

# 72<sup>nd</sup> Street Community Complex Design Criteria Package Technical Criteria & Specifications

## Volume I – Narrative



## The City of Miami Beach

OFFICE OF CAPITAL IMPROVEMENT PROJECTS

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# 72<sup>nd</sup> Street Community Complex Design Criteria Package Technical Criteria & Specifications

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## **SECTION 1 – INTRODUCTION**

### **1.1. General Overview**

The purpose of the Design Criteria Package (DCP) is to furnish information to permit Design-Build Firms (DBF) to prepare a bid or a response to the City of Miami Beach's (City) Request for Proposal (RFP) or to permit the City to enter into a negotiated Design-Build (D/B) contract (to be provided by the City). The DCP, at a minimum, specifies performance-based criteria for the public construction Project, including survey information concerning the site, material quality standards, design criteria for the Project, site development requirements, provisions for utilities, security considerations, information on utility relocations, stormwater retention and disposal, parking and non-parking program building elements applicable to the 72<sup>nd</sup> Street Community Complex (Project).

It is the City's intent to contract with a DBF for the design, permitting, construction administration and construction of a new parking facility, community complex and related infrastructure.

### **1.2. Project Description**

The Project is located in the City of Miami Beach and encompasses the entire block bordered to the north and south by 73<sup>rd</sup> and 72<sup>nd</sup> Streets, Collins Avenue to the east and Harding Avenue to the west. The site encompasses 167,045-square-feet and is listed by Miami Dade County as tax folio number 02-3202-000-0020. The City owns the site, referred to as Parking Lot 92 (P92) and operates the lot as a metered surface parking lot. The site provides a footprint of sufficient dimensions to accommodate a multi-level mixed-use parking garage requiring the program components listed below.

**Project Program** (also see Program Notes below):

1. 500 space Parking Structure (Section 5)
2. 50-meter Competition Pool with Support Amenities (Sections 5 and 6)
3. 25-meter Multi-purpose Pool (Sections 5 and 6)
4. 7,500 SF Miami-Dade County Library (Section 5)
5. 5,000 SF Commercial/Retail (Section 5)
6. 7,500 SF Fitness Center (Section 5)
7. 5,000 SF Community Center (Section 5)
  - Including a Hardened Fire and Police Operations Room
8. 60,000 SF of Active Green Space (Section 5)
9. A Jogging Path (Section 5)

**Program Notes:**

1. The areas included in the Project Program listed above are minimums.
2. There are additional Project Enhancements the City would like as part of the Project. Those include in no order of preference:
  - Resiliency Hub
  - Additional Grade-Level Commercial or Civic Uses
  - Parking Structure - Automated Parking Guidance System
  - Accommodate Advertising in the Garage
  - Teen Center
  - Pool Amenities
  - Additional Onsite Well Capacity
  - Additional Solar Power
  - Additional Parking
  - Green Roof
  - Additional Project Enhancements

A brief narrative description is provided for the Project Enhancements in Section 10 of the DCP.

3. The information found within the parentheses (under Project Program above) indicates where the primary descriptive narrative can be found. Additional criteria related to the Project Program design can be found throughout the DCP as indicated in the Table of Contents.

The City of Miami Beach envisions the multi-purpose structure to be a state-of-the-art facility with a signature architectural design that enhances the fabric of the North Beach community. The diverse collection of program components will require a unique design solution to embody the synergies of these uses as well as showcase a facility of timeless quality and vision.

As such, the General Requirements for the Project shall include the following elements:

- The Project shall be designed and certified as LEED Gold.
- The Project shall be designed and constructed to have an expected service life of not less than sixty (60) years.
- The Project shall have an initial grade level finished floor at BFE +1 (7.45 NAVD), but able to accommodate BFE +5 in the future (11.45 NAVD).

**1.3. City of Miami Beach Code & Permitting Requirements**

The 1998 Florida Legislature amended Chapter 553, Florida Statutes, and Building Construction Standards, to create a single state building code that is enforced by the City of Miami Beach. As of March 1, 2002, the Florida Building Code supersedes all local building codes. The Florida

Building Code is developed and maintained by the Florida Building Commission. The City of Miami Beach Building Department will administer the permit processes for this Project.

Design and construction of the Project shall comply with industry standards and applicable laws and regulations of any and all authorities having jurisdiction. It is anticipated the following, at a minimum, will be the required permits and/or approvals for the Project. This list is for reference only, as the DBF is responsible for providing all permits and obtaining all approvals necessary for the Project, including but not limited to, the following:

- MIAMI-DADE COUNTY DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER) (formerly DERM).
  - Class II Permit for Construction of Drainage System.
  - Class V Dewatering Permit.
  - Drainage Well Permit.
  - Platting and Traffic Permit.
- FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP)
  - National Pollutant Discharge Elimination System (NPDES) Permit.
  - Notification/Application for Constructing a Domestic Wastewater Collection/Transmission System.
  - Assessment Review Agency.
  - Approval of Environmental Remediation Plan.
- FLORIDA POWER AND LIGHT (FPL)
- CITY OF MIAMI BEACH
  - Planning and Zoning.
  - ROW Permit - Fee to be waived.
  - City of Miami Beach DRB
  - City of Miami Beach Building Permits as necessary.
  - Department of Public Works.
  - Environmental and Sustainability Department
    - Sustainability and Resiliency Ordinance No. 2016-3993
    - Urban Heat Island Ordinance, Ordinance No. 2019-4252
    - Electric Vehicle Parking, Ordinance No. 2016-3988
    - Resolution 2017-29748: A Resolution of the Mayor and City Commission of the City of Miami Beach, Florida, Incorporating Best Management Practices for Landscaping by Including the Use of the Florida-Friendly Landscaping Guide to Plant Selection and Landscape Design When Redeveloping City Parks and City-Owned Land.
  - Tree Permit
- FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
  - Florida Administrative Code - Model Lighting Ordinance for Marine Turtle Protection
  - Turtle Nesting Provisions



- SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD)
  - Environmental Resource Permit.
  - File Notice of commencement.

Except where otherwise expressly required by applicable laws, ordinances, rules, regulations and lawful orders of public authorities, the City shall not be responsible for monitoring DBF compliance with any applicable law, ordinance, rule, regulation and lawful order of public authorities.

#### **1.4. GU Zoning Requirements**

The selected DBF will be responsible to comply with all requirements of the Land Development Regulations of the Code of the City of Miami Beach, as may be amended or revised by the City Commission of the City of Miami Beach. The DBF shall be responsible to obtain any and all approvals, endorsements, permits and/or waivers from the City that affect their proposed Project. The subject site is in a “GU” Government District as illustrated on the official zoning map of the City of Miami Beach.

Appendix A includes a Zoning Data Sheet indicating the current zoning interpretation at the time of the DCP release. However, the DBF is responsible for confirming and complying with all zoning requirements.

#### **1.5. Design Submittals**

A requirement of the Project is the preparation of final design and construction document drawings, calculations and specifications necessary for the fabrication and construction of all architectural, landscape architecture, civil, structural, mechanical, fire protection, plumbing and electrical components required. The DBF will be required to employ design professionals to perform this work. It shall be the responsibility of the design professional to prepare and seal final architectural, civil, landscape/hardscape, structural, mechanical, fire protection, lightning protection and electrical design drawings, or other required specialties, and specifications and submit these drawings to the City and any other governing agency for approval prior to any fabrication and construction of the Project.

The work contemplated under this contract comprises the design, permitting, community outreach participation, construction administration and the construction of the Project. The work will include but is not limited to construction-related services, architectural and engineering design services, permitting, surveying services, utility locations, landscape architecture, geotechnical services, site preparation, earthwork, roadway reconstruction, water main installation, utility coordination, utility relocation, sanitary sewer, storm drainage installation, street lighting, pedestrian lighting, landscaping, streetscape improvements, and demolition of existing structures.

The selected DBF and their design professional shall submit design drawings, calculations and specifications to the City at the design development, 30%, 60%, 90% and 100% construction document phases for review in accordance with the Project Schedule. All submittals shall provide sufficient time for City staff review and examination before proceeding to the following phase or any fabrication or construction, except at the DBF’s own risk. The City encourages the

DBF to execute the design and submittals to allow a phased permitting process letting components of the construction, such as demolition, environmental remediation, foundations, to begin on an expedited schedule. Construction Documents and Technical Specifications shall be complete and detail all elements of the Project, including landscape/hardscape, civil, architectural, structural, mechanical, electrical, plumbing, and fire protection design drawings. All drawings, calculations, and specifications prepared by the design professional shall be certified and bear the seal and signature of an architect/engineer registered in the State of Florida.

Existing underground utilities shall be relocated as described in Section 4 – Civil Engineering Narrative. The FPL overhead transmission lines will be relocated on the Project site by others and is not a part of this Project (easement shown in Appendix B).

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## **SECTION 2 – SITE OVERVIEW**

### **2.1. Site Design Intent**

The Project is located in the City of Miami Beach and encompasses the entire block bordered to the north and south by 73<sup>rd</sup> and 72<sup>nd</sup> Streets, Collins Avenue to the east and Harding Avenue to the west. The site encompasses 167,045-square-feet and is listed by Miami Dade County as tax folio number 02-3202-000-0020. The City owns the site, referred to as Parking Lot 92 (P92) and operates the lot as a metered surface parking lot. The Project Program is listed in Section 1.1.

Based on information received from Miami-Dade County Department of Transportation and Public Works Department (MDTPW), the proposed development will require a traffic impact analysis based on the proposed use, vehicular access points, and trip generation. The DBF shall first submit the proposed traffic impact analysis methodology to MDTPW. Once the methodology is approved, the completed traffic impact analysis shall be submitted to MDTPW for review. The initial review process may take a minimum of three (3) months. MDTPW will also require a pedestrian connectivity analysis and pedestrian warrant analysis for the addition of a pedestrian signal phase (for the north leg) and related signal retiming at the intersection of Collins Avenue and 72<sup>nd</sup> Street. The primary site driveway shall be located on 72<sup>nd</sup> Street. The City and MDTPW will require a traffic signal warrant analysis should a traffic signal be proposed at the site driveway and 72<sup>nd</sup> Street.

### **2.2. Existing Conditions**

The existing site serves as a municipal (surface) parking lot operated by the City of Miami Beach, providing 295 regular parking spaces, eight accessible parking spaces, and six motorcycle spaces. Vehicular access to the lot is from 72<sup>nd</sup> Street and 73<sup>rd</sup> Street. The topographic survey titled Parking Lot 92 dated 22 October 2019, Revision 4, prepared by Pulice Land Surveyors, Inc., reflects elevations within the project site (refer to survey in Appendix C).

#### **Utilities**

There are numerous existing utilities that run within the project site, including but not limited to:

1. 12" C.I. water main, entering the site from the north and running in a north-south direction
2. 24" D.I. force main, entering the site from the north and running in a north-south direction
3. 36" (unknown material) force main, running north-south direction, entering the site from the north and running in a north-south direction
4. 20" D.I. force main, entering the site from the west and running in a west-east direction
5. 12" D.I. force main, entering the site from the west and running in a west-east direction (an emergency line coming North Bay Village, see Section 5).
6. 16" HDPE force main, entering the site from the east and first running in a north-south direction up to a 90-degree bend, where it then runs in an east-west direction. This

force main is owned by the Village of Bal Harbour and connects to a sewer meter on-site prior to connecting to the existing 36" force main.

7. 12" and 15" diameter drainage pipes that are currently running along the western side of the property
8. 24" diameter drainage pipes running along the eastern side of the property
9. Per atlas information received from TECO People's Gas, and based on the survey for the property, there are no records of gas lines within the project site. However, there is a gas line running along Collins Avenue (A1A North), a gas line along Harding Avenue/Abbot Avenue (A1A South), and along the eastern section of 72nd Street. However, it is the responsibility of the DBF to verify existing gas lines serving the site.

Please refer to Section 4 of the DCP for additional utility relocation information.

### **Environmental**

There is an abandoned sanitary sewer pump station located at the center of the project site. The sanitary sewer pump station and all associated appurtenances shall be demolished. The sanitary sewer pump station contains an estimated 65 linear feet of black roofing mastic tape that is categorized as Category I Non-Friable Asbestos Containing Material. Refer to Appendix D, Pre-Demolition Asbestos Survey for Lot P92 - 72<sup>nd</sup> Street Municipal Complex, dated 18 October 2019, prepared by Langan Engineering and Environmental Services, for more information regarding the sanitary sewer pump station and asbestos removal requirements. On the east side of the sanitary sewer pump station building, there is a fenced area with electrical equipment/panels. There is also an electrical panel southwest of the fenced electrical equipment. The DBF shall verify what the electrical equipment serves and shall coordinate with the corresponding utility owner(s) and obtain required permits before disconnecting or impacting the existing electrical equipment.

There were three sites of potential environmental concern identified nearby to the site:

- My Sunny Laundry at 219 73<sup>rd</sup> Street (adjoining north across 73<sup>rd</sup> Street)
- North Beach Cleaners at 7134 Abbott Street (150 ft southwest)
- Texaco #100689 at 7145 Abbott Avenue (adjoining south across 72<sup>nd</sup> Street)

Subsequent groundwater testing performed on-site to investigate whether these nearby sites of potential environmental concern were impacting the site did not detect any contaminants (see Appendix D). The DBF shall be responsible for obtaining all environmental permits and shall consider the three sites of environmental concern listed above, at a minimum.

### **SECTION 3. SUSTAINABILITY AND RESILIENCY**

#### **3.1. City of Miami Beach Ordinances**

The DBF shall be responsible for and the Project shall be designed in accordance with, but not limited to, the following Sustainability and Resiliency ordinances:

- The Project design must comply with Sea Level Rise and Resiliency Review Criteria in Chapter 133, Article II
- Sustainability and Resiliency Ordinance No. 2016-3993
- Urban Heat Island Ordinance, Ordinance No. 2019-4252
- Electric Vehicle Parking, Ordinance No. 2016-3988
- Resolution 2017-29748: A Resolution of the Mayor and City Commission of the City of Miami Beach, Florida, Incorporating Best Management Practices for Landscaping by Including the Use of the Florida-Friendly Landscaping Guide to Plant Selection and Landscape Design When Redeveloping City Parks and City-Owned Land.
- The DBF shall provide accessible native green spaces, retention and treatment of water as a resiliency component and consistency with the City of Miami Beach tree preservation code.
- The DBF shall provide solar power in the Project – see Section 9 of the DCP for minimum requirements.

#### **3.2. Trash and Recycling**

Per the City of Miami Beach Environment and Sustainability Department, trash and recycling bins chosen shall always be paired, use the “rounds” bin model, and meet the following specifications for Park Facilities:

- Recycling:
  - Specialized lid with a smaller opening (s)
  - Clear messaging that reads "recycling" on top and side of bin
  - Top and/or bin frame must be blue in color
- Waste:
  - Larger top opening
  - Clear messaging that reads "waste" or "trash"
  - Distinct color bin from recycling

#### **3.3. Tree Permit**

There are numerous trees within the project site and surrounding right-of-ways. The DBF is responsible for obtaining all necessary tree permits for removal and/or relocations including a tree survey prepared by and bearing the seal of a professional land surveyor, licensed in the

State of Florida. The tree survey shall be drawn to scale and show the exact location and species type of tree.

- This tree survey must be completed and provided prior to DBF design submittal.
- The DBF shall provide a Tree Evaluation prepared by a Certified Arborist or Registered Consulting Arborist through the American Society of Consulting Arborists (ASCA). This evaluation shall provide overall condition of each tree and photographs showing any areas of concern to the arborist. It shall also provide proposed treatment to trees that may improve conditions and proposed methodology for preserving trees based on the proposed development. Trees that cannot be preserved on site but are identified as relocatable, shall have a supplementary relocation plan to assure survivability and preservation of the tree. A table shall be provided by the DBF listing the height, spread, diameter at breast height (DBH), condition and comments related to a specific tree.
- The Tree Evaluation shall be completed by the DBF and submitted as part of their proposal.
- The DBF shall be responsible for all mitigation related to the tree survey.
- In addition, the DBF shall provide a tree disposition and site plan drawn to scale identifying and listing all existing trees and specifying the condition, height, spread and DBH of each tree and whether such trees are to remain, to be removed or to be relocated shall be provided. This information shall correlate with the report provided by the arborist. This plan shall also illustrate the location of all existing structures and/or all proposed new construction, as applicable, the location of any overhead and/or underground utilities, the new locations of existing trees to be relocated on-site, and all areas affected by construction-related activities, such as access routes to the property, and staging area. The plan shall be prepared by and bear the seal of a landscape architect currently licensed to practice in the State of Florida.
- A tree replacement plan prepared in accordance with the Miami Beach Code of Ordinances Section 46-61 – Tree Replacement. All drawings of the site shall show the tree protection zones, as prescribed by the City of Miami Beach Environment and Sustainability Department, as shaded areas that are accurately drawn to scale and labeled as such on the drawings. The tree protection zones shall be shown on all drawings that include any underground utility installations, including, but not limited to, irrigation, plumbing, electrical, telecommunication or streetlight lines. The tree protection zones shall be shown on all drawings that include structural installations that will require excavation(s), and for above-ground installations that may include, but is not limited to, such as walkways, street lights, overhead wires or other types of infrastructure.
- Landscape sheets shall include a sheet specific to the required suspended pavement or structural soils that show soil volume in relationship to impervious areas and location of structural soils or suspended pavement.

## **SECTION 4 - CIVIL ENGINEERING NARRATIVE**

### **4.1. Base Flood Elevation Requirements**

The FEMA Flood Insurance Rate Map (FIRM) number 12086C0326L indicates that the Project is located in zone AE with a base flood elevation (BFE) of 6.45-ft NAVD (8.0-ft NGVD). Based on the FEMA FIRM map, the minimum finished floor elevation of the Project shall be 6.45-ft NAVD plus one (1) foot, totaling 7.45-ft NAVD. Additionally, the Project shall accommodate a future finished floor elevation of BFE plus five (5) feet, totaling 11.45-ft NAVD.

In the future, the City of Miami Beach will be raising all City roads that are lower than 3.7-feet NAVD, as part of the City's stormwater program to provide a future minimum road crown elevation of 3.7 feet NAVD. The DBF shall account for this future elevation as part of the on-site design.

### **4.2. Drainage and Surface Water Management**

The on-site stormwater management system shall be designed for the 10-year 24-hour storm event (per South Florida Water Management District, SFWMD) with a safety factor of 1.25, for a total of 8.75-inches of rainfall to be retained on-site. The system will be required to meet SFWMD water quality requirements.

The on-site stormwater management system must collect runoff from the Project site, including runoff from the parking garage/building roof and from intermediate parking decks. If drainage wells are proposed, runoff from intermediate parking decks and roof planters must be routed to a sand filter, as required by the Water Control Section of Miami-Dade Regulatory and Economic Resources Department, Division of Environmental Resource Management (RER-DEEM). All other runoff may be routed to the proposed drainage wells. Pollution control boxes are required to provide water quality treatment for runoff collected, prior to discharging into drainage wells. Pollution control boxes must be sized based on a 90-second detention time, as specified by Miami-Dade County Design Criteria. The proposed stormwater management system shall also include an underground stormwater retention system, such as the:

- Cupolex product by Pontarolo Engineering (or approved equal)

This type of system allows the reuse of runoff collected. The proposed stormwater management system shall be designed and constructed in accordance with the City of Miami Beach Public Works Manual Part I, Section I, Sub-Section C, as well as any other applicable section of the Public Works manual, and in accordance with the City of Miami Beach Code of Ordinances Chapter 54, Floods.



### 4.3. Sanitary Sewer Service

The following are the nearest gravity sanitary sewer mains to the Project site:

1. An existing 8" gravity sewer main located along Harding Court, with a terminal manhole located south of the intersection with 72<sup>nd</sup> Street.
2. An existing 8" gravity sewer main located along Harding Avenue, south of the intersection with 72<sup>nd</sup> Street (terminal manhole not identified).
3. An existing 15" gravity sewer main located along Collins Avenue (A1A North), with a terminal manhole at the intersection with 72<sup>nd</sup> Street.
4. An existing 8" gravity sewer main located along the alleyway between Harding Avenue (A1A South) and Collins Avenue (A1A North), with terminal manhole located north of the intersection with 73<sup>rd</sup> Street.

