



# FULCRUM

## CONSULTING SERVICES

PLANNERS \* ENGINEERS \* ARCHITECTS

May 24, 2019

**City of Edcouch**  
**Municipal/School Park Project**  
**Addendum #1**

**All Prospective Bidders:**

**This ADDENDUM, dated May 24, 2019, supersedes the original Project Manual and Drawings and previous Addenda, wherein it contradicts them. All other conditions remain unchanged.**

**Acknowledgment of receipt of this ADDENDUM is required on Bid Form:**

**General:**

1. The bid opening date has been moved to Tuesday, June 11, 2019 at 11:00 a.m. at City of Edcouch City Hall 211 W. Southern Avenue, Edcouch Texas 78538.

**Contract & Specification Modifications:**

1. Splashpad Technical Provisions has been added to the specifications section.
2. Play Structures Technical Provision Section 116800 has been added to the specifications section.
3. Please replace the bid schedule contained in the project manual with the attached bid schedule and bid schedule Attachment A.
4. Playground equipment will have a total allowance of \$182,000.00. Selected contractor will negotiate the best value for the City. Approved playground manufacturers and installers per Section 116800 Play Structures.
  - a. Aquatix by Landscape Structures
  - b. Waterplay

**Questions:**

The following are questions and responses that have been previously submitted by contractors.

1. Who is responsible for payment of geotechnical testing?  
**The contractor shall coordinate and pay for any geotechnical testing required in the project.**
2. Is item 24 intended to be the Alternate parking lot resurfacing as shown on sheet 26? If so, then what about the quantities for the new parking lot? Please clarify. **Please see the revised bid schedule and bid schedule Attachment A included in this addendum.**

3. Other than the note on the landscaping page in regards to the drip systems for the trees, is there any other irrigation that will be needed for this project? Will the rest of the project be taking any irrigation? Does the irrigation contractor have to design it? Please advise.

**Only the drip systems shown on plan sheet A001 Landscape plan is whats required for irrigation. The drip system should be designed and installed by a licensed landscape irrigator.**

4. Will the City waive permit fees? **No, contractor shall be responsible for all permitting fees.**

**Drawing Modifications:**

The following drawing sheets have been modified:

Sheet A002 – ASPHALT PARKING – This sheet has been modified to include a concrete driveway detail.

Sheet A109 – REFERENCE DETAIL 1 – H/C PLAYGROUND PLAN - *“H/C Swing Wheel Chair Accessible”* note shall be revised to read *“ADA Swing shall consists of Molded Bucket Seat (age 5-12) w/harness and chains, Qty:2 w/5” Arch Swing Frame by Landscape Structures or approved equal”*.

Sheet A111- REFERENCE DETAIL 2 – ALTERNATE BID RESURFACE SOUTH PARKING LOT - 6” Concret Curb work to be deleted from scope.

Thank you,

A handwritten signature in blue ink, appearing to read 'Daniel Campos, P.E.', with a stylized flourish.

Daniel Campos, P.E.  
Fulcrum Consulting Services



Contractor agrees to perform all work described in the CONTRACT DOCUMENTS for the following unit prices or lump sum.

**City of Edcouch - Municipal/School Park Project**  
**TPWD Contract No. 50-000493 - Hidalgo County PCT #1**  
**Urban County Project No. 5017-20-0306-5000-2000-UCP -ML**

**Base Bid**

<i>Item</i>	<i>Description</i>	<i>Unit</i>	<i>Unit Price</i>	<i>Quantity</i>	<i>Total</i>
1	Furnish all material, equipment, labor and all other incidentals required to construct a 6' wide asphalt walking trail w/6"x6"concrete edging in accordance with plans and specifications.	S.F.		8,500	
2	Furnish all material, equipment, labor and all other incidentals required to construct picnic shelters consisting of 4"x4" steel columns, corrugated metal roof, metal rain gutter and 4" thick concrete slab in accordance with the plans and specifications.	EA.		6	
3	Galvanized Steel Chain Perimeter Link Fence with Gates	L.F.		1,710	
4	Furnish all material, equipment, labor and all other incidentals required to construct/install 5' high wrought Iron Fence with Gates in accordance with the plans and specifications.	L.F.		365	
5	Furnish all material, equipment, labor and all other incidentals required to construct 5' Wide Paver Sidewalk in accordance with the plans and specifications.	L.F.		2,400	
6	Furnish all material, equipment, labor and all other incidentals required to construct 5' Wide x 4 in. Thick Concrete Sidewalk in accordance with plans and specifications.	S.F.		545	
7	Furnish all material, equipment, labor and all other incidentals required to construct T-Ball Baseball Field- To include bleachers w/shade, backstop and dugout as per plans and specifications.	L.S.		1	
8	Furnish all material, equipment, labor and all other incidentals required for the construction of a 90'X60' Mini Soccer Field w/goal posts and shaded bleachers as per plan and specifications.	L.S.		1	
9	Furnish all material, equipment, labor and all other incidentals required for Splash Pad w/water recycler and shade in accordance with plans and specifications.	L.S.		1	
10	Furnish all material, equipment, labor and all other incidentals required for the construction of Park Trash Cans consisting of 55 gal. plastic trash can and 4"x4" treated wood posts in accordance with plans and specifications.	EA.		6	
11	Furnish all material, equipment, labor and all other incidentals required to construct and install Metal Park Bench - 6 FT., In Ground Mount with Shelter in accordance with plans and specifications.	EA.		8	
12	Furnish all material, equipment, labor and all other incidentals required to construct and install ADA Swings in accordance with plans and specifications.	EA.		1	
13	Furnish all material, equipment, labor and all other incidentals required to Construct Group Shelters consisting of 4"x4" steel columns, corrugated metal roof, metal rain gutter and 5" thick concrete slab in accordance with plans and specifications.	EA.		2	
14	Furnish all material, equipment, labor and all other incidentals required to construct Community Gardens to include Garden Box Planters, 4' high chain link fence and weatherproof membrane in accordance with plans and specifications.	L.S.		1	
15	Furnish all material, equipment, labor and all other incidentals required to construct and install Exercise Stations in accordance with plans and specifications.	EA.		3	
16	Furnish all material, equipment, labor and all other incidentals required to construct and install Pergola with swings in accordance with plans and specifications.	EA.		4	
17	Furnish all material, equipment, labor and all other incidentals required to construct and install the Playground Structures as indicated in the plans including three (3) Playground Structures, one (1) ADA Playground Structure, three (3) swings and one (1) ADA swing in accordance with plans and specifications for the allowance shown.	L.S.	\$182,000.00	1	\$182,000.00
19	Furnish all material, equipment, labor and all other incidentals required to construct and install 300-in. SQ. Rotating Pedestal Grill w/2-3/8-in. O.D. In-ground Post by The Park and Facilities Catalog in accordance with plans and specifications.	EA.		6	



20	Furnish all material, equipment, labor and all other incidentals required to install 6-ft. Long All Aluminum Picnic Table in accordance with the plans and specifications.	EA.		6	
21	Furnish all material, equipment, labor and all other incidentals required for Landscaping Park in accordance with plans and specifications.	EA.		1	
22	Furnish all material, equipment, labor and all other incidentals required to construct and install Solar Area Lights in accordance with plans and specifications.	EA.		8	
23	Furnish all material, equipment, labor and all other incidentals required to construct Drip Irrigation System with Rain Harvesting as per plan and specification.	L.S.		1	
24	Furnish all material, equipment, labor and all other incidentals required for the construction of the North Parking Lot in accordance with plans, specifications and bid schedule Attachment A.	L.S.		1	
25	Furnish all material, equipment, labor and all other incidentals required to construct and install Permanent Stone Wall Project Sign and Plaque in accordance with plans and specifications.	L.S.		1	
26	Furnish all material, equipment, labor and all other incidentals required to construct and install Stone Wall Park Entrance and Steel Arch Beam Park Sign in accordance with plans and specifications.	L.S.		1	
27	Furnish all material, equipment, labor and all other incidentals required to install 2" water service line in accordance with plans and specifications.	L.F.		295	
28	Furnish all material, equipment, labor and all other incidentals required to install 4" SDR35 PVC sewer service line in accordance with plans and specifications.	L.F.		130	
29	Furnish all material, equipment, labor and all other incidentals required to install 4" SDR35 PVC sewer service line tie-in to existing 8" sewer main.	L.S.		1	
30	Furnish all material, equipment, labor and all other incidentals required to install 2" Sch. 80 PVC water service line tie-in to 8" water main.	L.S.		1	
31	Furnish all material, equipment, labor and all other incidentals required to install 6" steel casing bored and installed in accordance with plans and specifications.	L.F.		74	
<b>TOTAL BASE BID:.....\$</b>					
<b>ALTERNATE BID ITEMS:</b>					
<b>Item</b>	<b>Description</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Quantity</b>	<b>Total</b>
1	Furnish all material, equipment, labor and all other incidentals required for Hydroseeding of all park green areas including Tilling, applying "RoundUp" to existing vegetated areas, grading for positive drainage, fertilizing and watering of all green areas during construction in accordance with plans and specifications.	S.F.		65,295	
2	Furnish all material, equipment, labor and all other incidentals required for the rehabilitation of the existing south parking lot in accordance with the plans, specifications and bid schedule Attachment A.	L.S.		1	
<b>TOTAL ALTERNATE BID:.....\$</b>					
<b>TOTAL BID:.....\$</b>					

Respectfully Submitted:

Signature

Address

Title

Date

(SEAL-If Bid is by Corporation)



BID SCHEDULE  
ATTACHMENT A

**Bid Item 24 - Furnish all material, equipment, labor and all other incidentals required for the construction of the North Parking Lot in accordance with plans and specifications.**

**Quantities:**

Item	Description	Unit	Unit Price	Quantity	Total
1	Prime Coat (MC-30) (0.2 Gal./S.Y.)	Gal.		480	
2	1-1/2" HMAC Pavement, Type D (Compressed)	S.Y.		2,400	
3	6" Base Scarify and Compaction w/3% lime	S.Y.		2,400	
4	Furnish all labor, materials and equipment necessary to install Parking Lot Stripping in accordance with plans and specifications.	L.S.		1	
5	Concrete Curb & Gutter, Type IIa	L.F.		825	
6	Concrete Tire Stop (8' L x 10"W x 4"H)	EA.		15	
7	Furnish all labor, materials and equipment necessary to install concrete drive in accordance with plans and specifications.	EA.		2	
<b>*Total for Bid Item 24:</b>					

*\*Insert total of bid item 24 on bid schedule line item 24.*

**Alternate Bid Item 2 - Furnish all material, equipment, labor and all other incidentals required for the rehabilitation of the existing south parking lot in accordance with the plans and specifications.**

**Quantities:**

Item	Description	Unit	Unit Price	Quantity	Total
1	Prime Coat (MC-30) (0.2 Gal./S.Y.)	Gal.		393	
2	1-1/2" HMAC Pavement, Type D (Compressed)	L.S.		1,963	
3	1-1/4" Asphalt Milling	S.F.		1,963	
4	Furnish all labor, materials and equipment necessary to install Parking Lot Stripping in accordance with plans and specifications.	L.S.		1	
5	Furnish all labor, materials and equipment, labor and all other incidentals required for the rehabilitation of the existing South Parking Lot in accordance with plans and specifications.	EA.		2	
<b>*Total for Alternate Bid Item 2:</b>					

*\*Insert total of alternate bid item 2 on bid schedule alternate bid item 2.*

SECTION 11 68 00  
PLAY STRUCTURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Play structures including the following:
  - 1. Play System.
  - 2. Play Structures Climbers.
  - 3. Swings.
  - 4. Tunnel.
  - 5. Zip-Line.
  - 6. Sensory Play - Musical Instruments.
  - 7. Multiple Users Motion Events.

1.2 RELATED SECTIONS

- A. Section 02 20 00 - Assessment.

