

SECTION 13 1233 - WATER SPRAYGROUND

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 - Specification Sections, apply to the work specified in this section.

1.2 SUMMARY

- A. All work associated with sprayground must be included in Alternate AC-03.
- B. Furnish labor, material, equipment, and services for installation of the water sprayground including spray ground area, water features, controllers, and programming software.
- C. The outdoor water sprayground to have an approximate area of 5,571 square feet including the various play features as indicated in these specifications as well as the aquatics drawings.
- D. Design and provide the sprayground structure and provide final finishes to the surface.
- E. Provide water sprayground systems as indicated on the aquatic's drawings, specified herein, and as necessary for proper completion including, but is not necessarily limited to:
 - 1. All water spray features.
 - 2. All activation devices.
 - 3. All controllers.
 - 4. Provide mechanical equipment and pool piping as necessary for sprayground operation.
 - 5. Operations and maintenance manuals.
 - 6. On site startup training.
 - 7. Proper winterization of the sprayground system for one (1) season.
 - 8. Proper signage as required.
- F. Related Work Specified Elsewhere
 - 1. All electrical works, buildings and permits.

1.3 QUALITY ASSURANCE

- A. The supplier must demonstrate their specific experience and competency in the manufacturing and installation of the water sprayground equipment and systems.
- B. The supplier must have completed at least five installations comparable to the system specified herein within the last 5 years. Submit a list of such projects with name, address and current telephone number of the Owner's Operator and Architect of Record to the Architect with bid on the bid date.

- C. The Owner reserves the right to reject a bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligation of the contract and to complete work described or if bidder does not have the qualifications stated herein.

1.4 REGULATORY AGENCY REQUIREMENTS AND ENGINEERING SERVICES

- A. The entire water sprayground system must be designed and installed to meet national and local codes and follow applicable sections of the 2018 ISPS (International Swimming Pool and Spa Code).
- B. The system must comply with necessary approvals obtained by the Architect from local regulatory agencies governing the design and construction of public swimming pools.
- C. Must give necessary notices, obtain permits, and pay government fees, and other costs in connection with his work; file necessary drawings, prepare documents and obtain necessary approvals of governmental departments having jurisdiction; obtain required certificates of inspection for his work and deliver same to the Architect before request for acceptance and final payment for the work.
- D. Must include in the work, without extra cost to the Owner, labor, materials, services, apparatus, or drawings in order to comply with applicable laws, ordinances, rules, and regulations, whether or not shown on drawings and/or specified.
- E. Where provisions of pertinent codes and standards conflict with this specification, the more stringent must govern.

1.5 COORDINATION AND CLARIFICATION

- A. Coordinate with other trades affecting and affected by work in this section.
- B. Must establish with other contractors or subcontractors, having related work in this Section, that work necessary to complete the sprayground as shown on the drawings and in the specifications is included in the base bid and alternates to the Owner.
- C. If in doubt regarding the responsibility for work covered in this section and/or discovery of errors or omissions in the bidding documents, must notify the Architect through channels established by the specifications and request a clarification ten (10) days prior to the bid date.

1.6 CONTRACTORS ALTERNATIVE PROPOSAL

- A. Suppliers to submit their bid based on materials, equipment and methods as specified in this section. Substitutions of material, equipment or method must be submitted in accordance with the specified procedure described in Division 1. Required changes to the construction documents must be described in writing and costs or changes must be included in the price quoted to complete the installation.

1.7 SUBMITTALS

- A. Division 1 requirements.
- B. Shop Drawings

1. Provide a complete set of checked shop drawings required to fabricate and assemble water sprayground systems.
 2. Statements
 - a. Provide the Owner with copies of permits and receipts for fee payments.
 3. Test Reports
 - a. Submit a sample form of performance test reports that will be used by the installer following the water sprayground erection, prior to beginning of installation.
 - C. Include complete product data indexed, tabbed, and referenced to specifications.
 - D. Submit details indicated the water spray elements, activation devices, controllers, as well as necessary flow regulation devices necessary to operate the water sprayground system as indicated by the manufacturer.
 - E. Provide a complete set of structural drawings for the sprayground and associated feature footing structures bearing the seal, signature, and date of a licensed professional engineer in the State of PA. Drawings must include plans, elevations, cross sections, details, and calculations required to construct the sprayground and associated feature footing structures. Structural drawings must clearly identify location dimensions of accessory items provided under this section. A licensed professional engineer must utilize existing soils and geotechnical data in the preparation of the structural design criteria. Provide design calculations and support data required to show compliance with performance requirements specified, including design assumptions concerning element restraint. All calculations must be certified and sealed by a licensed professional engineer. Provide a design in response to actual site conditions.
 - F. Installation of the sprayground and associated feature footings must not commence until detailed plans and specifications are approved by the department of Building and Safety. The responsibility for costs associated with obtaining such approval must be part of the General Construction contract.
 - G. Specify water supply requirements and required pump characteristics to Architect, for approval, prior to preparation of fabrication drawings.
 - H. Guarantee / Warranty
 1. All work of this section must be warranted against defects of material and/or application for a period of one (1) year from date of acceptance. Failures that may occur within this warranty period, due to defective installation and/or materials, must upon written notification of such failure be immediately repaired or replaced.
- 1.8 MAINTENANCE MANUALS AND CLOSE-OUT SUBMITTALS
- A. Submit six (6) bound volumes of complete Operating and Maintenance instructions covering installed equipment. Include wiring diagrams, lubrication, and user maintenance instructions.
 - B. Include manufacturer's recommended maintenance schedule, parts lists, piping diagram and troubleshooting information.
 - C. Include one set of approved submittals as a part of each O & M manual.

- D. All submittals must also meet the requirements set forth in other accompanying swimming pool specifications such as 13 1100 – Swimming Pools.