The DBF shall propose a gravity sewer main extension from one of the above-mentioned gravity sanitary sewer mains, up to the Project site (along 72<sup>nd</sup> Street or 73<sup>rd</sup> Street). If the sanitary sewer laterals serving the proposed building require a deeper connection than what can be served from the existing sewer mains, the DBF shall propose a lift station to serve the project.

The proposed development shall provide new sanitary sewer laterals and connect directly to the new gravity sanitary sewer main extension. The DBF shall accommodate additional flows anticipated for pool backwash when sizing sanitary sewer laterals serving the Aquatic Center (Section 6). Proposed sanitary sewer services shall be designed and constructed in accordance with the City of Miami Beach Public Works Manual.

Proposed gravity sanitary sewer mains and manholes shall be designed in accordance with the Recommended Standards for Wastewater Facilities (1997) as adopted by rule 62-604.300(5)(g), F.A.C.

Please note, additional sanitary sewer utilities are present at the Project site; these existing sanitary sewer utilities as described in this Section are to be relocated. Existing sanitary sewer utility information referenced above is based on utility atlas and as-built drawings received from the City of Miami Beach Public Works Department. It is the responsibility of the DBF to coordinate with the City of Miami Beach Public Works Department and perform any necessary surveys or investigation to verify locations and invert elevations of existing sanitary sewer mains near the Project site. The DBF shall verify that the existing sanitary sewer mains have sufficient depth to serve the proposed Project while providing adequate pipe cover for proposed gravity sanitary sewer main extensions and laterals. The DBF may use reinforced concrete slabs over portions of proposed gravity sanitary sewer mains and laterals with ground cover of less than 2.5', at the discretion of the City of Miami Beach Public Works Department and Miami-Dade County RER-DERM Water and Wastewater Division.

The DBF shall CCTV the existing gravity sanitary sewer to confirm the connection to existing lines can be made. The DBF shall be responsible for improvements, if required, to ensure connections can be implemented.



#### 4.4. Water Service

The following are the existing water mains abutting the Project site:

1. An existing 12" D.I. water main along 72<sup>nd</sup> Street, running in an east-west direction.
2. An existing 6" C.I. water main along 73<sup>rd</sup> Street, running in an east-west direction.
3. An existing 8" water main (material unknown) located along Collins Avenue (A1A North), running in a north-south direction.
4. An existing 12" CI water main, running in a north-south direction within the Project site (refer to Section 4.7, as this water main is to be relocated).

The DBF shall provide potable water and fire protection services from abutting mains of sufficient size and capacity, as required for the Project. Proposed water services shall be designed and constructed in accordance with the City of Miami Beach Public Works Manual.

The DBF shall provide a water distribution system that can provide separate potable water services for each tenant and each building use/department. Each potable water service shall have a water meter located on the public sidewalk and a backflow preventer within private property.

A double detector check valve assembly will be required for each fire protection service, and it shall also be placed within private property. A post indicator valve (PIV) shall be installed following the double detector check valve assembly, and it should be clearly visible from one of the abutting streets. Fire Department connections (FDC) will be required and shall be placed within 150-ft of the closest fire hydrant. The total number of FDCs shall be determined by the DBF and will require approval by Miami Beach Fire Department (MBFD).

Fire hydrants shall be located no more than 300-ft from each other. There are existing fire hydrants at the following locations near the Project site:

1. South of the intersection of 72nd Street and Collins Avenue (A1A North), at the eastern sidewalk.
2. At the southeast corner of the intersection of 72nd Street and Harding Avenue.
3. At the southwest corner of the intersection of 72nd Street and Harding Court.
4. At the southeast corner of the intersection of 73rd Street and Harding Avenue (A1A South).
5. At the southeast corner of the intersection of 73rd Street and Collins Avenue (A1A North).

Based on a preliminary review of the site by the Miami Beach Fire Department, it is anticipated that new fire hydrants will not be required on-site for the proposed development. However, it is the responsibility of the DBF to determine if additional fire hydrants are required based on the design of the Project in relation to existing fire hydrants. Additionally, the DBF shall be responsible for replacement of any existing fire hydrants in the vicinity of the Project site.

Please note, existing water main information referenced above is based on utility atlas and as-built drawings received from the City of Miami Beach Public Works Department, information found in boundary and topographic survey (Appendix C) and aerial maps. It is the responsibility of the DBF to verify existing water mains and potable water services serving the site.

#### **4.5. Paving & Grading Improvements**

##### Driveway Connections

The primary Project driveway shall be located on 72<sup>nd</sup> Street. Access to loading areas shall be from the primary Project driveway. Driveways shall be designed and constructed in accordance with the City of Miami Beach Public Works Manual. However, if the DBF proposes secondary driveway connections to Harding Avenue/Abbott Avenue (A1A South) and Collins Avenue (A1A North), those proposed driveways shall meet FDOT standards and shall be reviewed and approved by FDOT District 6 and the City.

Proposed driveway connections to 72<sup>nd</sup> Street and 73<sup>rd</sup> Street will require approvals from the Miami Beach Design Review Board and Miami Beach Planning Department. Additionally, proposed driveway connections to 72<sup>nd</sup> Street and 73<sup>rd</sup> Street will require a waiver, involving approval from Miami Beach City Commission.

##### Right-of-Way Improvements

Replacement/improvements to existing sidewalks and curbs within the right-of-way abutting the Project site along 72<sup>nd</sup> Street, 73<sup>rd</sup> Street and Collins Avenue (A1A North) shall be required, where impacted by the proposed development. The DBF shall include the construction of a sidewalk along Harding Avenue as part of the Project.

The DBF shall also be responsible for restoration of paved areas within public right-of-ways, impacted by the proposed development. This includes but is not limited to utility trench restoration, and restoration of roadways that may have been damaged during construction.

Any right-of-way improvements proposed by the DBF shall be in accordance with the City of Miami Beach Public Works Manual, and any improvements along Harding Avenue/Abbott Avenue (A1A South) and Collins Avenue (A1A North) must also meet FDOT standards.

The DBF shall coordinate scheduling of off-site utility connections and work within public right-of-way with the City of Miami Beach Public Works Department. The City of Miami Beach Public Works Department has plans to mill and resurface 72<sup>nd</sup> Street and 73<sup>rd</sup> Street under a separate Project. Should off-site utility connections and work for the Project within right-of-way occur after 72<sup>nd</sup> and 73<sup>rd</sup> Streets have been milled and resurfaced by the City, the DBF shall be responsible for milling and resurfacing of the impacted streets. Extents of required milling and resurfacing shall be coordinated with the City of Miami Beach Public Works Department.

#### **4.6. Utility Relocations**

The following utility relocations shall run along a designated on-site utility corridor, preferably along the property's perimeter. The proposed location of the utility corridor shall be coordinated with the City of Miami Beach Public Works Department. The utility corridor shall be designed to provide adequate separation between utilities, in accordance with F.A.C. Rule 62-555.314.

Continued service is required during the construction of utility relocations. The DBF shall coordinate all anticipated service interruptions with the City of Miami Beach and other municipalities that may be affected by interruptions, including but not limited to Bal Harbour Village and North Bay Village.

#### Stormwater Utility Relocations

The DBF shall be responsible for rerouting of the existing 12" and 15" diameter drainage pipes that are currently running along the western side of the property, and the 24" diameter drainage pipes running along the eastern side of the property. These pipes are currently interconnected with the offsite stormwater drainage system serving 72<sup>nd</sup> and 73<sup>rd</sup> Streets. The rerouted drainage pipes shall be designed and constructed in accordance with the City of Miami Beach Public Works Manual, and shall be located along a utility corridor. The location of the utility corridor will be on the Project site and design shall be coordinated with the City of Miami Beach Public Works Department.

#### Sanitary Sewer Utility Relocations

The following sanitary sewer utilities are currently running within the Project site, and will need to be relocated if they are within 10-feet of the proposed structure/structural elements designed by the DBF:

1. 24" D.I. force main, entering the site from the north and running in a north-south direction.
2. 36" force main (material unknown), running north-south direction, entering the site from the north and running in a north-south direction.
3. 20" D.I. force main, entering the site from the west and running in a west-east direction.
4. 12" D.I. force main, entering the site from the west and running in a west-east direction. This is an emergency line coming from North Bay Village, and its valve is normally closed. In addition to coordinating relocation with Miami Beach PWD, DBF shall also coordinate with North Bay Village Department of Public Works.
5. 16" HDPE force main, entering the site from the east and first running in a north-south direction up to a 90-degree bend, where it then runs in an east-west direction. This force main is owned by the Village of Bal Harbour and connects to a sewer meter on-site prior to connecting the existing 36" force main.

There is also an abandoned sanitary sewer pump station located at the center of the Project site that will need to be demolished and removed that contains asbestos (see Section 2.0).

Please note, existing sanitary sewer utility information referenced above is based on utility atlas and as-built drawings received from the City of Miami Beach Public Works Department, information found in boundary and topographic survey (Appendix C) and aerial maps. The proposed relocation shall have sufficient access for maintenance/operation/replacement. It is the responsibility of the DBF to verify existing sanitary sewer serving the site and to ensure that all sanitary sewer force mains are properly relocated.

### Water Main Relocations

The following water main is currently running within the Project site, and will need to be relocated if it is within 10-feet of the proposed structure/structural elements designed by the DBF:

- 12" C.I. water main, entering the site from the north and running in a north-south direction.

The relocated water mains and existing water mains to remain shall have sufficient access for maintenance, operation, and replacement.

Please note, existing water main information referenced above is based on utility atlas and as-built drawings received from the City of Miami Beach Public Works Department, information found in boundary and topographic survey (Appendix C) and aerial maps. It is the responsibility of the DBF to verify existing water mains serving the site.

DRAFT 5/20/2020

## **SECTION 5 – ARCHITECTURAL NARRATIVE**

### **5.1 General Requirements**

#### **Intent**

The Architectural Narrative intends to define the Project's overall architectural design objectives as well as the individual program component goals and design criteria.

#### **The Site**

The Project site is a true 360-degree lot, with four primary exposures and varying urban contextual relationships that need to be addressed initially as well as holistically. Currently, the site is used as a surface parking facility and includes existing FPL lines that cross the site. The City has entered an agreement with FPL to relocate the power lines in an easement that follows 72<sup>nd</sup> Street to Harding Avenue and reconnects on 73<sup>rd</sup> Street. The final easement boundaries are provided in Appendix B.

- 72<sup>nd</sup> Street- This exposure is envisioned to reinforce and balance the recently approved Town Center Core zoning district. 72<sup>nd</sup> Street will become a significant commercial corridor and should have ground-level uses that reinforce that intent. Retail/Commercial must be placed along this frontage.
- Collins Avenue – This exposure provides direct relationships to the existing park, North Beach Bandshell and oceanfront beach access. Due to the substantial Project program, it is expected the building will be of a height that will be readily visible from the beach and should, therefore, respond to this public viewshed. Efforts to enhance the pedestrian connectivity to the North Beach Bandshell and adjacent oceanfront are included in the design proposal.
- 73<sup>rd</sup> Street - This exposure is adjacent to the CD-2 medium intensity commercial uses.
- Harding Avenue - This exposure is adjacent to the existing North Shore Park facility.

#### **The Building Concept**

The City of Miami Beach is looking for a singular structure, with signature building design features that balance and activate each of the four street exposures. The ground level programmatic and architectural activation of each of the four urban exposures is critical to the success of the complex. The Project program elements such as grade level retail/commercial uses, entrance lobbies, and the County library are some of the intended pedestrian-focused uses to generate this activation. The DBFs are encouraged to develop additional program uses that enhance the public experience on each façade, including and especially the public green spaces. Pedestrian connectivity to and from North Shore Park through and into the site and on to the Bandshell and Beach areas is highly desirable. The design of these pedestrian realm uses

and level of active engagement with the public right-of-way will be a critical criterion on evaluating the success of each proposal.

The opportunity to express the mix of distinct program uses within one balanced building design that responds to the four varying urban exposures requires design creativity through massing, exterior fenestration, and architectural screening strategies.

Architectural lighting will be another design opportunity to accentuate the building's design features while providing adequate functional lighting for each use and sensitivity to the environmental lighting regulations of the coastal location.

## 5.2 Building Program Criteria

The multi-function community complex is to include the program elements as listed in Section 1 and discussed below. Each program element will need to meet the goals and criteria as set forth in this section. All program elements will need to meet all governing zoning, building and accessibility codes.

Further, the overall connectivity and access to each program area from both public users and service providers is a critical component to the success of the design. Adequate vertical transportation will be needed to meet the demands of each program space, to meet life safety regulations, and proper operational servicing. As many of the program elements may be located on upper floors and the roof of the complex, clear architectural features to indicate points of entry and circulation are needed.

- Along with other criteria as established by the City, the Project shall have one vehicular driveway, which shall be located on 72<sup>nd</sup> Street. The driveway entrance into the garage will also need to service all operational loading access and shall have a ground floor minimum clearance of 14 feet (clear of all obstructions e.g. lighting and MEP).
- All ground level façades are to be programmed to activate the pedestrian experience including all green space adjacencies. A clear pedestrian path of 10 feet wide must be provided on the perimeter of the project, clear from obstructions, consistent with the requirements of the adjacent TC-C district.
- The DBF is encouraged to provide uses in addition to the required program to reinforce the ground level engagement. Refer to Section 10 Project Enhancements for additional information.
- Solar power shall be provided by the DBF within the Project, referred to in more detail in Section 9.
- The DBF is to provide all code required signage as well as a comprehensive wayfinding and building marquee signage package for all program areas of the Project.

### Parking Garage

- Project design shall provide the most functional and efficient parking layouts and geometry to achieve, at a minimum, 500 spaces. Please refer to Section 10 Project Enhancements relative to providing parking in excess of 500 spaces.
- The parking areas shall be flat with a speed ramp providing vertical access so that at such time in the future, all or a portion of, the speed ramp can be removed and all, or a portion of, the garage converted to non-parking uses. Provisions/raceways for future alternative program conversion infrastructure are to be provided and illustrated in the design proposal. As such, the structural system should be designed to accommodate conversion for future floor loads at such time they are converted to non-parking uses.
- Clear height minimums for future conversions shall also consider the extent of drainage slopes required for parking on flat floors.
- Speed ramps shall not have slopes greater than 12% with appropriate transitions at both ends.
- A parking office with an ADA accessible restroom shall be provided by the DBF. The office shall provide for unobstructed views of the garage entrance and a minimum area of 450 SF.
- Bicycle Provisions/Design
  - The DBF shall coordinate with City of Miami Beach Parking Department relative to providing an area or required infrastructure, if any, to support the City's bike rental program provided by Citi Bike.
  - The number of bicycle racks and lockers shall meet the minimum required as summarized below:
    - The number of bicycle parking spaces provided must be equal to or greater than 5 percent of the total number of parking spaces.
    - Sufficiently illuminated area (no less than 1 foot-candle)
    - Same grade as first floor of parking or accessible via ramp
    - Dedicated bicycle path/sidewalk leading up to bicycle parking site
    - Rack or other means for locking or securing bicycles
    - Area of not less than 18 inches wide by 60 inches deep per bicycle (30 inches by 72 inches preferred)
    - At least 50 percent of all bicycle parking covered via permanent structure, such as roof overhang, awning, or bicycle locker
    - Signage, both interior and exterior, directing people to the designated bicycle parking area
    - Visible to the parking garage operator and general public
    - Bicycle parking must be free of charge and available to the public (although amenities such as showers and lockers may be fee based)



- Bicycle Parking – In addition, the complex shall also include short term bike parking in the park/greenspace area to facilitate easy/short-term access to the commercial spaces in the first floor.
- Bicycle parking must also comply with minimum bike parking requirements of Parking District No. 8
- The DBF design is to include a parking access and revenue control system (PARCS) which shall be provided by the DBF utilizing the City's centralized vendor – SKIDATA. Contact information for SKIDATA is included in the DCP specifications (Section 11.3).
- The DBF design shall include license plate recognition (LPR) technology compatible with PARCS and in compliance with specifications found in Appendix E.
- The parking areas shall have access for bicycles, motorcycles, and scooters separate from vehicular access.
- The DBF design shall include EV charging stations in the garage. The DBF shall include the minimum number of EV charging stations identified the City's EV ordinance.
- DBFs shall provide appropriate signage within the garage and lobbies for parking, as well as, non-parking uses in the complex.
- The minimum floor to floor height for the ground to the second level shall be 17'-0" above the BFE+5'.
- The floor to floor minimum height for typical parking levels shall provide a minimum finished floor to ceiling height of 10'-6" to accommodate conversion from parking to non-parking uses in the future.

#### Miami-Dade County Library

- The MDC Library shall be located at the ground level of the Project oriented towards and along Harding Avenue and along 72<sup>nd</sup> Street with direct access to street sidewalks and secondary access to green space/outdoor space. The Library access and orientation shall provide the means for a relationship with the North Shore Park.
- The DBF shall provide a 7500 SF Library as described in Appendix F – Miami Dade County Library Program Requirements (including Structured Cabling Standards).
- The DBF shall coordinate with Miami -Dade County Library during design and construction.
- The Library will rely upon meeting space in the Community Center program for larger meeting events. The relationship with the Community Center, as well as direct access from the Library, is critical. This could occur in a vertical connection, i.e. elevators that access common lobbies.
- The Library shall have a minimum ceiling height as set forth in the Appendix F - Miami Dade County Library Program Requirements.



### Retail/Commercial

- The City of Miami Beach shall require the DBF design to include ground-level retail/commercial space. The intent of this program element is to activate the street level exposures of the Project. A mix of possible retail/commercial tenants, cafés and restaurants is envisioned to curate a mix of uses appropriate to each street and green space relationship. Sidewalk cafes are desirable with storefront assembly.
- Retail/commercial program uses must be placed on 72<sup>nd</sup> street to reinforce the TC-C commercial corridor on the south side of the street.
- The total retail/commercial area shall be as stated in Section 1 and demised in a flexible nature so that future leasing plans can accommodate a variety of commercially viable tenants.
- The proposed retail/commercial spaces shall have lease depths similar to local retail standards, with minimum lease depths of 50' per TC-C requirements. The design shall accommodate lease widths no less than 20'.
- The type of liner spaces shall be suggested in the design proposal to properly activate the proposed locations.
- Active space also includes civic space as well as commercial/retail space.
- Proposed food service locations are to have code required grease separators and exhaust systems. Mechanical equipment is not to be provided for retail/commercial spaces, only routing of exhaust via slab block outs for future chase to future roof exhaust. See Section 8 – Mechanical & Plumbing Narrative for more information on capacity/sizing.
- Adequate site utilities shall be provided to the retail/commercial shell spaces for future connection. The condition of the retail spaces is to be cold dark shell (no slab on-grade) with code minimum life safety systems provided.

### Active Green Space and Jogging Path

- The Active Green Space is a critical component to multi-functional complex and shall be integrated into the Project footprint in conjunction to provide adequate active program uses on the Rooftop to meet resiliency/green roof needs.
- Provide 30,000 sf – 40,000 sf multi-use fields within the 60,000-sf active green space, with a minimum width of 100 feet.
- All green areas are to be natural grass with required irrigation and landscaping.
- The active green space areas surrounding the building are to include a public 10' wide Jogging Path. The Jogging Path is to be comprised of appropriate material as well as located and defined in a manner to control access and discourage non-jogger use.
- The DBF design must incorporate physical landscape and hardscape elements to prohibit uncontrolled vehicular access to the entire Green Space area.
- Musco sports lighting shall be provided for the Active Green Space at-grade and the Pools for programming, as well as events.

- Active Green Space may be activated with program uses integrated into the parking garage liner.

### **Rooftop Program Elements**

- Rooftop deliveries through a freight elevator are needed, therefore, there shall be at least one service/freight elevator for the building that serves the rooftop level.
- Other passenger elevators will be included in the design as required per code.
- The DBF shall provide controlled access to/from rooftop uses, including the Pool, Community Center and Fitness Center. As part of the access control system, the DBF design shall include separate adult lockers and restrooms to segregate Fitness Center and Competition Pool users from family/child lockers and restrooms facilities.
- The DBF shall ensure that all slab areas on the pool deck to have fluid applied water proofing.
- The DBF shall ensure that all active slab areas (people) on the pool deck to have fluid applied water proofing with topping slab or pavers.

