algae for Up To 1 Year. (4) 1 GL/Case.	<ul style="list-style-type: none"> • (4) 1 Gallon Units of SD Pro Product. • Creates a Self-Cleaning Surface Coating that Lasts for Up to 1 Year Per Application. • Controls Mold, Fungi, Algae and Bacteria that Can Cause Stains, Odors or Surface Damage. • Non-Leaching Technology that Will Not Wash Off a Surface. • Estimated Coverage: 3,750 Square Feet of Surface Area Per Gallon. • Applied SD Labs Approved Electrostatic Spray Devices and SD Labs EST-200 Sprayer. • SD Pro is Classified as a Treated Article Under US EPA FIFRA Regulations. • Dries in 1 Hour After Application at 70° F Room Temperature and 30% Relative Humidity • Safety Data Sheet: http://www.globalshieldolutions.com/v/vspfiles/PDFs/SDS%20SD%20Pro.pdf • SD Pro Application Video: https://www.youtube.com/watch?v=X80hokdDN60 	
SD-100	SD-100	00852001007003	SD Labs , SD Pro, 5 GL,	EA	1	(1)Disinfectants General / Multipurpose Restroom Sanitation	(2) Jan-Pro EnviroShield Endure Surface Coating. Provides Continuous Control of Bacteria, Mold and Algae for Up To 1 Year. 5 GL.	<ul style="list-style-type: none"> • 5 Gallon OEM Version of Jan-Pro ENDURE Product. • Creates a Self-Cleaning Surface Coating that Lasts for Up to 1 Year Per Application. • Controls Mold, Fungi, Algae and Bacteria that Can Cause Stains, Odors or Surface Damage. • Non-Leaching Technology that Will Not Wash Off a Surface. • Estimated Coverage: 3,750 Square Feet of Surface Area Per Gallon. • Part of Jan-Pro EnviroShield ENDURE Program. • Applied with Jan-Pro or SD Labs Approved Electrostatic Spray Devices and SD Labs EST-200 Sprayer. • SD Pro (EnviroShield ENDURE) is Classified as a Treated Article Under US EPA FIFRA Regulations. • Dries in 1 Hour After Application at 70° F Room Temperature and 30% Relative Humidity • Safety Data Sheet: http://www.globalshieldolutions.com/v/vspfiles/PDFs/SDS%20SD%20Pro.pdf • SD Pro Application Video: https://www.youtube.com/watch?v=X80hokdDN60 	
SD-001	SD-001	NA	SD Labs SD ST Surface Coating, 32 OZ Bottle, 12/CS	CS	12	(1)Disinfectants General / Multipurpose Restroom Sanitation	(2) SD Labs SD-ST Ready To Use Surface Coating. Controls Bacteria, Mold and Algae for Up To 90 Days. (12) 32 OZ Bottles.	<ul style="list-style-type: none"> • SD Labs SD ST- Short Term Surface Coating in Convenient 32 OZ Trigger Sprayer. Case of 12 Bottles. • Creates a Self-Cleaning Surface Coating that Lasts for Up to 90 Days Per Application. • Controls Mold, Fungi, Algae and Bacteria that Can Cause Stains, Odors or Surface Damage. • Non-Leaching Technology that Will Not Wash Off a Surface. • SD ST is Classified as a Treated Article Under US EPA FIFRA Regulations. • Dries in 15 Minutes After Application at 70° F Room Temperature and 30% Relative Humidity • Safety Data Sheet http://www.globalshieldolutions.com/v/vspfiles/PDFs/SDS%20SD-ST.pdf • SD ST Application Instructions: http://www.globalshieldolutions.com/v/vspfiles/PDFs/SPInstru.pdf 	
SD-3001	SD-3001	N/A	SD Labs EST-200 Battery Operated Electrostatic Sprayer Kit	KIT	1	(1)Disinfectants General / Multipurpose Restroom Sanitation	(2) 16.8 Volt Professional Grade Battery Operated Electrostatic Sprayer	<ul style="list-style-type: none"> • Reduce your chemical costs, increase your performance and save on labor by using this convenient hand held electrostatic sprayer to apply water based products including SD Labs SD Pro, SD-ST and SD Sport. The EST-200 enables the user to provide faster and more complete chemical coverage while reducing product consumption by up to 70% compared to trigger and pump style sprayers. The EST-200 is the perfect tool for the cordless application of disinfectants, mold remediation products, cleaners, pesticides, fertilizers, decontamination chemicals and any water soluble products. Put one on every vehicle, maid cart, service cart, janitorial carts and begin saving on labor and product costs immediately. Don't forget to order a spare battery to eliminate down time between recharges. • Professional Grade Battery Operated Electrostatic Sprayer Kit. • 33.8 OZ Reservoir • 16.8 Volt Lithium Ion Battery and Charging System. 120/220 VAC 50/60 HZ. • Adjustable Nozzle 50-120 Micron Droplet Size • Charge ON/OFF Switch • Headlight • Ergonomic Handle • Kit Includes Sprayer, Battery, Charger, Nozzle Adjustment Tool, Hard Shell Carrying Case with Foam Insert. • Sprayer Weight: 3.9 LB Not Including Reservoir. 	
SD-3002	SD-3002	N/A	SD Labs EST-200 Spare Li Battery	EA	1	(1)Disinfectants General / Multipurpose Restroom Sanitation	(2) Spare Lithium Ion Battery for SD Labs EST-200	<ul style="list-style-type: none"> • 16.8 Volt Lithium Ion Spare/Replacement Battery for SD Labs EST-200 Battery Operated Sprayer. 	
SD-3003	SD-3003	N/A	SD Labs EST-200 Spare Battery Charger	EA	1	(1)Disinfectants General / Multipurpose Restroom Sanitation	(2) Spare 16.8 Volt Lithium Ion Battery Charger for SD EST-200	<ul style="list-style-type: none"> • 16.8 Volt Lithium Ion Battery Charger for SD Labs EST-200 Professional Grade Sprayer. 120/220 VAC 50/60 HZ Input. 	
SD-3004	SD-3004	N/A	SD Labs EST 200 Replacement Tank	EA	1	(1)Disinfectants General / Multipurpose Restroom Sanitation	(2) Replacement Liquid Reservoir for SD-200 EST Sprayer	<ul style="list-style-type: none"> • 33.8 OZ Replacement Reservoir for SD Labs EST-200 Professional Grade Sprayer. 	
SD-001	SD-001	NA	SD Labs SD ST Surface Coating, 32 OZ Bottle, 12/CS	CS	12	(1)Disinfectants General / Multipurpose Restroom Sanitation	(2) SD Labs SD-ST Ready To Use Surface Coating. Controls Bacteria, Mold and Algae for Up To 90 Days. (12) 32 OZ Bottles.	<ul style="list-style-type: none"> • SD Labs SD ST Surface Coating in Convenient 32 OZ Trigger Sprayer. Case of 12 Bottles. • Creates a Self-Cleaning Surface Coating that Lasts for Up to 90 Days Per Application. • Controls Mold, Fungi, Algae and Bacteria that Can Cause Stains, Odors or Surface Damage. • Non-Leaching Technology that Will Not Wash Off a Surface. • SD ST is Classified as a Treated Article Under US EPA FIFRA Regulations. • Dries in 15 Minutes After Application at 70° F Room Temperature and 30% Relative Humidity. • Safety Data Sheet http://www.globalshieldolutions.com/v/vspfiles/PDFs/SDS%20SD-ST.pdf • SD ST Application Instructions: http://www.globalshieldolutions.com/v/vspfiles/PDFs/SPInstru.pdf 	