1.9 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver material in manufacturer's original, unopened containers and crates with labels intact and legible.
- B. Deliver materials in sufficient time and quantity to allow continuity of work and compliance with approved construction schedule.
- C. Handle materials in a manner to prevent damage.
- D. Store materials on clean raised platforms with weather protective covering when stored outdoors. Provide continuous protection of materials against damage or deterioration.

PART 2 - PRODUCTS

2.1 GENERAL

- A. The specified water sprayground elements must be provided in the locations as provided in the swimming pool drawings and specified hereinafter. The water sprayground elements must be provided by Waterplay. Elements by Vortex, Water Odyssey., or Raindrop Products are considered equals provided they meet the design intent and are approved by the designer. The supplier must provide water sprayground features complete with anchoring and fastening devices, required gaskets, controllers, programmers, and program software.

2.2 SPRAYGROUND COMPONENTS

- A. The following Water Sprayground items must be included:
 - 1. GS Tulip
 - a. Product Code: 0010-7489
 - b. Characteristics: Must be constructed of schedule 40 stainless steel structural tubing with an outside diameter of 2.875 inches (73mm) with a wall thickness of 0.203 (5mm). The canister must be a total height of 11.38 inches (289.05mm) tall with a 0.25-inch (6.35mm) thick X 5.5-inch diameter (139.7mm) base plate. The Acetal spray nozzle and winter cap must be seated into the canister with an o-ring and secured using a tamper resistant security bolt. The spray nozzle must provide a mushroom sheet spray effect. The hydraulic requirements must be 10 gpm @ 15 psi (38 lpm @ 103.4 kpa). Tamper resistant winter caps are included. The water inlet must be 1 inch (25mm) National Pipe Thread located 1.41 inches (35.8mm) below the base plate. The canister must be secured into place by securing three (3) 3/8-inch x 11 inches (9.52 mm x 279mm) L bolts (SS) through three (3) anchor holes on the side of the canister.
 - c. Dimensions: Flush to grade mount.
 - d. Recommended Flow Rate: The hydraulic requirements must be 6 gpm @ 0.75 psi (23 lpm @ 5 kpa).

2. GS Puddle 1

- a. Product Code: 0010-7466
- b. Characteristics: The urethane textured Jump Plate diameter must be secured into place using 4 Nozzle Quarter plates and 24 threaded bolts with anti-seize. The Puddle 1 must sit flush to grade when installed and contain 12 exit points around the perimeter of the Nozzle Quarter plates for the water to exit straight up like a water cylinder when pressure is applied to the jump plate. The water source must be welded to the Aqua Jumper base and must have a 1" water inlet.
- c. Dimensions: The feature must have an overall diameter of 23 inches (587mm)
- d. Recommended Flow Rate: The hydraulic requirements must be 3 gpm @ 10 psi (11 lpm @ 69 kpa).
- e. Nozzle Count: N/A
- f. Water Display: Water will flow through twelve (12) exit points in a straight up geyser when pressure is applied to the plate through jumping.

3. GS Geyser

- a. Product Code: 0010-7478
- b. Characteristics: Must be constructed of schedule 40 stainless steel structural tubing with an outside diameter of 2.875 inches (73mm) with a wall thickness of 0.203 (5mm). The canister must be a total height of 11.38 inches (289.05mm) tall with a .25-inch (6.35mm) thick X 5.5-inch diameter (139.7mm) base plate. The canister must be secured into place by securing three (3) 3/8-inch x 11 inches (9.52 mm x 279mm) L bolts (SS) through three (3) anchor holes on the side of the canister. The Acetal spray nozzle and winter cap must be seated into the canister with an o-ring and secured using a tamper resistant security bolt. The spray nozzle must have an eight (8) hole spray pattern angled at 15 degrees from vertical. Tamper resistant winter caps are included.
- c. Dimensions: Flush to grade mount.
- d. Recommended Flow Rate: The hydraulic requirements must be 6 gpm @ 5 psi (23 lpm @ 34 kpa).

4. GS Doughnut

- a. Product Code: 0010-7494
- b. Characteristics: The eight (8) spray canisters must be connected to a 45 x 40 inch (1143 x1016mm) square stainless tubing weldment acting as a manifold. Each canister must be no less than 6 inches (152mm) tall with a diameter of Ø2.88 inches (73mm). The Acetal spray nozzles and winter caps must be seated into the canister with an o-ring and secured using tamper resistant security bolts. Tamper resistant winter caps are included. All nozzles sit flush with final grade. There must be two 1 inch (25mm) National Pipe Thread water inlets.

- c. Dimensions: Flush to grade mount.
 - d. Recommended Flow Rate: The hydraulic requirements must be 24 gpm @ 3 psi (91 lpm @ 21 kpa).
 - e. Nozzle Count: Eight (8)
5. FS Waterfall 2
- a. Product Code: 0010-4591
 - b. Characteristics: The Waterfall 2 main columns and arms must be constructed of schedule 10 stainless steel structural tubing. The lower section of the main column must be straight and house a rotational hub. The rotational joint must be free of pinch points and protrusion hazards and contain no flexible hoses. The upper main column must have a 40° bend and stainless-steel mounting plate. An acrylic plate with a 120° curve and one (1) drainage hole must be fastened to the mounting plate with stainless steel hardware. The waterfall 2 lower arm columns must have a 70° bend and acrylic plate with a 120° curve. One (1) acrylic plate must have two (2) drainage holes must be fastened to the middle arm mounting plate with stainless steel hardware. One (1) acrylic plate must have a five (5) piece urethane weir mounted on a stainless-steel axle and fastened to one end of the acrylic plate. A bucket consisting of two (2) acrylic bucket wheel panels and a curved stainless steel bucket body must be fastened to a stainless-steel axle and must be mounted to the opposite end of the acrylic plate. The Waterfall acrylic plates will be fastened to the arms with stainless steel hardware.
 - c. Dimensions: The overall height of the structure must be no less than 57 inches (1447mm) above final grade. The overall width of the structure must be no less than 86 x 45 inches (2184 x 1143 mm)
 - d. Recommended Flow Rate: The hydraulic requirements must be 11 gpm @ 8 psi (42 lpm @ 55 kpa).
 - e. Nozzle Count: N/A
 - f. Water Display: The water must flow through an opening in the top of the main column and the top of the arm columns. Water from the main column can be directed on the lower arms by rotating the acrylic channel. Water from the arm basins will flow through the drainage holes in the bottom of the acrylic plate or the flow on the lower panel can be manipulated by the finger weirs or bucket wheel located at either end of the gully.
 - g. Anchoring/Levelling System: The stainless steel playPHASE anchoring system must provide the ability to add, remove and interchange products without having to change infrastructure as long as sufficient sized footing is installed for the new feature. The component must be fastened directly to the playPHASE base flange with an EPDM gasket to provide a water tight seal between the component flange and the playPHASE flange. The playPHASE base is flush-to-grade with no exposed bolts or dome covers.
6. Exploration Series K-250 Play Structure