### Aquatic Center - 50-meter Competition Pool and 25-meter Multi-Purpose Pool

- The Aquatic Center will be located on the rooftop of the building and will include two pools and two support spaces:
  - A minimum 2,000 SF meeting room/lifeguard office to support pool activities.
  - A minimum 2,700 SF building for equipment and storage use.
- Pool layout shall accommodate a 20'-0" clear pool deck excluding bleacher seating.
- Bleacher seating shall accommodate between 150 and 500 spectators.
- Please see Section 6 for detailed information on the 50-meter Competition Pool and the 25-meter Multi-Purpose Pool.

### Fitness Center

- The Fitness Center will be a public, neighborhood-serving facility for adults only. The facility is to be located on the roof level, with views to the ocean if possible. Synergies between the Aquatic Center uses and Fitness Center shall be incorporated into the design while maintaining secure and separate access for each program use. The program area is envisioned to provide a variety of uses, such as free weights, cardio, circuit training and separate rooms for spin classes and flexible use yoga/group fitness classes.
- Code required toilet and locker rooms shall be provided based on the proposed occupancy demand (these requirements may be shared with the pool program assuming security/access control and municipal code requirements are satisfied.)
- The Fitness Center shall include finished space and shall include the fitness equipment listed in Table 5-1, or equivalent. Furniture and all other FF&E items are listed or

referenced in Attachment 5-1 of this section (follows Table 5-1). The Basis of Design specifications for the equipment are located in Section 11.5.

#### Community Center

- The Community Center program is intended to provide a flex-space area for community/public events. There must be views of the ocean from the Community Center and therefore, it is generally envisioned to be on the roof deck. The DBF shall make provisions for folding partition walls to provide flexible configurations of multiple uses is intended. The DBF shall provide finished space with power, data, and audio-visual equipment for state-of-the-art presentation capabilities. The Community Center shall incorporate meeting space that can be shared with the Program Library.
- The DBF shall provide code compliant bathrooms for the Community Center.
- A minimum size of 450 SF for a Category 5 Hurricane hardened security control room for police operations in the event of an emergency shall be provided on the roof level within the Community Center. This room shall have IT infrastructure and supported by generator power.
- A warming kitchen shall be provided. The DBF shall provide service elevator access to the kitchen areas from the loading dock in the garage.

Table 5- 1

<b>FITNESS EQUIPMENT BASIS OF DESIGN</b>		
<b>Selectorized</b>	<b>Line</b>	<b>QTY</b>
Leg Press	Cybox Eagle NX	1
Leg Extension	Cybox Prestige	1
Seated Leg Curl	Cybox Prestige	1
Prone Leg Curl	Cybox Prestige	1
Hip Adductor	Cybox Prestige	1
Chest Press	Cybox Eagle NX	1
Fly/Rear Delt	Cybox Prestige	1
Row	Cybox Prestige	1
Pulldown	Cybox Prestige	1
Arm Extension	Cybox Prestige	1
Arm Curl	Cybox Prestige	1
Abdominal	Cybox VR1	1
<b>Free Weights/Plate Loaded</b>		<b>QTY</b>
Twin Tier Dumbbell Rack	Cybox	1
Adjustable Bench	Hammer Strength	2
Flat Bench	Hammer Strength	2
Seated Arm Curl	Hammer Strength	1
Athletic Power Rack	Hammer Strength	1
Athletic Half Rack	Hammer Strength	1
Smith Machine	Hammer Strength	1
Linear Leg Press	Hammer Strength	1
PL Shoulder Press	Hammer Strength Plate Loaded	1
PL Seated Calf	Hammer Strength Plate Loaded	1
PL Front Lat Pulldown	Hammer Strength Plate Loaded	1
PL Lateral Wide Pulldown	Hammer Strength Plate Loaded	1
PL Bench Press	Hammer Strength Plate Loaded	1
PL Wide Chest	Hammer Strength Plate Loaded	1
PL Incline Press (PRIME)	Hammer Strength Plate Loaded	1
PL Horizontal Chest (PRIME)	Hammer Strength Plate Loaded	1
PL Seated Bicep Curl (PRIME)	Hammer Strength Plate Loaded	1
Barbell Rack	Hammer Strength	2
Olympic Flat Bench	Hammer Strength	1
Olympic Decline Bench	Hammer Strength	1
Weight Tree	Hammer Strength	1
Olympic Bar Holder	Hammer Strength	1
Glute/Ham	Hammer Strength	1
Chin/Dip assist	Cybox Prestige	1

Table 5- 1 continued

<b>FITNESS EQUIPMENT BASIS OF DESIGN (continued)</b>		
<b>Barbells/Plates/Dumbbells</b>		<b>QTY</b>
Olympic Barbell 28MM Chrome Bushing	Hammer Strength	11
EZ Curl Bar 5 FT	Hammer Strength	1
Barbell Straight 20LB	Hammer Strength	1
Barbell Straight 30LB	Hammer Strength	1
Barbell Straight 40LB	Hammer Strength	1
Barbell Straight 50LB	Hammer Strength	1
Barbell Straight 60LB	Hammer Strength	1
Bumper Plate 55LB	Hammer Strength	2
Bumper Plate 45LB	Hammer Strength	8
Bumper Plate 25LB	Hammer Strength	6
Dumbell 5LB	Hammer Strength	1
Dumbell 10LB	Hammer Strength	1
Dumbell 15LB	Hammer Strength	1
Dumbell 20LB	Hammer Strength	1
Dumbell 25LB	Hammer Strength	1
Dumbell 30LB	Hammer Strength	1
Dumbell 35LB	Hammer Strength	1
Dumbell 40LB	Hammer Strength	1
Dumbell 45LB	Hammer Strength	1
Dumbell 50LB	Hammer Strength	1
Dumbell 55LB	Hammer Strength	1
Dumbell 60LB	Hammer Strength	1
Dumbell 65LB	Hammer Strength	1
Dumbell 70LB	Hammer Strength	1
Dumbell 75LB	Hammer Strength	1
Olympic Urethane Plate 2.5LB	Hammer Strength	8
Olympic Urethane Plate 5LB	Hammer Strength	20
Olympic Urethane Plate 10LB	Hammer Strength	20
Olympic Urethane Plate 25LB	Hammer Strength	30
Olympic Urethane Plate 45LB	Hammer Strength	30
<b>Functional</b>		<b>QTY</b>
Jungle Gym 8 Station	Life Fitness - MJ	1
Dual Adjustable Pulley (PRIME)	Optima	1
<b>Cardiovascular</b>		<b>QTY</b>
625T Treadmill	Life Fitness	3
625AT Total Body Arc	Life Fitness	2
Elliptical Cross Trainer	Life Fitness - Insignia	4
Power Mill	Life Fitness - Insignia	2
625C Upright Bike	Life Fitness	2
625R Recumbent Bike	Life Fitness	2
Spin Cycles (IC6)	Life Fitness - IC7	15
Rower	Concept 2	2

**Attachment 5-1 – Fitness Center FF&E**

- Reception desk / office chairs / office desks
  - Reception Desk –Semi-Circular 1 Unit
    - <https://www.flickr.com/photos/ancorinc/4885531051>
  - Front Desk Chairs 3 Units
    - <https://www.nationalbusinessfurniture.com/chairs/drafting-stools/perspective-mesh-back-stool-56045>
  - Office Chairs – 2 Units
    - <https://www.nationalbusinessfurniture.com/chairs/computer-chairs/ranier-ergonomic-mesh-task-chair-51749>
  - Office Desk – 2 Units
    - [https://www.nationalbusinessfurniture.com/urban-reversible-compact-l-desk-60w-x-80d-14394?afid=pla&mr:trackingCode=E37F4FDC-260B-E711-80F3-00505694403D&mr:referralID=NA&mr:device=c&mr:adType=online&mr:ad=425903079982&mr:keyword=&mr:match=&mr:tid=pla-293946777986&mr:ploc=9011917&mr:iloc=&mr:store=&mr:filter=293946777986&s\\_kwid=AL!6708!3!425903079982!!!u!293946777986!&gclid=EA!a!QobChMI3rGv1PTU6AIVE4blCh2GWQhuEAQYASABEgJ8p\\_D\\_BwE](https://www.nationalbusinessfurniture.com/urban-reversible-compact-l-desk-60w-x-80d-14394?afid=pla&mr:trackingCode=E37F4FDC-260B-E711-80F3-00505694403D&mr:referralID=NA&mr:device=c&mr:adType=online&mr:ad=425903079982&mr:keyword=&mr:match=&mr:tid=pla-293946777986&mr:ploc=9011917&mr:iloc=&mr:store=&mr:filter=293946777986&s_kwid=AL!6708!3!425903079982!!!u!293946777986!&gclid=EA!a!QobChMI3rGv1PTU6AIVE4blCh2GWQhuEAQYASABEgJ8p_D_BwE)
- Lockers
  - 25 Units in each locker room (Total 50 Units) can be stackable 3-feet wide, 6-feet high (if stackable) 24-inches deep
  - <https://www.lockers.com/health-and-fitness-club-lockers/18-wide-designer-wood-lockers/18-wide-double-tier-designer-wood-lockers/>
- Display cases / shelves for merchandise
  - Display Case could be tied into reception desk
  - Shelves for Merchandise – 3-4 Units
- PA system / sound system
  - PA system – 1 Unit
  - Sound System – 3 Units
    - 1 Unit for Fitness Center
    - 1 Unit for Spin Area
    - 1 Unit for Yoga/Group Fitness Room
  - Specs
    - 8 Units – 12" CDD Speakers
    - 8 Units – CCD12 Yoke Assembly, Weatherized
    - 4 Units – Lab Gruppen IPD 1200, Compact 1,200 Watt 2- Channel DSP Controlled Power Amplifier
    - 4 Units – Microphones – Shure PGX24/SM58 Wireless UHF with Sm 58 Handheld
    - 4 Units – Audio-Technica PRO 45 Cardioid Condenser Hanging Microphone
    - 2 Units – Cardioid Dynamic
    - Audio System Network – as follows
      - Araknis Networks 210 series 8-port Websmart Gigabit Switch with Partial PoE+ and Rear ports

- Ubiquiti Unifi UAP-Pro Dual Band, Dual Radio, Enterprise Class Access Point with GigE port, 802.3af PoE,
    - Concurrent 2.4 & 5GHz operation, 802.11n MIMO, 750+ Mbps speeds, min 400 ft range and wireless controller software
    - Cable and installation
    - Belden 22/3 signal wire and wall plates
    - Installation of equipment
    - System Training
  - Lighting System
    - 12 Units - 6 in 1 LED Par can with 5 15 watt LED
    - 3 Units – 1024CH Touch Panel DMX Controller
    - Installation and Programming
- Mounted televisions
  - 6-8 Units
  - TCL 50S425 50 inch 4K Smart LED Roku TV (2019) -
- Re-fillable water stations
  - 4 Units
  - Elkay EZH2O LZSTL8WSSP –Bottle Filling Station & Versatile Bi-Level ADA Cooler Filtered 8 GPH Stainless
- In-floor safe
  - 1 Unit
  - Barska AX12588 Standard Depository Keypad Safe,Black
- AEDs
  - 4 Units
  - ZOLL AED PLUS
- Yoga mats
  - 50 Units
  - <https://www.fitnesssuperstore.com/Body-Solid-Yoga-Mat-3mm-Blue-New-p/bsldbstym3.htm>
- Exercise ball racks / weight racks
  - Exercise Ball Racks – 3 Units (for medicine ball storage)
    - <https://www.fitnesssuperstore.com/Body-Solid-SR-MB-Hex-System-Medicine-Ball-Tray-p/bsldsr-mb.htm>
  - Weight Racks – 2 Units (for dumb bells up to 100LB)
    - [https://www.fitnesssuperstore.com/Muscle-D-MD-Series-Modular-3-Tier-15-Pairs-p/mdr-3t15.htm?gclid=EAlaIqobChMI5seS3PHU6AIVip-fCh0YaAeeEAQYBCABEgJ6EPD\\_BwE](https://www.fitnesssuperstore.com/Muscle-D-MD-Series-Modular-3-Tier-15-Pairs-p/mdr-3t15.htm?gclid=EAlaIqobChMI5seS3PHU6AIVip-fCh0YaAeeEAQYBCABEgJ6EPD_BwE)
  - Yoga Balls – 10 Units
    - Exercise Ball for Yoga, Fitness, Balance Stability, Extra Thick Professional Grade Balance & Stability Ball - Anti Burst



### 5.3 City Departmental Requirements

#### Transportation

- Although not part of this Project, the DBF shall accommodate the Miami-Dade County (MDC) 2016 Transportation Master Plan (or updated if appropriate) regarding proposed bus intermodal facilities on Collins and Harding Avenues to determine synergies.
- For informational purposes, the DBF shall accommodate the bike lanes proposed by Transportation under separate project on 72<sup>nd</sup> Street and 73<sup>rd</sup> Street. This would include a painted buffer, along north and south sides of streets, would keep parallel parking, no milling or resurfacing. Curb lines will be maintained as existing except for eliminating a bump-out at the SW corner of 72<sup>nd</sup> Street and Collins Avenue.
- A traffic study is required and shall be provided and paid for by the DBF as per requirements of the City of Miami Beach and MDC. A crosswalk on Collins Avenue, located on the north side of 72<sup>nd</sup> Street shall be included in the traffic study because it will require modification to signal operation, for exclusive pedestrian operation and coordination with MDC. The traffic study shall also study the potential for a signal at the Project driveway on 72<sup>nd</sup> Street.
- Bicycle parking needs (quantity and storage) shall be based on traffic impact study and criteria defined per section above under Parking Garage criteria.
- Drop-off and ride-share locations shall be included by the DBF in the Project.

#### Safety, Security and Crime Prevention Through Environmental Design

- The Project shall comply with the City of Miami Beach's Crime Prevention Through Environmental Design ("CPTED") Ordinances and/or initiatives. CPTED is based on the principle that proper design and effective use of buildings and public spaces in neighborhoods can lead to a reduction in the fear and incidence of crime, and an improvement in the quality of life for the citizens and visitors to Miami Beach.
- The security system is to include security cameras per the City of Miami Beach Police Department Camera requirements (Section 28200 – Video Surveillance and Appendix E). Cameras will be at a minimum required for the garage and all open spaces, including the roof deck of the garage. Access control for the garage shall be integrated into the camera system.
- The DBF design must incorporate physical landscape and hardscape elements to prohibit uncontrolled vehicular access to the entire Green Space area.
- Consideration of access control to the green spaces should be given so the area can be monitored after closing hours.
- Wayfinding signage is a critical tool for crime prevention and is to be included in the proposal.



Design Specification/Property Management/Design Guideline Manual

- City of Miami Beach Property Management Department (PMD) Design Guidelines Manual (DGM) are being adopted by the City (Appendix G) and shall be used by the DBF as a reference for areas such as, but not limited to, elevators, fire protection, HVAC, and lighting controls. The PMD Design Guidelines Manual and standard systems pertain to all buildings owned by the City of Miami Beach and shall be adhered to for the Project.
- The DBF shall integrate all systems, including lights, mechanical, elevator controllers, per the PMD Design Guidelines Manual. The DBF shall standardize all systems but maintain flexibility for selection of non-proprietary service contracts.
- Although the Library building will be owned by the City and leased by Miami-Dade County, all Library systems, including lights, mechanical, elevator controllers, shall be independent from the rest of the Project.
- Should there be conflicting information between the PMD Design Manual and other specifications listed in this DCP, the DBF is to adhere to the most stringent standard.
- DBFs shall consider the coastal environment in the selection of materials, no stainless steel, mechanical coil corrosion.

Fire Department

- The Miami Beach Fire Department (MBFD) has prescriptive requirements as included in the Building Code/Ordinance. Building egress will be based on the most stringent use proposed, being assembly, unless other uses are separated by two-hour fire rating.
- Special egress requirements, such as child barrier/alarms, or similar, shall be required.
- Egress doors shall be provided as indicated in the City's Design Guidelines Manual in Appendix G, City code or Section 11 herein, whichever is most stringent. However, all egress door framing systems shall be designed to accommodate either doors with panic bars integrated with a door actuator for handicap access, or egress doors with panic hardware.
- Fire Department vehicular access shall be required at all sides of the building.
- The DBF shall provide the necessary conduit, or a fire respondent room, to mitigate interruption of transmissions/communications in/through the building.

Information Technology

- The DBF shall provide adequate conduit (PARCS, cameras, IT closets) to carry all systems in the current design and potential future system additions.
- The DBF shall provide air-conditioned, generator-powered backup IT closets on all floors.
- The DBF shall provide ¾" stub out with pulls where IT equipment is located.

- The DBF shall provide a box/handhold at the NE corner of the site. This IT box/handhold will be connected to the IT hub from the North Shore Boardwalk fiber system walk (done by others). The DBF shall provide an IT connection from the building to the box/handhold.

#### **5.4 Art in Public Places**

The City has an Art in Public Places (AIPP) Ordinance (Section 82-586 of the Code) that requires the selected DBF to include an AIPP Program component which will require the direct coordination and participation of the DBF with the Tourism and Culture, Art in Public Places Department. The DBF is only responsible for coordination with the Tourism and Culture, Art in Public Places Department to accommodate AIPP in the project.

The DBF will be responsible for coordinating with the AIPP program to ensure a holistic and integrated art program into the project. Due to the scale of the project, it is envisioned the call for artist concepts and qualifications may be international. The art program is not limited to stand-alone exhibits and may include portions of the building façade as deemed appropriate by the design team and selected artist. The typical process for selecting the artist for this purpose is 6-8 months.

The cost for the AIPP program is not considered part of the DCP project GMP and has secured separate City funding.

## **SECTION 6 – AQUATICS NARRATIVE**

### **6.1 Aquatic General Requirements**

The aquatics program includes two (2) pools located on the roof level, above the parking levels of the Project. The DBF shall be responsible for all applicable items included in this section of the DCP including considerations for the unique aspects of rooftop pool construction.

The requirements identified in the DCP includes information specific to meeting the City of Miami Beach aquatic program needs. Requirements specific to the pool programming priorities have established the basic pools types and configurations. The pools will accommodate both organized aquatic sports and instructional programs while also providing multi-purpose opportunities for the community. The DBF shall meet the requirements set forth by Miami-Dade County Department of Health as well as the Florida Administrative Code for Public Swimming Pools and Bathing Places in their design and construction of the pools and pool related equipment.

Additionally, requirements on the pool construction, finishes, mechanical, filtrations and chemical treatments systems are also identified. Lastly, the pools will have specific needs for deck equipment, loose equipment, maintenance equipment and safety equipment.

#### **6.1.1 Pool Type**

The Project shall include two (2) separate bodies of water that will meet the city's aquatic programming needs. The larger of the two (2) pools will consist of a primary body of water capable of accommodating the aquatic sport needs. The smaller pool will be a minimum of 5,000 SF and will provide multi-purpose and leisure uses.

1. 50-meter x 25 Yards, including two (2) 4'-0" wide movable bulkheads and a movable floor.
2. 25-meter Multi-purpose Pool including a zero-beach entry, active and passive water spaces, and six (6) fitness lap lanes. Pool to also provide some level of free form shape in addition to the lap lanes that will provide recreational value.