1.3 REFERENCES

- A. ASTM International (ASTM):
  - 1. ASTM A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
  - 2. ASTM A500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
  - 3. ASTM A635 - Standard Specification for Steel, Sheet and Strip, Heavy-Thickness Coils, Hot-Rolled, Alloy, Carbon, Structural, High-Strength Low-Alloy, and High-Strength Low-Alloy with Improved Formability, General Requirements for.
  - 4. ASTM A1011 - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.
  - 5. ASTM B117 - Standard Practice for Operating Salt Spray (Fog) Apparatus.
  - 6. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
  - 7. ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
  - 8. ASTM C947 - Standard Test Method for Flexural Properties of Thin-Section Glass-Fiber-Reinforced Concrete (Using Simple Beam with Third-Point Loading).
  - 9. ASTM D522 - Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings.
  - 10. ASTM D638 - Standard Test Method for Tensile Properties of Plastics.
  - 11. ASTM D1505 - Standard Test Method for Density of Plastics by the Density-Gradient Technique.
  - 12. ASTM D1654 - Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments.
  - 13. ASTM D2794 - Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).
  - 14. ASTM D3359 - Standard Test Methods for Rating Adhesion by Tape Test.
  - 15. ASTM D3363 - Standard Test Method for Film Hardness by Pencil Test.
  - 16. ASTM F879 - Standard Specification for Stainless Steel Socket Button and Flat Countersunk Head Cap Screws.
  - 17. ASTM F1487 - Standard Consumer Safety Performance Specification for Playground Equipment for Public Use.
  - 18. ASTM G154 - Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp



Apparatus for Exposure of Nonmetallic Materials.

- B. Industrial Fasteners Institute (IFI): IFI 125 - Test Procedure for the Performance of Chemical Coated Prevailing-Torque Screws.
- C. Canadian Standards Association (CSA standard).
- D. European Standards (EN Standard).
- E. ADA Standard for Accessible Design.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
- C. Shop Drawings:
- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- E. Installation Documentation: All shipments shall include a packet of order-specific, step-by-step instructions for assembly of each component, including equipment assembly diagrams, estimated hours for assembly, footing dimensions, concrete quantity for direct bury components, fall height information, and area required information.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 5 year experience manufacturing similar products.
- B. Installer Qualifications: Minimum 2 year experience installing similar products.
- C. All play structures shall be certified and validated to be in conformance with the ASTM F1487 Standard.
- D. To the best of manufacturer's belief and knowledge play structures conform to the U.S. Consumer Products Safety Commission (CPSC) Guidelines.
- E. Unless otherwise noted, all play structures are considered accessible according to the 2010 ADA Standard for Accessible Design. (See the play components listing for each structure to determine the number of additional play components required to meet the guidelines.)
  - 1. Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities and ICC A117.1 for playground equipment designated as accessible.
- F. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
  - 1. Finish areas designated by Architect.
  - 2. Do not proceed with remaining work until workmanship is approved by Architect.
  - 3. Refinish mock-up area as required to produce acceptable work.

1.6 PRE-INSTALLATION MEETINGS

- A. Convene minimum two weeks prior to starting work of this section.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.
- B. Packaging: Components shall be individually wrapped or bulk wrapped to provide protection during shipment. Small parts and hardware packages will be placed in crates for shipment. The components and crates are then shrink-wrapped to skids (pallets) to ensure secure shipping.
- C. Handling: Handle materials to avoid damage.

## 1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

## 1.9 SEQUENCING

- A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
- B. Hardware Packages: Each hardware package shall be labeled with the part number, description, package weight, a bar code linking the hardware package to the job number, assembler's name, date and time the package was assembled, work center number, and work order number.

## 1.10 WARRANTY

- A. Landscape Structures Inc. ("Manufacturer") warrants that all play structures and/or equipment sold will conform in kind and in quality to the specifications manual for the products identified in the Acknowledgment of Order and will be free of defects in manufacturing and material. Manufacturer further warrants:
  - 1. 100-Year Limited Warranty: On all PlayBooster and PlayShaper and PlaySense aluminum posts, stainless steel fasteners, clamps, beams and caps against structural failure due to corrosion/natural deterioration or manufacturing defects, and on PlayBooster steel posts against structural failure due to material or manufacturing defects.
  - 2. 15-Year Limited Warranty: On all Evos and Weevos steel arches, all plastic components (including TuffTimbers edging), all aluminum and steel components not covered above, Mobius climbers, Rhapsody Outdoor Musical Instruments, decks and TenderTuff coatings (except Wiggle Ladders, Chain Ladders and Swing Chain) against structural failure due to material or manufacturing defects.
  - 3. 10-Year Limited Warranty: On concrete products against structural failure due to natural deterioration or manufacturing defects. Does not cover minor chips, hairline cracks or efflorescence.
  - 4. 5-Year Limited Warranty: On Rhapsody cables and mallets against defects in materials or manufacturing defects.
  - 5. 3-Year Limited Warranty: On all other parts, i.e.: Pulse products, all swing seats and hangers, Mobius climber handholds, Wiggle Ladders, Chain Ladders and ProGuard Swing Chain, Track Ride trolleys and bumpers, all rocking equipment including Sway Fun gliders, belting material, HealthBeat resistance mechanism, Seesaws, etc., against failure due to corrosion/natural deterioration or manufacturing defects.
  - 6. The environment near a saltwater coast can be extremely corrosive. Some corrosion and/or deterioration is considered "normal wear" in this environment. Product installed within 500 yards (457 meters) of a saltwater shoreline will only be covered for half the



period of the standard product warranty, up to a maximum of five years, for defects caused by corrosion. Products installed in direct contact with saltwater or that are subjected to salt spray are not covered by the standard warranty for any defects caused by corrosion.

7. This warranty does not include any cosmetic issues or wear and tear from normal use. It is valid only if the playstructures and/or equipment are erected to conform with Landscape Structures' installation instructions and maintained according to the maintenance procedures furnished by Landscape Structures Inc.

#### 1.11 EXTRA MATERIALS

- A. Maintenance Kit: A maintenance kit shall be provided for each Play Structure design ordered. The kit will include a maintenance document with recommendations on how often to inspect, what to look for and what to do to keep the equipment in like-new condition. The kit also includes appropriate color touch-up paint and additional installation tools for the tamperproof fasteners.

### PART 2 PRODUCTS

#### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer:
  1. Landscape Structures
  2. Sportsplay
  3. Play Mart
  4. Play Outdoor Indoor Equipment
  5. Action Fit
  6. The Park Catalog
  7. Dura Play
  8. Water Play
  9. Kidstale
- B. Contacts:
  1. Exerplay, Ray Vernon, [ray@excerplay.com](mailto:ray@excerplay.com), 956.566.2888
  2. Play RGV, Luis Montemayor, [playrgvllc@hotmail.com](mailto:playrgvllc@hotmail.com), 956.735.6212
  3. Heartland Park & Rec, Joe Guzman, [heartlandplaygrounds@gmail.com](mailto:heartlandplaygrounds@gmail.com), 210.854.3002
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

#### 2.2 MATERIAL

- A. Material: All materials shall be structurally sound and suitable for safe play.
- B. Fasteners: Primary fasteners shall be socketed and pinned, tamperproof in design, stainless steel (SST) per ASTM F879 unless otherwise indicated. All primary fasteners shall include a locking patch-type material that will meet the minimum torque requirements of IFI-125. Manufacturer shall provide special tools for pinned tamperproof fasteners.
- C. TenderTuff Coating: Metal components to be TenderTuff coated shall be thoroughly cleaned in a hot phosphatising wash system, then primed with a water-based thermosetting solution. Primed parts shall be preheated prior to dipping in UV stabilized, liquid polyvinyl chloride (PVC), and then salt cured at approximately 400 degrees F (204 degrees C). The finished coating shall be approximately .080 inch (2 mm) thick at an 85 durometer with a minimum tensile strength of 1700 psi and a minimum tear strength of 250lbs/inch. (Colors: Handhold/Leg Lifts, Grab Bars and D-Rings available in Brown only. Decks in Brown or Gray. Wiggle Ladders, Loop Ladders and Steering Wheels available in standard colors).

- D. ProShield Finish: All metal components with ProShield finish shall be thoroughly cleaned and pretreated through a multi-stage wash system. Parts are then thoroughly dried, preheated and processed through a set of powder spray guns where a minimum .002 inch (.05 mm) of epoxy primer is applied. A minimum .004 inch (0.10 mm) of architectural-grade Super Durable polyester TGIC powder is applied. The average ProShield film thickness is .006 inch (0.15 mm).
1. ProShield is formulated and tested per the following ASTM standards. Each color must meet or exceed the ratings listed below:
    - a. Hardness (D3363) rating 2H.
    - b. Flexibility (D522) pass 1/8 inch (3 mm) mandrel.
    - c. Impact (D2794) rating minimum 80 inch-pounds.
    - d. Salt Fog Resistance (B117 and D1654) 4,000 hours and rating 6 or greater.
    - e. UV Exposure (G154, 340 bulb) 3,000 hours, rating delta E of 2, and 90 percent gloss retention. Certain colors may exceed delta E of 2. Contact manufacturer for exceptions.
    - f. Adhesion (D3359, Method B) rating 5B.
  2. The Paint Line shall employ a "checkered" adhesion test daily.
  3. Standard colors are available.
- E. Decks: Decks shall be of modular design and have 5/16 inch (7.9 mm) diameter holes on the standing surface. There shall be a minimum of four slots in each face to accommodate face mounting of components. Decks shall be manufactured from a single piece of low carbon 12 Ga. (.105 inch (2.7 mm)) sheet steel conforming to ASTM specification A1011. The sheet shall be perforated with a return flange formed on the perimeter to provide the reinforcement necessary to ensure structural integrity. There shall be no unsupported area larger than 3.5 square feet (.33 square meters). The unit shall then be TenderTuff coated in brown or gray only.
1. Play System Decks shall be designed so that all sides are flush with the outside edge of the supporting posts.
- F. Concrete Products: Two processes are used to produce concrete products.
1. Glass Fiber Reinforced Concrete (GFRC) Products: Glass fiber is alkali-resistant (AR) with high tensile properties formulated for concrete. GFRC nominal product thickness is 1 inch (25 mm) with a unit weight of about 12 lbs per square foot and an average ultimate flexural strength of 2,100 psi per ASTM C947. Finish: Exterior latex paint suited for concrete applications.
  2. Precast Concrete Products: Wet-cast solid, molded concrete with an average compressive strength of 5,000 psi per ASTM C39. Unit weight range of about 115 to 145 lbs per cubic foot. Finish: Exterior latex paint suited for concrete applications.
- G. Rotationally Molded Polyethylene Parts: These parts shall be molded using prime natural linear low-density polyethylene with a tensile strength of 2400 psi per ASTM D638. Rotational molding resin is compounded with color and UV-stabilizing additives with a nominal wall thickness typically 1/4 inch (6 mm) with some variation depending upon product type. Standard colors are available.
- H. Recycled Permalene Parts: These parts shall be manufactured from 3/4 inch (19 mm) high-density polyethylene that has been specially formulated for optimum UV stability and color retention. Products shall meet or exceed density of .960 G/cc per ASTM D1505, tensile strength of 2400 PSI per ASTM D638. Available in a three-layer product with (2) .100 inch (2.5 mm) thick colored exterior layers over a .550 inch (14mm) thick recycled Black interior core. Standard colors are available.
- I. Footings: Unless otherwise specified, the depth on all footings shall be 34 inches (864 mm) below Finished Grade (FG) on all in-ground play events/posts.