SPECIFICATIONS

SKU	MFG SKU	UPC Code	PRODUCT NAME	UOM	CASE COUNT	MAIN CATEGORY	Short Description	Long Description	Comments
SD-208	SD-208	00852001007089	SD Labs SD Sport Surface Coating, 32 OZ	EA	1	(1)Disinfectants General / Multipurpose Restroom Sanitation	(2) SD Labs Ready to Use Surface Coating Specially Formulated for Athletic Use. 32 OZ Bottle.	<ul style="list-style-type: none"> SD Labs SD Sport Surface Coating in Convenient 32 OZ Trigger Sprayer. Specially Formulated to Prevent Odors on Sporting and Athletic Equipment, in Footwear and for Outdoor or High Humidity Areas. Creates a Self-Cleaning Surface Coating that Lasts for Up to 90 Days Per Application. Controls Mold, Fungi, Algae, Mildew and Bacteria that Can Cause Stains, Odors or Surface Damage. Non-Leaching Technology that Will Not Wash Off a Surface. Lint Free Microfiber Towels have SD Labs Logo Imprinted. SD Sport is Classified as a Treated Article Under US EPA FIFRA Regulations. Dries in 15 Minutes After Application at 70° F Room Temperature and 30% Relative Humidity. Safety Data Sheet: http://www.globalshieldolutions.com/vsfiles/PDFs/SDSport.pdf SD Sport Application Instructions: http://www.globalshieldolutions.com/vsfiles/PDFs/SPInstru.pdf 	
SD-207	SD-207	NA	SD Labs SD Sport Surface Coating, 32 OZ Bottles, 12/CS	CS	1	(1)Disinfectants General / Multipurpose Restroom Sanitation	(2) SD Labs Ready to Use Surface Coating Specially Formulated for Athletic Use. (12) 32 OZ Bottles.	<ul style="list-style-type: none"> SD Labs SD Sport Surface Coating in Convenient 32 OZ Trigger Sprayer. Case of 12. Specially Formulated to Prevent Odors on Sporting and Athletic Equipment, in Footwear and for Outdoor or High Humidity Areas. Creates a Self-Cleaning Surface Coating that Lasts for Up to 90 Days Per Application. Controls Mold, Fungi, Algae, Mildew and Bacteria that Can Cause Stains, Odors or Surface Damage. Non-Leaching Technology that Will Not Wash Off a Surface. SD Sport is Classified as a Treated Article Under US EPA FIFRA Regulations. Dries in 15 Minutes After Application at 70° F Room Temperature and 30% Relative Humidity Safety Data Sheet: http://www.globalshieldolutions.com/vsfiles/PDFs/SDSport.pdf SD Sport Application Instructions: http://www.globalshieldolutions.com/vsfiles/PDFs/SPInstru.pdf 	
SD-001	SD-001	NA	SD Labs SD ST Surface Coating, 32 Oz Bottles, 12/CS	CS	12	(1)Disinfectants General / Multipurpose Restroom Sanitation	(2) SD Labs SD-ST Ready To Use Surface Coating. Controls Bacteria, Mold and Algae for Up To 90 Days. (12) 32 OZ Bottles.	<ul style="list-style-type: none"> SD Labs SD ST Surface Coating in Convenient 32 OZ Trigger Sprayer. Case of 12 Bottles. Creates a Self-Cleaning Surface Coating that Lasts for Up to 90 Days Per Application. Controls Mold, Fungi, Algae and Bacteria that Can Cause Stains, Odors or Surface Damage. Non-Leaching Technology that Will Not Wash Off a Surface. SD ST is Classified as a Treated Article Under US EPA FIFRA Regulations. Dries in 15 Minutes After Application at 70° F Room Temperature and 30% Relative Humidity. Safety Data Sheet: http://www.globalshieldolutions.com/vsfiles/PDFs/SDST.pdf SD ST Application Instructions: http://www.globalshieldolutions.com/vsfiles/PDFs/SPInstru.pdf 	
SD-207	SD-207	NA	SD Labs SD Sport Surface Coating, 32 Oz Bottles, 12/CS	CS	12	(1)Disinfectants General / Multipurpose Restroom Sanitation	(2) SD Labs Ready to Use Surface Coating Specially Formulated for Athletic Use. (12) 32 OZ Bottles/Case	<ul style="list-style-type: none"> SD Labs SD Sport Surface Coating in Convenient 32 OZ Trigger Sprayer. Case of 12 Bottles. Specially Formulated to Prevent Odors on Sporting and Athletic Equipment, in Footwear and for Outdoor or High Humidity Areas. Creates a Self-Cleaning Surface Coating that Lasts for Up to 90 Days Per Application. Controls Mold, Fungi, Algae, Mildew and Bacteria that Can Cause Stains, Odors or Surface Damage. Non-Leaching Technology that Will Not Wash Off a Surface. Lint Free Microfiber Towels have SD Labs Logo Imprinted. SD Sport is Classified as a Treated Article Under US EPA FIFRA Regulations Dries in 15 Minutes After Application at 70° F Room Temperature and 30% Relative Humidity. Safety Data Sheet: http://www.globalshieldolutions.com/vsfiles/PDFs/SDSport.pdf SD Sport Application Instructions: http://www.globalshieldolutions.com/vsfiles/PDFs/SPInstru.pdf 	
SD-005	SD-005	00852001007140	SD Labs SD ST Surface Coating, 5 GL	EA	1	(1)Disinfectants General / Multipurpose Restroom Sanitation	(2) SD Labs SD-ST Ready To Use Surface Coating. Controls Bacteria, Mold and Algae for Up To 90 Days. 5 GL Container.	<ul style="list-style-type: none"> SD Labs SD ST Surface Coating in 5 GL Container. Creates a Self-Cleaning Surface Coating that Lasts for Up to 90 Days Per Application. Controls Mold, Fungi, Algae and Bacteria that Can Cause Stains, Odors or Surface Damage. Non-Leaching Technology that Will Not Wash Off a Surface. Can Be Applied via Trigger, Pump or Electrostatic Sprayer. Compatible with SD Labs EST-200 Professional Grade Sprayer and SD Labs 120 VAC Powered Backpack System SD ST is Classified as a Treated Article Under US EPA FIFRA Regulations Dries in 15 Minutes After Application at 70° F Room Temperature and 30% Relative Humidity Safety Data Sheet: http://www.globalshieldolutions.com/vsfiles/PDFs/SDST.pdf SD ST Application Instructions: http://www.globalshieldolutions.com/vsfiles/PDFs/SPInstru.pdf 	
SD-900	SD-900	NA	SD Labs Independent Applicator Package	PK	Lot	(1)Disinfectants General / Multipurpose Restroom Sanitation	(2) SD Labs Independent Applicator Package. Create Your Own Business Opportunities by Commercially Applying SD Labs Products.	<ul style="list-style-type: none"> Create your Own Business by Partnering with Cleaning Supply Mart and SD Labs to Selling and Apply GSS and SD Labs' Products and Services. Supplement Your Current Business by Adding SD Labs' Solutions to Your Current Offering. SD Labs Independent Applicator Package Includes Equipment, Training, Marketing Materials, Starter Product and Support to Enable Your Success. Product and Equipment Orders Fulfilled by Cleaning Supply Mart. 2-3 Days of Training Provided at SD Labs Facility in Denton, TX. Price Excludes Travel, Accommodations, Shipping and Sales Taxes. Offer Subject to Approval of Independent Applicator by SD Labs and Global Shield Solutions, LLC. SD Labs Reserves the Right to Reject Any Applicant for this Program at Their Sole Discretion. This is not a Franchise Offering. 	 Join Our Team and Become an Independent Applicator  
SD-510	SD-510	00852001007478	SD Labs Graffiti Clean, 1 GL	EA		(1)Disinfectants General / Multipurpose Restroom Sanitation	(2) SD Labs Biodegradable Graffiti Removal Gel, 1 GL.	<ul style="list-style-type: none"> Citrus Based Biodegradable Gel Removes Most Inks, Spray Paints and Markers Without Harming Underlying Surface. 1 GL Container. Complements SD Labs EnduraGuard AG 41 Line of Anti-Graffiti Coatings. Gel Form Prevents Running of Product and Need for Spill Containment. Ready to Use Product – Spray, Allow to Penetrate for 1 Minute and Wipe. Can Effectively Remove Bugs, Tar and Grease from Vehicles and HVAC Equipment Used by Public Transportation Systems, Subways, Schools, Hotels, Retail Chains Safety Data Sheet: http://www.globalshieldolutions.com/vsfiles/PDFs/SDS%20GraffitiClean.pdf 	
SD-501	SD-501	00852001007829 / 00852001007843	SD Labs EnduraGuard AG 41 Clear, Anti Graffiti Coating, 1 GL Kit.	KIT	1	(1)Disinfectants General / Multipurpose Restroom Sanitation	(2) SD Labs Silane Based Anti-Graffiti/Anti-Corrosion Coating. 1 GL Kit, Clear.	<ul style="list-style-type: none"> Two Part, Epoxy Based, High Gloss, Graffiti, Weather and Corrosion Resistant Coating: CLEAR 1 GL Kit Embodies the Characteristics of a High Performance Epoxy and Acrylic Polyurethane in One Coat. Can be Applied via Brush, Roller or Sprayer. 500 to 600 Sq. Ft Per GL Coverage On Smooth Non-Porous Surfaces. Provides Resistance to Acids, Corrosion, Humidity, Chemical Splash, Inks, Paint and Many Other Products. Available in Custom Colors, Clear to Protect Existing Surfaces or White to Cover Up Existing Graffiti. EnduraGuard AG provides years of protection from graffiti and environmental issues. Non-Sacrificial, Chip Resistant Formula. All Weather, UV Stabilized Protection. Self Levelling for Ease of Use Two Part Formula Includes Base and Resin Safety Data Sheets: Base and Resin: http://www.globalshieldolutions.com/vsfiles/PDFs/SDS%20EnduraGuard.pdf EnduraGuard Technical Application Information: http://www.globalshieldolutions.com/vsfiles/PDFs/EG411.pdf 	
SD-500	SD-500	00852001007805 / 00852001007843	SD Labs EnduraGuard AG 41 White Anti Graffiti Coating, 1 GL Kit	KIT	1	(1)Disinfectants General / Multipurpose Restroom Sanitation	(2) SD Labs Silane Based Anti-Graffiti/Anti-Corrosion Coating. 1 GL Kit, White.	<ul style="list-style-type: none"> Two Part, Epoxy Based, High Gloss, Graffiti, Weather and Corrosion Resistant Coating in WHITE to Cover Up Existing Graffiti. Embodies the Characteristics of a High Performance Epoxy and Acrylic Polyurethane in One Coat. Can be Applied via Brush, Roller or Sprayer. Provides Resistance to Acids, Corrosion, Humidity, Chemical Splash, Inks, Paint and Many Other Products. Available in Custom Colors, Clear to Protect Existing Surfaces or White to Cover Up Existing Graffiti. 500 to 600 Square Foot Per GL Coverage On Smooth Non-Porous Surfaces. EnduraGuard AG 41 Provides Years of Protection from Graffiti and Environmental issues. Non-Sacrificial, Chip Resistant Formula. All Weather, UV Stabilized Protection. Self Levelling for Ease of Use. Two Part Formula Includes Base and Resin. Safety Data Sheets Base and Resin: http://www.globalshieldolutions.com/vsfiles/PDFs/SDS%20EnduraGuard.pdf EnduraGuard Technical Application Information: http://www.globalshieldolutions.com/vsfiles/PDFs/EG411.pdf 	