a. AT OCTODECK POD 48 INCHES

- 1) Product Code: 0010-3713
- 2) Occupancy: 28 occupants (5600lbs) evenly distributed or 14 occupants (2800lbs) on one side of the structure
- 3) Characteristics: The activity tower main support column must be constructed of 8-inch (203mm) schedule 10 stainless steel structural tubing with 16-inch (406mm) diameter casted stainless-steel base and mounting flanges. The column must measure between 48 inches and 72 inches (1219mm - 1828mm) depending to the pod selected. Eight (8) column supports must be constructed of schedule 10 stainless steel structural tubing. The support columns can be curved or straight depending on the interactive feature selected. The curved support arm must be a single stainless-steel pipe and must have a bend between 16° and 34° depending on the overall pod height. The straight column must be a two-piece column. The lower column must have a bend between 11° and 18° bend depending on the overall pod height and the upper column must be no less than 49 inches (1244mm). Stainless steel panels must be welded between the flared support arms and a stainless-steel mounting bracket to form a straight edge. A stainless-steel mounting bracket must be welded to the support arm column at pod height. The mounting brackets must be secured to eight (8) triangular stainless-steel panels measuring no less than 58 x 58 x 52 inches (1473 x 1473 x 1320mm). Each octodeck panel must be reinforced with a series of stainless-steel stiffening ribs welded to the bottom of the panel. Acrylic panel railings with a concave top measuring no less than 40 x 51 inches (1016 x 1295mm) must be mounted between each of the panel mounting brackets. The number of acrylic panel railings required will be dependent on stair, bridge, and flume configurations.
- 4) Dimensions: The overall width of the structure must be no less than 125 inches (3175mm). The overall height of the structure to the top of the platform rail is no less than 48 inches (1219mm).
- 5) Anchoring System: The Activity Tower anchoring systems are site specific and require an engineering review for the structural loading. Footing may be required.

b. AT HEXADECK POD 72 INCHES

- 1) Product Code: 0010-3716
- 2) Occupancy: 28 occupants (5600lbs) evenly distributed or 14 occupants (2800lbs) on one side of the structure
- 3) Characteristics: The activity tower main support column must be constructed of 8-inch (203mm) schedule 80 stainless steel structural tubing with 16-inch (406mm) diameter casted stainless-steel base and mounting flanges. The support column must measure between 24" (609mm) and 96" (2438mm) depending on the activity tower pods selected. Each pod must have a six (6) piece urethane dome cover

around the base of the column. Six (6) stainless steel support arms measuring no less than 50 inches (1270mm) must be fastened to the main support column to form the base of the platform. Support arm columns must be constructed of schedule 10 stainless steel pipe. The support columns can be curved or straight depending on the interactive feature selected. The curved support arm must be a single stainless-steel pipe and must have a 16° bend and pipe end cap in the column bottom. Stainless steel panels must be welded between the flared support arms and a stainless-steel mounting bracket to form a straight edge. The straight column must be no less than 41 inches (1041mm) and must have a pipe end cap in the column bottom. A stainless-steel mounting plate must be welded to the support columns. Triangular stainless steel deck panels with finished measurements of no less than 52x52x47 inches (1320x1320x1193mm) must be fastened to the mounting plates between each support arm with stainless steel hardware. Acrylic panel railings with a concave top measuring no less than 40 x 51 inches (1016 x 1295mm) must be mounted between each of the panel mounting brackets. The number of acrylic panel railings required will be dependent on stair, bridge, and flume configurations.

- 4) Dimensions: The overall width of the structure must be no less than 97 x 112 inches (2463 x 2844mm). The overall height of the structure to the top of the platform rail is no less than 72 inches (1828mm).
- 5) Anchoring System: The Activity Tower anchoring systems are site specific and require an engineering review for the structural loading (not provided by Waterplay). Footing may be required.

c. AT HEXADECK FLOATING COLUMN CURVED

- 1) Product Code: 0010-1013
- 2) Characteristics: The activity tower floating columns must be constructed of schedule 10 stainless steel tubing with a bend of no less than 15° and a flared .25 inch (6mm) stainless steel panel held in place by a stainless-steel mounting bracket. The top of the column will house a stainless-steel mounting tube that will allow for the installation of a stainless-steel end cap, urethane nozzle or optional activity tower feature.
- 3) Dimensions: The overall height of the column must be no less than 61 inches (1549mm).

d. AT OCTODECK COLUMN CURVED 48 INCHES

- 1) Product Code: 0010-1083
- 2) Characteristics: The activity tower columns must be constructed of schedule 10 stainless steel tubing with a bend of no less than 26° and a flared .25 inch (6mm) stainless steel panel held in place by a stainless-steel mounting bracket. The top of the column will house a stainless-steel mounting tube that will allow for the installation of a