## 2.3 Evos PLAY SYSTEM



- A. Description:
1. Ages 5 to 12 Years.
  2. Evos attracts kids with its unique appearance and endless opportunities for unstructured fun. Its ground-to-ground arches allow kids of all abilities to join in the fun. But most importantly, Evos lets kids find their own ways to play while building muscle strength, endurance and mental agility.
  3. U.S. Patent Nos. 8,021,240, 8,366,562, 8,485,911 and 9,089,731. Canada Patent No. 2,658,420.
- B. Material:
1. 5 inches (127 mm) Arches: All steel arches are ProShield finished and manufactured from 5 inches (127 mm) O.D. galvanized tubing with a wall thickness of .120 inch (3.0 mm).
  2. Steel Arch Mechanical Properties:
    - a. Yield Strength (min): 50,000 PSI.
    - b. Tensile Strength (min): 55,000 PSI.
    - c. Elongation: 25% in 2 inches (51 mm).
    - d. Modulus of Elasticity: 29.5 x 1,000,000 PSI.
  3. 5 inches (127 mm) Clamps: All clamps are ProShield finished and, unless otherwise noted, shall be sand cast using a 356-T6 aluminum alloy and having the following mechanical properties:
    - a. Ultimate Tensile: 35,000 PSI.
    - b. Yield Strength: 18,000 PSI.
    - c. Elongation: 8% in 2 inches (51 mm).
  4. Steel-reinforced cables: Made of tightly woven, polyester-wrapped, six-stranded galvanized steel cable. These abrasion-resistant, color-stable cables are extremely durable and vandal resistant. Black only.

## 2.4 Weevos PLAY SYSTEM

- A. Description:
1. Ages 2 to 5 Years.
  2. The Weevos playground structure is designed for growth and development in 2- to 5-year-olds in six key areas: physical, balance, cognitive, sensory/motor, emotional/social and language. Best of all, Weevos safely lets toddlers and preschoolers bee-bop and giggle with just the right amount of wiggle, and clear sight lines let supervisors keep their eyes on all the action!
  3. U.S. Patent Nos. 8,021,240, 8,366,562, 8,485,911 and 9,089,731. Canada Patent No. 2,658,420.
- B. Material:
1. 3-1/2 inches (89 mm) Arches: All steel arches are ProShield finished and manufactured from 3-1/2 inches (89 mm) O.D. galvanized tubing with a wall thickness of .120 inch (3.0 mm).
  2. Steel Arch Mechanical Properties:
    - a. Yield Strength (min): 50,000 PSI.
    - b. Tensile Strength (min): 55,000 PSI.
    - c. Elongation: 25% in 2 inches (51 mm).
    - d. Modulus of Elasticity: 29.5 x 1,000,000 PSI.
  3. 3-1/2 inches (89 mm) Clamps: All clamps are ProShield finished and unless otherwise noted, shall be sand cast using a 356-T6 aluminum alloy and having the following mechanical properties:
    - a. Ultimate Tensile: 35,000 PSI.
    - b. Yield Strength: 18,000 PSI.
    - c. Elongation: 8% in 2 inches (51 mm).
  4. Steel-reinforced cables: Made of tightly woven, polyester- wrapped, six-stranded

galvanized steel cable. These abrasion-resistant, color-stable cables are extremely durable and vandal resistant. Black only.

## 2.5 PlayBooster PLAY SYSTEM

### A. Description:

1. Ages 5 to 12 Years.
2. The PlayBooster playground structure, the original post-and-clamp system, combines exciting ground-level components with climbing events and overhead activities for kids ages 5 to 12. The PlayBooster family includes the interconnected cables of Netplex, the contemporary Vibe, the nature-inspired Tree House, the double-decker PlayOdyssey Tower and the GeoPlex climbing panels.
3. U.S. Patent number 9,375,609 and other patents pending.

### B. Material:

1. Posts: Post length shall vary depending upon the intended use and shall be a minimum of 42 inches (1067 mm) above the deck height. All posts shall be ProShield finished to specified color. All posts shall have a "finished grade marker" positioned on the post identifying the 34 inches (864 mm) bury line required for correct installation and the top of the loose fill protective surfacing. Top caps for posts shall be aluminum die cast from 369.1 alloy and ProShield finished to match the post color. All caps shall be factory installed and secured in place with self-sealing rivets. A molded low-density polyethylene cap, with drain holes, shall be pressed onto the bottom end of the post to increase the footing area.
2. Steel Posts: All steel PlayBooster posts are manufactured from 5 inches (127 mm) O.D. tubing with a wall thickness of .120 inches (3.0 mm) and shall be galvanized after rolling and shall have both the I.D. and the cut ends sprayed with a corrosion resistant coating.
3. Steel Post Mechanical Properties:
  - a. Yield Strength (min): 50,000 PSI.
  - b. Tensile Strength (min): 55,000 PSI.
  - c. Elongation: 25% in 2 inches (51 mm).
  - d. Modulus of Elasticity: 29.5 x 1,000,000 PSI.
4. Aluminum Posts: All aluminum PlayBooster posts are manufactured from 6005-T5 extruded tubing conforming to ASTM B-221. Posts shall have a 5 inches (127 mm) outside diameter with a .125 inches (3.2 mm) wall thickness.
5. Aluminum Post Mechanical Properties:
  - a. Yield Strength (min): 35,000 PSI.
  - b. Tensile Strength (min): 38,000 PSI.
  - c. Elongation: 10% in 2 inches.
  - d. Modulus of Elasticity: 10 x 1,000,000 PSI.
6. Arch Posts: Aluminum arch posts shall be manufactured from 6005-T5 alloy. The arch shall be formed to a 21 inches (533 mm) center line radius to complement the 42 inches (1067 mm) center-to-center module. The arch shall be of one continuous piece construction. There shall be no welds or additional pieces mechanically fastened to manufacture the arch. Each arch shall be designed to provide a minimum of 90-1/2 inches (2300 mm) clear span from the deck to the inside of the arch at the radius peak. Arches shall be ProShield finished to a specified color.
7. Clamps: All clamps are ProShield finished and, unless otherwise noted, shall be die cast using a 369.1 aluminum alloy and have the following mechanical properties:
  - a. Ultimate Tensile: 47,000 PSI.
  - b. Yield Strength: 28,000 PSI.
  - c. Elongation: 7% in 2 inches (51 mm).
  - d. Shear Strength: 29,000 PSI.
  - e. Endurance Limit: 20,000 PSI.
8. Clamps: Each functional clamp assembly shall have an appropriate number of half



- clamps and shall be fastened to mating parts with (2) 3/8 inch x 1-1/8 inches (9.5mm x 28.6 mm) pinned button head cap screws (SST) and (2) stainless-steel (SST) recessed "T" nuts. A 1/4 inch (6 mm) aluminum drive rivet with stainless steel pin is used to ensure a secure fit to the post.
9. PlayBooster clamps have three functional applications and shall be named as follows:
    - a. Offset hanger clamp assembly.
    - b. Deck hanger clamp assembly.
    - c. Hanger clamp assembly.
  10. Netplex Clamps: All clamps are ProShield finished and, unless otherwise noted, shall be die cast using a 369.1 aluminum alloy and have the following mechanical properties:
    - a. Ultimate Tensile: 47,000 PSI.
    - b. Yield Strength: 28,000 PSI.
    - c. Elongation: 7% in 2 inches (51 mm).
    - d. Shear Strength: 29,000 PSI.
    - e. Endurance Limit: 20,000 PSI.
  11. Netplex Clamps: Each functional clamp assembly shall have an appropriate number of rope clamps and back clamps and shall be fastened to each other with (2) 5/8 inch x 1-1/2 inches (16 mm x 38 mm) pinned button head cap screws (SST) and (2) stainless-steel (SST) recessed "T" nuts. Either a face clamp shall be fastened to rope clamp with (2) 3/8 inch by 1-3/8 inches (9.5 mm x 35 mm) pinned button head cap screws or a single tab casting plate shall be fastened to rope clamp with (4) 3/8 inch by 1-3/8 inches (9.5 mm x 35 mm) pinned button head cap screws with 3/8 inch (9.5 mm) SAE flat washers. A 1/4 inch x 5/8 inch (6 mm x 16 mm) aluminum drive rivet with stainless steel pin is used to ensure a secure fit to the post.
  12. GeoPlex Clamps: All clamps are ProShield finished and, unless otherwise noted, shall be fabricated from 7GA using (4.54 mm) T316 stainless steel.
    - a. Ultimate Tensile: 84,000 PSI.
    - b. Yield Strength: 25,000 PSI.
  13. GeoPlex Clamps: Each functional clamp assembly shall have an appropriate number of locking clamps and shall be fastened to mating parts with (2) 3/8 inch x 7/8 inch (9.5 mm x 22 mm) pinned button head cap screws (SST) with (2) 3/8 inch (9.5 mm) SAE flat washers. A 1/4 inch (6 mm) aluminum drive rivet with stainless steel pin is used to ensure a secure fit to the post.
  14. Steel-reinforced cables: Made of tightly woven, polyester-wrapped, six-stranded galvanized steel cable. These abrasion-resistant, color-stable cables are extremely durable and vandal resistant. Available in Black or Red. Some products available in Black only or Red only.
  15. PlayOdyssey Structural Frame: Post length of the double ladder/central column shall vary depending upon the deck height and shall be flush with the bottom of a deck infill or a minimum of 46 inches (1168 mm) above the deck height. All posts shall be ProShield finished to specified color. All posts shall have a "finished grade marker" positioned on the post identifying the 60 inches (1524 mm) bury line required for correct installation and the top of the loose fill protective surfacing. Post caps shall be aluminum die cast from 369.1 alloy and ProShield finished to match the post color. All caps shall be factory installed and secured in place with (3) self-sealing rivets. A molded low-density polyethylene cap, with drain holes, shall be pressed onto the bottom end of the ladder posts to increase the footing area. Ladders are bolted together below grade to act as a single column for installation purposes. The deck support weldments/arms are comprised of 5/16 inch (7.9 mm) steel conforming to 1010 steel per ASTM A635 and welded to a 52 inches (1321 mm) steel post. Arms are secured to each ladder post with (4) 5/8 inch x 1-1/2 inches (16 mm x 38 mm) pinned button head cap screws through (2) 1/4 inch (6 mm) flanges.
  16. PlayOdyssey Aluminum Roof Posts: All formed aluminum PlayOdyssey roof posts are manufactured from 6005-T5 extruded tubing conforming to ASTM B-221. Posts shall have a 5 inches (127 mm) outside diameter with a .125 inches (3.2 mm) wall



thickness. Post sleeve shall have 4.675 inches (118.7 mm) outside diameter with a .150 inch (3.8 mm) wall thickness. Post cap shall be aluminum die cast from 369.1 alloy and ProShield finished to match the post color. All caps shall be factory installed and secured in place with three self-sealing rivets.

17. Vibe Handholds: Rotomolded shell, with 7 GA (.179 inch (4.5 mm)) HRPO steel sheet insert that is zinc plated then ProShield finish. Standard colors are available.
18. Vibe Roof: Rotomolded shell, with 12 GA (.105 inch (2.67 mm)) HRPO steel sheet insert that is zinc plated then ProShield finish. Standard colors are available.
19. Vibe Enclosures: Rotomolded shell, with 7 GA (.179 inch (4.55 mm)) HRPO steel sheet insert that is zinc plated then ProShield finish. Standard colors are available.
20. Activity panels available in standard Permalene colors.
21. Bubble or window panel made of 1/4 inch (6 mm) clear polycarbonate. Refer to drawings.

## 2.6 PlayShaper PLAY SYSTEM

### A. Description:

1. Ages 2 to 5 Years.
2. Let curious young minds go exploring on a safe and durable PlayShaper playground structure. Scaled to size for preschoolers, these play systems invite youngsters to develop their physical skills while learning the social skills needed for community life.