SPECIFICATIONS

SKU	MFG SKU	UPC Code	PRODUCT NAME	UOM	CASE COUNT	MAIN CATEGORY	Short Description	Long Description	Comments
SD-505	SD-505		SD Labs EnduraGuard AG 41 Anti Graffiti Coating, 5 GL Kit Custom Color	KIT	1	(1)Disinfectants General / Multipurpose Restroom Sanitation (2) (3)	SD Labs Silane Based Anti-Graffiti/Anti-Corrosion Coating, 5 GL Kit, Custom Color.	<ul style="list-style-type: none"> • Two Part, epoxy based, trigger device, Granitic, weather and Corrosion Resistant Coating in Custom Color. • Embodies the Characteristics of a High Performance Epoxy and Acrylic Polyurethane in One Coat. • CUSTOM COLOR Requires 5 GL Minimum Order. • Can be Applied via Brush, Roller or Sprayer. • Provides Resistance to Acid, Corrosion, Humidity, Chemical Splash, Inks, Paint and Many Other Products. • Available in Custom Colors, Clear to Protect Existing Surfaces or White to Cover Up Existing Graffiti. • 500 to 600 Square Foot Per GL Coverage On Smooth Non-Porous Surfaces. • EnduraGuard AG41 Provides Years of Protection from Graffiti and Environmental Issues. • Non-Sacrificial, Chip Resistant Formula. 	
	SD-2001		SD Labs Electrolyzed Water Station: Counter Mount, 6 GL Per Hour	EA	1	(1)Disinfectants General / Multipurpose Restroom Sanitation (2) (3)	SD Labs Electrolyzed Water Station, 6 GPH. Produce Powerful Non-Toxic Disinfectants and Cleaning/Degreasing Products on Site.	<p>Make the shift from toxic cleaners, degreaser and disinfectants to Electrolyzed Water systems by SD Labs. In partnership with the industry leader of patented, salt free electrolyzed water production equipment, SD Labs can help you produce your own powerful, yet non-toxic, cleaners and disinfectants on your site for less than a penny a gallon. The SD Labs E ± Water station produces both sodium hydroxide (NaOH), a non-toxic cleaner/degreaser, and hypochlorous acid (HOCl), a non-toxic disinfectant that is 80 times more powerful than bleach. Both solutions are produced on demand at pH levels and chemical concentrations where the products are extremely effective in their ability to clean all surfaces and quickly kill microorganisms on surfaces and food, yet require no personal protection equipment for the applicator. The patented equipment leaves behind no salt residue like other systems and as such, can be used on glass, granite, mirrors and other surfaces without concern for spotting, corrosion or rinsing. SD Labs E ± Water systems are manufactured in the United States in an EPA registered facility. The liquid solutions produced by the devices are cleared for use by the EPA, FDA and USDA.</p> <p>The Mini E ± Water System is a compact counter or wall mounted unit that can produce 6 gallons per hour of both NaOH and HOCl. The unit easily connects to your domestic water system and breaks down simple water and ultra-pure salt, sold separately, through a patented process to make the cleaning and disinfecting solutions. A single push button enables the unit to manufacture the solutions. By utilizing SD Labs Convenience Kits with reusable sprayers, and applying the products through the SD Labs EST 200 sprayers, an owner is fully equipped to effectively and cost efficiently manufacture and apply most of the cleaning and disinfecting products required in their facility. SD Labs E ± Water can be used to create a safer and less toxic environment in medical, hospitality, educational, athletic, transportation, food stores, agricultural and commercial facilities of all types.</p> <ul style="list-style-type: none"> • System Produces Non-Toxic Cleaner/Degreaser and Disinfectants on Your Site. • Rapid Kill Times on MRSA, E-Coli, Salmonella and Other Bacteria, Viruses, and Fungi. • Easy to Install and Operate. No Mixing by Operator. • Eliminates Waste Stream for Packaging, Chemical Supplies and Dispensing Spray Bottles. • Can Reduce Workman's Compensation Claims and Worker Injuries Associated with Harsh Chemicals. • Leaves No Toxic Residues on Cleaned or Disinfected Surfaces. • Won't Spot on Glass, Granite, Mirrors or Steel Surfaces. • No Corrosive Effects as There is No Salt in the Liquids Made by the Unit. • Compatible with SD Labs EST-200 Professional Grade Electrostatic Sprayer to Help Save up to 70% on Water Use Compared to Trigger Sprayers. • Installation, Leasing and Service Plan Options Available. Options Available. • Systems Available for Shipment to North and South America Only. • Proudly Manufactured in the USA in an EPA registered Facility. • 120/230 VAC 50/60 HZ Input. GFCI Protected Source Required. • Systems Installed in Areas with Hard Water Require a Water Softening System on Input Supply. See User Manual for Water Quality Specifications. Follow Local Building Codes for System Installation. 	
SD-2003CSM	SD-2003CSM		SD Labs Electrolyzed Water System: Rack Mount with 5 GL Storage Tanks	EA	1	(1)Disinfectants General / Multipurpose Restroom Sanitation (2) (3)	SD Labs Electrolyzed Water Station, 6 GPH with 5 GL Rack Mounted Reservoir Storage. Produce Powerful Non-Toxic Disinfectants and Cleaning/Degreasing Products on Site.	<p>Make the shift from toxic cleaners, degreaser and disinfectants to Electrolyzed Water systems by SD Labs. In partnership with the industry leader of patented, salt free electrolyzed water production equipment, SD Labs can help you produce your own powerful, yet non-toxic, cleaners and disinfectants on your site for less than a penny a gallon. The SD Labs E ± Water station produces both sodium hydroxide (NaOH), a non-toxic cleaner/degreaser, and hypochlorous acid (HOCl), a non-toxic disinfectant that is 80 times more powerful than bleach. Both solutions are produced on demand at pH levels and chemical concentrations where the products are extremely effective in their ability to clean all surfaces and quickly kill microorganisms on surfaces and food, yet require no personal protection equipment for the applicator. The patented equipment leaves behind no salt residue like other systems and as such, can be used on glass, granite, mirrors and other surfaces without concern for spotting, corrosion or rinsing. SD Labs E ± Water systems are manufactured in the United States in an EPA registered facility. The liquid solutions produced by the devices are cleared for use by the EPA, FDA and USDA.