#### **6.1.2 Program Priorities**

##### **50-meter x 25 Yard Pool**

- Pool depth will vary from 6'-7" (2 meters) to 9'-0"
  - Pool profile will include a 9'-0" depth across the entire pool width for a minimum length of 25'-0" and shall be allowed to slope to 6'-7" for the remainder of the pool.
- Field of play requirements include:
  - 50-Meter
  - 25-Meter
  - 25-Yard

- Men's and women's water polo
- Synchronized Swimming
- Cross course 25-Yard Swimming
- Competition User Groups include the following:
  - High school competitive swimming, water polo
  - USA Swimming club programs
  - USA Water Polo
  - Synchronized Swimming
  - Master Swimming
  - Collegiate swimming training
- Instructional training programs
  - Scuba training
  - Aqua mermaid classes
  - Aqua Yoga
  - Lifeguard Training and Certifications

#### 25-meter Multi-Purpose Pool

- Pool depth to vary from zero entry to a maximum 3'-6" in all recreation areas.
  - Pool depth will vary from 4'-0" in one end of the fitness lap lanes and 6'-7" in the opposite end.
- Learn to Swim
- Water aerobics and fitness
- Leisure and Recreation
- Passive and Active water experiences
- Lap lanes for fitness training and warm-up/warm-down use
- Aqua Yoga
- Arthritis Program
- Aqua Zumba
- Aqua Cycling
- Water walking

### 6.2 Swimming Pool Shell Construction

- A pre-engineered stainless-steel wall tank shall be utilized for both the 50-meter and 25-meter Multi-Purpose Pools. Myrtha Pools USA shall be considered the basis of design utilizing a proprietary process of hot calendaring rigid PVC sheets to modular stainless-steel marine grade, self-supporting panels. Alternative manufacturers by Natare, Bradford and Astral will be considered with Owner approval.
- Provide pool manufacturer's standard and/or custom components and assemblies integrated into a complete system that forms a pool capable of withstanding imposed structural loads, thermally imposed movement, and deterioration from pool chemicals, ultraviolet radiation, weather, site, seismic and service conditions at a minimum as specified in this Article.
- Provide wall panels, structural supports, structural connections capable of withstanding all loads and resulting stresses within the limits of the design without leakage and under the

specified conditions. Under said stresses the maximum allowable horizontal deflection will be 1/250 of the height of the structure, not to exceed 4mm.

- Provide wall and floor assemblies manufactured and installed with no water leakages through the system. PVC shall be continuous across connections between wall panels, between wall panels and floor membrane, and across joints between sections of floor membrane.
- Provide a written 25-year warranty, executed by manufacturer agreeing to repair or replace pool system components provided by manufacturer that have failed and/or directly result in leakage of the pool. The manufacturer and / or their authorized distributors warrant that the provided materials will be free of defects when used and maintained in accordance with recommendations. The warranty shall cover water-tightness and structural integrity 25 years from date of Substantial Completion.

### **6.3 Swimming Pool Finishes, Markings and Features**

#### **6.3.1 Interior Finish**

- The stainless-steel pool will include a factory installed PVC liner on the wall panels. Stainless steel panels shall be chrome-based stainless steel that are completely bolted together with no welding. PVC liner shall be applied throughout the entire internal finish by means of a hot lamination process.
- The pool floor shall include a concrete subbase that is covered with a PVC membrane (1.5mm reinforced PVC membrane) over nominal 3mm woven fleece geotextile. The PVC floor systems shall be custom tailored on-site for each pool. Heat welded seams and joints ensure complete water proofing for the life of the pool. PVC membrane is available in standard colors (light blue and white) and shall be selected by the Owner.

#### **6.3.2 Pool Markings**

- Pool markings shall be as per the National Federation of State High School Associations (NFSHA). National Collegiate Athletic Association (NCAA) markings may also be used (wall targets). Note that in addition to the swim lanes, a buffer space shall be provided between the outside lanes and pool wall.

#### **6.3.3 Depth Markings**

- The respective depths of the pools shall be marked in a manner meeting the minimum requirements of size, shape, color contrast and interval spacing as set forth by the jurisdictional regulations. All markings shall be a slip-resistant finish and shall be placed at any breaks in slope and spaced no more than 25 feet apart around the pool perimeter.
- Four-inch high, vertical pool wall depth markings at the pool perimeter shall be located at least, at a minimum required by health department regulations. The DBF shall verify depth marking and warning insignia requirements with all jurisdictional regulatory agencies.

- “No Diving” markers or symbols shall be provided at the pool perimeter, located approximately every 25 feet, notated in Imperial units or as required by the local agency.

#### **6.3.4 Toe Ledge**

- The Competition Pool and Multi-Purpose Pool shall include a recessed toe ledge located at 4'-0" below the water surface and shall extend around the entire pool perimeter in all areas where the depth is greater than 6'-0".
- The toe ledge shall be a vertical opening 6-inch-high with a tread 6-inch wide. The recessed space should include a 45° upslope at the rear of the ledge. The ledge shall be clearly designated with a contrasting color at the edge for swimmer's reference.

### **6.4 Perimeter Overflow and Recirculation Fittings**

#### **6.4.1 Gutter**

- A Deck Level gutter system shall be installed around the entire perimeter of both the Competition Pool and Multi-Purpose Pools. The deck-level or “rim flow” perimeter overflow system shall include a gutter lip that is close to the elevation of the pool deck. The perimeter overflow system shall consist of a continuous overflow channel. The entire system shall be fabricated of 316 stainless steel, marine grade with a #3 polished finish.
- All components of the system shall be no less than 12 gauge in thickness. The system shall be the single channel semi-recessed with a minimum of 12" of gutter depth. Location and quantity of gutter dropouts shall be enough to prevent flooding of the gutter. The gutter edge shall include a ceramic tile handhold at the water's edge.
- Gutter shall have the capability to accommodate 100% of the pool recirculation rate. Normal operation will be set at 80%.

#### **6.4.2 Main Drains**

- Main drain outlets shall be concrete sumps with 12-gauge stainless steel frames with PVC or fiberglass grating, or all stainless-steel construction with PVC grating. One sump will be equipped with a separate line and dedicated pump for draining.
- Main drains shall be VGB certified.
- Main drain shall have the capability to accommodate 100% of the pool recirculation rate. Normal operation will be set at 20%.

#### **6.4.3 Pool Piping and Valves**

- All swimming pool piping shall be Schedule 80 PVC for strength and resistance to corrosion.

- All valves shall be identified in the filter room. Valves shall be described as to their function and referenced in the operating instruction manual and wall mounted piping diagram to be prepared by the DBF.
- All main drains shall meet Virginia Graeme Baker Pool and Spa Safety Act (VGBA) requirements.
- The supply piping inlet system shall be in the pool floor and within the racing lane lines or placed along the sidewalls if approved for an aquatic sport environment. Floor inlets shall be ABS body with regulating plate for establishment of the required flow. The color of the floor inlets shall be black or dark color matching the color finish of the lane lines.

### 6.5 Movable Floor

- The DBF shall furnish all labor, material, equipment and services for installation of the movable floor. The floor shall be in the 50-meter pool and shall provide a useable floor surface area spanning the width of the pool (75 ft.) and ½ the length of the pool (75 ft.) minimum in length (75 ft. x 75 ft.).
- The basis of design for the movable floor shall be an AFW hydraulic ram movable floor system as manufactured by Aquatic Development Group, Inc., Cohoes, NY. Telephone: 1-800-458-9283. AFW is a division of HydroTech, Ltd.; of Aquatic Development Group, Inc. Alternative suppliers such as Vario Pools and Myrtha Pools will be considered with Owner approval.

### 6.6 Movable Bulkhead

- Bulkheads shall be a truss type bridge that spans the width of the pool. They shall be engineered to sustain the required loads to maintain the particular tolerances of the course length while providing a safe and stable platform for participants and officials.
- The face of the structure shall be at right angles to the pool and allow for all FINA, NCAA and NFSHA dimensional tolerance requirements (FR 2.2), (FR 2.2.1) and (FR 2.2.2).
- The components shall have no opening that could constitute a tripping or entrapment hazard. The exterior of the unit shall completely encase the structure in a manner that prevents the possibility of swimmer entrapment.
- The bulkhead structure shall be as follows:
  - The structure shall be constructed of stainless-steel grade 316 and shall be clad with a suitable material that meets the requirements of anti-slip and osmosis free.
  - The structure shall be manufactured of materials that can be guaranteed for 25 years.
  - The structure shall be certified to support a minimum uniform live load of 2.0 kN per square meter across the top horizontal surface. Vertical deflection under such live load shall not exceed the lesser of 30 mm.
  - The horizontal sides of the components shall be uniform in plane without unanticipated projections or sudden changes of more than ±3 mm.



- The structure shall be certified to 8 to 10 (depending on layout) numbers of horizontal concentrated live loads, each 1.0 kN and corresponding to the thrust an athlete can exert on the bulkhead performing the turn during a swimming competition shall not exceed the lesser of 6 mm.
- The vertical sides of the components shall be uniform in plane without unanticipated projections or sudden changes of more than  $\pm 3$  mm.
- Manufacturer shall verify that the bulkhead is compatible with the specified electronic timing system touch-pad mounting brackets for all touch-pad lane locations.
- **Movement of Bulkhead**
  - The movable bulkhead shall have a mechanical reduction-gear drive system with deck track rails that allows the bulkhead to move at a rate not higher than 3 meters per minute.
  - The movement of the bulkhead shall be guided by the deck track rails.
  - The mechanical reduction-gear drive system shall be able to function without additional attachments.
  - The movable bulkhead shall move horizontally along two track rails 'cast in' to the pool deck.
  - The bulkhead shall be designed to move freely immediately after the locking devices have been unlocked for quick response. Additional device attached to the bulkhead or additional procedure (i.e. filling the air tanks) for the moving of the bulkhead are not acceptable.
  - The movable bulkhead shall be able to be locked down in various positions and these lock down devices, set into pool deck, shall allow for 10mm fine locating parallel to the long side of the pool.
- **Surface Materials**
  - The entire face of the component shall allow for water flow through the face to act as wave quelling action. A minimum of 15% of the entire face of the bulkhead shall allow for water flow (i.e. the front face shall be 85% cladding and 15% 'free water flow' gap). The top platform shall comply with all local standards for anti-slip criteria.

## **6.7 Swimming Pool Mechanical and Water Treatment Systems**

### **6.7.1 Pool Pumps**

- Horizontally mounted centrifugal pumps shall be utilized for all the pool recirculation and feature pumps and shall be certified by the National Sanitation Foundation (NSF) and bear the certification mark. Pump casing shall be cast iron fitted with a replaceable bronze case wear ring. Pump impeller shall be enclosed type of cast bronze, statically and dynamically balanced, and trimmed for the specified design conditions.



- Provide a fusion-bonded epoxy coating on all wetted parts to protect pump internals from corrosion, including pump volute interior and complete pump impeller. Sandblast to bare, white metal. Thickness shall be 8 to 12 mils (heavy film). Verify thickness by non-destructive testing. Coat parts as recommended by manufacturer, including preheating parts to 400 degrees and electrostatic deposition or fluidized bed technique. Provide primers if required to resist chlorinated water <10 ppm. Coating shall be Scotchkote 134 manufactured by Fusedek or approved equal.
- Entire pumping unit shall be mounted on a base using cap screws to preserve the back-pull-out feature of the pump. Pumps shall not be secured with floor studs. The pump base shall be coated with the same epoxy coating as the pump.
- The design shall provide a hair and lint strainer, for each pump, of fiberglass or epoxy coated stainless steel construction with a clear observation top. Pressure gauges shall be installed on the discharge of the pumps and compound gauges shall be provided at the intake port of the pumps, after the hair and lint strainer. Approved manufacturers of pool pumps shall be Aurora, PACO, ITT Marlow and Griswold.

#### 6.7.2 Pool Filters

- The filter system shall consist of high rate pressure filter tanks and must be certified by the National Sanitation Foundation (NSF) and bear the certification mark.
- The filter tanks shall be horizontally oriented single cell fiberglass tanks, minimum 42 inches in diameter. Filter room space shall accommodate height requirements for stackable filters.
- The filter manifold face piping shall be designed to allow for one (1) filter tank to be backwashed at a time while the recirculation system is operating. A manual backwashing system shall be provided with the filter system.
- The filters shall not exceed a filtration rate beyond 13.0 GPM/SF of filter area. Filter media shall be made from 100% recycled plate glass material. Media shall be crushed, dried, and screened for optimal filtration properties. The filter media shall have a blend with 70 percent of the particle size between 0.4 mm and 1.1 mm and 30 percent of the particle size between 1.7 mm and 3.4 mm. Follow manufacturer recommendations for media placement within the filter which may include a layer of coarse media at the bottom of the filter. Filter shall contain a minimum bed depth as recommended by the manufacturer. Systems which do not provide a minimum bed depth will not be accepted. Filter media shall be Viron glass filter media as provided by Fluidra, or equal.
- Basis of Design: Fiberglass filters shall be the product of Paragon Aquatics / Stark, Waterco, or Neptune Benson provided they meet the specifications and layout. Valves must be provided to backwash one filter at a time.

- The filter tanks and lining shall carry a 15-year limited fully rated warranty by the tank manufacturer.
- Backwashing of pool filters shall be conveyed to sanitary sewer. The contractor shall accommodate all requirements for containing backwash at the required amount as to not exceed the capacity of the sewer system.

### 6.7.3 Pool Sanitizing Systems

- The design shall specify sodium hypochlorite as the primary chemical sanitizing system for the pool(s). Storage of the sodium hypochlorite shall be in a double wall bulk storage tank capable of providing a minimum of a 7-day supply of material that can maintain the required chlorine residual levels. Feeding of the sodium hypochlorite shall be done through use of peristaltic style pump system. Basis of design shall be dual-headed pumps by Stenner, or approved equal. The installing contractor must provide for sufficient means of delivery to the bulk storage container, including but not limited to a remote fill location, piping from remote fill to bulk storage and liquid level sensors and gauge readout at any remote fill locations.
- The pH Buffering System shall include a carbon dioxide feed system. The system shall consist of CO<sub>2</sub> storage tanks, a lockable fill box for bulk delivery, a pressure reducing/automatic changeover valve, a feed unit with rate of flow adjustment, diffusion injection fittings, duckbill check valves, and all necessary interconnection tubing.
- The DBF design shall allow for the swimming pool water to be routinely monitored and treated by UV sterilization in the range of 220nm to 400nm to kill bacteria, viruses, molds and their spores and to continuously remove chloramines. The concentration of free chlorine residual shall always meet the requirements of the Health Department authority having jurisdiction over the swimming pool. Any proposed UV system must have a UL listing on the complete system and be listed under NSF Standard 50.

### 6.7.4 Water Chemistry Controls

- A programmable chemical automation system shall be furnished for the pool(s) for continuous monitoring of water chemistry (ORP/HRR, PPM, pH and temperature), Langelier Saturation Index, and for automatic control of the chemical feeders, heater, and water level. Installation of the system shall be as specified by the manufacturer and no exceptions shall be taken. Basis of design shall be BECS Technology, Inc. System 7. Controllers manufactured by Chemtrol SB Control Systems, AcuTrol by Pentair and Prominent will be considered with Owner approval.
- The controller shall manage the recirculation pump with a programmable Fireman Cycle feature, which automatically turns off the Heater and UV systems prior to shutting off the recirculation pump. All line-voltage wiring shall be performed in a separate NEMA 4X enclosure that precludes access to the controller electronics. The

control system shall also provide automatic control of the filtration system including backwash operation.

- The controller shall come with a standard, integral 100BaseT Ethernet connection. The controller shall be capable of providing Remote Access via PC with Ethernet connection and Alarm Notification via email or text message via an Ethernet connection to the Internet.
- The controller manufacturer shall provide graphical remote operation software, for interactive connection to the controller from a PC, smart phone, tablet and other remote devices.

#### **6.7.5 Pool Heating and Cooling**

- The pool water heating and cooling for the pools shall be geothermal system capable of maintaining a minimum/maximum pool heat of 82 degrees for the 50 Meter Pool and 86 degrees for the 25 Meter Multi-Purpose Pool. The geothermal heating system, including full design documentation shall be provided by Symbiont Service Corp. or approved equal. System shall be fully rated for swimming pool use and all materials shall be appropriate for this environment.

#### **6.7.6 Automatic Fill System**

- Provide a water level sensing and control system for each of the pools that will monitor the water level in the surge tank and automatically activate the auto water make-up control valve. For sensing water level and activating make-up water control valve for each pool, use Series ELC-810 manufactured by AquatiControl Technology. Controller housed in a watertight NEMA 4X UL94 5V UL flammability rated polycarbonate enclosure to meet IP66 and NEMA 4, 4X, 12 and 13 ratings. The Controller shall utilize sensor(s) to control water level.
- Provide a solenoid valve for high level sensor, normally opened, stainless steel fitted, bronze body, 24 VAC slow closing type. Size to pipe. Interlock with automatic water level control system. Refer to the Drawings for additional information. Such as ASCO, or approved equal.
- Provide a make-up water solenoid valve, normally closed, stainless steel fitted, bronze body, 24 VAC slow closing type. Size to pipe. Interlock with automatic water level control system. Refer to the Drawings for additional information. Such as ASCO, or approved equal.

## 6.8 Swimming Pool General Equipment

### 6.8.1 Automatic Timing System

- An automatic timing and judging system for swimming, synchronized swimming and water polo shall be provided. Basis of Design shall be by Colorado Timing. Daktronics shall be considered and approved equal.
- Rough-in conduit, junction boxes and pull boxes shall be provided for all primary field of play lanes with an automatic scoreboard for the Competition Pool. The scoreboard shall be a traditional LED full color matrix display. The projection unit shall provide additional versatility for dive-in movies and other AV uses.
- The DBF shall provide shop drawings from the manufacturer for final installation of conduits, etc. The scoreboard may be attached to the support building walls at the end of the Competition Pool or mounted on a support structure or rack. The scoreboard shall be mounted in a way that it can be seen from the entire deck and spectator areas. Electric outlets shall be located at the scoreboard location, one for each panel, as well as near the timer's station and elsewhere as required by the manufacturer. Provision for locating the timing console within the coach's office shall be provided. Colorado Timing Systems, Inc., shall be the basis of design.
- The timing system shall include touchpads for use in the primary fields of play. Cable deck jack boxes shall be provided at the starting platform anchor locations on the bulkhead. The jack box assembly shall be installed to the side and below each starting platform location on the deck as recommended or required by the manufacturer. <https://www.recreonics.com/product-category/competitive-equipment/colorado-time-systems/>
  - Colorado Time System Backstroke
  - Colorado Time Ultimate Pace Clock Controller
  - Colorado Time Aquagrip touchpad
  - Colorado Time Touch Pad Caddy
  - Relay Judging Platform Caddy
  - Infinity start system with wired microphone
  - Colorado Time Cable Harness for Lanes
  - Colorado Time System 6 Sports Timer
  - Colorado Time Systems Wireless Deck Clocks
    - PC Pro Wireless Pace Clock Training System: 31" octagonal pace clock (2 units) <https://www.recreonics.com/product/31-inch-competitor-white-face-pace-clock-electric/>
    - Colorado Time Starting Block Speaker
    - Scoreboard: <https://www.recreonics.com/product/otter-scoreboard-86-lane-event-heat/>

### 6.8.2 Swimming Pool Covers

- The swimming pool cover system shall be of the energy conservation type. The covers shall be supplied in panel sections, allowing for ease of storage, and ease of installation and removal. The cover panel materials shall withstand the commercial

aquatic facility's environment. Panels shall receive edging materials to strengthen the panel and to allow for deployment and retrieval without damaging the panel's main body materials. All materials shall be ultraviolet stabilized to ensure long life. The cover panels shall be reversible, allowing for the panels to be rotated, using both sides and end to end, every other year, supporting additional panel life. Warning labels shall be affixed in four places to both sides of the panel and shall instruct in the panels proper use and warn patrons of hazards associated with covered swimming pools. Cover panel systems shall be supplied with a protector, for use when panels are not deployed. The swimming pool cover system and its accessory items shall be manufactured by Spectrum Products, T-Star Enterprises, or approved equal.