### B. Material:

1. Posts: 2-3/8 inch (60 mm) square aluminum posts shall have a minimum wall thickness of .125 inches (3.2 mm) and extruded from 6005-T5 aluminum alloy and have rounded corners and ribbed faces for maximum safety. A cast aluminum top cap shall be installed at the factory with stainless steel knurled spacers and aluminum drive rivets. Flanges for panels and deck supports shall be extruded of 6061-T6 aluminum alloy and slide into slots extruded in posts. Flanges and deck supports shall be attached in the factory with stainless steel knurled spacers and aluminum drive rivets. All direct bury posts shall have a "finish grade marker" positioned on the post identifying the 34 inches (864 mm) bury line and the top of the required surfacing. A molded low-density polyethylene cap, with drain holes, shall be pressed onto the bottom end of the post to increase the footing area. Posts shall have a post number sticker for installation purposes. All surface mount posts shall be continuously welded to a 1/4 inch x 6 inches (6 mm x 152 mm) square 6061-T6 aluminum surface mount plate and allow for 2 inches (52 mm) of protective surfacing. Posts shall be ProShield finished to a specified color.
2. Aluminum Post Mechanical Properties:
  - a. Yield Strength (min): 35,000 PSI.
  - b. Tensile Strength (min): 38,000 PSI.
  - c. Elongation: 10% in 2 inches (51 mm).
  - d. Modulus of Elasticity: 10 x 1,000,000 PSI.
3. Arch Posts: Arch posts shall have the same shape as the posts and be extruded from 6063-T4 aluminum alloy. Roof support flanges shall be of the same shape and material as the panel flanges. Arch shall be formed in a 180 degree arc on a 21 inches (533 mm) center line radius. Arches shall be secured to standard length posts with solid aluminum sleeves that are tapped to receive (16) 3/8 inch x 5/8 inch (9.5 mm x 16 mm) pinned button head cap screws per arch. Arch posts shall be ProShield finished to a specified color.

## 2.7 PlaySense PLAY SYSTEM

### A. Description:

1. Ages 2 to 12 Years.
2. PlaySense playgrounds are perfect when you are looking for more fun per dollar. These preconfigured playgrounds serve kids ages 2 to 5 and 5 to 12 so everyone is



happy, and every community can have an affordable playground to call their own.

- B. Posts: Aluminum posts shall be provided in three shapes (L, T and X), shall have a minimum wall thickness of .290 inch (7.4 mm), shall be extruded from 6005-T5 aluminum alloy and shall have rounded corners and ribbed faces for maximum safety. All posts shall have a "finished grade indicator" (hole) positioned in the post identifying the 34 inches (864 mm) bury line and the top of the required surfacing. Posts shall be labeled with the post number for installation purposes. Posts shall be ProShield finished.
1. Aluminum Post Mechanical Properties:
    - a. Yield Strength (min): 35,000 PSI.
    - b. Tensile Strength (min): 38,000 PSI.
    - c. % Elongation in 2 inches (51 mm): 10.
    - d. Modulus of Elasticity: 10 x 1,000,000 PSI.
- C. Preconfigured Model: Refer to drawings.

## 2.8 SmartPlay PLAY SYSTEM

- A. Description:
1. Ages 6 to 23 Months, 2 to 5 years and 5 to 12 years.
  2. Smart Play not only provides smart design to help create smart kids, but it's manufactured with a smart use of materials-focused on getting as many components as possible out of the smallest amount of material. Smart Play structures are preconfigured and designed with just your choice of color. All at a smart price.

## 2.9 PLAY STRUCTURES CLIMBERS

- A. Net Climber:
1. Product: Eclipse Net
  2. Model 189329.
  3. Description:
    - a. Age Ranges: 5 to 12 years.
    - b. Overall Height: 11 feet - 2 inches (3400 mm).
    - c. This climber not only promotes upper body strength, balance and coordination, but also brings geometry and spacial perception to life.
  4. Material:
    - a. Leg Assembly: Weldment comprised of 5.000 inches (127 mm) O.D. x 11 GA. (.120 inch) (3,05 mm) galvanized steel tube, 3/8 inch (9,53 mm) HRPO steel plate, 3/4 inch (19,05 mm) HRPO flat steel, and 1-1/4 inches (31,75 mm) Dia. CRS tube. Finish: ProShield, color specified.
    - b. Casting: All castings, unless otherwise noted, shall be sand cast using a 356 aluminum alloy and having the following mechanical properties:
      - 1) Ultimate Tensile: 35,000 PSI
      - 2) Yield Strength: 18,000 PSI
      - 3) Elongation: 8% in 2 inches
    - c. Net: Made of tightly woven, polyester-wrapped, six stranded galvanized-steel cable with a PVC wrapped steel core. 18 mm, steel-core interior rope and 20 mm, steel-core perimeter rope, black in color.
    - d. Hardware: Stainless steel.
- B. Net Climber/Spinner:
1. Product: Global Motion.
    - a. Model 218915.
  2. Description: Kids can climb, rotate, and explore two levels in this fun-filled structure.
    - a. Age Ranges: 5 to 12 years.
  3. Material:
    - a. Top/Bottom: Rotationally molded from U.V. stabilized linear low density

- polyethylene, color as specified.
- b. Shock: 70 Series.
- c. Hub Clamp: 12 GA. (.109 inch) (2,76 mm) Thick stainless steel.
- d. Middle & Bottom Pipe: Weldment comprised of 2.375 inches (60,32 mm) O.D. RS20 (.095 inch to .105 inch) (2,41 mm to 2,66 mm) galvanized steel tube, 1/4 inch (6,35 mm) thick HRPO steel plate and 3/8 inch (9,52 mm) thick stainless steel tab. Finish: ProShield, color specified.
- e. Base Bushing: Oil-Filled UHMW PE.
- f. Center Post: 6.000 inches (152 mm) O.D. x (.250 inch) (6,35 mm) wall HR Black D.O.M. Steel Tube. Finish: ProShield, color specified.
- g. Rope Casting: Cast Aluminum. Finish: ProShield, black in color.
- h. Rib: Weldment comprised of 1.5 inches (38,1 mm) x 3.0 inches (76,2 mm) x .180 inch (4,57 mm) wall HRPO steel tube, 3/8 inch (9,52 mm) thick stainless steel tab, 3/8 inch (9,52 mm) O.D. stainless steel pin, 3/8 inch (9,52 mm) thick HRPO steel plate and 1/4 inch (6,35 mm) thick HRPO steel plate. Finish: ProShield, color specified.
- i. Belt Platform: Made from .315 inch (8,00 mm) thick mini rough top 3-ply rubber belting with polyester fabric plys, 58 inches (1473 mm) diameter, black in color.
- j. GripX Platform: 3/4 inch (19,05 mm) Thick recycled Permalene, black in color.
- k. Belt Plate: 7GA. (.179 inch) (4,54 mm) Thick HRPO steel plate. Finish: ProShield, black in color.
- l. Net/Cable: Made of tightly woven polyester-wrapped, six-stranded galvanized-steel cable with a polypropylene core, red or black in color. (Cable Connectors) 6063-T6 aluminum.
- m. Bottom Rib: 7GA. (.179 inch) (4,54 mm) Thick HRPO steel plate. Finish: ProShield, black in color.
- n. Bottom Mount: Weldment comprised of 7.000 inches (177 mm) O.D. x .188 inch (4,77 mm) wall stainless steel tube and 1/4 inch (6,35 mm) thick HRPO steel plate. Finish: ProShield, black in color.
- o. Trim Spacer: Recycled Permalene, black in color.
- p. Brake Cover: Recycled Permalene, black in color.
- q. Hand Grip: Weldment comprised of 1.125 inches (28,57 mm) O.D. x 11 GA. (.120 inch) (3,05 mm) wall steel tube and 7 GA. (.179 inch) (4,54 mm) thick HRPO steel sheet. Finish: TenderTuff coated, gray in color.
- r. Mounting Hub Assembly: Comprised of 1/2 inch (12,7 mm) thick stainless steel plate, 11 Ga. (.120 inch) (3,05 mm) stainless steel sheet, steel bearing shaft, bronze bearings, oilite bearings and stainless steel fasteners.
- s. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated.

C. Climber:

1. Product: 7 Panel Mobius Climber.
  - a. Model 150637.
2. Description:
  - a. Age Ranges: 5 to 12 years.
  - b. The Mobius Climber 7-Panel Model tests the agility and strength of courageous climbers! This is our most popular Mobius for your playground.
3. Material:
  - a. Cone Assembly: Weldment comprised of 2.375 inches diameter (.154 inch (3.9 mm) wall) 6005-T1 aluminum tube and .190 inch (4.8 mm) thick aluminum sheet. Finish: Clear anodize.
  - b. Double Support Post: Weldment comprised of 2.375 inches (60 mm) RS40 (.130 inch to .140 inch wall) (3.3 mm to 3.6 mm) galvanized steel tube. Finish: ProShield, color specified.
  - c. Support Post: Fabricated from 2.375 inches (60 mm) RS40 (.130 inch to .140 inch wall) (3.3 mm to 3.6 mm) galvanized steel tube. Finish: ProShield, color



specified.

- d. Tri Handhold: Polyester Resin (Silicia, Dualite)
- e. Insert Sleeves: Fabricated from 6061-T6 aluminum. Finish: Clear anodize.
- f. Support Channel: Fabricated from 6061-T6 aluminum. Finish: Clear anodize.
- g. Support Tube End Connector: Fabricated from 6061-T6 aluminum. Finish: ProShield, color specified.
- h. H-Frame Support Footer: Weldment comprised of 2.375 inches (60 mm) RS40 (.130 inch to .140 inch wall) (3.3 mm to 3.6 mm) galvanized steel tube and 1018 steel sleeve. Finish: ProShield, color specified.
- i. Snap Rivet: Fabricated from natural polycarbonate.
- j. O-Ring: Fabricated from 70 durometer nitrile, black in color.
- k. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated.

D. Spinner:

- 1. Product: OmniSpin Spinner.
  - a. Model 173591.
- 2. Description:
  - a. Age Ranges: 2 to 5 Years and 5 to 12 years.
  - b. Available only in surface mount.
  - c. Contains speed limiter for added safety.
  - d. High-backed seats.
  - e. Transfer points from wheelchair or walker.
  - f. U.S. Patent number 8,870,668.
- 3. Material:
  - a. Spinner: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
  - b. Spinner Frame Assembly: (Frame) Weldment comprised of 2.375 inches (60 mm) O.D. RS20 (.095 inch (2.4 mm) to to .105 inch (2.7 mm) wall) galvanized steel tubing, 2.875 inches (73 mm) O.D. RS40 (.160 inch (4.0 mm) to .170 inch (4.3 mm) wall) galvanized steel tubing, 1/4 inch (6 mm) HR flat steel and 3-1/2 inches (89 mm) O.D. CF steel bar. (Base) Weldment comprised of 3/8 inch (9.5 mm) HRPO sheet steel and 3/16 inch (4.8 mm) HRPO sheet steel. (Shock Covers) 16 GA (.060 inch (1.5 mm) HRPO sheet steel. (Crank Arms & Pins) Fabricated from stainless steel. (Shocks) Gas shocks with fixed bearings. Finish: ProShield, black in color.
  - c. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated.