</p> <p>The MAXX E ± Water System is a compact prefabricated rack system that can produce 6 gallons per hour of both NaOH and HOCl and store them in convenient 5 gallon reservoirs integrated into the system design. Additional shelves provide space to store dispensing and test equipment along with an area dedicated for your salt supply. Convenient spigots allow filling of spray bottles or mop buckets. The unit easily connects to your domestic water system and breaks down simple water and ultra-pure salt, sold separately, through a patented process to make the cleaning and disinfecting solutions. A single push button enables the unit to manufacture the solutions. By utilizing SD Labs Convenience Kits with reusable sprayers, and applying the products through the SD Labs EST 200 sprayers, an owner is fully equipped to effectively and cost efficiently manufacture and apply most of the cleaning and disinfecting products required in their facility. SD Labs E ± Water can be used to create a safer and less toxic environment in medical, hospitality, educational, athletic, transportation, food stores, agricultural and commercial facilities of all types.</p> <ul style="list-style-type: none"> • System Produces Non-Toxic Cleaner/Degreaser and Disinfectants on Your Site in a Compact Footprint Using an Integrated Rack System. • All Components are Pre-Plumbed. Simply Connect your Water Source and Power. • Convenient Spigots for Filling of Mop Buckets and Dispensing Bottles. • Rapid Kill Times on MRSA, E-Coli, Salmonella and Other Bacteria, Viruses, and Fungi. • Easy to Install and Operate. No Mixing by Operator. • Eliminates Waste Stream for Packaging, Chemical Supplies and Dispensing Spray Bottles. • Can Reduce Workman's Compensation Claims and Worker Injuries Associated with Harsh Chemicals. • Leaves No Toxic Residues on Cleaned or Disinfected Surfaces. • Won't Spot on Glass, Granite, Mirrors or Steel Surfaces. • No Corrosive Effects as There is No Salt in the Liquids Made by the Unit. • Compatible with SD Labs EST-200 Professional Grade Electrostatic Sprayer to Help Save up to 70% on Water Use Compared to Trigger Sprayers. • Installation, Leasing and Service Plan Options Available. • Systems Available for Shipment to North and South America Only. • Proudly Manufactured in the USA in an EPA registered Facility. 	
SD-2002	SD-2002	NA	SD Labs E ± Water Convenience Kit: MINI	EA	1	(1)Disinfectants General / Multipurpose Restroom Sanitation (2) (3)	SD Labs E ± Water Convenience Kit - Small. Basic Accessories Needed to Make, Apply, Test and Store Electrolyzed Water Made by Our E ± Water Stations.	<p>Ensuring you have the right equipment and supplies to apply, operate and validate the efficacy of your SD Labs E ± Water System is critical to the effectiveness of the solution. The SD Labs MINI convenience kit includes the necessary products to assure that you get the most out of your system. Each kit includes the following:</p> <ul style="list-style-type: none"> • (3) 33.8 OZ SanStorm PSV Sprayers (HOCl Use) • (3) 33.8 OZ MistClean PSV Sprayers (NaOH Use) • (5) 32 OZ HOCl Manual Spray Bottles • (5) 32 OZ NaOH Manual Spray Bottles • (2) Rolls of Chlorine and pH Test Strips • (25) 5 OZ Bottles of Ultra-Pure Salt 	
SD-2004	SD-2004	NA	SD Labs E ± Water Convenience Kit: MAXX	EA	1	(1)Disinfectants General / Multipurpose Restroom Sanitation (2) (3)	SD Labs E ± Water Convenience Kit - Large. Accessories Needed to Make, Apply, Test and Store Electrolyzed Water Made by SD Labs E ± Water Stations.	<p>Ensuring you have the right equipment and supplies to apply, operate, and validate the efficacy of your SD Labs E ± Water System is critical to the effectiveness of the solution. The SD Labs MAXX convenience kit includes the necessary products to assure that you get the most out of your system. Each kit includes the following:</p> <ul style="list-style-type: none"> • (6) 33.8 OZ SanStorm PSV Sprayers (HOCl Use) • (6) 33.8 OZ MistClean PSV Sprayers (NaOH Use) • (10) 32 OZ HOCl Manual Spray Bottles • (10) 32 OZ NaOH Manual Spray Bottles • (3) Rolls of Chlorine and pH Test Strips • (12) 1.5 LB Bottles of Ultra-Pure Salt 	

SPECIFICATIONS

SKU	MFG SKU	UPC Code	PRODUCT NAME	UOM	CASE COUNT	MAIN CATEGORY	Short Description	Long Description	Comments
SD-2005	SD-2005	NA	SD Labs E ± Water Bulk Salt: 40 LB Container	EA	1	(1)Disinfectants General / Multipurpose Restroom Sanitation	(2) (3) SD Labs E ± Water Bulk Salt 40 LB Container to Resupply SD Labs E ± Water Stations.	Maintain the Manufacturer's Warranty on your SD Labs E Water System by Using the Proper Ultra-Pure salt. • (1) 40 LB Container of Ultra-Pure Salt	

PRICING MATRIX

DISINFECTANT CHEMISTRY			
Product Description		UOM	Price
Disinfectant	Self-Cleaning Surface Coating, Bacteria, Mold and Algae Control	1-Gallon	
Disinfectant	Self-Cleaning Surface Coating, Bacteria, Mold and Algae Control	5-Gallon	
Disinfectant	Self-Cleaning Surface Coating, Bacteria, Mold and Algae Control, 4 1-Gallon Pails	Case	
Disinfectant	Short-Term Surface Coating, Bacteria, Mold and Algae Control	32 oz.	
Disinfectant	Short-Term Surface Coating, Bacteria, Mold and Algae Control	5-Gallon	
Disinfectant	Short-Term Surface Coating, Bacteria, Mold and Algae Control, 12 32-oz. Bottles	Case	
Disinfectant	Sport Surface Coating Disinfectant	32 oz.	
Disinfectant	Sport Surface Coating Disinfectant, 12 32-oz. Bottles	Case	
Disinfectant	Sport Surface Coating Disinfectant	32 oz.	
Disinfectant	Sport Surface Coating Disinfectant, 12 32-oz. Bottles	Case	
Disinfectant	Graffiti Remover, Citrus-Based Biodegradable Gel	1-Gallon	
Disinfectant	Anti-Graffiti Coating, 2-Part Epoxy-Based, High Gloss, Clear	1-Gallon	
Disinfectant	Anti-Graffiti Coating, 2-Part Epoxy-Based, High Gloss, White	1-Gallon	
Disinfectant	Anti-Graffiti Coating Kit, 2-Part Epoxy-Based, Custom Color	5-Gallon	
Disinfectant	Electrolyzed Water Station, Counter Mount, 6 Gallons per Hour	Each	
Disinfectant	Electrolyzed Water Station, Rack Mount, 5 Gallon Storage Tanks	Each	
Disinfectant	E +/- Water Convenience Kit, Mini	Each	
Disinfectant	E +/- Water Convenience Kit, Maxx	Each	