### 6.8.3 Deck Equipment

- Grab rails and recessed steps for the pool(s) shall be provided as required. They shall consist of stainless-steel grab-rails set in chrome plated bronze wedge anchors and escutcheons with set screws. Recessed steps in the pool wall shall be provided.
- Backstroke and recall rope anchors and stanchions shall be provided. The backstroke stanchions shall be fitted with pennants and the recall stanchions with a rope. Back Stroke Flags and anchors shall be provided in both the 50-Meter Pool and Multi-Purpose Pool, and shall include locations for all independent field of plays. Backstroke anchors, stanchions and flags shall also be provided for the lap lanes in the Multi-Purpose Pool. <https://www.recreonics.com/product/18-x-30-inch-heavy-duty-vinyl-finish-line-flags-assembled/>
- Starting platforms (20- or 50-Meter Pool) shall be provided for the Competition Pool. Platforms shall be removable from the deck when not in use. Diving from the starting platforms shall be restricted to supervised practice or competition of athletic teams. Twenty (20) starting platforms with slip-resistant surfaces shall be provided. <https://www.recreonics.com/product/colorado-block-side-mount/>
- Two (2) floating water polo goals shall be provided for a competition layout. Two (2) deck mounted water polo goals shall also be provided. Floating Water Polo Goals and Deck Mounted water polo goal specifications:
  - Floating Goals - <https://www.recreonics.com/product/competition-floating-and-folding-water-polo-goal/>
  - Deck Mounted Goals - <https://www.recreonics.com/product/water-polo-black-tarred-nylon-nets/>
- Lifeguard chairs to meet the minimum standards of state regulations shall be provided in portable (wheeled) units that shall be stored out of the way during periods when lifeguards are not required. Chairs shall include removable shade umbrellas.
  - Lifeguard chairs to meet minimum standards with portable wheels – (6): <https://www.recreonics.com/product/movable-guard-chair-6-ft/>
  - Umbrella for Guard Chairs: <https://www.recreonics.com/product/open-weave-panel-umbrella/>

- The surge tank shall be equipped with an access hatch that is a single door 2 ft.-6 in. x 2 ft.6 inches with 1-inch fillable pan to receive ceramic tile and grout or concrete deck fill. The frame shall be 1/4-inch extruded aluminum with built in neoprene cushion and continuous anchor flange. Door shall be ¼" aluminum plate reinforced with aluminum stiffeners as required.
- Surge tank ladder rungs shall be 1/2-inch Grade 60 steel encased with co-polymer polypropylene plastic.
- An accessible lift for each pool shall be provided to meet ADA guidelines. Handicap lift shall be:
  - <https://www.recreonics.com/product/aquatic-access-ada-compliant-pool-lift-igat-180ad/>
- Tip and roll grandstands shall be provided with seating capacity of at least 150 to 500 persons. Bleachers shall be located on deck beneath a shade canopy. Shade structure to be provided by others. Refer to Section 5 – Architectural Narrative.

#### 6.8.4 Loose Equipment

- Lane ropes shall be provided in enough quantity to accommodate all fields of play for aquatic sports. Markers shall be provided with an adequate number of storage reels. Lane lines for 50-Meter Pool shall be provided with disconnects for use in all required aquatic sport fields of play (50-meter, 25-meter, 25-yard, water polo, synchronized swimming)
  - 50-M (10 lanes): <https://www.recreonics.com/product/competitive-racing-lane-lines-6-inch-50m-gold-medal-line/>
  - Multi—Purpose Pool (6 lanes): <https://www.recreonics.com/product/competitive-racing-lane-lines-6-inch-25m-gold-medal-line/>
  - Storage Reels:
    - Lane line storage reels shall be fabricated from a heavy-duty aluminum reel joined together by a 1 ½ -inch aluminum axle. This unit must ride easily on four hard rubber wheels. Sufficient storage reels shall be provided to accommodate all lane ropes. <https://www.recreonics.com/product/elite-stor-lane-reel/> Reel Covers: <https://www.recreonics.com/product/elite-stor-lane-reel-cover/>

#### 6.8.5 Maintenance Equipment

- Four (4) wall brushes shall be provided with a flexible polyethylene material with five (5) rows of nylon bristles. Pool brush holder shall be permanent mold cast aluminum with hydrofoil flap. <https://www.recreonics.com/product/blended-stainless-nylon-brush/>
- Four (4) skimming net heads shall be provided consisting of one-piece molded plastic frame with a reinforced, integral handle bracket suitable for quick attachment to a



standard 1¼ or 1 ½ inch diameter handle using bolts and wing nut. <https://www.recreonics.com/product/extended-duty-leaf-skimmer/>

- Four (4) adjustable telescopic and stainless-steel poles shall be provided. <https://www.recreonics.com/product/dually-telescopic-pole-6-ft-to-18-ft/>
- Provide one (1) testing kit to feature liquid reagents, color comparator, waterproof instructions and treatment charts, chemistry guide and watergram. The test kit shall have the ability to test for free and total chlorine (0.5 – 5.0 ppm), bromine (1-10 ppm), pH (7.0 – 8.0), acid and base demand, total alkalinity, calcium hardness and cyanuric acid.
- **Testing kit (1 unit)**
  - <https://www.recreonics.com/product/pool-manager-abc-kit/>
  - Two (2) robotic pool cleaners shall be provided with electric motor. <https://www.recreonics.com/product/duramax-duo-pool-cleaner/>
  - One (1) portable stainless-steel vacuum cleaner shall be provided. <https://www.recreonics.com/product/recreonics-2-h-p-vacuum-pump-with-stainless-steel-cart-230-volt-15-amp/>

#### 6.8.6 Safety Equipment

- Four (4) ring buoys and extension ropes shall be provided. <https://www.recreonics.com/product/ring-buoy-24-inch/>
- Four (4) life hook and an aluminum extension poles shall be provided. <https://www.recreonics.com/product/sheperds-crook-with-16-ft-pole/>
- Two (2) spine boards shall be provided with head immobilizer, head strap, body straps, side roll ups, adhesive strips and required staples. <https://www.recreonics.com/product/recreonics-backboard-package/>
- Two (2) first aid kits shall be a 24-unit kit per American Red Cross standards as manufactured by Swift First Aid, or equal. <https://www.recreonics.com/product/24-unit-general-purpose-first-aid-kit/>
- Thirty (30) supply rescue tubes for each lifeguard shall be provided. <https://www.recreonics.com/product/40-inch-premium-rescue-tube/>
- AED'S (3 units): ZOLL AED Plus - <https://www.recreonics.com/product/zoll-aed-plus/>
- Safety eyewash station shall be a self-contained system in which eyewash bottles are securely positioned in a portable holder. Eyewash bottles shall be 32 ounces and easily removable from case, and shall contain a sterile, saline solution with the ability to neutralize a varying quantity acids or caustics. <https://www.recreonics.com/product/body-flush-station/>
- Safety eyeglasses dispenser station containing ten (10) pairs of safety glasses shall be provided and installed in the pool mechanical room.



- Lifeline that shall be ¾ inch blue and white polyethylene rope with floats that are 5-inch in diameter by 9-inch-long. (4 units)
- DBF to be responsible for delivery and storage of all deck, loose, maintenance and safety equipment. Permanent storage of equipment will be provided in the pool storage room (see Section 5 Architecture Narrative).

#### 6.8.7 Miscellaneous Pool FFE

- Lockers (40 units): <http://www.lincolnaquatics.com/lenox/lenox-3-tier-flat-12-x18-x60-/product/70-335>
- Lockers benches: <http://www.lincolnaquatics.com/montego-locker-benches/montego-locker-bench-72-x-20--beige/product/77-650>
- Lounge Chairs: <https://www.recreonics.com/product/bahia-adjustable-chaise-lounge/>
- Pool Deck Umbrellas: <https://www.tuuci.com/collections/parasols/ocean-master-max-classic/>
- Portable Bleachers (150-500 persons): <https://www.recreonics.com/product/5-row-tip-and-roll-bleacher/>
- Shade Structure for Bleachers: <https://www.recreonics.com/product/perfectshade-shade-structure-10-x-20-black-frame/>
- Mounted televisions (6-8 Units): TCL 50S425 50-inch 4K Smart LED Roku TV (2019) -
- PA system / sound system
  - PA system – 1 Unit
  - Sound System – 3 Units
  - Specs
    - 8 Units – 12" CDD Speakers
    - 8 Units – CCD12 Yoke Assembly, Weatherized
    - 4 Units – Lab Gruppen IPD 1200, Compact 1,200 Watt 2- Channel DSP Controlled Power Amplifier
    - 4 Units – Microphones – Shure PGX24/SM58 Wireless UHF with Sm 58 Handheld
    - 4 Units – Audio-Technica PRO 45 Cardioid Condenser Hanging Microphone
    - 2 Units – Cardioid Dynamic
    - Audio System Network – as follows
      - Araknis Networks 210 series 8-port Websmart Gigabit Switch with Partial PoE+ and Rear ports
    - Ubiquiti Unifi UAP-Pro Dual Band, Dual Radio, Enterprise Class Access Point with GigE port, 802.3af PoE,
    - Concurrent 2.4 & 5GHz operation, 802.11n MIMO, 750+ Mbps speeds, min 400 ft range and wireless controller software

- Cable and installation
  - Belden 22/3 signal wire and wall plates
  - Installation of equipment
  - System Training
- 
- Swimsuit spin dryer: <https://www.recreonics.com/product/suitmate/>
  - Pool Covers: <https://www.recreonics.com/product/deluxe-insulating-pool-blanket-with-12x12-outer-layer-density-3000-plus-sq-ft-hemmed/>

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## **SECTION 7 – STRUCTURAL NARRATIVE – PARKING GARAGE**

### **7.1 General Requirements**

The parking structure shall be designed and constructed in conformance with ACI 362.1R-12 (“Guide for the Design and Construction of Durable Concrete Parking Structures”) for the Coastal Chloride Zone II (CC-II) exposure zone. Where a conflict exists between ACI 362.1R-12 and other items in this Design Criteria Package, the most stringent shall apply.

All building structural elements shall be constructed with cast-in-place post-tensioned or precast concrete (excluding foundations and columns/walls). Steel structural elements will not be accepted.

The parking garage shall be designed such that the ramp can be removed and the parking levels converted to non-parking uses in the future. The parking levels shall be designed such that the convertible levels provide a minimum clear finished floor to ceiling height of 10’-6”.

### **7.2 Design Methodology**

#### **7.2.1 Substructure**

The preliminary Geotechnical Engineering Study report dated January 14, 2020, by Langan Engineering and Environmental Services, Inc. (Langan) provided in Appendix H is for reference only. None of the recommendations contained in these documents may be assumed by the DBF. The DBF shall make its interpretation, evaluations, conclusions, and recommendations for this Project.

- The DBF shall be responsible for identifying and performing their geotechnical investigation, analysis and design required for the Project. The City does not assert as to the competence of the soil necessary to support temporary shoring and/or construction vehicles.
- The intent of the geotechnical studies conducted by the City was to identify fatal flaws in the site soils (none identified) and provide preliminary foundation information to the DBF to prepare a design proposal and cost. Final permitting and foundations will require additional investigation by the DBF.
- In response to the subsurface conditions of the Project site and per the preliminary recommendations by Langan, the building superstructure, including ground floor slabs, shall be supported on a deep foundation system. Ground floor slabs, access ramps, stairways or other at grade elements shall be structurally supported by the piles or the building foundations.
- The deep foundation system shall be selected by the DBF based on the final design. Augered Cast-In-Place (ACIP) piles are preliminarily recommended for foundation support. The Preliminary Geotechnical Engineering Study in Appendix H contains recommendations for 16-inch-diameter ACIP piles with a tip elevation of -52 feet NAVD (-50 feet NGVD) and a design compression capacity of 150 tons, or 18-inch-diameter ACIP piles with a tip elevation of -59 feet NAVD (-57 feet NGVD) and a design compression capacity of 225 tons. Group action of the piles shall be accomplished employing

reinforced cast-in-place concrete pile caps located under columns, shear walls and load-bearing elements of the structure. Reinforced cast-in-place concrete grade beams shall be used as necessary to span between pile caps and piles supporting walls or other load-bearing elements.

- The substructure must be designed so that it can support live loads associated with the conversion of the parking floors to an occupied use equivalent to 100 psf.

### 7.2.2 Superstructure

There are two prevalent parking garage structural systems in use today, cast-in-place post-tensioned concrete (CIP/PT) and precast concrete (PCC); both systems provide long span, column-free bays. There are several factors involved in system selection to be evaluated to select the best structural system for this Project (including the potential for future convertibility).

- 1) The structural system shall be comprised of a CIP/PT or PCC concrete structure.
- 2) The design of a long-lasting (durable) structure must include the following:
  - a. Concrete Strength:
    - 5,000 psi minimum
  - b. Concrete Qualities:
    - The concrete mix for columns, supported slabs and beams shall be proportioned to meet ACI requirements including limitations on water-soluble chloride in the concrete and maximum water-to-cementitious ratios. Use a low water/cement ratio of 0.40 maximum.
  - c. Concrete Additives:
    1. Use calcium nitrite to densify the concrete and a corrosion inhibitor at a dosage rate of 3 gals/cu. yd. of concrete.
    2. Use of a plant or site-added superplasticizer for workability.
    3. No materials containing intentionally added chloride ions shall be used in any concrete.
  - d. Finishes:
    1. Shrinkage cracks shall be minimized by recommended practices for placing, finishing, and curing concrete.
    2. Control joints shall not be saw cut. Construction and control joints shall be sealed with a high quality, flexible polyurethane sealant (IT-S-227E. Class A. Type 1 or 2 - two component).
    3. Decks shall be designed with positive drainage slopes to minimize long-term maintenance requirements.

### 3) Design Criteria Specific to CIP/PT

- a. This structural system consists of post-tensioned long span one-way slab and beam system all monolithically connected to form a moment frame in two orthogonal directions for lateral stability. Because of moment frames in two perpendicular directions, no shear walls should be provided. The slabs will be post-tensioned in both directions to control cracking. The design shall consider the effects of shortening due to elastic deformation, creep/shrinkage of concrete, thermal movement and lateral displacements. The columns will be designed to meet the capacity and ductility requirements in accordance with the Building Code.
- b. The primary reinforcing for the slabs and beams shall be high-strength steel cables (strands) which shall be protected from corrosion by a plastic sheathing (totally encapsulated). Prestressing Steel Strands shall be 0.6-inch round type, high-tensile, cold-drawn, stress-relieved seven (7) wire strand conforming to ASTM A416 with a minimum ultimate cable strength of 270,000 psi. The system shall be totally encapsulated.
  1. Coating - Unbonded tendons shall have the prestressing steel permanently protected against corrosion by a properly applied coating of grease, or other approved material. The coating material shall adhere to and be continuous over the entire tendon length to be unbonded.
  2. Sheathing - The sheathing for unbonded tendons shall have the tensile strength and water-resistance sufficient to resist unrepairable damage or deterioration during transport, storage at job site, and installation. The sheathing shall prevent the intrusion of cement paste and the escape of coating material.
  3. Non-metallic Shrinkage-resistant Grout: Pre-mixed, non-metallic, non-corrosive, non-staining product containing selected silica sands, Portland Cement, shrinkage compensating agents, plasticizing, water-reducing agents and corrosion inhibitors, complying with ASTM C 1107, grade B and Army Corps of Engineers CRD-C621.
- c. The concrete shall be designed using a low water to cement ratio, air entrainment, fly ash and/or ground granulated blast furnace slag (GGBFS) to provide a durable concrete surface (high density, low permeability).

Provide a minimum cover of 1-1/2" (stirrups and slab top steel) and 2-1/2" (column main steel) except only 1" of cover shall be required on the undersides of slabs. Minimum cover of 3" shall be provided for concrete in contact with the earth.

### 4) Design Criteria Specific to PCC

- a. The precast structural system will consist of precast double tees, inverted tee beams, columns and exterior spandrels for fall protection and to resist vehicular bumper loads. The tees will receive a 3" thick topping slab (or may be pre-topped) that will serve as a rigid diaphragm in distributing wind forces to shear walls or K frames placed strategically to eliminate or alleviate build-up of restraint related stresses due to thermal movements. In addition, the topping slab will help dampen out perceived vibration in the structure. Lateral forces parallel to ramp line will be primarily resisted by precast lite walls along the ramp while shear walls or K frames will resist lateral loads in the orthogonal direction. Edges of slabs at the perimeter

and interior column lines will be thickened to facilitate placement of drag and chord reinforcement.

b. Mandatory Joints

1. To control cracking of the concrete, all PCC systems require visible joints with sealant at each component-to-component connection.
2. A sealant is required at all joints where water and/or weather-tightness are required. In a field-topped PCC system, always use a tooled control joint with sealant at all precast-to-precast joints (do not saw-cut).

c. Use hot-dipped galvanized connections (stainless steel for flange-to-flange connections).

d. The DBF shall design the structural system to accommodate construction tolerances, deflection of other building structural members and clearances of intended openings.

5) Waterproofing

a. Heavy-duty traffic bearing membrane shall be used on all parking deck levels, including the ground floor.

b. Where expansion joints are located, expansion joint seals shall be provided. Total structural movement of these elements, including at a minimum thermal movement, shrinkage, elastic shortening and creep, shall be utilized in sizing the joint openings. Expansion joint seals shall consist of the “winged” type. The contractor shall provide a wash on both sides of the expansion joint to promote positive drainage away from the expansion joint seal system.

6) Pool Structure

a. Epoxy Coated Reinforcement: Provide epoxy-coated reinforcement for the pool deck structure.

b. The roof deck pool slab shall be designed to meet applicable codes and topped with appropriate surface coating for public use.

c. The roof deck pool slab must include appropriate waterproofing to support the intended uses.

d. The roof deck structure shall be designed to minimize the vibrations from the parking garage structure.

7) Tower Elements

In order to compensate for anticipated building expansion/contraction, the DBF shall consider separating the elevator tower(s) from the main superstructure by means of an expansion joint. A waterproof traffic bearing expansion joint seal shall be used. For the main structure, gravity loads and lateral loads shall be resisted by frame action (columns, beams, and slabs) with shear wall augmentation (as required). For the elevator tower structure, gravity loads and lateral loads may be resisted by solid wall components.

8) Future conversion of the parking garage floors must be able to support 100 psf. Columns, walls, and beams shall be designed to accommodate the future conversion. Parking garage floors to be modified or replaced in the future.

### 7.3 Design Codes and References

The following shall be used to calculate the minimum design load criteria:

- Latest or Governing Edition of all Codes, Standards, and Regulations Applicable to the Parking Structure.
  - 1) Florida Building Code, Sixth Edition (2017)
  - 2) Reference Code – ACI 318-14 Building Code Requirements for Structural Concrete
  - 3) Reference Guide – ACI 362.1R-12 Guide for the Design and Construction of Durable Concrete Parking Structures
  - 4) Reference Code – ASCE 7-10 Minimum Design Loads for Buildings and Other Structures
  - 5) Any other codes as applicable.

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**SECTION 8 – MECHANICAL, PLUMBING, and FIRE PROTECTION NARRATIVE****8.1 General Overview**

All Mechanical (Plumbing, HVAC and Fire Protection) systems shall be designed and installed in strict compliance with this Project Scope of Work and all applicable Codes and Standards, including City of Miami Beach, Property Management Department Design Guidelines Manual (Appendix G in Volume II - Additional Specifications and Appendices) and Additional Specifications (Volume II - Additional Specifications and Appendices). This Project will require LEED Gold Certification by the DBF and the mechanical systems design and installations shall be based on the implementation of energy-efficient sustainable designs. Existing installations are to be demolished as required to allow the new construction. Review all other design narratives and/or information for additional requirements.

**8.2 HVAC**

Design and installation shall be based on the use of highly energy efficient equipment, with corresponding components and electronic programmable controls in order to minimize energy use. All ductwork, equipment and accessories installed within the pool filtration and water treatment and storage areas must be made of non-corrosive materials approved for installation in that environment.

HVAC equipment for each of the retail/commercial spaces shall be provided by the space future occupant. However, space provisions shall be made for the installation of all HVAC outdoor equipment including routing for possible indoor ventilation ductwork and location of necessary hurricane rated wall louvers.

- **OPTION 1: DX SPLIT SYSTEM AND DX ROOF-MOUNTED PACKAGED UNIT**

The air conditioning requirements for this Project are to be met by the use of high efficiency DX Split Systems and controls or VRF system; number of possible systems will be as necessary to serve each of the maximum number of retail/commercial areas (equipment by future tenants) and the other ones as necessary to serve the Library, and any other required spaces located on the ground. Roof-mounted packaged type DX high-efficiency units (RTU) shall be used to serve each of the Community Center, Fitness Center, Lockers and Aquatic Center. Electric Heater elements are to be used to meet these heating requirements. York, Trane Carrier and/or Daikin shall be named as approved manufacturers.

- **OPTION 2: VARIABLE REFRIGERANT FLOW (VRF)**

Design and installation shall be based on the use of energy-efficient, refrigerant friendly, flexible air conditioning systems to serve the spaces as described above, with corresponding components and controls to minimize energy use.

Outdoor mounted condensing units shall provide the variable refrigerant flow to meet the demand of each space. The air-cooled units shall be located as close as

possible to the serviced area to minimize the amount of refrigerant lines and refrigerants. Every outdoor unit is equipped with multiple inverter-driven compressors that, in conjunction with high-efficiency ductless solutions, offer a comprehensive range of indoor and outdoor systems for commercial buildings. The capacity requirements, the ductless and variable refrigerant flow (VRF) solutions deliver precise comfort control and outstanding energy efficiency. The CU's equipment final sizes shall be established based on the building's final calculated demand capacity. All outdoor coils shall be protected with approved epoxy coating.