- stainless-steel end cap, urethane nozzle or optional activity tower feature.
- 3) Dimensions: The overall height of the column must be no less than 96 inches (2438mm).
- e. AT OCTODECK COLUMN STRAIGHT 48 INCHES
- 1) Product Code: 0010-2868
 - 2) Characteristics: The activity tower straight columns must be a two-piece column constructed of schedule 10 stainless steel tubing. The lower column must have a 11° bend and the upper column must be no less than 49 inches (1244mm). Stainless steel panels must be welded between the flared support column and a stainless-steel mounting bracket to form a straight edge. A stainless-steel mounting bracket must be welded to the support arm column at pod height. The top of the column will house a stainless-steel mounting tube that will allow for the installation of a stainless-steel end cap, urethane nozzle or optional activity tower feature.
 - 3) Dimensions: The overall height of the column must be no less than 92 inches (2336mm).
- f. AT HEXADECK FLOATING COLUMN STRAIGHT
- 1) Product Code: 0010-2893
 - 2) Characteristics: The activity tower floating columns must be constructed of schedule 10 stainless steel tubing and must be held in place by a stainless-steel mounting bracket. The top of the column will house a stainless-steel mounting tube that will allow for the installation of a stainless-steel end cap, urethane nozzle or optional activity tower feature.
 - 3) Dimensions: The overall height of the column must be no less than 57 inches (1447mm).
- g. AT RAILING PANELS
- 1) Product Code: 0010-2989
 - 2) Characteristics: The activity tower railing panels must be constructed of acrylic and must be secured to the activity tower pods with tamper resistant stainless-steel hardware.
 - 3) Dimensions: The overall dimensions of the panels must be no less than 44 x 51 inches (1117 x 1295mm).
- h. AT WATERNOOK OCTO 48 INCHES
- 1) Product Code: 0010-3136
 - 2) Characteristics: The activity tower interactive panel waterfall must be constructed of flat rectangular stainless steel 1 x3 inch (25 x 76mm) tubing. The tube must have forty-two (42) holes drilled .38 inches (8mm) from the bottom of the tube. The holes must be centered on

the tube at 1-inch (25.4mm) intervals. The waterfall spray bar must measure no less than 48 inches (1219mm) with a threaded coupler in the center of the pipe, stainless steel end caps and four (4) threaded mounting bosses. The waterfall spray bar will be fastened to an acrylic panel with predrilled mounting holes and a hole for the center coupler with the spray holes facing outward. The panel measurements must be dependent on the pod deck size as per the above table.

- 3) Dimensions: The overall height and width of the feature must be no less than 51 x 46 inches (1295 x 1168mm)
- 4) Flow Rate: The hydraulic requirements must be 10 gpm @ 5 psi (38 lpm @ 35 kpa).
- 5) Water Display: Water must flow from the spray bar in an arching waterfall.

i. AT STAIRS

- 1) Product Code: 0010-1131
- 2) Characteristics: The activity tower stair post columns must be constructed of schedule 10 stainless steel structural tubing with 1 inch (25mm) diameter grab post measuring no less than 32 inches (812mm) mounted no less than 16 inches (406mm) from the bottom of the post. The post columns must measure no less than 69 inches (1752mm). The stair post columns must be bolted to stainless steel side stringers measuring no less than 38 inches x 16 inches (965mm x 406mm). The stair stringer must be sloped at 24 inches (588mm) leaving an 8-inch (82mm) straight edge. The bottom stair tread must be constructed of stainless-steel plate with two (2) stainless steel braces for reinforcement and must measure no less than 44 x 15 inches (1117 x 381mm). The upper stair tread must be constructed of stainless-steel plate with two (2) stainless steel braces for reinforcement and must measure no less than 44 x 26 inches (1117 x 660mm). The stair treads must be secured to the stringers using stainless steel hardware. An acrylic 44 x 8-inch (1117 x 203mm) kick plate panel will be mounted to the front of each stair tread using stainless steel hardware. A triangular platform must be constructed of stainless-steel plate with three (3) stainless steel braces for reinforcement. The platform must be secured to the two (2) stairs posts and a third post constructed of schedule 10 stainless steel structural tubing measuring no less than 49 inches (1244mm) with a 1-inch (25mm) diameter grab post measuring no less than 32 inches (812mm) mounted no less than 16 inches (406mm) from the bottom of the post.
- 3) Dimensions: The overall dimensions of the stairs must be dependent on the number of risers necessary to accommodate the elevation of the pod. 1131 2' Stairs must have a width of no less than 50 inches (1270mm). The overall height and length must be no less than 77 x 44 inches (1955 x 1117mm)

j. AT STAIRS TRANSFER ANGLED

- 1) Product Code: 0010-3220
- 2) Characteristics: The activity tower angled transfer platform must be constructed of stainless-steel plate cut in a triangular shape with three (3) stainless steel ribs for reinforcement. The transfer platform must include a single tread with kick plate and must be secured to the pod assembly or stair assembly with stainless steel hardware. The activity tower stair post columns must be constructed of schedule 10 stainless steel structural tubing with 1 inch (25mm) diameter grab post measuring no less than 32 inches (812mm) mounted no less than 16 inches (406mm) from the bottom of the post. The post columns must measure no less than 69 inches (1752mm). The stair post columns must be bolted to stainless steel side stringers measuring no less than 38 inches x 16 inches (965mm x 406mm). The stair stringer must be sloped at 24 inches (588mm) leaving an 8-inch (203mm) straight edge. The bottom stair tread must be constructed of stainless-steel plate with two (2) stainless steel braces for reinforcement and must measure no less than 44 x 15 inches (1117 x 381mm). The upper stair tread must be constructed of stainless-steel plate with two (2) stainless steel braces for reinforcement and must measure no less than 44 x 26 inches (1117 x 660mm). The stair treads must be secured to the stringers using stainless steel hardware. An acrylic 44 x 8-inch (1117 x 203mm) kick plate panel will be mounted to the front of each stair tread using stainless steel hardware. A triangular platform must be constructed of stainless-steel plate with three (3) stainless steel braces for reinforcement. The platform must be secured to the two (2) stairs posts and a third post constructed of schedule 10 stainless steel structural tubing measuring no less than 49 inches (1244mm) with a 1-inch (25mm) diameter grab post measuring no less than 32 inches (812mm) mounted no less than 16 inches (406mm) from the bottom of the post.
- 3) Dimensions: The overall dimensions of the stairs must be dependent on the number of risers necessary to accommodate the elevation of the pod. 3220/3244 4' Stairs must have a width of no less than 61 inches (1549mm) The overall height and length must be no less than 89 x 89 inches (2260 x 2260mm)