PRICING MATRIX

DISINFECTANT CHEMISTRY			
Product Description		UOM	Price
Disinfectant	E +/- Water Bulk Salt, 40-lb. Container	Each	
Accessories	Disinfectant Solution Battery-Operated Electrostatic Sprayer	Each	
Accessories	Spare Lithium Ion Battery for Battery-Operated Electrostatic Sprayer	Each	
Accessories	Spare Battery Charger for Battery-Operated Electrostatic Sprayer	Each	
Accessories	Replacement Tank for Professional Grade Sprayer	Each	
Flooring Application	Apply Floor Sealer	Square Foot	
Flooring Application	Apply Floor Wax	Square Foot	

PRICING MATRIX

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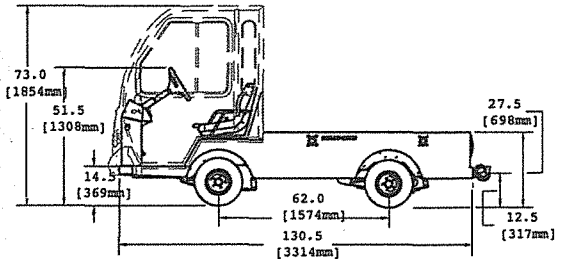
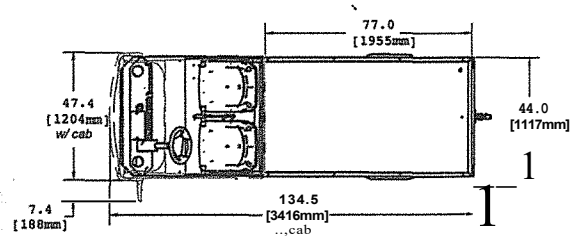
SPECIFICATIONS

PERFORMANCE

LOAD CAPACITY	3,000 lb	1361 kg
MAX SPEED (UNLOADED)	12mph	19.3 km/h
TURNING RADIUS	137in	3480mm
TOW CAPACITY	7,500 lb	3402 kg

DIMENSIONS

OVERALL LENGTH	130.5 in	3314 mm
OVERALL WIDTH	44in	1117 mm
HEIGHT (- cab)	51.5 in	1308mm
HEIGHT(+ cab)	73in	1854mm
WHEELBASE	62in	1574mm
GROUND CLEARANCE	5.5in	139mm
BED SIZE	44x 77 in	1117 x 1955 mm

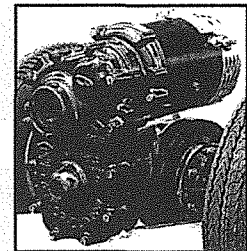


POWER SUPPLY / DRIVE TRAIN

MOTOR	7.5 hp, 5.5 kW AC
SYSTEM VOLTAGE	36 Volt
DRIVE AXLE	Helical (gear, Oil Bath Transaxle, GT Automotive Differential
BATTERIES	210 amp-hour, T605, 6 each, 6 Volt
CHARGER	Built-in, 36V, 115 VAC, 60 Hz, 1kW w/ Interlock
CONTROLLER	Solid State Self Diagnostic AC Speed Controller

CHASSIS

FRAME	12 Gauge, Smooth Skin, Unitized, Fully Welded, Steel
STEERING	Rack and Pinion
SUSPENSION	Multi-leaf Springs, Front and Rear
BRAKES	Rear Hydraulic Disc Brakes with Hand Parking Brake
BUMPERS	Heavy Duty Steel Integrated Front & Rear
TIRES	5.70 x 8, Load Range C, Pneumatic



GT Automotive Drive

GENERAL

UNIT WEIGHT	1,450 lb	658kg
SEATS	Black Adjustable Bucket Seats, Driver's Seat Electrical Interlock, 2 Person	
INSTRUMENTATION	Smart View Display, Reverse Alarm, Forward / Off/ Reverse Selector, Key Switch, Light Switch, High / Low Speed Switch, Electric Horn, Emergency Power Cut-off Switch, DC/DC Converter, Dual USB Port	
LIGHT ACCESSORIES	Dual LED Headlights, Taillights and Brake Lights	
CONFORMANCE	Type E, ANSI B56.8, OSHA 1910.178	

OPTIONS

- | | | |
|----------------------|----------------------------|-------------------------|
| • FOLD-AWAY SEATS | • ALUMINUM DROP-DOWN SIDES | • FRONT DISC BRAKES |
| • STEEL CAB / DOORS | • BATTERY WATERING SYSTEM | • VARIOUS HITCHES |
| • PORTABLE CHARGER | • LOCKABLE CARGO BOX | • UNDERCOATING |
| • STROBE LIGHT | • LIFT OUT BATTERY BOX | • GALVANIZED FRAME |
| • DIAMOND PLATE DECK | • DIRECTIONAL SIGNALS | • OPTIONAL PAINT COLORS |

Specifications, standard equipment, accessories and modifications are subject to change without notice.

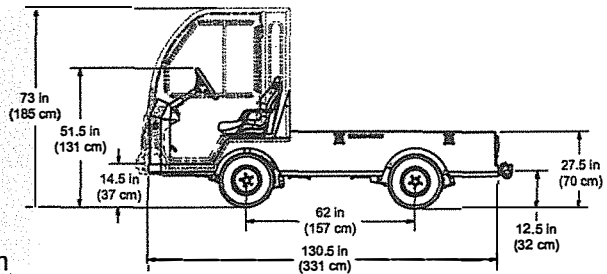
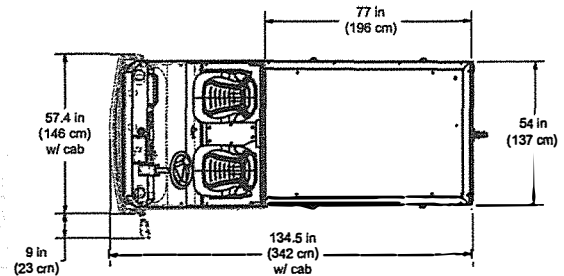
SPECIFICATIONS

PERFORMANCE

LOAD CAPACITY	3,000 lb	1361 kg
MAX SPEED (UNLOADED)	18 mph	29 km/h
TURNING RADIUS	145 in	368 cm
TOW CAPACITY	10,000 lb	4536 kg

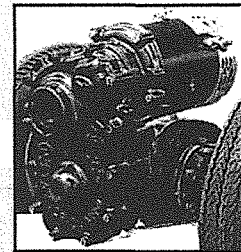
DIMENSIONS

OVERALL LENGTH	130.5 in	332 cm
OVERALL WIDTH	54 in	137 cm
HEIGHT (- cab)	52 in	132 cm
HEIGHT (+ cab)	74 in	188 cm
WHEEL BASE	62 in	158 cm
GROUND CLEARANCE	5.8 in	14.7 cm
BED SIZE	54 x 77 in	137 x 196 cm



POWER SUPPLY / DRIVE TRAIN

MOTOR	17 hp, 13 kW, AC
SYSTEM VOLTAGE	48 Volt
DRIVE AXLE	Helical Gear, Oil Bath Transaxle, GT Automotive Differential
BATTERIES	260 Amp-hour, Lead Acid, 6 Volt, 8 Each
CHARGER	Built-in, 48V, 115 VAC/60 Hz, 1kW w/ Interlock, 17 Amp SCR
CONTROLLER	Solid State Self Diagnostic AC Speed Controller