Indoor AHU's ranging from 6,000 to 48,000 BTU/h are available ductless or ducted with linear expansion valves and variable capacity operation.

VRF controls are part of the system and no additional control contractor is required. The VRF controls shall be accomplished via a VRF Central Controller, which shall provide the required temperature and humidity controls, ventilation air monitoring, and provide the proper tooling to allow necessary verification and measurement in compliance with LEED standards.

For all building systems (no tenant systems), dedicated outdoor air system (DOAS) DX packaged units shall provide outside pre-treated dry air at space neutral temperature to each room and controlled by CO2 sensor linked to a zone damper to control the amount of outside air to a minimum value to maintain the desired building pressurization.

Each AHU and RTU shall have motorized damper in the outside air intake with volume air monitoring device. CO2 monitoring shall also be used to control the amount of outside air to a minimum value to maintain the desired building pressurization. Provide MERV 13 filtration media.

All IT Rooms and trash rooms shall be air-conditioned via high-efficiency mini-split DX systems.

Mechanical ventilation shall be provided to all group and individual restrooms, lockers (showers and restroom areas), electrical room, concession area and pool equipment and chemical storage rooms.

The DBF shall ensure all ductwork shall be of code gauge galvanized sheet metal and constructed and installed per SMACNA Standards within available ceiling space. All ductwork shall be sealed at all times during construction. The DBF shall provide required exterior insulation with vapor barrier to all air conditioning ductwork (supply, return and outdoor air intakes).

All outdoor installed equipment, air-cooled condensing units and roof fans construction and installation must be FBC compliant. All outdoor coils shall be protected with approved epoxy coating.

Provide complete programmable control EMS system to include all HVAC, Plumbing and Electrical functions.

Upon completion, the DBF must provide HVAC Test and Balance Report by an independent organization.

Refrigerant lines shall be copper tubing marked ACR per ASTM B88 a, type “K” hard drawn with silver soldered connection, insulated with Armaflex as per manufacturer recommendation.

Condensate drain piping from all AHU’s shall be Code compliant insulated PVC piping.

### **8.3 PLUMBING**

Complete sanitary waste and domestic water systems shall be designed to meet Project requirements. Connections shall be made to available sanitary collection system and water main for the building and each retail/commercial space. Provisions shall be made for the installation of grease waste interceptors to serve possible food services establishments in the available commercial spaces; minimum of 250 gallons solid interceptor and 1000 gallons grease trap with sample point to meet final project design requirements.

A complete pool backwash disposal system shall be provided to meet the Aquatic Center Pool requirements as indicated in Section 6 – Aquatics Narrative

Design and installation shall be based on water efficient (low flow) plumbing fixtures and fittings in order to minimize water use. Unless otherwise noted all plumbing fixtures are vitreous china, Sloan or approved equivalent. A variable speed duplex domestic water booster pump shall be provided to meet the Projects pressure demand during drought conditions or when low water pressure is present. One water meter shall be provided for the building with the addition of individual water meters the Library and for each of the retail/commercial spaces. Water make-up service must be provided for the two swimming pools; water consumption metering is required in coordination with swimming pool design and City of Miami Beach Standards.

All water closets and urinals are wall mounted with approved water saving flushometers; approved carriers shall be provided for all water closets, urinals and lavatories. Provide water efficient faucets for all lavatories. Floor drains shall be provided for group toilets, concession and pool equipment areas. Automatic trap primer shall be provided for all floor drains.

A complete storm drainage collection system shall be provided; design based on 5 inches per hour rainfall intensity. Cast iron piping shall be used aboveground for primary due to noise considerations. DWV PVC shall be used for secondary (overflow) drainage and below grade drainage. Disposal of storm water shall be in coordination with the Civil Engineering consultant.

A complete air conditioning condensate drainage collection system shall be provided. DWV PVC piping shall be used for this Project. Waste shall be conveyed to discharge into the storm water system catch basins.

Recessed wall key operated hydrants with vacuum breaker shall be provided to all restrooms, pool deck areas and around the exterior of the building (not more than 150 feet apart and at

least one on the center of each exterior wall) and one at dumpster area all with lockable access door. In addition, provide hose bibbs with vacuum breaker conveniently located to serve all parking floors. Provide one hose bibb with vacuum breaker inside the equipment area and one inside the pool equipment room in coordination with the pool contractor.

A complete natural gas service and distribution system as required to serve the Project. Natural gas service is available on both Collins and Harding Avenues. Provisions shall be made to make natural gas available to each of the possible retail/commercial spaces.

Diesel fuel service and distribution system will be provided to serve the diesel fueled engine-generator set. Depending on the location of the equipment, a remote fueling system may be required. See Section 9 – Electrical Narrative.

Instant hot water electric heaters are to be used to meet Project hot water requirements such as: showers, sinks, janitor closets, concession stands, catering facilities, etc. All hot water piping shall be insulated.

A Geothermal System shall be provided to meet the Aquatic Center Pool water heating and cooling requirements as indicated in Section 6 – Aquatics Narrative

Electric Water Coolers: Stainless Steel Hi-Lo Combination, ADA Compliant. Elkay or approved equivalent. Provide to meet Project requirements.

Drinking Fountains: Manufactured by Most Dependable Fountains, Inc. or approved equivalent. Provide to meet Project requirements.

#### **8.4 FIRE PROTECTION**

A complete Fire Sprinkler System shall be provided, including each of the retail/commercial spaces, the Library as a separate zone, in accordance with NFPA 13. Black steel piping shall be used for all interior installations of this Project and galvanized steel piping at all non-air-conditioned areas.

A manual wet standpipe system shall be provided at each exit stair in accordance with NFPA 14.

A vertical inline Fire Pump and Jockey Pump shall be provided to meet the Projects sprinkler demand as required based on the DBF's hydrant flow test (see Appendix I for previous hydrant flow test and Section 5.0). Manufactured by Armstrong, Aurora, Patterson, or Peerless.

## **SECTION 9 - ELECTRICAL NARRATIVE**

### **9.1 General Overview**

All Electrical Systems shall be designed and installed in strict compliance with this project Scope of Work and all applicable Codes and Standards including City of Miami Beach, Property Management Department Design Guidelines Manual (Appendix G in Volume II - Additional Specifications and Appendices) and Additional Specifications (Volume II - Additional Specifications and Appendices). It is understood that this project is pursuing LEED Gold Certification, therefore, it is expected that the electrical systems design and installations shall be based on the implementation of energy efficient sustainable designs. Review all other design narratives and/or information for additional requirements.

### **9.2 Normal Power**

Electrical for the Project shall be from available FP&L installations with underground service feeders to a Pad Mounted Transformer or Transformer Vault, whichever is required by FP&L. The service voltage is desired to be 277/480 volts, 3-phase, 4-wire however, it is the Design Builder responsibility to do all the necessary coordination with FP&L to arrive at the required service voltage level based on the project electrical requirements and the proposed design, including FP&L space and installation requirements. There will be separate electrical services, one for the building, one for the Library and one for each possible commercial/retail space which will be provided with corresponding electric meter and service disconnecting means; a minimum of 2-inch empty conduit with corresponding pull string.

The Project is to have power back-up from an engine generator set as a Stand-by System. Refer to paragraph 9.3 hereinafter.

The Project will also have a Photovoltaic Power System. Refer to paragraph 9.5 hereinafter.

Protection from transient voltages and surges will be installed at the new service equipment and at the distribution equipment and low voltage panels serving non-linear loads and electrically sensitive equipment.

If required by the DBF's design, step-down transformers shall be installed in the new facility to obtain low level (120/208V) utilization voltage for fractional HP rating motors and power receptacles. These transformers shall have 115° C insulation for sizes 9 KVA and smaller and 80° C insulation for sizes above 9 KVA.

Pool equipment and area wiring shall comply with Chapter 64E-9 Public Swimming Pools and Bathing Places.

All wiring shall be copper installed in approved raceway systems. Only Heavy-Duty electrical equipment and Specification Grade wiring devices shall be used. All lighting fixtures, wiring and equipment enclosures installed within the pool filtration and water treatment and storage areas must be made of non-corrosive materials.

Individual Energy Meter devices will be provided to monitor electrical energy use for each of these separately: Total electrical energy, HVAC systems, Interior lighting, Exterior lighting and Receptacle circuits.

Electric Vehicle Charging Stations will be provided per Project requirements.

### **9.3 Stand-by Electrical Power System**

A diesel fueled stand-by generator shall be provided to supply power to the elevators (with an approved key operated selector switch), the Fire and Jockey Pumps, all life safety loads, means of egress and signage lighting and security loads. The engine-generator set will be equipped with all the necessary accessories (such as automatic transfer switches, remote annunciator panel, critical silencer, controls, etc.), including a sub-base double wall fuel storage tank with an effective capacity to provide a minimum of 48 hours of operation at 100% load before refueling. Depending on the location of the equipment, a remote fueling system may be required.

In addition, the stand-by generator shall supply power to the Operations Center (hardened room) in the Community Center, IT Rooms, facility pool water filtration and treatment equipment.

The new generator, if not installed within the new building, shall then be for outdoor installation with the Code-compliant weatherproof/impact-resistant, sound attenuating enclosure. Power supplied by the generator shall match FP&L electrical service voltage.

### **9.4 Lighting Systems**

LED light sources are to be used as the main source of illumination for the interior and exterior lighting, including building perimeter/security, accent and landscape lighting. Musco Lighting products shall be used for the Pool Deck Area and Active Green Space Lighting.

All interior lighting in general will be controlled via occupancy sensors and/or photo sensors to meet present FBC requirements. All exterior lighting shall be controlled photocells with electronic programmable astronomic time clock(s). Building perimeter/security is to operate from dusk to dawn and equipped with motion sensors for additional control.

Pool area lighting installation shall comply with Chapter 64E-9 Public Swimming Pools and Bathing Places.

Special care must be taken in the location, mounting height, color and shielding of the selected lighting sources, in order to comply with the State of Florida Model Lighting Ordinance for Marine Turtle Protection Chapter 62B-55 F.A.C. as provided the Florida Fish and Wildlife Conservation Commission as in the Federal Endangered Species Act of 1973 and Florida's Marine Turtle Protection Act (379.2431, Florida Statutes).



Specifically, the design must comply with paragraph 62B-55.006 Model Standards for New Beachfront Lighting, in order to provide the highest level of protection for nesting marine turtles and their hatchlings for artificial light sources on all new coastal construction.

All parking areas shall be controlled by floors, using dimmable lighting fixtures with occupancy sensors and wireless controls to provide from minimum lighting levels when unoccupied to 100% upon occupancy detection.

All stairwell illumination shall be controlled by using dimmable lighting fixtures with occupancy sensors and wireless controls to provide minimum lighting levels when unoccupied to 100% upon occupancy detection.

Lighting levels will be in accordance to Illumination Engineering Society (IES) and National Parking Association (NPA).

All means of egress emergency lighting fixtures and illuminated exit signs shall be equipped with battery back-up. This requirement may be deleted if the Photovoltaic Power System with battery back-up Alternate is accepted.

#### **9.5 Photovoltaic Power System**

A Photovoltaic (PV) Power System shall be provided to serve all of the building general lighting systems, including all parking floors, all means of egress and exit signs at all floors including the top floor Community Center, Fitness Center, Aquatic Center, lockers, etc., as well as, all the building perimeter/security lighting systems. The PV system shall be complete with all the necessary high efficiency solar panels, inverters, batteries and controls, augmented as necessary to qualify for FPL Net metering installation. Location of all solar panels must be properly coordinated with the Project Architect not to become a detrimental feature to the Project.

#### **9.6 Lightning Protection**

The new facility will be provided with a lightning protection system of the air terminal type in compliance with the LP1 Code 175.

In addition, provide a complete Lightning Warning System with interface to a Lightning Data receiver and optional Strike View Software. Strike Guard Lightning Warning System or approved equivalent.

#### **9.7 Fire Alarm and Detection System**

Fire Alarm and Detection System, with Emergency Voice Evacuation capabilities shall be provided in compliance with Project's requirements. Provide remote annunciator at building main Lobby.

The new Fire Alarm panel will be microprocessor based, addressable and electrically supervised. Remote monitoring is required.



### **9.8 In-Building Radio Enhancement System**

To maintain adequate City of Miami Beach Fire and Police Department radio signal strength inside the building, an In-Building Radio Enhancement System shall be needed and requested by AHJ. DBF to include all the necessary testing, design and installations in order to assure compliance with AHJ will be required.

### **9.9 Telecommunication Systems**

A complete Empty Raceway System of conduit, boxes, speaker housing, etc., shall be included for this Project. Installation of the raceway system shall be done in complete coordination with the City of Miami Beach authorized representative to ease the installation and wiring of all of the equipment associated with voice, data, overhead paging, and CCTV systems. Minimum size of conduit is ¾ inch; provide pull strings tied at both ends. Telephone and CATV systems service entrance shall underground in coordination with the corresponding utility company.

Each possible commercial/retail space will be provided with corresponding telecommunication service entrance means; a minimum of 1-inch empty conduit with corresponding pull string will be provided to each space.

### **9.10 Security Systems (Intrusion Detection, Card Reader and CCTV)**

See Appendix E, F and G for detailed information.

### **9.11 Parking Access and Revenue Control System**

A complete Parking, Access and Revenue Control System (PARCS) shall be provided for the Garage with appropriate control panel(s), signs, equipment, devices, boxes, terminal cabinets, wiring, supports, etc. The City of Miami Beach has entered into a long-term agreement with SkiData, Inc. for design, construction, and maintenance of all parking garage gated revenue control systems owned by the City. Therefore, the DBF shall coordinate and incorporate the design, construction and installation of the required PARCS with the City's provider, SkiData, Inc.

Furthermore, License Plate Recognition (LPR) technology must be included in the access control system compatible with the security cameras discussed herein (Section 11.3).

Contact for SkiData, Inc. is listed below:

SkiData, Inc.  
Attention: Alexander Christl  
One Harvard Way, Suite #5  
Hillsborough, NJ 08844  
Telephone: (908) 243-0000

SkiData, Inc.  
575 Kingspointe Parkway, Suite 18  
Orlando, FL 32819  
Telephone: (407) 930-6324

**9.12 Photographic Project Documentation Requirements**

See Section 11.4.

DRAFT 5/20/2020

## **SECTION 10. PROJECT ENHANCEMENTS**

The DBF is encouraged to enhance the Project design with additional program components as identified below (in no order of preference).

### **10.1 Resiliency Hub**

The DBF is encouraged to create and provide a Resiliency Hub for the Project. A Resiliency Hub integrates various aspects (rather than isolated design components) of the environment and design, consistent with the City's ordinances to provide a mix of the following elements:

- Accessible native green spaces
- Retention and treatment of water
- Provision of new canopy trees along with the implementation of the City's tree preservation code
- Promotion of bicycle/pedestrian connectivity and mobility hub
- Solar power
- Water conservation measures
- Energy efficiency measures

Many of these features shall already be integrated into the design to meet LEED and Parksmart certification so creating the Resiliency Hub should be achievable by the DBF at a nominal cost.

### **10.2 Additional Grade-Level Commercial or Civic Uses**

The DBF is encouraged to activate the entire perimeter of the garage through the incorporation of additional commercial or civic uses such as, but not limited to, restaurants, specialty shops, or by integrating additional commercial and/or civic space with the Active Green Space. This additional space shall be unfinished, vanilla shell space.

### **10.3 Parking Structure – Automated Parking Guidance System**

The DBF is encouraged to integrate an automated parking guidance system (APGS) in the garage that provides information to parkers (both outside and inside the garage floors) through dynamic messages indicating where parking spaces are available.

### **10.4 Accommodate Advertising in the Garage**

The DBF is encouraged to create opportunities for the City to lease advertising space within the garage.

### **10.5 Teen Center**

The DBF is encouraged to provide at least 5,000 SF of space for use as a Teen Center. The Teen Center should be designed with demisable walls and be designed such that there is a

physical and programmatic relationship between the Teen Center and the Community Center for users.

### **10.6 Pool Amenities**

The DBF is encouraged to provide pool amenities such as, but not limited to:

- Water floatables
- Small play features
- Lily pad walk
- Seating
- Water basketball
- Water volleyball
- Zipline
- Wibit

### **10.7 Additional Onsite Well Capacity**

A project enhancement shall be considered by the DBF, which accounts for additional onsite drainage capacity to serve the City's public stormwater system. The enhancement shall include additional drainage wells from what is required for the Project site, and shall include additional drainage wells stub-outs up to the northern and southern right-of-way lines for connection to the City's drainage pipes. The DBF will be responsible for determining the maximum additional stormwater volume that the proposed onsite system can receive from offsite flows. The DBF shall also determine and provide additional water quality infrastructure required for offsite flows prior to discharging into drainage wells. Infrastructure required for additional water quantity and quality shall be provided within the project site. The stormwater system and associated project enhancements shall be designed and constructed in accordance with standards and regulations of the City of Miami Beach Public Works Department, Miami-Dade County RER-DERM, South Florida Water Management District (SFWMD), and the Florida Department of Environmental Protection (FDEP).

### **10.8 Additional Solar Power**

The DBF is encouraged to provide a photovoltaic system as described on the Electrical Narrative Section 9 - Paragraph 9.5, augmented to qualify for FPL Net metering installation.

### **10.9 Additional Parking**

The DBF is encouraged to provide additional parking (beyond the 500 required spaces) in the Parking Garage, to a maximum of 550 spaces.

### 10.10 Green Roof

The City of Miami Beach passed the Urban Heat Island Ordinance (2019-4252) which requires new construction to install a sustainable roofing system. Sustainable roofing systems can be solar roofs, blue roofs, cool roofs, green roofs, and other roofing systems that will reduce the heat island effect, allow reuse or retention of stormwater or reduce greenhouse gases. The ordinance waives public hearing fees for the installation of sustainable roofing systems, solar carports, porous pavement, and cool pavement and provides a height exception for solar roof installations that shall not exceed 25 feet above the height of the roofline of the main structure for all districts except single-family residential districts which shall not exceed five feet.

The DBF is encouraged to provide a green roof as part of the Project. A green roof is a type of roofing system where a layer of vegetation is planted on a roof along with layers of protective barriers including: vapor control, thermal insulation, roofing membrane, root repellent, drainage layer and filter membrane. Depending on the design and loading capacity of your existing roof, additional roof support may be needed. The installation of a green roof costs more than a standard roof but provides many unique benefits.

Benefits of green roofs:

- Reduce stormwater runoff
- Long lifespan
- Lower roof temperature
- Lower energy bills due to decreased air conditioning needs
- Vegetation provides oxygen and habitat to wildlife.

### 10.11 Additional Project Enhancements

The DBF can offer any Project enhancement beyond the items listed above in this section.

**SECTION 11 – BASIS OF DESIGN SPECIFICATIONS**

The following specifications are supplemental to those found in Appendix G - City of Miami Beach Design Guideline Manual (DGM). If there are specifications in this Section that vary from the DGM, the most stringent condition takes precedence.

**11.1. Warranties**

When a warranty is not identified in the DCP or DGM, the DBF shall provide at least a one-year warranty for parts and labor and a minimum three year warranty for materials.

**11.2. Finishes**

## 11.2.1. Painting (09 91 00)

## A. General

1. The extent of work included in this Section is specified to include, but not be limited to, the following:
  - a. Exposed exterior items.
  - b. Exposed interior and exterior building items and surfaces.
  - c. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.
2. Paint exposed surfaces as indicated below. The DBF shall select from standard colors and finishes available. Work shall include, but is not limited to, the following:
  - a. Painting the underside of all parking levels except as follows: Underside of spandrels visible from the exterior shall not be painted. Underside of beams visible from the exterior shall not be painted unless they frame into a column within 3 feet of the exterior and extend into the building interior.
  - b. Painting exposed concrete walls, spandrels, beams and columns within the interior of the building at all parking levels below roof level except as follows:
    - 1) Interior faces of exterior columns and spandrels shall not be painted.
  - c. Painting exposed structural steel, clips, angles, plates and attachment hardware.
  - d. Painting miscellaneous metals, rolling grille hoods and hollow metal work not factory finished.
  - e. Painting interior gypsum surfaces.
  - f. Painting concrete block surfaces where indicated on the drawings.
  - g. Painting parking stall striping, traffic markings (painted arrows, etc.) and curb edges.