k. COLUMN FEATURES - MOUNTING SYSTEM

- 1) Characteristics: All Activity Tower column features must be mounted using Waterplay's playCONNECT anchoring system. The stainless steel playCONNECT anchoring system must provide the ability to add, remove and interchange products without having to change infrastructure. The two halves on the playCONNECT must be fastened together with the use of an Acetal spacer and an O-Ring for a water tight seal. The playCONNECT system provides a smooth transition between the two sections.

l. AT BOBBLE NOZZLE

- 1) Product Code: 0010-0937
- 2) Characteristics: The bobble nozzle must be constructed of schedule 10 stainless steel structural tubing and a urethane cap measuring Ø6 inches (152mm) in diameter with eight holes for the flow of water. The nozzle must be fastened to the activity tower with tamper resistant stainless-steel hardware.
- 3) Dimensions: The overall dimensions must be no less than 8 x 6 inches (203 x 152mm).
- 4) Flowrate: The hydraulic requirements must be 6 gpm @ 7 psi (23 lpm @ 48 kpa).
- 5) Water Display: Water must flow through the eight openings in the nozzle top in an upward geyser.

m. AT COLUMN PLUG

- 1) Product Code: 0010-2041
- 2) Characteristics: The column plug must be constructed of schedule 10 stainless steel structural tubing and pipe cap. The plug must be fastened to the activity tower with tamper resistant stainless-steel hardware. The plug will allow for future installation of activity tower features.
- 3) Dimensions: The overall height must be no less than 6 inches (152mm) above column support.

n. AT SPIN SPLASHER

- 1) Product Code: 0010-3594
- 2) Characteristics: The Spin Splasher column must be constructed of schedule 10 stainless steel tubing measuring no less than 63 inches (1600mm) with a 35° bend. An acetal nozzle must be installed on the inner bend at the top of the column and a bobble cap must be mounted in the end of the Spin Splasher column. A spindle assembly must be mounted on the inside bend of the main column at a height of no less than 31 inches (787mm). The spindle assembly must house a waterwheel assembly constructed of four (4) ¼" translucent acrylic curved panels bonded between two (2) acrylic circular panels. One (1) blank nozzle must be provided for winterization.
- 3) Dimensions: The overall height of the feature must be no less than 64 inches (1625mm) above the activity tower column support. The overall width of the feature must be no less than 22x28 inches (558 x 711mm).
- 4) Flow Rate: The hydraulic requirements must be 2 gpm @ 10 psi (8 lpm @ 69 kpa).
- 5) Water Display: Water must flow through the column nozzle onto the acrylic spinners causing the spinners to rotate and splash water randomly.

o. AT WATER WAND SPIN

- 1) Product Code: 0010-3604
- 2) Characteristics: The Water Wand Spin column must be constructed of schedule 10 stainless steel tubing measuring no less than 55 inches (1397mm) with a 15° bend. A bobble cap nozzle must be installed in the end of the main column. Six (6) nozzles must be installed at equal intervals on the inside bend of the column. A rotational hub must be installed in the bottom of the Water Wand Spin column. Two halves round stainless-steel mounting tabs must be welded to the bottom of the Water Wand Spin column. Two (2) acrylic half round handle tabs with a diameter of Ø14 inches (355mm) must be fastened to the mounting tabs with stainless steel hardware. Six (6) blank nozzles must be provided for winterization.
- 3) Dimensions: The overall height of the feature must be no less than 60 inches (1524mm) above the activity tower column support. The overall width of the feature must be no less than 11 inches (279mm).
- 4) Flowrate: The hydraulic requirements must be 6 gpm @ 2 psi (23 lpm @ 14 kpa).
- 5) Water Display: Water must flow through the six (6) column nozzles in a gentle outward mist. Water must flow in an arching geyser from the bobble cap nozzle. The rotational hub must allow for 120° rotation.

p. AT WHIRL WIND

- 1) Product Code: 0010-4005
- 2) Characteristics: The Whirl Wind mounting spindle must be constructed of schedule 10 stainless steel tubing. A stainless-steel mounting flange measuring no less than 6 inches (152mm) must be welded to the top of the spindle assembly. An acrylic disc measuring no less than 21 inches (533mm) must be fastened to the mounting flange and an acrylic 6-inch (152mm) star shaped disc with six (6) water channels at the star low points must be fastened with tamper resistant stainless-steel hardware. The mounting spindle must allow for full 360° rotation.
- 3) Dimensions: The overall height of the feature must be no less than 11 inches (279mm) above the activity tower column support. The overall width of the feature must be no less than 21 inches (533mm).
- 4) Flowrate: The hydraulic requirements must be 5 gpm @ 5 psi (19 lpm @ 34 kpa).
- 5) Water Display: Water must flow through the center of the disc. The user can spin the disc using the star shaped handle to manipulate the flow of water.

q. AT WATER CHUTE

- 1) Product Code: 0010-4774
- 2) Characteristics: The Water Chute assembly must be constructed of schedule 10 stainless steel structural tubing. A revolving hub with no pinch points must be mounted in the feature base column and must

allow for 360° rotation. A stainless-steel mounting plate must be welded to the rotational hub and must have an acrylic plate with a 120° bend fastened with stainless steel hardware.