GT Automotive Drive

CHASSIS

FRAME	Fully Welded, Unitized, 12 Gauge, Smooth Skin Steel Body
STEERING	Rack and Pinion
SUSPENSION	Multi-leaf Springs, Front & Rear
BRAKES	Hydraulic Disc Brakes, Front & Rear, Electric Parking Brake
BUMPERS	Heavy Duty Steel Integrated Front & Rear
TIRES	20.5 x 8 x 10, Load Range E, Pneumatic

GENERAL

UNIT WEIGHT	1965 lb	891 kg
SEATS	Adjustable Black Bucket Seats, Driver's Seat Electrical Interlock, 2 Person	
INSTRUMENTATION	Clear View Display (Speed, Distance, Battery Status Indicator, Hours, Input Diagnostic & Fault Code Display), Dual USB Port, Emergency Power Cut-off Switch, Light Switch, Forward/Off/Reverse Selector, Reverse Alarm, High/Low Speed Selector, Key Switch, DC/DC Converter (on with key switch), and Electric Horn	

LIGHT ACCESSORIES	Dual LED Headlights, Taillights and Brake Lights
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CONFORMANCE	Type E OSHA 1910.178, ANSI B56.8
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OPTIONS

- FOLD-AWAY SEATS
- STAKE SIDES
- ECONO CAB
- PORTABLE CHARGER
- STROBE LIGHT
- VINYL DOORS
- ALUMINUM DROP-DOWN SIDES
- DELUXE CAB W/ STEEL DOORS
- DIAMOND PLATE DECK
- LOCKABLE CARGO BOX
- LIFT OUT BATTERY BOX
- DIRECTIONAL SIGNALS
- STEEL PANEL BOX
- BATTERY WATERING SYSTEM
- VARIOUS HITCHES
- UNDERCOATING
- GALVANIZED FRAME
- OPTIONAL PAINT COLORS

Specifications, standard equipment, accessories and modifications are subject to change without notice.

Portable, Modular and Pre-Fabricated Solutions - Piggyback No. 5

Wiseburn Unified School District

May 28, 2018

TAB C-Dollies, Hand and Push Carts

904

Customer Carts and Push Carts

SHOPPING CART



Model	Deck Size	Tires
SC-1 -Shopping cart	24"W x 42" L, 18" between decks. Top deck hinged.	6" swivel on front, 6" fixed on rear with break
LB- 1 -Low Boy Shopping Cart	24"W x 48" L with 6" side rails	4.10 x 3.50, 10" high

Our shopping cart is designed to nest into each other for convenient storage. Our decks have been designed to be **replaceable** and can be ordered separately. These decks have been galvanized for **durability**. The top deck is hinged and can be flipped up. The lower deck is designed to be removed easily for cleaning and replacing. A convenience basket which hangs off the back of the cart can be ordered separately.

LOW BOY CART



EZR-1 -EZGo Roller



Our all welded Steel E.Z Go rollers are easy to move even when loaded to capacity on rough surfaces because of the large 16" wheels. The E.Z Go Roller can carry 32 1 Gallon units and has a capacity of 600 lbs. Carts are available with flat-free tires

PUSH CARTS

Swivel front wheels improve the **balance** of these all welded steel 600 lb capacity carts over most standard carts. These carts are designed to move easily in congested areas. Removable 6" side rails, extra deck and convenience basket available as an add on. Special sizes are available.

4WPC-2 with removable 6" rail



4WPC-2 Push Cart



Model	Description	Deck Size	Width	Tires
EZR-1	E.Z Go Roller - solid sheet deck	25" W x 49" L	33"	4.80 x 8 highway tread
EZR-2	E.Z Go Roller - heavy mesh deck	25" W x 49" L	33"	4.80 x 8 highway tread
4WPC-1	Four Wheel Push Cart - solid sheet deck	24" W x 48" L	24"	4.80 x 8 and 4.10 x 3.5
4WPC-2	Four Wheel Push Cart - heavy mesh deck	24" W x 48" L	24"	4.80 x 8 and 4.10 x 3.5

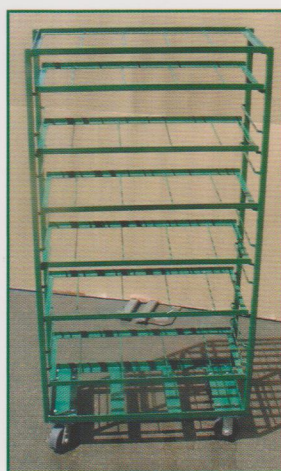
PUSH AND DISPLAY RACKS

Push Racks

Our push rack holds up to 22 flats. Spacing between shelves can be varied in 3" increments with the standard rack. Standard unit is with 6" loose shelves (see picture).

Display Racks

Display racks can be built to your requirements. Our standard rack has four 10'L x 18"W shelves with 18" between shelves.



PRICING MATRIX

DOLLIES, HAND & PUSH CARTS, TRAILERS, FLAT CARRIERS, SOIL CARTS & WAGONS			
Product Description		UOM	Price
Dollies	15 Gallon Can Handler	Each	\$275
Dollies	6 Flat Dolly	Each	\$295
Dollies	8 Flat Carrier	Each	\$320
Dollies	15 Gallon Dolly	Each	\$325
Dollies	24" Standard Box Dolly	Each	\$370
Dollies	24" Heavy Duty Dolly	Each	\$460
Dollies	24" 3-Wheel Heavy Duty Dolly	Each	\$575
Dollies	36" 3-Wheel Heavy Duty Dolly	Each	\$705
Dollies	36" 2-Wheel Heavy Duty Dolly	Each	\$570
Hand and Push Carts	4-Wheel Solid Push Cart	Each	\$490
Hand and Push Carts	4-Wheel Mesh Push Cart	Each	\$490
Hand and Push Carts	Double Deck Hand Cart	Each	\$380
Hand and Push Carts	EZ Roller Solid Deck	Each	\$460
Hand and Push Carts	EZ Roller Mesh Deck	Each	\$460
Hand and Push Carts	Hand Truck 48"Lx24"Wx12"H	Each	\$340
Hand and Push Carts	Hand Truck 48"Lx30"Wx12"H	Each	\$355
Hand and Push Carts	Hand Truck 60"Lx30"Wx13"H	Each	\$370
Hand and Push Carts	Hand Truck 72"Lx36"Wx13"H	Each	\$425

PRICING MATRIX

DOLLIES, HAND & PUSH CARTS, TRAILERS, FLAT CARRIERS, SOIL CARTS & WAGONS			
Product Description		UOM	Price
Hand and Push Carts	Nurseryman Solid Wheelbarrow 32"x48"	Each	\$440
Hand and Push Carts	Nurseryman Mesh Wheelbarrow 32"x48"	Each	\$440
Hand and Push Carts	Nurseryman Solid Wheelbarrow 26"x58"	Each	\$450
Hand and Push Carts	Nurseryman Mesh Wheelbarrow 26"x58"	Each	\$450
Hand and Push Carts	Tuff Stuff Wagon 21"Wx36" with 3 Wheels	Each	\$260
Hand and Push Carts	Tuff Stuff Wagon 24"Wx48" with 4 Wheels	Each	\$310
Hand and Push Carts	Tuff Stuff Wagon 24"Wx48" with 4 Wheels	Each	\$310
Trailers	Tandem Axle Trailer 73"Wx201"L with Leaf Springs	Each	\$3,500
Trailers	Single Axle Trailer 51"Wx151"L with Leaf Springs	Each	\$3,150
Trailers	Single Axle Trailer 49"Wx96"L Unsprung	Each	\$1,900
Trailers	Opt. 5th Wheel Steering Add Trailers Below only L/K Trailers	Each	\$120
Trailers	62"Wx169"L Trailer with Leaf Springs	Each	\$3,075
Trailers	42"Wx76"L Trailer Unsprung	Each	\$1,400
Trailers	48"Wx96"L Trailer Unsprung	Each	\$1,600
Trailers	Low Boy Jumbo Rack Trailer	Each	Inquire
Flat Carriers	108 Flat Carrier 17"x17" & 22"x12" Flats	Each	\$3,400
Flat Carriers	18 Flat Carrier 17"x17" & 22"x12" Flats	Each	\$675
Flat Carriers	24 Flat Carrier 17"x17" & 22"x12" Flats	Each	\$725