- h. Painting includes field painting of exposed bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron work, and primed metal surfaces of mechanical and electrical equipment.
  3. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.
    - a. Prefinished items include the following factory-finished components:
      - 1) Metal panel ceiling.
      - 2) Toilet compartments.
      - 3) Finished mechanical and electrical equipment.
      - 4) Light fixtures.
      - 5) Distribution cabinets.
    - b. Concealed surfaces include walls or ceilings in the following generally inaccessible spaces:
      - 1) Foundation spaces.
      - 2) Furred areas.
      - 3) Ceiling plenums.
      - 4) Pipe spaces.
      - 5) Duct shafts.
    - c. Finished metal surfaces include the following:
      - 1) Color anodized aluminum.
      - 2) Stainless steel.
      - 3) Chromium plate.
      - 4) Copper.
      - 5) Bronze and brass.
    - d. Operating parts include moving parts of operating equipment and the following:
      - 1) Valve and damper operators.
      - 2) Linkages.
      - 3) Sensing devices.
      - 4) Motor and fan shafts.
    - e. Labels: Do not paint over Underwriters Laboratories (UL), Factory Mutual (FM), or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.
  4. Warranty: Warrant work performed in writing to be free of defects relating to workmanship or material deficiency for three years from date of final



acceptance. Make repairs necessary during this period immediately after notification at no additional expense to the Owner. At the end of two years all materials shall have full adherence and there shall be no evidence of blisters, running, peeling, scaling, chalking, rusts, streaks, fading or stains. Washing with alkali-free soap and water shall remove surface dirt without producing deteriorating effects.

B. Materials

1. Materials shall be factory-mixed, delivered to site ready for application, except for tinting of undercoats and possible thinning, and in manufacturer's original unopened containers. Each container shall bear manufacturer's label, showing name, brand, type and color of paint, instructions for thinning and types and percentages of pigment, vehicle and solvent.
2. Material Compatibility: Provide primers, undercoats, and finish-coat materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
3. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified. Paint-material containers not displaying manufacturer's product identification will not be acceptable.

C. Products: Subject to compliance with project requirements, other approved manufacturer's offering Products which may be incorporated in the Work include the following:

1. The following manufacturers of offer products that comply with the requirements of this section (other than traffic marking paint systems):
  - a. Benjamin Moore & Co. (Moore).
  - b. PPG Paints (PPG).
  - c. Sherwin-Williams Co. (S-W).
  - d. Tnemec.
  - e. Approved equal.
2. The following manufacturers of offer products that comply with the requirements of this section for traffic marking paint systems:
  - a. Franklin Paint Company (FPC).
  - b. Benjamin Moore & Co. (Moore).
  - c. PPG Paints (PPG).
  - d. RAE Products & Chemicals Corporation (RAE).
  - e. Sherwin-Williams Co. (S-W).
  - f. Approved equal.

### 11.3. Signage & Graphics

11.3.1. General: The extent of work included in this Section is specified as follows:

A. Traffic and graphic signs including all necessary incidental items specified herein.

B. Types of Signs Required

1. Building marquee and wayfinding signage.
2. Painted directional parking (traffic) signs and graphic (informational) signs and with reflective die-cut vinyl fields, symbols, letters and numbers.
3. Clearance bars with painted finish and reflective die-cut vinyl fields symbols, letters and numbers.
4. Integrally-colored tactile/braille signs.
5. Field-painted (Level Number) Signage with colored backgrounds at the stairway doors as shown in the Drawings.
6. Electric entrance and exit signs.

11.3.2. Materials:

A. Painted Signs:

1. Sign Blanks and Aluminum Sheet: Alloy and temper recommended by aluminum producer or finisher for type of use and finish indicated, and with not less than the strength and durability properties specified in ASTM B-209 for 5005-H15.
  - a. Minimum thickness: 0.125 inches thick for directional parking signs, 0.080 inches thick for informational/graphic signs.
2. Aluminum Extrusions: Alloy and temper recommended by aluminum producer or finisher for type of use and finish indicated, and with not less than the strength and durability properties specified in ASTM B-221 for 6063-T5.
3. Reflective and Non-reflective Sheeting and Letters: Cast vinyl pressure-sensitive reflective sheeting. 2 mil minimum thickness (not including adhesive). Exterior-grade adhesive to provide minimum 5 pounds/inch tensile strength for permanent bond. Colors as indicated on the drawings are generic in nature; Final colors to be selected by the DBF from the manufacturer's range of colors.
4. Paint Finish: Acrylic polyurethane paint system suitable for outdoor application shall be per manufacturer's recommendation for substrate compatibility. Colors to be selected by the Architect from the manufacturer's range of colors.

B. Tactile/Braille Signs:

1. Tactile/Braille Signs shall consist of laminated thermosetting Type MP plastic (three-ply melamine plastic laminate with phenolic core). Signage assembled from acrylic components will not be allowed. Tactile/Braille Signs and shall conform to the following.

- b. All tactile/braille signs shall conform to applicable city, state and ADA accessibility standards.
  - c. Units shall be frameless. Corners of signs shall be rounded to ½-inch radius.
  - d. Mounting holes shall be factory drilled for mounting by mechanical fasteners.
  - e. Signage graphics shall graphic-blast raised copy: Background shall be sandblasted to a uniform depth of 1/32-inch leaving raised pictograms, text and braille. The exposed phenolic core shall be painted a contrasting color after the sandblasting process.
2. Provide products from one of the following manufacturers (or an approved equivalent):
    - a. ASE Inc. ([www.asesigns.com](http://www.asesigns.com))
    - b. Best Sign Systems Inc. ([www.bestsigns.com](http://www.bestsigns.com))
    - c. Tactile Signage Inc. ([www.tactilesignage.com](http://www.tactilesignage.com))
  3. At the Contractor's option and subject to Architect approval, coated aluminum signage that is embossed 1/32-inch may be used.
- C. Anchors and Fasteners:
1. General:
    - a. Unless adhesive mounting is specifically required by this Specification or otherwise noted in the Drawings, all signs shall be for attachment via mechanical means.
    - b. Provide aluminum, non-magnetic stainless steel or other non-corrosive metal fasteners which are compatible with the items being fastened. Use concealed fasteners wherever possible, and tamper-proof fasteners on exposed surfaces with finish to match the item fastened.
    - c. Do not use anchors or fasteners on glass or aluminum substrates.
  2. Concrete inserts: Threaded or wedge type, galvanized ferrous castings, either malleable iron ASTM A47-77 or cast steel ASTM A27-77. Provide bolts, washers, and shims as required; hot-dip galvanized, ASTM A153-54.
- D. Adhesive Mounting:
1. General: Unless specifically noted otherwise, adhesive mounting shall only be used on substrates consisting of glass or aluminum assemblies.
  2. Provide adhesive sign mounting consisting of acrylic foam tape (double-sided adhesive). Acrylic foam tape shall be suitable for outdoor application and adhesive shall be per manufacturer's recommendation for both sign and substrate compatibility.

3. Silicone Adhesive: Where use of acrylic foam tape is impracticable, provide manufacturer's recommended silicone adhesive mounting system compatible with substrate.
- E. Electrical Components: All electrical components incorporated in sign construction shall be approved and listed by the Underwriter' Laboratories, Inc. Ballasts for fluorescent lamps shall be high output, high power factor types designed for outdoor use to provide reliable starting at temperatures down to minus 20 degrees.
1. All internal wiring shall be insulated, stranded copper, appliance wire, not lighter than No. 16 A.W.G. The insulation shall be thermoplastic of such thickness and composition to provide satisfactory performance under a continuous maximum temperature of 90 degrees C.
- 11.3.3. Products

F. Fabrication

1. Signs: The fabrication of aluminum sign blanks including cutting to size and shape and the punching of mounting holes shall be completed prior to metal degreasing and the application of reflective sheeting or painting. Aluminum sign blanks shall be free of buckles, warps, dents, cockles, burrs and defects resulting from fabrication.
2. Finishing: Prepare aluminum surfaces by removing all grease and dirt and applying a phosphate activated metal pretreatment. Apply one coat of an epoxy primer and two coats of the acrylic polyurethane top coat in accordance with the paint manufacturer's instructions. Clear coat as required by manufacturer.
3. Application of Graphics/Copy: All die-cut vinyl work shall be applied in a manner as specified by the vinyl sheet manufacturer. Apply die-cut pressure sensitive letters to well cured paint surface. Properly align letters and furbish to avoid air bubbles and peeling.
4. Sign Frames: All perimeter framing shall be aluminum alloy 6063-T6 with a minimum thickness of .080 inches. The perimeter frame shall have mitered corners, reinforced, welded and ground smooth. Intermediate supports shall be included as required.
5. Headache Bars: Suspended PVC pipe of size shown on drawings, with PVC end caps. Suspension cables, links and fittings to be No. 4 satin finish stainless steel unless noted otherwise.
6. Electric Signs: Sign Box - Provide internal structural reinforcing for dead and live loads (wind and other) as required for indicated span. Provide access panels on back or front of sign box for access to lighting.

**11.4. Parking & Access Control Equipment** (Specifications and equipment provided by Skidata will supersede the following under their contract with the City)

11.4.1. General: The extent of work included in this Section is defined in the standards and technical specifications that can be obtained from Skidata Inc. including the following elements:

- A. Fully operating Parking, Access and Revenue Control System (PARCS) including, but not limited to the following:
1. Automatic Barrier Gates.
  2. Vehicle Detection Systems.
  3. Ticket Dispensers.
  4. Access Control Units (includes Automatic Vehicle Identification and integrated Proximity Card Readers).
  5. Exit Devices.
  6. Fee Computers.
  7. Automatic Pay Stations.
  8. Provisions for Future Pay-on-Foot Stations.
  9. License Plate Technology System
  10. Illuminated Signage.
  11. Pedestrian Alert Systems.
  12. VoIP Intercom System.
  13. Facility Management System: Including, but not limited to, the Central Computer (server), Workstations and Software.
  14. Storage Rack for Control Equipment.
  15. Traffic Controllers
- B. PARCS System Design:
1. System interfaces shall utilize machine-readable crosswise barcode ticket technology, proximity card technology with 13 MHz, read-write capabilities and an Automatic Vehicle Identification (AVI) system.
  2. System shall operate in on-line and off-line mode.
  3. System shall comply with ANSI and ISO standards.
  4. All software shall be configurable in the field by qualified personnel.
  5. All time-dependent functions shall utilize real-time clock synchronization with a single central system clock.
  6. Protect against interference or damage by lightning or other electrical influence; include fuse, over-voltage protection, flash-over protection, and line filter.

7. System shall include “credit card in” feature and credit/debit card “pay as you exit” feature and with a direct on-line connection to the clearing house/bank processor. All systems to be PCI PA-DSS compliant.
  8. System shall be state-of-the-art.
- C. Field coordination on site prior to installation through Final Completion.
- D. PARCS Operational and technical training of Owner’s personnel.
- E. All electrical wiring required for PRCS power/control/data/communications and not indicated on the Electrical Drawings.
- F. All electrical conduits required for the PRCS and NOT indicated on the Electrical Drawings.
- G. Warranty
1. All equipment is to be covered by a manufacturer’s warranty covering all parts and labor for a one-year period, excluding misuse or vandalism.
    - a. Include, as an option, the cost to extend warranty for a second and third year.
    - b. All warranties commence when the respective equipment is totally operational and is accepted in writing as such by Owner.
- 11.4.2. Products
- A. Basis-of-Design: All products shall be state-of-the-art in meeting system requirements. Where a Basis-of-Design Product is indicated for a particular item of equipment, provide the named product configured and equipped as required to meet PARCS requirements or a comparably configured and equipped product by one of the manufacturers as classified above.
- B. Subject to compliance with project requirements, other approved manufacturer’s offering Products which may be incorporated in the Work include the following:
1. Parking control system:
    - a. SKIDATA, Inc.
  2. Automatic Vehicle Identification system:
    - a. TagMaster North America
    - b. Transcore
    - c. Sirit
  3. Intercoms – acceptable manufacturers:
    - a. Aiphone
    - b. Bogen
    - c. Commend
    - d. DuKane

- e. GAI-Tronics, a Hubbell Company
  - f. Rauland Borg
  - g. Stentofon, a Zenitel USA Company
  - h. Talk-A-Phone Co.
4. Traffic Controllers and Lot Full Signs:
- a. Signal-Tech.
  - b. Approved equal.
  - c.

#### **11.5. Specification for Photographic Project Documentation**

##### **11.5.1. Photographic Project Documentation Requirements**

Contractor must be capable of all below requirements for photographic documentation. Contractor must be able to demonstrate these capabilities by presenting exemplar documentation upon request.

- A. Documentation must be captured as inspection-grade digital images.
- B. Progression documentation of the overall construction project at approximate intervals or phases of construction;
  - 1. Intervals/phases for recurring documentation are to be specified by the Client;
  - 2. Recurring documentation coverage must be possible for the exterior of the construction project (building envelope and surrounding project site) and/or the interior of buildings;
  - 3. Each recurrence of documentation must be executed in such a way that it shows progress over time.
  - 4. Documentation must be covered just prior to pouring or placing a slab over the area;
  - 5. Documentation must be done post-inspection, when inspection is required.
- C. Documentation of the conditions of mechanical, electrical, plumbing and all other systems to be contained in walls and ceilings;
  - 1. Documentation must occur post-inspection and pre-insulation, sheet rock or drywall installation for each wall and ceiling;
  - 2. Documentation must occur throughout the project as needed and as possible to capture the systems in every wall and ceiling.
- D. Documentation of conditions of all finished interior walls ceilings and floors. Documentation must be done post-inspection at Certificate of Occupancy or other finished milestone specified by the Client.
- E. Periodic documentation to provide overviews of the project site or miscellaneous events/conditions occurring on site when a Contractor photographer is present.
- F. Custom photographic documentation specified by the Client to meet project



documentation needs not satisfied by the preceding requirements. Custom documentation must be designed in collaboration with the Contractor to ensure its feasibility.

#### 11.5.2. Software Platform Requirements

- A. Contractor must provide software which delivers photographic documentation throughout the construction project. The software must be fully tested and proven for the functionality described herein.
- B. The software must support all photographic project documentation (photographic, video and webcam).
- C. The software must be web-based and require no downloads or installations.
- D. The software must utilize cloud-based hosting and storage for all photographic documentation throughout the construction project and for the duration of the contract, unless otherwise agreed by the Client and Contractor (see B.6.).
- E. The software must utilize industry-standard or better security measures to protect the documentation and all other project/client information from unauthorized access, data corruption and data loss.
- F. Standalone, offline implementations of the software must be possible to provide heightened security for sensitive projects and for final delivery of documentation after contract completion.
- G. The software must include an indexing system for photographic documentation that is based on the project's plans:
  1. The software must support integration of any number of project plans per construction project to accommodate all contracted photographic documentation.
  2. The software must support assignment of numeric identifiers to locations on project plans.
  3. The software must support mapping of photographs to specific locations and the corresponding numeric identifiers on the project plans.
  4. The software must allow multiple photographs to be mapped to the same location on the project plans.
  5. The software must store and properly associate the date-stamp for each photograph.
- H. The software must support creation of secure external links to photographic documentation, which may be integrated into Client Autodesk® BIM models.

#### 11.5.3. Online Interface Requirements

##### General Requirements

- A. Contractor must provide, host and support an online interface to access the software platform and the documentation it contains.
- B. The interface must support multiple active projects per user.

- C. The interface must support simultaneous access by multiple users to a single project.
- D. Access to the interface must be controlled by unique username and password combinations per user.
- E. The interface must support and enforce multiple permission levels for access to project documentation.
  - 1. Permission levels must be assignable per user at the project level.
  - 2. Permission levels of “None,” “Read Only,” and “Read/Write” must be supported, at minimum.
- F. Photographic documentation must be accessible via the online interface within 24 hours of its capture by Contractor photographers.
- G. The interface must be accessible by standard (desktop) and mobile web-browsers.
- H. Any additions or modifications made to documentation via the online interface must be reflected in the same documentation when accessed via the mobile application (see section D.).

#### Desktop Web-Browser Interface Requirements

- A. The interface must be compatible with major desktop web-browsers including, at minimum:
  - 1. Mozilla FireFox;
  - 2. Microsoft Internet Explorer;
  - 3. Google Chrome;
  - 4. Apple Safari.
- B. The interface must display all documentation contained in the software in accordance with users’ permissions levels. This includes photographic documentation and the project plans to which it is indexed, video and webcam documentation.
- C. The interface must provide summaries of recent documentation activity per project. Direct access to documentation must be possible from activity summaries.
- D. The interface must provide a map view that pinpoints the physical location of each project. Direct access to documentation must be possible from the map view.
- E. The interface must allow users to search documentation activity by date range.
- F. The interface must allow users to search documentation by keywords.
- G. The interface must provide the following interactive features and functionality for photographic documentation via desktop web-browsers:
  - 1. Navigation of documentation by indexed locations on the project plans;
  - 2. Navigation of documentation by collections of photographs grouped by date-stamp and/or subject matter (i.e., shoot type);

3. Upload images to the software platform;
  - a. Users must be able to access/view their uploaded images via the interface.
  - b. Users with adequate permission levels must be able to link images to specific locations on the project plans for custom indexing and navigation.
  - c. The acting user must be able to specify other users who may access the image(s), and whether or not those users are able to modify the image(s).
4. Upload other files to the software platform;
  - a. Supported file types must include, at minimum:
    - 1) PDF;
    - 2) Microsoft Word;
    - 3) Microsoft Excel;
    - 4) Microsoft PowerPoint;
    - 5) JPEG;
    - 6) PNG;
    - 7) GIF;
    - 8) MPEG;
    - 9) Folders containing supported file types.
  - b. Users must be able to access their uploaded files via the interface.
  - c. Users with adequate permission levels must be able to link images to specific locations on the project plans for custom indexing and navigation.
  - d. The acting user must be able to specify other users who may access the file(s), and whether or not those users are able to modify the file(s).
  - e. Select and group Contractor documentation, user-add images or a combination thereof into custom albums;
  - f. Specify Contractor documentation and/or user-added images as “favorites” to create a custom “favorites album;”
  - g. View automatic scrolling slideshows of photographs indexed to a project plan in chronological order (according to their locations’ numeric identifiers), photograph collections grouped by date-stamp or shoot type, and photographs grouped into albums;
  - h. Add comments to Contractor documentation and user-added images in accordance with the acting user’s permission level, and specify whether or not other users may view the comments;
  - i. Mark up Contractor documentation and user-added images using native annotation tools in accordance with the acting user’s permission level;

- j. Zoom in and out on project plans, Contractor documentation and user-added images;
- k. Tag Contractor documentation and user-added images with keywords for searchability within the interface;
- l. Generate and export PDF versions of Contractor documentation and user-added images;
  - 1) Users must be able to generate PDF versions of images alone or with their associated date-stamps, project plan location, and any comments and/or mark-ups, if applicable.
  - 2) Users must be able to select up to ten images for a PDF export.
  - 3) Users must be able to print the PDFs from within the interface.
  - 4) Users must be able to save the PDFs to their local drives.
- m. Generate standalone links for Contractor documentation and user-added images;
  - 1) Links must only provide access to the specific images for which they were generated.
  - 2) Links must automatically expire and no longer function after seven calendar days.
  - 3) Users must be able to copy links from within the interface to paste them into programs/emails/files outside the interface.
  - 4) The interface must include native email functionality which allows users to export the links directly into an email from within the interface.
- n. The interface must allow users to view high-definition video documentation segments within the interface via desktop web-browsers.