- 3) Dimensions: The overall dimensions must be no less than 17 x 35 inches (431 x 889mm).
- 4) Flow Rate: The hydraulic requirements must be 5 gpm @ 5 psi (9 lpm @ 34 kpa).
- 5) Water Display: Water must flow through the spindle into the water chute basin. The user can direct the flow of the water by rotating the acrylic chute.

r. AT NAUT-HALO PANEL SPRAY

- 1) Product Code: 0010-2808
- 2) Characteristics: The panel spray column must be constructed of schedule 10 stainless steel structural tubing measuring no less than 39 inches (990mm) with a rounded pipe cap on either end. There must be a threaded 1 1/2-inch (38mm) coupler installed in the main column at the base. Two (2) 2-inch (50mm) standoffs must be welded to the main column directly above the threaded coupler. A stainless-steel mounting plate must be welded to the standoffs without interfering with the threaded coupler. An acrylic rail cannon panel measuring no less than 43 x 51 inches (1092 x 1295mm) must be fastened to the stainless-steel mounting plate. A 2 1/2-inch (63mm) schedule 40 rail sleeve measuring no less than 8 inches (203mm) must be welded through an opening in the top of the main column. The rail sleeve will house a rail spindle assembly and must extend through an opening in the top of the acrylic rail panel. A 2 1/2 acetal nozzle will be installed facing outward from the structure. An 11.75-inch (298mm) diameter acrylic panel must be installed on the inside of the rail cannon panel. The rail spindle assembly will allow for 360° rotation. An acrylic panel with a diameter of 10 inches (254mm) must be fastened to a stainless-steel mounting plate with a diameter of no less than 5 inches (127mm). A blank acetal nozzle will be provided for winterization.
- 3) Dimensions: The overall dimensions of the feature must be no less than 49 x 51 inches (1244 x 1295 mm). The overall width of the feature must be no less than 12 inches (304 mm)
- 4) Flow Rate: The hydraulic requirements must be 6 gpm @ 7 psi (23 lpm @ 48 kpa).
- 5) Water Display: Water flows through the nozzle in an outward geyser. The spindle assembly allows for 360° rotation.

s. AT PANEL SPLASHER

- 1) Product Code: 0010-2903

- 2) Characteristics: The panel Splasher column must be constructed of schedule 10 stainless steel structural tubing measuring no less than 39 inches (990mm) with a rounded pipe cap on either end. There must be a threaded 1 1/2-inch (38mm) coupler installed in the main column at the base. Two (2) 2-inch (50mm) standoffs must be welded to the main column directly above the threaded coupler. A stainless-steel mounting plate must be welded to the standoffs without interfering with the threaded coupler. An acrylic rail cannon panel measuring no less than 43 x 51 inches (1092 x 1295mm) must be fastened to the stainless-steel mounting plate. A 2 1/2-inch (63mm) schedule 40 rail sleeve measuring no less than 8 inches (203mm) must be welded through an opening in the top of the main column. The rail sleeve will house a rail spindle assembly and must extend through an opening in the top of the acrylic rail panel. A 2 1/2 acetal nozzle will be installed facing outward from the structure. An 11.75-inch (298mm) diameter acrylic panel must be installed on the inside of the rail cannon panel. The rail spindle assembly will allow for 360° rotation. A 15.50 inch (393mm) acrylic panel must be fastened to a stainless-steel mounting plate on the nozzle end of the rail spindle. An acrylic bucket with a diameter of no less than 14 inches (355mm) with the top of the dome cut off at no less than 11 inches (279mm) must be fastened to the inside panel to form a bucket.
 - 3) Dimensions: The overall dimensions of the feature must be no less than 49 x 51 inches (1244 x 1295 mm). The overall width of the feature must be no less than 12 inches (304 mm)
 - 4) Flow Rate: The hydraulic requirements must be 6 gpm @ 7 psi (23 lpm @ 48 kpa).
 - 5) Water Display: Water must be manually dumped from the bucket onto the splash pad below. The spindle assembly allows for 360° rotation.
- t. AT OCTODECK NETTING 48 INCHES
- 1) Product Code: 0010-2103
 - 2) Characteristics: The activity tower octodeck netting kit must consist of twenty-four (24) stainless steel brackets with stainless steel hardware and eight (8) netting panels with nylon kayak cord for fastening.
 - 3) Dimensions: Each netting panel must measure no less than 51 x 46 inches (1275 x 1168mm).
- u. AT HEXADECK NETTING 72 INCHES
- 1) Product Code: 0010-2213
 - 2) Characteristics: The activity tower hexadeck netting kit must consist of two (2) stainless steel deck mounting brackets measuring no less than 16 inches (406mm) and a bottom grade stainless steel mounting bracket measuring no less than 48 inches (1219mm). Each bracket must have drill holes at 2-inch (50mm) intervals. Netting mesh measuring no less than 69 x 52 inches (1752 x 1320mm) must be

fastened to the mounting brackets by threading nylon kayak cord through the netting and bracket drill holes.

- 3) Dimensions: Each netting panel must measure no less than 69 x 52 inches (1752 x 1320mm).

v. AT ANGLED STAIR NETTING KIT OCTO 48 INCHES NON-ADA

- 1) Product Code: 0010-4568
- 2) Characteristics: The activity tower stair netting kit must consist of two (2) sets of three (3) stainless steel mounting brackets measuring no less than 42 inches (1066mm), 38 inches (965mm) and 20 inches (508mm) with drill holes at 2-inch (50 mm) intervals. Brackets must be fastened to the stair stringers and grade using stainless steel tamper resistant hardware. Netting mesh measuring no less than 13 inches (330mm) at the low point, 36 inches (914mm) at the high point and 41 inches (1041mm) in length must be fastened to the side mounting brackets by threading nylon kayak cord through the netting and bracket drill holes.
- 3) Dimensions: Each netting panel must measure no less than 34 x 41 inches (863 x 1041mm).