PRICING MATRIX

DOLLIES, HAND & PUSH CARTS, TRAILERS, FLAT CARRIERS, SOIL CARTS & WAGONS			
Product Description		UOM	Price
Soil Carts and Wagons	Soil Cart 60"Lx25"Wx12"H	Each	\$1,300
Soil Carts and Wagons	Soil Wagon Heavy Duty 4"Wx8"Lx18"D	Each	\$3,350
Soil Carts and Wagons	Optional 18" Extension for SW-2	Each	\$750
Soil Carts and Wagons	Turf Trailer 41"Wx60"Lx16" Sides	Each	\$1,100

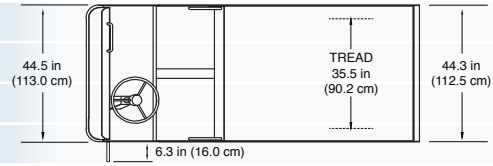
PRICING MATRIX

ELECTRIC UTILITY BURDEN CARRIERS

SPECIFICATIONS

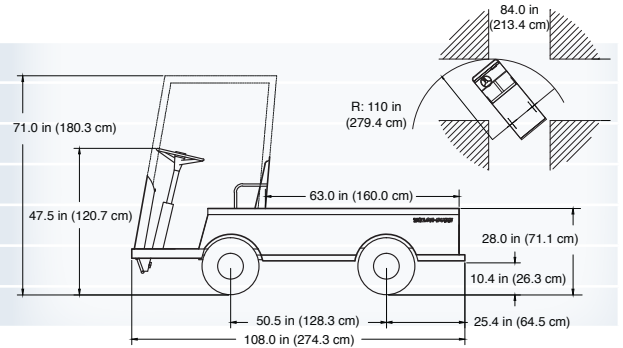
PERFORMANCE

LOAD CAPACITY	1,600 lbs	725.7 kg
TOW CAPACITY	7,500 lbs	3,409 kg
MAX SPEED (UNLOADED)	12 mph	19.3 km/h
TURNING RADIUS	110 in	279.4 cm



DIMENSIONS

OVERALL LENGTH	108 in	274.3 cm
OVERALL WIDTH	44.5 in	113.0 cm
HEIGHT (- cab)	47.5 in	120.7 cm
HEIGHT (+ cab)	71.0 in	180.3 cm
DECK HEIGHT	28.0 in	71.12 cm
WHEEL BASE	50.5 in	128.3 cm
BED SIZE	44 x 63 in	112 x 160 cm



POWER SUPPLY / DRIVE TRAIN

MOTOR	36V, DC, Series Wound, 6 Hp
SYSTEM VOLTAGE	36V DC
TRANSMISSION	Transaxle Assembly, Sealed Helical Gear Reduction
BATTERIES	Six, 6V, 210 Amp hour
CHARGER	1 kW, Built-in, 36V, 110 VAC, 60Hz, w/ Interlock
CONTROLLER	275 amp, Solid State Speed Controller
WIRING	Modular Harness Design, Weather Protected Connectors

CHASSIS

FRAME	Unitized Fully Welded 16 Gauge Diamond Plate Steel
STEERING	24:1 Ratio, Automotive
DRIVE AXLE	Direct Drive, Oil Bath, 14.78:1 Ratio
SUSPENSION	Leaf Springs, Front and Rear
BRAKES	Rear Mechanical Drum w/ Hand Operated Parking Brake
BUMPERS	Heavy Duty Steel Integrated Front
TIRES	5.70 x 8 Load Range C Pneumatic

GENERAL

UNIT WEIGHT	1,214 lbs	550 kg
SEATS	Split Seat Bottom Cushion w/ Full Length Back Rest in Black Vinyl, 2 Person Capacity	
INSTRUMENTATION	Battery Status Indicator, Forward/Reverse Selector, Key Switch, Electric Horn	
LIGHT ACCESSORIES	Brake Lights	
CONFORMANCE	Type E OSHA 1910.178, ANSI B56.8	

OPTIONS

- HYDRAULIC DRUM BRAKES
- SMOOTH SKIN BODY
- WINDSHIELD WIPER
- FIBERGLASS CAB
- VINYL DOORS
- FIBERGLASS TOP
- DIRECTIONAL SIGNALS
- PORTABLE CHARGER
- DUAL HEADLIGHTS
- STROBE LIGHT
- LADDER RACK
- STAKE SIDES
- BATTERY WATERING SYSTEM
- HOUR METER
- REVERSE ALARM
- VARIOUS HITCHES
- UNDERCOATING / GALVANIZING
- OPTIONAL COATING COLORS

PRICING MATRIX

ELECTRIC UTILITY BURDEN CARRIERS			
Product Description		UOM	Price
Electric Burden Carrier	2018 Loadmaster Electric Burden Carrier, 4 Wheel, Speed (Unloaded): 12 mph, Load Capacity: 1,600 lb, Batteries Trojan :210 amp-hour, Trojan Direct Drive, Motor: 6 hp, Standard Colors: Orange, Yellow, Green, White	Each	\$11,850
Electric Burden Carrier	2018 36 Volt Electric Burden Carrier, 4 Wheel, Speed (Unloaded): 12 mph, Load Capacity: 3,000 lb., Batteries Trojan :210 amp-hour, GT Drive, Automotive Differential, Moto: 12.5 hp, Standard Colors: White, Green, Orange, Yellow	Each	\$14,550
Electric Burden Carrier	2018 48 Volt Electric Burden Carrier, 4 Wheel, Speed (Unloaded): 12 mph, Load Capacity: 3,000 lb, Batteries Trojan :210 amp-hour, GT Drive, Automotive Differential, Motor: 12.5 hp, Standard Color: Orange	Each	\$16,210
Electric Burden Carrier	2018 48 XL Electric Burden Carrier, 4 Wheel, Speed (Unloaded): 18 mph, Load Capacity: 3,000 lb, Batteries Trojan :260 amp-hour, GT Drive, Automotive Differential, Motor: 17 hp	Each	\$19,700

PRICING MATRIX

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PRICING MATRIX

CATALOG DISCOUNT		
Manufacturers:	Description	Percent Discount %
3D Textures	Percentage Discount on 3D Textures Items based on current manufacturer list price	list + 20 %
3M Company	Percentage Discount on 3M Items based on current manufacturer list price	list + 15 %
AMQ	Percentage Discount on AMQ Items based on current manufacturer list price	20 %
Armstrong Ceiling Tiles	Percentage Discount on Armstrong Ceiling Tiles Items based on current manufacturer list price	list + 25 %
Artopex	Percentage Discount on Artopex Items based on current manufacturer list price	15 %
Brown Jordan	Percentage Discount on Webcoat Items based on current manufacturer list price	10 %
Certwood	Percentage Discount on Certwood Items based on current manufacturer list price	15 %
Cherryman	Percentage Discount on Webcoat Items based on current manufacturer list price	20 %
Claridge	Percentage Discount on Claridge Items based on current manufacturer list price	20 %
CSI	Percentage Discount on CSI Items based on current manufacturer list price	10 %
Dunn Edwards Paints	Percentage Discount on Dunn Edwards Paints Items based on current manufacturer list price	10 %
Egan	Percentage Discount on Egan Items based on current manufacturer list price	20 %
Essedent/USI	Percentage Discount on Essedant/USI Items based on current manufacturer list price	list %
Eurotech	Percentage Discount on Eurotech Items based on current manufacturer list price	20 %
Fleetwood	Percentage Discount on Fleetwood Items based on current manufacturer list price	10 %
Formaspace	Percentage Discount on Formaspace Items based on current manufacturer list price	5 %
GE Lighting	Percentage Discount on GE Lighting Items based on current manufacturer list price	list + 20 %
HPFI	Percentage Discount on HPFI Items based on current manufacturer list price	20 %
Izzy	Percentage Discount on Izzy Items based on current manufacturer list price	20 %
JontiCraft	Percentage Discount on JontiCraft Items based on current manufacturer list price	5 %
JSI/Community	Percentage Discount on JSI/Community Items based on current manufacturer list price	20 %
Lesro	Percentage Discount on Lesro Items based on current manufacturer list price	20 %
Mayline/Safco	Percentage Discount on Mayline/Safco Items based on current manufacturer list price	20 %
MTS Seating	Percentage Discount on MTS Seating Items based on current manufacturer list price	15 %
Palmer Hamilton	Percentage Discount on Palmer Hamilton Items based on current manufacturer list price	10 %