E. Spinner:

- 1. Product: TopsyTurny Spinner.
  - a. Model 205800.
- 2. Description:
  - a. Age Ranges: 5 to 12 years.
  - b. Large, black GripX-textured deck accommodates multiple kids and offers excellent traction and slip-resistance.
  - c. Eight polyester-wrapped, steel-reinforced cables provide sufficient handholds; available in red or black.
  - d. Spinner base and top made from durable, UV-stable rotomolded polyethylene in a choice of color.
  - e. Center post available in any ProShield color.
  - f. Direct bury only
- 3. Material:
  - a. Post Assembly: Weldment comprised of 5 inches (127 mm) O.D. x 7 GA. (.179 inch) (4,54 mm) galvanized steel tubing and steel bearing shaft. Finish: ProShield, color specified. (Bushing) .209 inch (5,30 mm) thick oil filled UHMW

- PE.
- b. Spinner Bottom: Weldment comprised of 1.660 inches (42,16 mm) O.D. RS40 (.111 inch to 121 inch (2,81 mm to 3,07 mm) wall galvanized steel tubing, 6.000 inches (152 mm) O.D. x 7 GA. (.179 inch) (4,54 mm) wall stainless steel tube, 3/8 inch (9,52 mm) SST sheet, 1/4 inch (6,35 mm) HRPO steel sheet. Finish: ProShield, color specified.
- c. Top Assembly: Weldment comprised of 1.660 inches (42,16 mm) O.D. RS20 (.085 inch to .095 inch (2,16 mm to 2,41 mm) wall galvanized steel tubing, 1/4 inch (6,35 mm) HRPO steel sheet, 3/8 inch (9,52 mm) SST sheet, 11 GA. (.120 inch) (3,05 mm) HRPO sheet steel and 4.56 inches (115,82 mm) I.D. x 5.500 inches (139,7 mm) O.D. steel bar. (Bearings) Deep groove ball bearings, single row seal on both sides. Finish: ProShield, color specified.
- d. GripX Base Panel: Recycled Permalene, black in color.
- e. Cable Assembly: (Cable) Made of tightly woven polyester-wrapped, six-stranded galvanized-steel cable with a polypropylene core, red or black in color. (Cable Connectors) 6063-T6 aluminum.
- f. Spinner Clamp: Cast from 356-T6 aluminum. Finish: ProShield, color specified.
- g. Top Cone: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
- h. Base Ring: Recycled Permalene, black in color.
- i. Brake Mount Assy.: Comprised of 1/4 inch (6,35 mm) HRPO steel sheet, 3/8 inch (9,52 mm) O.D. steel rod. Finish: ProShield, color specified. .375 inch (9,52 mm) thick UHMW PE.
- j. Base Cone: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
- k. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated.

## 2.10 SWINGS

- A. Arch Swing:
  - 1. Product: 5 Inch Arch Swing Frame.
    - a. Model 221292.
    - b. Model (Additional Bay) 221293.
  - 2. Description
    - a. Age Ranges: 2-5-years, 5-12-years.
    - b. 5 inches (127 mm) diameter aluminum arches with 5 inches (127 mm) diameter steel support beam.
    - c. Seats with chains and fasteners sold separately.
  - 3. Material
    - a. Post: See PlayBooster General Specifications
    - b. Swing Beam: Weldment comprised of tee clamps and 5 inches (127 mm) O.D. extruded 6005-T5 aluminum alloy tube with a 0.125 inch (3 mm) wall. Finish: ProShield, color as scheduled.
    - c. Clamp: Cast aluminum. Finish: ProShield, color specified
    - d. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel(SST) per ASTM F879 unless otherwise indicated.
- B. Single Post Swing Frame:
  - 1. Product: Single Post Swing Frame.
    - a. Model 177332.
    - b. Model (Additional Bay) 177333.
  - 2. Description: Model numbers are for swing frames only, order swing seats with chains separately.
  - 3. Material:
    - a. Post: See PlayBooster (PB) General Specifications.



- b. Swing Beam: Weldment comprised of tee clamps and 5 inches (127 mm) O.D. extruded 6005-T5 aluminum alloy tube with a .125 inch (3 mm) wall. Finish: ProShield, color specified.
- c. Clamp: Cast aluminum. Finish: ProShield, color specified.
- d. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/ specifications).

C. Molded Bucket Seat:

- 1. Product: Molded Bucket Seat with Harness and Chains.
  - a. Model 177351.
- 2. Description: Includes swing chains, swing seat with harness and fasteners.
  - a. Age Ranges: 5 to 12 years.
  - b. Front impact bumper.
  - c. Harness securely locks in place.
  - d. High back and deep seat.
  - e. Includes anchors for use with optional safety strap.
- 3. Material:
  - a. Bucket Seat Assy.: (Bucket Seat & Yoke) Rotationally molded from U.V. stabilized linear low density polyethylene, color specified. (Pipebolt) Made from 1.125 inch (29 mm) O.D. 6005-T5 threaded anodized aluminum tube. (Bearings) UHMW PE lubricated. (Brackets) Made from 356-T6 aluminum.
  - b. Chain/ProGuard: Steel 3/16 inch (4.8 mm) straight link chain, 800 lb. working load limit. Finish: ProGuard.
  - c. Chain/Coated: Steel 3/16 inch (4.8 mm) straight link chain, 800 lb. working load limit. Finish: TenderTuff, color specified.
  - d. Seat Mounting Bracket: Cast from 535 aluminum magnesium.
  - e. Bumper: Molded from U.V. stabilized black EPDM rubber encapsulating 11 GA (.120 inch) (3 mm) HRPO steel sheet.
  - f. Double Pivot Block: Fabricated from 6061-T6 Aluminum with bronze oil impregnated bearing.
  - g. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated.

D. Belt Seat:

- 1. Product: Belt Seat.
  - a. Model 174018. Seat.
- 2. Description: Belt seat elliptical shape measures 7 inches wide x 26 inches long x .700 inch thick (178 mm x 660 mm x 18 mm).
- 3. Material:
  - a. Chain Spacer: Made from white nylon measuring .080 inch x .785 inch (2 mm x 19 mm) O.D.
  - b. Chain/ProGuard: Steel 3/16 inch (4.8 mm) straight link chain, 800 lb. working load limit. Finish: ProGuard.
  - c. Chain/Coated: Steel 3/16 inch (4.8 mm) straight link chain, 800 lb. working load limit. Finish: TenderTuff, color specified.
  - d. Belt Seats: Molded from U.V. stabilized black EPDM rubber encapsulating a weldment comprised of a 22 GA (.029 inch) (0.74 mm) spring stainless steel sheet, and (4) .105 inch (2.7 mm) thick stainless steel washers. The belt seat elliptical shape measures 7 inches wide x 26 inches long x .700 inch thick (178 mm x 660 mm x 18 mm).
  - e. Bolt Link: Stainless Steel.

E. Group Swing:

- 1. Product: Oodle Swing.
  - a. Model 173592.

2. Description:
    - a. Age Ranges: 5 to 12 years.
    - b. Comfortably seats four to six children at once.
    - c. Includes swing frame, swing cables, swing seat and fasteners.
    - d. Rope connections use universal joints to prevent cables from twisting or tangling.
    - e. Swing seat contains two rubber-encapsulated bumpers.
    - f. Transfer point from wheelchair or walker.
    - g. Direct bury only.
  3. Material:
    - a. Swing Seat: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
    - b. Swing Seat Bracket: Weldment comprised of 1.66 inches (42,16 mm) O.D. RS20 (.085 inch to .095 inch) (2,16 mm to 2,41 mm) wall galvanized steel tube, 1.000 inch (25,4 mm) O.D. x .750 inch (19,05 mm) I.D. 1018 steel tube and 7GA (.179 inch) (4,55 mm) HRPO steel sheet. Finish: ProShield, color specified.
    - c. Rope Tab Swivel: Made from 6061-T6 aluminum.
    - d. Cable: Made of tightly woven polyester-wrapped, six-stranded galvanized-steel cable with a polypropylene core. (Cable Connectors) 6061-T6 aluminum.
    - e. Bumper: Molded from U.V. stabilized black EPDM rubber encapsulating 11 GA (.120 inch) (3.0 mm) HRPO steel sheet.
    - f. Swing Arch: Weldment comprised of 3.500 inches (89 mm) O.D. RS20 (.080 inch to .090 inch wall) (2.0 mm to 2.3 mm) galvanized steel tube and 1/2 inch (13 mm) thick stainless steel tabs. Finish: ProShield, color specified.
    - g. Swing Leg: 3.500 inches (89 mm) O.D. RS20 (.080 inch to .090 inch wall) (2.0 mm to 2.3 mm) galvanized steel tube. Finish: ProShield, color specified.
  4. Swing Hanger:
    - a. Assembly: Assembly comprised of 300 series stainless steel knuckle and yoke, stainless steel swing pin, stainless steel spring pin and oilite bushings.
    - b. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated.
- F. Multi-User Swing:
1. Product: Friendship Swing with single post swing frame, 52 inches (1321 mm) bury.
    - a. Model 237296
  2. Description: Includes swing frame, swing chains, swing seat and fasteners.
    - a. Swing seat made from black rough-top 3-ply rubber belting with polyester fabric plys.
    - b. Swing seat contains two rubber-encapsulated bumpers.
  3. Material:
    - a. Post: See PlayBooster (PB) General Specifications.
    - b. Swing Beam: Weldment comprised of tee clamps and 5 inches (127 mm) O.D. extruded 6005-T5 aluminum alloy tube with a .125 inch (3 mm) wall. Finish: ProShield, color as scheduled.
    - c. Clamp: Cast aluminum. Finish: ProShield, color as scheduled.
    - d. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879.

## 2.11 TUNNEL

- A. Dome:
1. Product: Cozy Dome.
    - a. Model 168099.
    - b. Direct Bury (DB) or Surface Mount (SM) as scheduled or required.
  2. Description:



- a. Age Ranges: 2 to 5 Years. 5 to 12 years.
- b. A quiet space for over-stimulated kids. Peek holes let kids and supervisors keep an eye on the action. Various textures on the outer surface create a perfect climbing experience.
- 3. Material:
  - a. Cozy Dome Panel: Rotationally molded from U.V. stabilized linear low density polyethylene, color as scheduled.
  - b. Ring Plate: Fabricated from 1/4 inch (6 mm) HRPO steel plate. Finish: ProShield, color specified.
  - c. Mount Plate: Fabricated from 1/4 inch (6 mm) HRPO steel plate. Finish: ProShield, color as scheduled.
  - d. Direct Bury Plate: Weldment comprised of 2.375 inches (60 mm) O.D. RS20 (.095 inch (2.4 mm) to .105 inch (3.8 mm)) wall galvanized steel tubing and 1/4 inch (6 mm) HRPO steel plate. Finish: ProShield, color as scheduled.

## 2.12 ZIP-LINE

- A. Zip-Line:
  - 1. Product: ZipKrooz.
    - a. Model 194663.
  - 2. Description:
    - a. Age Ranges: 5 to 12 years.
    - b. Sufficient upper-body strength and coordination required
    - c. 4-wheel trolley glides easily to each end and back; will never jolt or stop mid-glide.
    - d. 2-way ride; no need to walk the seat back to start.
    - e. Elevation built in; can be installed on level ground with no embankments needed.
    - f. Inclined ends help rider gain momentum at the beginning, and slow down at the end.
    - g. Black, rubber-wrapped chain holds comfortable poly disc seat to accommodate kids of all sizes.
    - h. Track available in three lengths: 34 feet (10 m), 50 feet (15 m) and 66 feet (20 m).
    - i. Decorative and functional fin on track discourages kids from accessing the top.
    - j. Meets ASTM and CSA standards.
    - k. Direct bury or surface mount
    - l. U.S. Patent number 9,932,046.
  - 3. Material:
    - a. Track: Extruded from 6005-T4 aluminum alloy. Finish: ProShield, color specified.
    - b. Bumper: Urethane, black in color.
    - c. Spacer: .190 inch (4,82 mm) Thick aluminum sheet.
    - d. Deck Support: Weldment comprised of 5 inches (127 mm) O.D. x 7 GA. (.179 inch) (4,54 mm) wall galvanized steel tube, and 1/2 inch (12,7 mm) HRPO steel plate. Finish: ProShield, color specified.
    - e. Posts: See PlayBooster(PB) General Specifications.
    - f. Pod: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
    - g. Deck: Flange formed from 12 GA (.105 inch) (2,66 mm) sheet steel conforming to ASTM A1011, 1/4 inch (6,35 mm) HRPO flat steel and 3/8 inch (9,53 mm) HRPO flat steel. Standing surface is perforated with 5/16 inch (7,94 mm) diameter holes. The finished size measures 2-1/8 inches x 38-1/2 inches x 38-1/2 inches (53,98 mm x 977 mm x 977 mm). Finish: TenderTuff, color specified.
    - h. Trolley Assy.: Steel body with urethane rollers. Completely assembled. Steel Body Finish: ProShield, black in color.