w. AT STAIR NETTING KIT OCT-HEX 48-72 INCHES

- 1) Product Code: 0010-4577
- 2) Characteristics: The activity tower stair netting kit must consist of two (2) sets of three (3) stainless steel mounting brackets measuring no less than 43 inches (1092mm), 38 inches (965mm) and 41 inches (1041mm) with drill holes at 2-inch (50 mm) intervals. Brackets must be fastened to the stair stringers and grade using stainless steel tamper resistant hardware. Netting mesh measuring no less than 37 inches (939mm) at the low point, 60 inches (1524mm) at the high point and 41 inches (1041mm) in length must be fastened to the side mounting brackets by threading nylon kayak cord through the netting and bracket drill holes.
- 3) Dimensions: Each netting panel must measure no less than 60 x 41 inches (1524 x 1041mm).

x. SKY SOAKER ASSY 4ft OCTO POD

- 1) Product Code: 0010-9631
- 2) Characteristics: The feature columns must be constructed of schedule 10 stainless steel structural tubing. The sky soaker main column must measure no less than 116 inches (2946mm) and must mount to the center of the activity tower using the playPHASE mounting system. A splash plate support bracket measuring no less than 14 x 15 inches (355 x 381mm) will be mounted to each side of the main column at a height of no less than 97 inches (2463mm) from the base of the column. A horseshoe bucket cradle with a 225° bend must be welded to the top of the main column and house a spindle assembly with a

clear acrylic bucket that has a capacity of 35-40 gallons (132.5-151.4 litres). The splash plate must consist of stainless-steel support rails with six (6) stainless steel cross supports. The cross supports must decrease in size from 54 inches (1371mm) to 23 inches (2584mm) creating a tapered surface. Three tapered acrylic panels must be fastened to stainless steel support rails and crossbars. Two (2) splash plate front supports must measure no less than 39 inches (990mm). The bottom of the support columns must mount into the activity tower column supports and the top of the support column must have a mounting bracket that fastens to the splash plate support rails.

- 3) Dimensions: The overall height of the structure must be no less than 161 inches (4089mm) above final grade. The overall width of the structure must be no less than 60 x 113 inches (1524 x 2870mm)
- 4) Flowrate: The hydraulic requirements must be 30 gpm @ 10 psi (113 lpm @ 69 kpa).
- 5) Water Display: Water will flow through the water supply holes on the bucket spindle. The spindle is angled towards the direction the bucket is to rotate. Once at capacity for gravity rotation, the dumping bucket will be emptied downward, causing the bucket to return to its starting position and water will cascade off the tapered splash plate.

y. AT FLUME FS 6ft Curve ENC - RO LH

- 1) Product Code: 0010-9068
- 2) Characteristics: The 6ft left hand curve enclosed flume must be constructed of fiberglass with stainless steel structural support columns. The flume must have a 32-inch (812mm) diameter entrance secured to the Activity Tower with stainless steel hardware. The flume must have an open runout with built in drain at the end of the runout to maintain water depth.
- 3) Dimensions: The overall height of the flume must be no less than 114 inches (2900mm) above final grade. The overall width and length of the flume must be no less than 161 x 161 inches (4079 x 4079mm) from the edge of the Activity Tower structure.
- 4) Flow Rate: The hydraulic requirements must be 400 gpm (1515 lpm).

z. AT FLUME WMI 4FT DBL Straight RO

- 1) Product Code: 0010-6393
- 2) Characteristics: The 4ft double straight flume must be constructed of fiberglass with a stainless-steel structural support column. The flume must have a minimum 37 inch (940mm) wide entrance secured to the Activity Tower with stainless steel hardware. The flume must have an open runout with built in drain at the end of the runout to maintain water depth.
- 3) Dimensions: The overall height of the flume must be no less than 90 inches (2285mm) above final grade. The overall width and length of

the structure must be no less than 54 x 247 inches (1371 x 6285mm) from the edge of the Activity Tower structure.

4) Flow Rate: The hydraulic requirements must be 125 gpm (475 lpm).

7. ACTIVATOR POWER POST

- a. Product Code: 0010-1854
- b. Characteristics: The Power Post Activator column must be constructed of schedule 10 stainless steel structural tubing measuring 42.55 inches (1081mm) tall. There must be 1 10 inch (254mm) acrylic mounting panel on top of the column anchored at 45° with 1 push button activator in the center. Tamper resistant fasteners must be used to hold all components together.
- c. Dimensions: The overall height of the structure must be no less than 42.55 inches (1081mm) above final grade. The overall width of the structure must be no less than 8.79 inches (223mm)
- d. Recommended Flow Rate: N/A
- e. Nozzle Count: N/A
- f. Water Display: N/A
- g. Anchoring/Levelling System: The stainless steel playPHASE anchoring system must provide the ability to add, remove and interchange products without having to change infrastructure as long as sufficient sized footing is installed for the new feature. The component must be fastened directly to the playPHASE base flange with an EPDM gasket to provide a watertight seal between the component flange and the playPHASE flange. The playPHASE base is flush-to-grade with no exposed bolts or dome covers.

8. PlayPhase Base

- a. Product Code: 0010-0507
- b. Characteristics: The playPHASE base must be constructed of cast stainless steel of minimum 0.25" (6mm) thickness. The legs must be constructed of bent 3/8" (10mm) stainless steel plate. A 1.5 inch (38mm) stainless steel pipe measuring no less than 4 inches (101mm) with a 90° elbow must be welded in the center of the playPHASE base flange for water intake. Four (4) angled legs must be secured to the playPHASE base flange with eight (8) stainless steel bolts and four (4) 9-inch (228mm) anchor bolts must be secured to the bottom of the playPHASE leg. An EPDM gasket and 7.5-inch (190mm) urethane cover must be included for winterization.
- c. Anchoring/Levelling System: The stainless steel playPHASE anchoring system must provide the ability to add, remove and interchange products without having to change infrastructure as long as sufficient sized footing is installed for the new feature. The component must be fastened directly to the playPHASE base flange with an EPDM gasket to provide a watertight seal between the component flange and the playPHASE flange. The playPHASE base is flush-to-grade with no exposed bolts or dome covers.