PRICING MATRIX

CATALOG DISCOUNT		
Manufacturers:	Description	Percent Discount %
Phillips Lighting	Percentage Discount on Phillips Lighting Items based on current manufacturer list price	list + 25 %
Phoenix Safe	Percentage Discount on Phoenix Safe Items based on current manufacturer list price	10 %
Platinum Visual	Percentage Discount on Platinum Visual Items based on current manufacturer list price	15 %
Prowise/ELB	Percentage Discount on Prowise/ELB Items based on current manufacturer list price	5 %
PS Furniture	Percentage Discount on PS Furniture Items based on current manufacturer list price	20 %
Right Angle	Percentage Discount on Right Angle Items based on current manufacturer list price	20 %
Robertsons Mix	Percentage Discount on Robertsons Mix Items based on current manufacturer list price	list + 15 %
ScholarCraft	Percentage Discount on ScholaCraft Items based on current manufacturer list price	20 %
Sherwin Williams Paints	Percentage Discount on Sherwin Williams Paints Items based on current manufacturer list price	10 %
Sico	Percentage Discount on Sico Items based on current manufacturer list price	15 %
SitOnIt Seating	Percentage Discount on SitOnIt Seating Items based on current manufacturer list price	30 %
Smith System	Percentage Discount on Smith System Items based on current manufacturer list price	10 %
Soft DB	Percentage Discount on Webcoat Items based on current manufacturer list price	10 %
STS Education	Percentage Discount on STS Education Items based on current manufacturer list price	list %
Tenjam	Percentage Discount on Tenjam Items based on current manufacturer list price	15 %
Texacraft	Percentage Discount on Texacraft Items based on current manufacturer list price	10 %
Thompson Door/Window	Percentage Discount on Thompson Door/Window Items based on current manufacturer list price	list + 25 %
Total Learning Space	Percentage Discount on Total Learning Space Items based on current manufacturer list price	10 %
Tropitone	Percentage Discount on VS Items based on current manufacturer list price	10 %
Viewsonic	Percentage Discount on Viewsonic Items based on current manufacturer list price	5 %
Webcoat	Percentage Discount on Webcoat Items based on current manufacturer list price	list + 20 %
Appleton Electric	Percentage Discount on Appleton Electric Items based on current manufacturer list price	list %
Eaton	Percentage Discount on Eaton Items based on current manufacturer list price	list %
General Electric	Percentage Discount on General Electric Items based on current manufacturer list price	list %
Hubbell	Percentage Discount on Hubbell Items based on current manufacturer list price	list %
Leviton	Percentage Discount on Leviton Items based on current manufacturer list price	list %

PRICING MATRIX

CATALOG DISCOUNT		
Manufacturers:	Description	Percent Discount %
Pass & Seymour	Percentage Discount on Pass & Seymour Items based on current manufacturer list price.	list %
SD Labs	Percentage Discount on SD Labs Items based on current manufacturer list price.	list + 20 %
Zyxel	Percentage Discount on Zyxel Items based on current manufacturer list price.	list + 25 %
Play and Park Structures	Percentage Discount on Play and Park Structures Items based on current manufacturer list price.	list + 10 %
Cree	Percentage Discount on Cree Items based on current manufacturer list price.	list + 10 %
Corning	Percentage Discount on Corning Items based on current manufacturer list price.	list + 10 %
Commscope	Percentage Discount on Commscope Items based on current manufacturer list price.	list + 10 %
NorvaNivel	Percentage Discount on NorvaNivel Items based on current manufacturer list price.	10 %
Grainger	Percentage Discount on Grainger Items based on current manufacturer list price.	list + 20 %
Miracle	Percentage Discount on Miracle Items based on current manufacturer list price.	list + 10 %

[END OF SECTION

PRICING MATRIX

[END SECTION]

Basis of Award Summary Bid Option 2, Tab C: *Ancillary Materials*

1. Bidder Requirements
 - 1.1. Bidder is required to complete all items noted on the Pricing Matrix and the Basis of Award Summary in this tab.
 - 1.2. Failure to provide costs for each and every item for Tabs B-E in Bid Option 2 shall result in this Bid Option 2 being declared “non-responsive”.
2. Discrepancies: If there is any discrepancy between costs provided on the Pricing Matrix and the Basis of Award Summary in this tab, only the lowest cost shall be utilized by the DISTRICT.
3. Basis of Award Form Summary
 - 3.1. This form represents a hypothetical example of a project (or projects) that the DISTRICT may utilize under Bid Option 2.
 - 3.2. The Basis of Award Summary shall be completed using the costs noted by the bidder in the Pricing Matrix in this tab and shall be utilized for purposes of determining the lowest cost responsible bidder by combining this with the final Basis of Award form for Bid Option 2: Tabs B-E.
4. Project Description
 - 4.1. This is a hypothetical project for the DISTRICT with quantities based on standard classroom educational programs.
 - 4.2. The costs represent the same costs noted on the Pricing Matrix and applied to this hypothetical project.
 - 4.3. The summary total cost from this tab shall be combined with other tabs in Bid Option 2 and that final cost will be the basis for awarding Bid Option 2.
5. Notice to Contractor
 - 5.1. Understand that all materials to be installed are to be received as a completed project.
 - 5.2. All sundry items necessary for a completed project is to be included in the prices below.
6. DISTRICT Material / Attic Stock / Stored Material
 - 6.1. DISTRICT owned materials for these projects shall be stored by the contractor.

Basis of Award Summary Bid Option 2, Tab C: *Ancillary Materials*

7. Delivery, Storage, Warehousing, and Pick Up
 - 7.1. Contractor will be responsible for delivering, storing, and warehousing materials for the term of the contract.
 - 7.2. Price includes delivery FOB to destinations in the following counties in the State of CA: Sonoma, Marin, San Francisco, San Mateo, Santa Cruz, Santa Clarita, Alameda, Contra Costa, San Joaquin, Stanislaus, Merced, Fresno, Solano, Napa, Sacramento, Yolo, El Dorado, Placer, Santa Barbara, Ventura, Los Angeles, Orange, San Diego, Riverside, San Bernadino.
 - 7.3. All other counties and areas outside the listed are subject to a 20% freight cost.
 - 7.4. Price shall not include sales tax.
 - 7.5. At the time of purchase, taxes will be paid by the DISTRICT.

Bidder Name:

Product Description	Quantity	Cost	Total
20'x30' Hip Structure up to 12' H	1	\$26,795	\$26,795
Adventure Preschool line, Ages 2-5, Capacity 62	1	\$148,000	\$148,000
Adventure Park School Line, Ages 5-12, Capacity 131	1	\$325,000	\$325,000
2018 Loadmaster Electric Burden Carrier, 4 Wheel, Speed (Unloaded): 12 mph, Load Capacity: 1,600 lb, Batteries Trojan :210 amp-hour, Trojan Direct Drive, Motor: 6 hp, Standard Colors: Orange, Yellow, Green, White	1	\$11,850	\$11,850
Commercial Chain Link Security Door, Aluminum Frame, 2" Diamond Galvanized Steel Mesh, Dual Track	1	\$1,157	\$1,157
<u>GRAND TOTAL:</u>			\$512,802.00

Basis of Award Summary Bid Option 2, Tab C: *Ancillary Materials*

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