- i. ZipKrooz Crossover: Weldment comprised of 2.375 inches (60,33 mm) O.D. RS40 (.130 inch-.140 inch) (3,30 mm-3,55 mm) wall galvanized steel tubing, 3/8 inch (9,52 mm) thick HRPO steel plate and 1/4 inch (6,35 mm) thick HRPO steel. Finish: ProShield, color specified.
- j. Crossover: Weldment comprised of tee clamps and a 5 inches (127 mm) O.D. extruded 6005-T5 aluminum alloy tube with a .125 inch (3,17 mm) wall Finish: ProShield, color specified.
- k. Chain w/Rubber Cover: (Chain) Steel 1/4 inch (6,35 mm) straight link chain, 3,150 lbs. (1428,82 kilograms) working load limit. Finish: ProGuard. (Cover) High pressure Buna-N Rubber hose, black in color. (Connector) Aluminum.
- l. Clamp: Cast aluminum. Finish: ProShield, color specified.
- m. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated.

## 2.13 SENSORY PLAY - MUSICAL INSTRUMENTS

### A. Product: Animato Metallophone.

- 1. Model 214438
- 2. Description:
  - a. Age Ranges: 2 to 5 Years, 5 to 12 years, 13+ Years.
  - b. Wheelchair accessible.
  - c. Bars made from anodized aluminum.
  - d. Rubber mallets are optimized to provide the best sound for the range of notes.
  - e. Coated steel cable securely attaches mallets to instrument.
  - f. Direct bury or surface mount.
- 3. Material:
  - a. Bar Base: Weldment comprised of 3.500 inches (88,9 mm) O.D. RS20 (.125 inch) (3,17 mm) wall galvanized steel tubing, and 1/4 inch (6,35 mm) thick HRPO steel sheet. Finish: ProShield, color specified.
  - b. Bar Top & Bottom: Permalene, color specified.
  - c. Leg: Weldment comprised of 3.500 inches (88,9 mm) O.D. RS20 (.125 inch) (3,17 mm) wall galvanized steel tubing. Finish: ProShield, color specified.
  - d. Bars: Made from 1/2 inch (12,7 mm) thick x 2 inches (50,8 mm) wide aluminum.
  - e. Cradle Bracket: Made from 1/4 inch (6,35 mm) thick HRPO steel sheet. Finish: ProShield, color specified.
  - f. Cradle Top & Bottom: Permalene, color specified.
  - g. Mallet: Comprised of 2 inches (50,8 mm) diameter grey & black polyurethane, 1/2 inch (12,7 mm) diameter aluminum handle and 3/16 inch (4,74 mm) diameter stainless steel cable with nylon coating.
  - h. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated.

### B. Product: Vivo Metallophone.

- 1. Model 214441.
- 2. Description:
  - a. Age Ranges: 2 to 5 Years, 5 to 12 years, 13+ Years.
  - b. Wheelchair accessible.
  - c. Tubes made from anodized aluminum.
  - d. Rubber mallets are optimized to provide the best sound for the range of notes.
  - e. Coated steel cable securely attaches mallets to instrument.
  - f. Direct bury or surface mount.
- 3. Material:
  - a. Tube Base: Weldment comprised of 3.500 inches (88,9 mm) O.D. RS20 (.125 inch) (3,17 mm) wall galvanized steel tubing, and 1/4 inch (6,35 mm) thick HRPO steel sheet. Finish: ProShield, color specified.
  - b. Bar Top & Bottom: Permalene, color specified.



- c. Leg: Weldment comprised of 3.500 inches (88,9 mm) O.D. RS20 (.125 inch) (3,17 mm) wall galvanized steel tubing. Finish: ProShield, color specified.
- d. Tubes: Made from 1.250 inch (31,75 mm) diameter (.125 inch) (3,17mm) wall aluminum tube.
- e. Cradle Bracket: Made from 1/4 inch (6,35 mm) thick HRPO steel sheet. Finish: ProShield, color specified.
- f. Cradle Top & Bottom: Permalene, color specified.
- g. Mallet: Comprised of 2 inches (50,8 mm) diameter grey & black polyurethane, 1/2 inch (12,7 mm) diameter aluminum handle and 3/16 inch (4,74 mm) diameter stainless steel cable with nylon coating.
- h. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated

C. Product: Goblet Drum.

- 1. Model 214443.
- 2. Description:
  - a. Age Ranges: 2 to 5 Years, 5 to 12 years, 13+ Years.
  - b. Wheelchair accessible.
  - c. Drum skins made from polycarbonate.
  - d. Direct bury or surface mount.
- 3. Material:
  - a. Drum Leg: Made from 3.500 inches (88,9 mm) O.D. RS20 (.125 inch) (3,17 mm) wall galvanized steel tubing. Finish: ProShield, color specified.
  - b. Top Assembly: Weldment comprised of 3.500 inches (88,9 mm) O.D. RS20 (.125 inch) (3,17 mm) wall galvanized steel tubing, 11 GA. (.120 inch) (3,05 mm) flat steel and 1/8 inch (3,17 mm) thick HRPO steel sheet. Finish: ProShield, color specified.
  - c. Trim: Permalene, color specified.
  - d. Screen: Made from 11 GA. (.125 inch) (3,17 mm) thick aluminum sheet. Finish: ProShield, color specified.
  - e. Drum Head: Translucent, UV stabilized polycarbonate with a matte textured surface on one side.
  - f. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated.

D. Product: Kettle Drum.

- 1. Model 214445.
- 2. Description:
  - a. Age Ranges: 2 to 5 Years, 5 to 12 years, 13+ Years.
  - b. Wheelchair accessible.
  - c. Drum skins made from polycarbonate.
  - d. Direct bury or surface mount.
- 3. Material:
  - a. Trim: Permalene, color specified.
  - b. Drum Leg: Made from 3.500 inches (88,9 mm) O.D. RS20 (.125 inch) (3,17 mm) wall galvanized steel tubing. Finish: ProShield, color specified.
  - c. Drum Assembly: Weldment comprised of 3.500 inches (88,9 mm) O.D. RS20 (.125 inch) (3,17 mm) wall galvanized steel tubing and 11 GA. (.120 inch) (3,05 mm) flat steel. Finish: ProShield, color specified.
  - d. Drum Head: Translucent, UV stabilized polycarbonate with a matte textured surface on one side.
  - e. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated

E. Product: Kundu Drum.

- 1. Model 214444.

2. Description:
  - a. Age Ranges: 2 to 5 Years, 5 to 12 years, 13+ Years.
  - b. Wheelchair accessible.
  - c. Drum skins made from polycarbonate.
  - d. Direct bury or surface mount.
3. Material:
  - a. Drum Leg: Made from 3.500 inches (88,9 mm) O.D. RS20 (.125 inch) (3,17 mm) wall galvanized steel tubing. Finish: ProShield, color specified.
  - b. Top Assembly: Weldment comprised of 3.500 inches (88,9 mm) O.D. RS20 (.125 inch) (3,17 mm) wall galvanized steel tubing, 11 GA. (.120 inch) (3,05 mm) flat steel and 1/8 inch (3,17 mm) thick HRPO steel sheet. Finish: ProShield, color specified.
  - c. Trim: Permalene, color specified.
  - d. Screen: Made from 11 GA. (.125 inch) (3,17 mm) thick aluminum sheet. Finish: ProShield, color specified.
  - e. Drum Head: Translucent, UV stabilized polycarbonate with a matte textured surface on one side.
  - f. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated

F. Product: Grandioso Chimes.

1. Model 214442.
2. Description:
  - a. Age Ranges: 2 to 5 Years, 5 to 12 years, 13+ Years.
  - b. Wheelchair accessible.
  - c. Chimes made from anodized aluminum.
  - d. Rubber mallets are optimized to provide the best sound for the range of notes.
  - e. Coated steel cable securely attaches mallets to instrument.
  - f. Direct bury or surface mount.
3. Material:
  - a. Tube: Comprised of 3.000 inches (76,2 mm) O.D. x (.125 inch) (3,17 mm) wall aluminum tubing, and 1/2 inch (12,7 mm) diameter aluminum rod.
  - b. Frame: Weldment comprised of 3.500 inches (88,9 mm) O.D. RS20 (.125 inch) (3,17 mm) wall galvanized steel tubing, 1/4 inch stainless steel sheet and 1/4 inch (6,35 mm) thick HRPO steel sheet. Finish: ProShield, color specified.
  - c. Mallet: Comprised of 2 inches (50,8 mm) diameter grey or black polyurethane, 1/2 inch (12,7 mm) diameter aluminum handle and 3/16 inch (4,74 mm) stainless steel cable with nylon coating.
  - d. Base/Tab Plate: Weldment comprised of 3/8 inch (9,52 mm) thick HRPO steel sheet, and 1/4 inch (6,35 mm) thick stainless steel sheet. Finish: ProShield, color specified.
  - e. Mallet Bar: Weldment comprised of 2.375 inches (60,32 mm) O.D. RS40 (.130 inch-.140 inch) (3,30 mm-3,55 mm) wall galvanized steel tubing, and 1/4 inch (6,35 mm) thick HRPO steel sheet. Finish: ProShield, color specified.
  - f. Mallet Mount: Permalene, color specified.
  - g. Footer: Weldment comprised of 2.375 inches (60,32 mm) O.D. RS20 (.095 inch-.105 inch) (2,41 mm-2,66 mm) wall galvanized steel tubing, and 1/4 inch (6,35 mm) thick HRPO steel sheet. Finish: ProShield, color specified.
  - h. Cables: Comprised of 3/16 inch (4,74 mm) diameter stainless steel cable with nylon coating.
  - i. Music Hook: Fabricated from 7 GA. (.188 inch) (4,77 mm) stainless steel.
  - j. Cradle.
  - k. Top and Bottom: Permalene, color specified.
  - l. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated



## 2.14 MULTIPLE USERS MOTION EVENTS

### A. See-saw:

1. Product: We-Saw.
  - a. Model 186490.
2. Description:
  - a. Age Ranges: 2 to 5 Years, 5 to 12 years.
  - b. 4 seats with center platform for additional participants.
  - c. Center platform made of GripX, a UV stabilized HDPE (high density polyethylene) marine-grade material. Specially designed slip resistant texture enhances traction and appearance. Platform is trimmed with a choice of colorful Permalene.
  - d. Spring mechanism and in-ground bumpers for controlled motion.
  - e. In-ground bumpers protect surfacing from impact and extend the life of the product.
  - f. Rubber stops on hand and foot-holds ensure a firm grip.
  - g. Walk-in seating ensures easy access or transfer into seat.
  - h. Seats made of durable, color fast, vibrant polyethylene.
3. Material:
  - a. We-saw Assembly: (Arm Assembly) Weldment comprised of 3.500 inches (88,9 mm) O.D. x 8 GA. (.162 inch) (4,11 mm) wall galvanized steel tubing, 2.375 inches (60,33 mm) O.D. RS40 (.130 inch to .140 inch) (3,30 mm to 3,56 mm) wall galvanized steel tubing, 1.900 inches (48,26 mm) O.D. RS40 (.120 inch to .130 inch) (3,05 mm to 3,30 mm) wall galvanized steel tubing, .375 inch (9,52 mm) thick HRPO steel plate and .250 inch (6,35 mm) HRPO steel plate. Finish: Proshield, specify color. (Rocker Assembly) Weldment comprised .250 inch (6,35 mm) HRPO steel plate and 2 inches (50 mm) x 5/16 inch (7,93 mm) wall steel tubing. Finish: ProShield, black in color. (Base) Weldment comprised .375 inch (9,53 mm) HRPO steel plate and 2.500 inches (63,50 mm) O.D. x 1.150 inches (29,21 mm) I.D. stainless steel tubing. Finish: ProShield, black in color. (Base Plate) Fabricated from .250 inch (6,35 mm) HRPO steel plate. Finish: ProShield, black in color. (Spring) 5-5/8 inches (142,87 mm) diameter 13/16 inch (20,62 mm) tempered alloy steel coil. Finish: ProShield, black in color. (Spring Wedge) Cast from ductile iron alloy. Finish: ProShield, black in color. (Bearings) 1.145 inches (29,08 mm) I.D. oilite bronze. (Shaft) 1.14 inches (28,96 mm) O.D. stainless steel. (Cylinder) Chrome plated steel.
  - b. Filler Plate: Fabricated from 12 Ga. (105 inch) (2,66 mm) HRPO steel sheet. Finish: ProShield, color specified.
  - c. GripX Insert: 3/4 inch (19,05 mm) Thick Permalene, black in color.
  - d. Teeter Pad & Edges: Permalene, color specified.
  - e. Platform Handhold: Weldment comprised of 1.315 inches (33,4 mm) O.D. RS20 (.080 inch to .090 inch) (2,03 mm to 2,28 mm) wall galvanized steel tubing, 10 GA (.135 inch) (3,42 mm) HRPO steel sheet and 7 GA. (.179 inch) (4,54 mm) HRPO steel sheet. Finish: Proshield, color specified.
  - f. Anchor Cage: Weldment comprised of 1.029 inches (26,13 mm) O.D. RS20 (.070 inch to .080 inch) (1,77 mm to 2,03 mm) wall galvanized steel tubing with 203 or 303 stainless steel welded inserts with 5/8 inch (16 mm) internal threads and 7 GA. (.179 inch) (4,54 mm) HRPO steel sheet. Finish: Proshield, black in color.
  - g. Rung Cap: Molded from U.V. stabilized black EPDM rubber encapsulating .250 inch (6,35 mm) thick aluminum sheet and .125 inch (3,18 mm) thick aluminum plate.
  - h. Center Pad: Fabricated from .250 inch (6,35 mm) thick HRPO steel sheet plate. Finish: Proshield, black in color.
  - i. Bumper Footer: Weldment comprised of 1.315 inches (33,40 mm) O.D. RS20 (.080 inch to .090 inch) (2,03 mm to 2,29 mm) wall galvanized steel tubing with

203 or 303 stainless steel welded inserts with 5/8 inch (16 mm) internal threads and .250 inch (6,35 mm) thick HRPO steel plate. Finish: Proshield, color specified.

- j. Seat: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
- k. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated.

B. Glider:

- 1. Product: Sway Fun.
  - a. Model 177140.
- 2. Description:
  - a. Age Ranges: 2 to 5 Years, 5 to 12 years.
  - b. 12 inches (305 mm) high w/ramp, guardrails & curbs.
  - c. Double-wall construction for durability.
  - d. Play table with cup holders and wheelchair handholds.
  - e. Room for two wheelchairs, plus two large benches for other passengers.
  - f. Steel deck for durability.
- 3. Material:
  - a. Bench: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
  - b. Table Panel: Solid color Permalene table measures 50-3/8 inches (1279,52 mm) wide x 22-15/16 inches (582,60 mm) deep, color specified.
  - c. Table Post: Weldment comprised of 3.500 inches (88,9 mm) O.D. RS-20 (.125 inch) (3,18 mm) galvanized steel tubing, 11 GA. (.120) (3,05 mm) HRPO ASTM A1011 sheet steel and 1/4 (6,35 mm) HRS flat steel. Finish: ProShield, color specified.
  - d. Side Panels: Permalene, color specified.
  - e. Spacer: Permalene, black in color.
  - f. Side Panel Frame: Weldment comprised of 11 GA (.120 inch) (3,05 mm) sheet steel conforming to ASTM A1011. Finish: ProShield, color specified.
  - g. Deck: Flange formed from 11 GA (.120 inch) (3,05 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16 inch (7,93 mm) diameter holes. Finish: TenderTuff, color specified.
  - h. Deck Extension: Flange formed from 11 GA (.120 inch) (3,05 mm) sheet steel conforming to ASTM A1011. Finish: TenderTuff, color specified.
  - i. Deck Extension Support: Formed from 11 GA (.120 inch) (3,05 mm) sheet steel conforming to ASTM A1011. Finish: ProShield, color specified.
  - j. Panel Guard: Permalene, color specified.
  - k. Footing Panels: Solid color Permalene, gray in color.
  - l. Arm Assembly: Machined from 6061-T6 aluminum.
  - m. Axle: Weldment comprised of 304 stainless steel.
  - n. Base Frame: Weldment comprised of 3 inches x 5 inches (76 mm x 127 mm) structural steel C channel, 1/4 inch (6,35 mm) HRS flat steel, 1/2 inch (12,7 mm) HRS flat steel and 1/2 inch (12,7 mm) HRPO flat steel. Finish: Hot dip galvanized per ASTM A123.
  - o. Upper Shock Mount Bracket: Weldment comprised of 7 Ga. (.180 inch) (4,57 mm) sheet steel conforming to ASTM A1011. Finish: Hot dip galvanized per ASTM A123.
  - p. Deck Mount Frame: Weldment comprised of 11 GA (.120 inch) (3,05 mm) sheet steel, 7 Ga. (.180 inch) (4,57 mm) HRPO flat steel and 1/4 inch (.250 inch) (6,35 mm) HRPO flat steel. Finish: Hot dip galvanized per ASTM A123.
  - q. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated.

PART 3 EXECUTION



3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions, approved submittals and in proper relationship with adjacent construction.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

## SPLASHPAD TECHNICAL SPECIFICATIONS

### **Part 1 – GENERAL**

#### **1.01 SCOPE OF WORK**

- A. Under this Section, the Contractor shall be responsible for the installation of a series of water play features, water piping, and associated with the construction of the spray features. All work shall be performed as indicated on the Specifications and include every aspect of work as obvious or implied and necessary to make the work complete and fully operational.
- B. Although such work is not specifically indicated, furnish all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete delivery.
- C. The water spray features, prefabricated mechanical equipment with controls, and design and construction documents shall be provided by Aquatix by Landscape Structures 6500 Carlson Drive, Eden Prairie, MN 55346, 1-877-632-0503, Seaspray LLC, Houston, Tx. 832-683-3813 or approved equal.
- D. The Contractor shall be required to install all of the manufactured equipment and water play features, all water piping and the independent features, and all associated work.

#### **1.02 CODES AND ORDINANCES**

- A. All materials shall be in conformance with the City Standards, Uniform Building Codes, Uniform Plumbing Codes, Uniform National Plumbing Codes, and all other applicable codes and ordinances that govern the type of work. Nothing in the Plans and Specifications shall be construed to permit work not conforming to the applicable codes and ordinances.
- B. Should any change in the Plans and Specifications be required to comply with the applicable codes and ordinances, the Contractor shall notify the Architect at the time of submitting his bid. After entering into the Contract, the contractor shall be held responsible to complete all Work necessary to meet these codes and ordinances without additional cost to the Owner.
- C. Should the Contractor perform any work that does not comply with all applicable codes and ordinances, he shall bear all costs arising in correcting the deficiencies.
- D. Permits and Fees: The contractor shall obtain and pay for all permits and fees required.

#### **1.03 QUALITY ASSURANCE**

- A. All products or items described herein shall be new, unless otherwise specified and shall be from the specified manufacturer or approved equal. Products shall be complete in all respects and in perfect working order.



- B. Manufacturer's directions and detailed drawings shall be followed in all cases where the manufacturers of articles used in this contract furnish directions covering points not shown in the drawings.
- C. All water play equipment, systems and design shall be from a single source, from one manufacturer unless noted otherwise.
- D. All mechanical systems are to be prefabricated, pre-plumbed, pre-wired, pre-tested and UL listed as provided by the specified manufacturer or approved equal.
- E. To insure the highest quality of splash pad infrastructure construction, the following guidelines are required:
  - a. Sub-cut excavation under splash pad slab min. 18" for granular fill.
  - b. Construction of splash pad structure to be 5" thick, 4000 psi concrete with #4 bars spaced 6" o.c. each way. Concrete pad to have required expansion joints every 20' x 20', saw-cut joints every 10' 10' and thicken profiles at edge of pad and at each structure / embed.
  - c. Construction of 5ft apron around perimeter of splash pad to be 4" thick, wire mesh reinforced, 3500 psi concrete. Apron to include expansion joint @ perimeter edge of splash pad and needed saw-cut joints.
  - d. Schedule 80 PVC to be utilized for all splash pad mechanical system piping.

#### 1.04 COORDINATION

- A. The Contractor shall be charged with the responsibility of making arrangements for the coordination of delivery of all equipment to the job site.
- B. The Contractor shall place order for all water feature equipment immediately after award of bid and approval of product submittals to ensure adequate time for manufacturing and shipping. If any materials or equipment are not ordered in time, additional costs made by equipment manufacturers to their equipment in time to meet delivery schedule together with any special handling costs, shall be borne by the Contractor. NO project extension shall be granted due to improper lead time in ordering.

#### 1.05 EXPLANATION OF DRAWINGS

- A. Drawings provided are schematic and not for construction.
- B. Manufacturer to provide complete set of construction drawings per local codes, including: All design and construction drawings for splash pad project construction to consist of construction of concrete pad, mechanical system, electrical and control systems, embed spray fixtures / drain box installation details, water play structure assembly / installation on concrete splash pad, equipment systems installation and hookups.

#### 1.06 SUBMITTALS

- A. Materials List
  - 1. Complete materials list with data cut sheets (3 copies) shall be submitted prior to ordering or performing any work. Materials list shall include manufacturer's name, product name,

data cut sheet, specifications, finishes and description of all materials and equipment to be used.

B. Shop Drawings

1. Equipment manufacturer shall provide three (3) sets of complete splash pad design and construction documents and water feature product installation drawings indicating all materials, equipment and installation required

C. Equipment, Operation and Maintenance Manuals (to be provided prior to system start-up)

1. Prepare and deliver (2) manuals with the following information to the Construction Manager
  - i. Catalog cut sheets and parts sheets with model numbers on all material and equipment installed. Include manufacturer's name, location and phone numbers for each product.
  - ii. Complete operations and maintenance instructions on all products.

**Part 2 – PRODUCTS**

2.01 GENERAL

- A. Contractor shall be responsible for purchasing all specialized water feature mechanical and electrical materials and tools for the splash pad and shall then furnish all components to the Owner.
- B. Materials not listed within these specifications but required for the complete installation of the feature mechanical and/or electrical systems, shall be furnished by the Contractor.
- C. Materials not specified herein, shall be provided in accordance with information shown on the drawings and the general provisions of this part of the specification.
- D. Substitutions in the list of equipment included in this section may be made by the Equipment Supplier only if the equipment is of better quality and more effective than that listed, improves system design and performance or delivery times, and only if the changes are thoroughly documented and pre-approved in writing by the Owner and Architect.

2.02 SPECIALIZED SPLASH PAD MATERIAL MANUFACTURER/SUPPLIER

- A. Approved Manufacturer – Subject to compliance with requirements, the following is the approved Manufacturer/Supplier for specialize splash pad system equipment listed in this specification unless otherwise noted.

Aquatix by Landscape Structures  
6500 Carlson Drive  
Eden Prairie, MN 55346  
Local Sales Rep: ExerPlay

Seaspray, LLC  
1-832-264-7599  
Houston, Texas  
darla@sprayandplay.com

- B. All splash pad water play equipment specified and supplied to the Contractor shall be supplied by a single Equipment Supplier/Manufacturer.