9. Power Post
 - a. Product Code: 0010-1854
 - b. Characteristics: The Power Post Activator column must be constructed of schedule 10 stainless steel structural tubing measuring 42.55 inches (1081mm) tall. There must be 1 10 inch (254mm) acrylic mounting panel on top of the column anchored at 45° with 1 push button activator in the centre. Tamper resistant fasteners must be used to hold all components together.
 - c. Dimensions: The overall height of the structure must be no less than 42.55 inches (1081mm) above final grade. The overall width of the structure must be no less than 8.79 inches (223mm)
 - d. Anchoring/Levelling System: The stainless steel playPHASE anchoring system must provide the ability to add, remove and interchange products without having to change infrastructure as long as sufficient sized footing is installed for the new feature. The component must be fastened directly to the playPHASE base flange with an EPDM gasket to provide a water tight seal between the component flange and the playPHASE flange. The playPHASE base is flush-to-grade with no exposed bolts or dome covers.
10. SEDIMENT TRAP AND DIVERTER BASIN
 - a. The sediment trap and diverter basin must be composed of filament reinforced plastic (FRP) and constructed using hand lay-up molding methods. The sediment trap and diverter basin must be dimensioned as illustrated on the drawings and include a solid lid with a hinged access. The diverter line must be supplied with an electrically actuated solenoid from the sprayground manufacturer that automatically opens when the sprayground features are not in use. The contractor may submit an alternative sediment trap and diverter basin that utilizes reinforced concrete for review and approval.
11. WTS CONTROLLER
 - a. Product Code: 0010-2248
 - b. Characteristics: The NEMA 4 electrical controller cabinet must be constructed of 16-gauge steel with a wall thickness of 0.0598". The cabinet must have an HMI touch screen with custom spray park menus and field programmable options including component run times, operating days, hours of daily operation, activation sequence and test mode. The controller must have an industrial grade programmable logic controller and be factory programmed to recommended settings but be field configurable for easy changes. The power supply must be 120 VAC with a 15 AMP dedicated GFI breaker. It must receive a maximum of 4 sensors and control up to 12 valves. Optional expansion packs are available to increase valve capacity to 36 valves. Additional options available include Water Treatment System Control, Interactive Sounds, Pop-It Valves, Booster Pump Control, Diverter Valve Control, Extra Sensor inputs and 240 VAC Power Supply.
 - c. Dimensions: The overall length and width of the cabinet must be no less than 16 x 10 inches with a height of no less than 24 inches.

PART 3 - EXECUTION

3.1 SYSTEMS INSTALLATION

- A. The water sprayground installer must provide assemble and install equipment, special parts, and accessories in accordance with these specifications and detailed layouts and shop drawings of equipment supplier.
- B. Installer must provide anchors and inserts must be imbedded including fittings, inserts, structure sleeves and required anchorages.
- C. Provide equipment and systems in accordance with manufacturer's directions.
- D. The water sprayground must be as described in the specifications. Items are detailed and specified as a guide reference and for dimensional purposes. Must make provisions accordingly and submit shop drawings and submittals based on that data.
- E. Installer must coordinate, supervise, and approve work by other trades responsible for work related to this section. All work in this section must be performed by the water sprayground installer except as noted.

3.2 SITE CONDITIONS

- A. Inspection
 - 1. Prior to installation of the work of this section, carefully inspect the installed work of other trades and verify that such work is complete to the point where this installation may properly commence.
 - 2. Verify that sprayground water spray features may be fabricated and erected in strict accordance with the original design, the approved shop drawings, and the referenced standards.
- B. Discrepancies
 - 1. In the event of discrepancy, immediately notify the Architect.
 - 2. Do not proceed with fabrication or installation in areas of discrepancies until such discrepancies are fully resolved.

3.3 FABRICATION

- A. Fabricate the water spray ground and its related systems in strict accordance with the approved shop drawings and referenced standards.

3.4 CLEAN-UP

- A. Upon completion of the work of this section, immediately remove fiberglass, debris and rubbish occasioned by this work to the approval of the Architect and at no additional cost to the Owner.

3.5 START-UP AND INSTRUCTION

- A. Supply the services of an experienced operator/instructor to assist in the initial start-up and training of the water sprayground and its related systems has been completed and initially placed in operation. During this period, the Owner's representatives who will be operating

the pool must be thoroughly instructed in phases of the water sprayground operation. Prior to leaving the job, obtain written certification from the designated Owner's representative acknowledging that the instruction period has been completed and necessary operating information provided. A minimum of one (1) 2-hour session is required. The manufacturer of sprayground equipment must have an on-site representative for the commissioning of the water sprayground.

3.6 WINTERIZATION

- A. The Contractor is responsible for assisting the Owner in the proper winterization methods for the water sprayground and its related equipment. Winterization instructions must also be included with the Operation & Maintenance manual.

3.7 WARRANTY

- A. Must be provided by manufacturer providing a five-year unconditional warranty against defects in workmanship, materials, and equipment operations for a period of one year from system start-up.

3.8 INSTALLATION

- A. Drawings and instructions must be supplied by the manufacturer for ease of installation. Manufacturer must supply a service technician on site at the time of system startup to ensure spray patterns are correct, lines are free and clear, water pressures are correct, the dynamic control module is programmed correctly, play events are correct and facility staff is properly trained on the operations of the dynamic module controller.

3.9 CONCLUSION

- A. It is the intention of these specifications to provide complete installation of the water spray ground as described. All accessory construction and apparatus necessary or advantageous in the operation or testing or high performance of the work must be included. The omission of specific reference to part of the work necessary for such complete installation must not be interpreted as relieving the water sprayground supplier or installer from providing and installing such parts. Any such omission or clarification must be brought to the attention of the Architect prior to bidding.

END OF SECTION