- C. The aquatic play products shall be suitable for installation in municipal and commercial aquatic facilities and public play areas.
- D. Products shall be manufactured by a company that has at least FIVE (5) years of experience in the design and engineering of children's aquatic play areas. Any aquatic play product belonging to a new product line or series should demonstrate meeting the effective norm or show the conformity and resistance of the prescribed materials if it is proposed equivalency. The contractor or manufacturer must demonstrate meeting specifications by providing technical documents and drawings to be included in their bid proposal.
- E. The Equipment Supplier shall have previously supplied splash pad system design, drawing and equipment, similar in size and complexity to the specified project.

#### 2.03 MATERIAL MANUFACTURER WARRANTY

- A. **Warranty:** Product warranty on all mechanical system components shall be a one year warranty against defects in workmanship and materials. Product warranty on all stainless steel shall be a twenty-five year warranty against defects in workmanship and materials. All finishes on stainless steel structures shall have a two year warranty. Warranty period starts from the date of project acceptance by the Owner and Architect. Warranties exclude normal wear and tear, abuse, improper installation and maintenance.
- B. **Scope of Responsibility:** The liability of the manufacturer under this warranty is limited to the replacement of defective material within the warranty period.

#### 2.04 WATER PLAY FEATURES

- A. As shown on the drawings and as provided by the splashpad manufacturer/contractor.

#### 2.05 WATER FEATURE CONSTRUCTION

- A. **Structure Components:** The manufacturer shall supply a complete assembly including: pipe structure, nozzle(s), product attachments, 2 piece base skirt, 2 piece color, mounting system, gasket, hardware, and fasteners.
- B. **Structures:** Above grade water play structures are to be constructed from Type 304L stainless steel designed to resist damage from wind speed of 100 mph and seismic Zone (4) classification. Structural tube to have standard 150# flanged connection on mounting base. Structure to be surface mounted which allows them to be removable for winterization, maintenance, repair and swapping out products. Colors specified by renderings as provided by splashpad manufacturer.
- C. **Structure Mounting System:** Structure to be anchored to a thickened concrete slab with 5/8 inch stainless steel studs. Studs to be drilled and anchored into place with fast setting two-part component adhesive per manufacturer installation instructions.
- D. **Structure Finishes:** All structure finishes are to be a three part epoxy paint coating, non-toxic, compatible with treated water, and corrosion resistant. UV stabilizers are to be added to the finish coat to provide color protection in indoor or outdoor installations.

- E. **Structure 2 Piece Base Skirt:** 2 Piece Base skirts to be fabricated from fiberglass re-enforced plastic with durable finish and fit over base mounting flange and mounting hardware. Base skirt to be provided with vandal-proof stainless steel security fasteners for securing skirt to structure mounting flange.
- F. **Structure 2 Piece Collar:** 2 Piece Collar to be fabricated from urethane.
- G. **Ground Spray Components:** The manufacturer shall supply a complete assembly including: spray jet pod, non-slip cover plate, nozzle, vandal proof stainless steel hardware, and winterization cover plate.
- H. **Ground Spray Jet Pods-PVC:** Jet pod is to be constructed of heavy-duty gas welded PVC material with stainless steel hardware. Structure fittings and connection ports to be gas welded; triple bead fabrication for strength and durability. Jet pod to be designed to be completely encapsulated into thickened concrete slab.
- I. **Ground Spray Cover Plate:** The cover plate is to be constructed of a heavy-duty PVC plastic material with a colored, non-slip coating. The cover plate is to be secured to jet pod with tamper resistant stainless steel fasteners.
- J. **Ground Spray Nozzles:** Nozzles to be manufactured from non-corrosive, heavy-duty PVC material or plastics. Nozzles are to be non-clogging.
- K. **Ground Spray Winterization:** Ground spray embeds shall come complete with winterization cover plate. All water to be evacuated from structure by either blowing out plumbing lines or by gravity draining back to valve vaults. Prior to plugging, use of a biodegradable swimming pool anti-freeze is recommended.
- L. **Ground Spray LED Lighting:** Lighting system to consist of prefabricated LED lighted nozzle fixtures for all ground sprays. System includes necessary Junction Boxes, Transformers, Transformer Enclosures, and interface with main control panel.
- M. **Products Flow Rate Design:** Feature flow rates and supply line sizes are not to exceed as specified.

## 2.06 MECHANICAL SYSTEM- DRAIN AWAY

- A. Splash pad project design to consist of a single pass domestic water system to be housed in and above grade mechanical room located near the splash pad. Splash pad mechanical system shall be provided by splash pad manufacturer.
- B. Domestic operating system to be designed per local codes and consist of all mechanical components necessary for a fully operating splash pad system.



- C. Mechanical components to be fully integrated consisting of: UL Listed Control Panel, Aquavator, Pre-Plumbed Distribution Manifold, Drain Box and Aboveground Mechanical Enclosure.
- D. Aquavator is to be a structure that has a low voltage touch sensor within the cap of the structure. Patrons touch the top of the structure to send a signal to the control panel to activate water flow. Aquavator to be a 4" diameter tubular structure with UV resistant finish. Aquavator to be provided with complete assembly including tubular structure, acrylic accent, graphic face plate, 2 piece collar and 2 piece skirt.
- E. Control Panel is to be a PLC interface U.L. listed and incorporate adjustable time clock controls to set hours of operation and set duration time of activated devices, individual controlled sequencing of spray events and activation bollard relay switches for splash pad system. Main power supply and connection to be provided by contractor.
- F. Distribution Manifold is to be a pre-plumbed water delivery system from feature water supply to water play features. Distribution Manifold to be constructed of heavy-duty gas welded schedule 80 PVC materials. Distribution Manifold to be pre-plumbed with manual flow control valves that regulate water flow levels to each water element and electric solenoid valves for sequencing of water play elements.
- G. Drain Box to consist of a 12" diameter plastic basin with grate top and 6" outlet. Each drain box has a nominal capacity of 250 gpm gravity supply.
- H. Aboveground Mechanical Enclosure to consist of metal structure with hinged access panels mounted on a concrete pad. Above ground equipment enclosure can house the control panel and water distribution manifold. Enclosure is vented to allow for air movement and lower screened drainage openings allow for water drainage.

### **Part 3 – EQUIVALENCIES CLAUSES**

#### **3.01 GENERAL**

- A. To enable all tenders to be judged equitably, they shall be based on the specified products in this document and shown on the drawings.
- B. The proposal for any substitute products must be attached to the bid or tender separately, identifying the substitute product by its trade name along with any savings it may represent for the client. Bidding contractor will be required to cover any additional cost for installation of a substituted product.
- C. Following the opening of the bid, only those substitutes proposed by the lowest bidder of the specified products, will be considered
- D. All substitute approval requests shall be accompanied by manufacturing drawings, including spray zones, plumbing and electrical schematics and written warranty from the manufacturer.

No substitution or equivalency submitted will be considered if products to be considered are not part of manufacturer standard existing product line or a written proof that product has been manufactured previously by the substitute manufacturer.

- E. The owner/architect reserves the right to grant or deny approval for proposed substitutions without prejudice to his rights and his decision shall be final. The above conditions apply to this section independently of any other clauses on the subject found in this document.

#### **Part 4 – EXECUTION**

##### **4.01 GENERAL**

- A. Should the bidder wish to substitute products other than the products specified herein, the bidder shall list products and submit a written Substitution for of Proposal at least 7 calendar days prior to the date of receipt of bids. The bidder shall submit specifications, cut sheets, and performance data, along with an itemization listing each and every deviation from the specifications herein.
- B. The manufacturer shall furnish the owner with at least two sets of complete installation and operating manuals. The installation manual will illustrate the installation of the entire system.

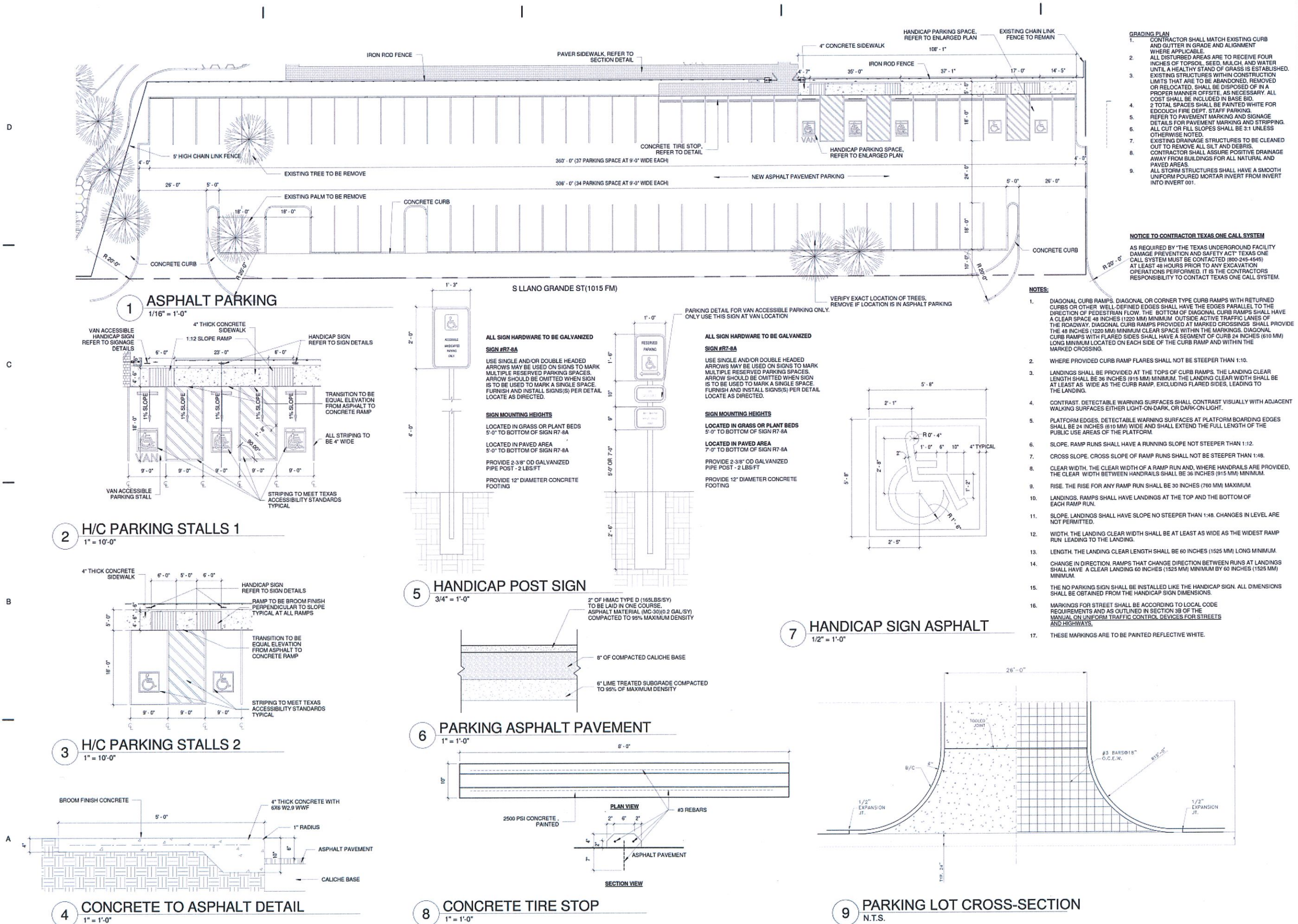
#### **Part 5 – COMMISSIONING OF THE SPLASH PAD**

##### **5.01 GENERAL**

- A. Upon completion of construction, the contractor shall provide owner/operator a one (1) day on-site start-up and training for the owner/operator.

**END OF SECTION**





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04/26/2019

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**A002**