#### 11.5.4. Mobile Application Requirements

- A. Contractor must provide and support a mobile application that provides direct access to photographic and webcam documentation from mobile devices.
- B. The mobile application must be available for Apple iOS and Android mobile devices.
- C. The mobile application must inherit and control access to documentation by the same unique usernames and passwords used for the online interface.
- D. The mobile application must inherit and enforce the permission levels assigned per user for the online interface.
- E. The mobile application must support the following interactive features and functionality for photographic documentation:
  - 1. Navigation of documentation by indexed locations on the project plans;
  - 2. Navigation of documentation by collections of photographs grouped by date-stamp and/or subject matter (shoot type);

3. Upload images to the software platform;
  4. Users must be able to access/view their uploaded images via the mobile application.
    - a. Users with adequate permission levels must be able to link images to specific locations on the project plans for custom indexing and navigation.
    - b. Users must be able to add images to existing albums.
    - c. Users must be able to create new albums to contain the images.
    - d. The acting user must be able to specify other users who may access the image(s), and whether or not those users are able to modify the image(s).
  5. Add comments to Contractor documentation and user-added images in accordance with the acting user's permission level, and specify whether or not other users may view the comments;
  6. Mark up Contractor documentation and user-added images using native annotation tools in accordance with the acting user's permission level;
  7. Zoom in and out on project plans, Contractor documentation and user-added images.
- F. Any additions or modifications made to documentation via the mobile application must be reflected in the same documentation when accessed via the online interface.
- 11.5.5. Contractor Requirements and Qualifications
- A. Service and Support Requirements
1. The Contractor must coordinate with a point of contact (typically a Project Manager, Superintendent or similar) designated by the Client to arrange site access for Contractor personnel and verify documentation schedules, to ensure the contracted documentation scope is accomplished. Contractor personnel will provide regular updates regarding documentation status, availability and upcoming shoot dates to the Client point of contact.
  2. Contractor personnel will attend OAC and project safety meetings as required or permitted by the Client. Contractor personnel will participate in any required project safety training.
  3. Contractor personnel must perform all photographic documentation services.
  4. Contractor photographic documentation must be available for Client viewing within 24 - 48 hours from the time it is captured.
  5. Contractor personnel must deliver webcams and all required/included components to the location specified by the Client. Contractor personnel must be able to assist the Client (subcontractor) with mounting of webcam fixtures and connecting webcams to existing power and internet sources. Contractor personnel must configure the webcams once connected to ensure connectivity, proper aim and focus of the cameras.

6. The Contractor must provide all software required to index, navigate, store, host and provide remote access to documentation, excepting web-browsers, including user licenses.
  7. The Contractor must provide capability of hyperlink-based integration services for Client Autodesk® BIM models, which make direct access to Contractor photographic documentation in its native environment possible from within the BIM model. The Contractor must link photographic documentation to objects within the BIM model to correspond to photographs' actual locations and orientations so that, when clicked, a hyperlink opens the matching photograph in the Contractor's online interface or the Client's offline copy of final documentation. Integration must be compatible with the Autodesk® Revit® and Navisworks® software models, and the Autodesk® BIM 360™ Glue/Field environments.
  8. The Contractor must provide technical support for all documentation services, software and user interfaces, with customizations as needed, and BIM model integrations. Technical support includes site visits when required and/or requested.
  9. The Contractor must respond to service and support requests/inquiries within 24 hours.
  10. The Contractor must provide storage and online hosting for all documentation for the duration of the contract, except where a standalone, offline implementation of the software platform is requested by the Client. The servers through which the documentation is stored and hosted must have redundant back-ups and use bank-level security protocols to ensure minimal downtime and prevent unauthorized access.
  11. Contractor must be able to create an offline standalone (on-site) version of documentation software platform required by this specification, if applicable, for high security or sensitive facilities.
  12. The Contractor must provide offline, digital media copies of final documentation ("The Permanent Record") upon completion of the contract. Online access shall terminate upon delivery of the final documentation copies or as otherwise agreed by the Contractor and Client. Intellectual property rights associated with the documentation prepared in direct service of the project shall transfer to the Client, along with the digital media itself.
    - a. Photographic Documentation: The Permanent Record will be provided with the underlying software platform, indexing and navigation system, typically as a DVD or external hard drive. One multiple-user license for the underlying housing software, indexing and navigation is included for accessing the digital media.
- B. Company and Personnel Qualifications
1. The Contractor must have a minimum of five years' experience providing expert photographic project documentation to the Construction and Facilities

Management Industries, using an advanced software platform, indexing system and navigation interface.

2. The Contractor must hold or be capable of obtaining all necessary insurance policies, registrations, certifications and clearances to qualify as a vendor for the project.
3. The Contractor must directly employ field personnel able to demonstrate proficiency in execution of photographic and video documentation for construction projects, configuration of webcam systems and use/knowledge of associated equipment.
4. The Contractor field personnel must be OSHA certified and must qualify for all other certifications and clearances required for operation on the project site.
5. The Contractor must directly employ an in-house software programming and development team to support, maintain and customize, as needed, the software platform, online interface, mobile application and BIM model integration services.
6. The Contractor's portfolio of completed documentation must include construction projects representative of the current project's type, size, duration and complexity.
7. The Contractor must supply references upon request.
8. The Contractor must currently have available the personnel and technical capacity to conform to this specification for multiple projects, simultaneously, in the following locations: Dade County.
9. The Contractor must have a local office within 50 miles of the project site and be able to respond to site visit requests with qualified personnel within 24 hours of notice.

**11.6. Fitness Center Basis of Design Equipment (see following pages)**



**CPO INTEGRITY SERIES CROSS-TRAINER (CLSX)**

The Life Fitness CPO Integrity Series Elliptical Cross-Trainer offers a smooth, total-body cardiovascular workout. Built for comfort, it is a proven machine that offers a variety of low-impact workouts. Engineered to be ergonomically correct with durability only Life Fitness can provide, these machines take elliptical cross-training to a new level. Even remanufactured, Life Fitness Certified Cross-Trainers are a better value than new equipment from other fitness manufacturers.

**Exclusive Life Fitness Features**

- > Classic Stride technology; 18" (45.7 cm) stride length
- > Heart Rate Monitoring: Lifepulse™ Digital Heart Rate Monitoring with DSP (Digital Signal Processing) and Polar® Telemetry (chest strap required)

**Additional Standard Features**

- > Wireless Internet Connectivity enables:
  - > Access to LFconnect.com business portal for asset management data
  - > Enhanced service and diagnostics
  - > Exerciser workout tracking
- > Apple and Android device charging via universal USB port
- > Ergonomically correct moving arm handles provide total-body workout
- > Dual-level amber LED console with alphanumeric message center and workout profile window
- > User can select from up to 7 language choices
- > 27 workouts, including 5 Zone Training+™ workouts and Fit Test protocol
- > Customized Cool Down
- > 25 resistance levels
- > Oversized non-slip pedals minimize lateral hip shifting
- > 350 lbs maximum user weight
- > Integrated reading rack, cup holder and accessory tray
- > Self-powered
- > Integrated TV controls on console including numeric keypad, channel/track control, volume, source select, closed captioning, mute, pause and "last" buttons
- > Available with optional 15" Attachable TV System
- > Available in North America and select international countries

**Rebuilding process**

- > **DISASSEMBLY AND DIAGNOSIS** – After it is returned to Life Fitness each product is completely dismantled and undergoes an extensive 20+ multi-point inspection by our certified technicians.
- > **STRIPPING AND CLEANING** - The steel frame of the equipment is sanded and other important parts are stripped clean of dirt and grime.
- > **MOTOR AND PARTS REPAIR** - The motor is thoroughly inspected and cleaned. Bearings and any worn parts are replaced with Life Fitness certified parts.
- > **POWDER COATING** - The bare steel frame is powder coated for added durability and luster.
- > **REBUILDING AND TESTING** - After extensive inspection, cleaning and parts replacement, the entire unit is rebuilt. It is then thoroughly tested to ensure that it's ready for the next owner.
- > **WARRANTY** - Life Fitness stands behind its CPO products. Each unit comes with a one-year warranty on electrical and mechanical parts.



**INTEGRITY SERIES POWERMILL (CLPM)****Exclusive Life Fitness Features**

- > SureStepSystem™ (S3) technology ensures that users are on stable footing throughout a workout.
- > 205 sq. in. of usable step space is the largest in the fitness industry
- > Multiple modular panels allow for easy internal access during maintenance
- > AC motor brings PowerMill to a smooth stop, and a mechanical brake then locks the steps in place until the machine is started again for a stable platform when setting up a workout
- > Heart Rate Monitoring: Lifepulse™ Digital Heart Rate Monitoring with DSP (Digital Signal Processing) and Polar® Telemetry (chest strap required)

**Additional Features**

- > Optional Wireless Internet Connectivity enables:
  - > Access to LFconnect.com business portal for asset management data
  - > Enhanced service and diagnostics
  - > Exerciser workout tracking
- > Apple and Android device charging via universal USB port
- > Ergonomically designed handlebars for support and proper upright position
- > Dual-level amber LED console with alphanumeric message center and workout profile window
- > User can select from up to 7 language choices
- > 27 workouts, including 5 Zone Training+™ workouts and Fit Test protocol
- > Customized Cool Down
- > 25 resistance levels
- > 400 lbs maximum user weight
- > Integrated reading rack, cup holder and accessory tray
- > Integrated TV controls on console including numeric keypad, channel/track control, volume, source select, closed captioning, mute, pause and "last" buttons
- > Available with optional 15" Attachable TV System
- > Available in North America and select international countries



**IC6 POWERED BY ICG (IC-LFIC6B1-01)**

**Dimensions:** 52"L x 20.5"W x 47.2"H  
**Machine Weight:** 112 lbs

**Key Features:**

- > WattRate® TFT Computer
- > Self-powered generator
- > WattRate® Power Meter
- > Poly-V belt drivetrain
- > Magnetic resistance
- > "User-assist" handlebar
- > Padded sport saddle
- > Coach by Color® (user and instructor)

**Standard Features:**

- > **Connect Technology:** Bluetooth and ANT+
- > **Workout Tracking:** ICG Training App
- > **Emergency Stop:** Push (EN-957-10)
- > **Flywheel:** Rear, aluminum, evenly-weighted
- > **Drivetrain Gear Ratio:** 1:10
- > **Frame Color:** Matte slate
- > **Frame Material:** Steel
- > **Adjustments:** Gas-Assisted Handlebar
- > **Q-Factor:** 155mm / 6.1"
- > **Pedal Type:** Dual-sided SPD & toe cage
- > **Handlebar Adjustments:** Vertical & horizontal
- > **Seat:** Unisex padded sport saddle
- > **Seat Adjustments:** Vertical & horizontal
- > **Water Bottle Holder:** Dual, integrated on handlebar
- > **Max User Weight:** 330 lbs



DRAFT 5/20/2020

**625AT TOTAL BODY ARC TRAINER WITH LED CONSOLE****Machine Weight: 400 lbs. (182 kg)****Size: 76" x 32" x 62.5" (192 cm x 81 cm x 159 cm)**

- > Resistance Range: Up to 900 Watts at 180 SPM
- > Adjustable incline to target various muscle groups. 21 incline levels
- > Stride Length: 24" (61 cm)
- > Muscle Map™ displays the intensity of the exercise for individual muscle groups based on the users selection of stride rate, resistance and incline to aid them in precisely targeted results
- > Power: Self powered, E3 View available in standard AC voltages, optional AC adapter for full time display
- > Heart Rate Monitoring: Wireless and Contact Grips
- > Connectivity CSAFE (Fitlinxx® Level 1)
- > Compliance: ETL listed to UL1647, ASTM, EN 957, and CSA; FCC Class B; CE Low Voltage, EMC and RoHS Directives
- > Available in platinum sparkle frame

**Display Features**

- > Graphic display of workout profile via 7 x 15 LED matrix; Numeric display of time distance, calories, calories/hour, METs, Watts, strides per minute and heart rate including multi-color indication of heart rate range; Lower display shows incline and resistance level
- > Workouts: Quick Start (Manual Mode), two Weight Loss, three Cardio, two Shaping, three Strength, as well as Adaptive Power, Constant Power, and Heart Rate Control. Workouts have 10 levels and control both incline and resistance
- > two speed fan with adjustable venting

**Entertainment Options**

- > MYE wireless audio receiver
- > iPod/iPhone integration with 30-pin connector



**CYBEX R SERIES RECUMBENT BIKE****Dimensions: 66" L x 26.5" W x 45.2" H (167 x 67.3 x 116 cm)****Weight: Max user weight: 400 lbs (181 kg)**

Combines sleek design with easy accessibility featuring a walkthrough design and grab handles under the console to make getting on and off easy for any exerciser.

**FEATURES**

- > Wraparound seat adjustment for quick and easy positioning.
- > Step-through design and ingress/egress handles make it easy for any exercisers to get on and off the bike
- > Quick-release removable shroud makes serviceability simple.
- > Easily connect to the LFconnect.com for detailed equipment use information, exerciser insights and preventive maintenance alerts.
- > Contact Ergo Handles for heart rate monitoring
- > Side grips with heart rate contacts
- > Easily adjustable pedal straps.
- > 25 resistance levels
- > Power Range: 20-900+ Watts
- > Generator drive system with 8-ribbed poly-V belt for smooth, quiet operation with low maintenance
- > MYE and attachable TV option for 50L console
- > Self Powered 12V (50L Console only)
- > Auto Start: Brings power to console when user begins pedaling
- > Color: Platinum Sparkle



DRAFT 5/20/2020

**CYBEX R SERIES TREADMILL****Dimensions: 83" L x 36" W x 62.5" H (210 x 91.5 x 159 cm)****Weight: Max user weight: 400 lbs (181 kg)**

Rooted in the Cybex history of effective cardio equipment, but with an appealing new look and innovative features that resonate with exercisers driven by results.

**FEATURES**

- > Interval Training Zone allows exercisers to easily change speed at the touch of a button. and easy positioning.
- > The optional Service Wheel allows for the treadmill to be moved easily during equipment rotation and routine maintenance.
- > IS4 Intelligent Suspension System matches the mechanics of running. The deck is soft upon landing, firm in the middle and rigid at toe-off.
- > Running surface. 21" x 60" (53 x 152 cm)
- > Step-up height: 8.5" (23 cm)
- > Easily connect to the LFconnect.com for detailed equipment use information, exerciser insights and preventive maintenance alerts.
- > Contact Ergo Handles for heart rate monitoring
- > 0.5-14mph speed
- > 0%-15% incline levels
- > USB port for software updates & device charging
- > Emergency Stop System and Safety Stop Pull Cord
- > MYE and attachable TV option for 50L console
- > Color: Platinum Sparkle

**CYBEX R SERIES 50L CONSOLE**

A simplified experience for exercisers. Controls feature large buttons that are centrally located to ensure users can quickly get started and make fast adjustments. The bright LED display offers an easy-to-read panel to track progress.

**FEATURES**

- > Standard wireless connectivity for asset management through LFconnect.com and LFconnect Protect remote equipment monitoring
- > QR code enables workout tracking through the LFconnect app
- > Optional MYE integration
- > Optional Attachable TV
- > Bright LED display is easy to read
- > Six preset workouts and a quick start feature
  - > Treadmill Workouts: Speed Bump, Rollers, Peaks, Hill Interval, Rolling Hills, Interval Plus
  - > Bike Workouts: Calorie Burner, Advanced Burner, Peaks, Ramps, Bursts, Waves
- > Large buttons for easy adjustments on the fly
- > Preset resistance buttons for easy selection during interval training (Arc Trainer and Bikes only)
- > USB Port for software updates and device charging





**CYBEX R SERIES UPRIGHT BIKE**

**Dimensions:** 44" L x 23" W x 45" H (112 x 59 x 137.5 cm)  
**Weight:** Max user weight: 400 lbs (181 kg)

Cybox bikes are right for everyone –from rehab patients and first timers to super-fit cyclists. An updated industrial design ensures that the upright bike shares the same aesthetics as the rest of the R Series cardio equipment.

**FEATURES**

- > Comfortable seat with single-handed adjustment for quick and easy positioning.
- > Three quick-resistance modes for interval workouts.
- > Easily connect to the LFconnect.com for detailed equipment use information, exerciser insights and preventive maintenance alerts.
- > Contact Ergo Handles for heart rate monitoring
- > Quick-release removable shroud makes serviceability simple.
- > Racing handlebars with heart-rate contacts
- > Easily adjustable pedal straps.
- > 25 resistance levels
- > Power Range: 20-900+ Watts
- > Generator drive system with 8-ribbed poly-V belt for smooth, quiet operation with low maintenance
- > MYE and attachable TV option for 50L console
- > Self Powered 12V (50L Console only)
- > Auto Start: Brings power to console when user begins pedaling
- > Color: Platinum Sparkle

**HAMMER STRENGTH BACK EXTENSION (BW-BE)**

**Machine Weight:** 135 lbs    **Starting Resistance:** N/A  
**Size:** in. = 59L x 28.3W x 43H

- > Adjustable angled pad for sound support and exceptional comfort
- > Optional: floor bumpers

**HAMMER STRENGTH GLUTE/HAM (BW-GH)**

**Machine Weight:** 329 lbs    **Starting Resistance:** N/A  
**Size:** in. = 72L x 33W x 50H

- > Offers nuanced design and various adjustments for easy navigation and use
- > Roller pad
- > Optional: floor bumpers





**HAMMER STRENGTH SEATED ARM CURL (FW-AC)****Machine Weight: 160 lbs** Starting Resistance: N/A**Size: in. = 39L x 36W x 43H**

- > Offers the traditional preacher curl position with the same high-grade durability and quality that comes with Hammer Strength benches and racks
- > Optional: floor bumpers

**HAMMER STRENGTH BARBELL RACK (FW-BAR)****Machine Weight: 142 lbs** Starting Resistance: N/A**Size: in. = 31L x 28W x 60H**

- > Gives you convenient storage for 10 barbells
- > Optional: floor bumpers

**HAMMER STRENGTH 3 TIER DUMBBELL RACK (FW-DR3)****Machine Weight: 265 lbs** Starting Resistance: N/A**Size: in. = 90L x 25W x 39H**

- > The Three Tier Dumbbell Rack gives you convenient storage for 15 pairs of dumbbells
- > Optional: floor bumpers

**HAMMER STRENGTH DELUXE WEIGHT TREE (FW-DWT)****Machine Weight: 73 lbs** Starting Resistance: N/A**Size: in. = 20L x 27W x 39H**

- > Offers four horns for maximum support and storage for your exercisers.
- > Optional: floor bumpers

**HAMMER STRENGTH FLAT BENCH (FW-FB)****Machine Weight: 54 lbs** Starting Resistance: N/A**Size: in. = 50L x 22W x 16H**

- > A traditional flat bench that offers the same high-grade durability and quality that comes with Hammer Strength benches and racks
- > Optional: floor bumpers



**HAMMER STRENGTH UTILITY BENCH – 75° (FW-UB75)****Machine Weight: 65 lbs Starting Resistance: N/A****Size: in. = 51L x 25W x 37H**

- > Offers the functionality of a utility bench and a 75-degree curved footrest with the same high-grade durability and quality that comes with Hammer Strength benches and racks
- > Optional: floor bumpers

**HAMMER STRENGTH ADJUSTABLE BENCH (PRO STYLE) (FWMAB)****Machine Weight: 115 lbs Starting Resistance: N/A****Size: in. = 55L x 26W x 17H**

- > Offers a professional style adjustable bench with the same high-grade durability and quality that comes with Hammer Strength benches and racks

**HAMMER STRENGTH OLYMPIC BENCH WEIGHT STORAGE (O-BWS)****Machine Weight: 62 lbs Starting Resistance: N/A****Size: in. = 22L x 15W x 46H**

- > Offers an Olympic style bench with weight storage options and the same high-grade durability and quality that comes with Hammer Strength benches and racks
- > Optional: floor bumpers
- > Shown here with Olympic Flat Bench (OFB). Also can be attached to the OFB (flat), OMB (military), OIB (incline), and ODB (decline)

**HAMMER STRENGTH OLYMPIC DECLINE BENCH (O-DB)****Machine Weight: 190 lbs Starting Resistance: N/A****Size: in. = 60L x 53W x 50H**

- > Offers an Olympic style decline bench press with the same high-grade durability and quality that comes with Hammer Strength benches and racks.
- > Optional: weight storage (OBWS), floor bumpers (3)

**HAMMER STRENGTH OLYMPIC FLAT BENCH (O-FB)****Machine Weight: 145 lbs Starting Resistance: N/A****Size: in. = 52L x 50W x 50H**

- > Offers an Olympic style flat bench press with the same high-grade durability and quality that comes with Hammer Strength benches and racks
- > Optional: weight storage (OBWS), floor bumpers (4)



**HAMMER STRENGTH OLYMPIC INCLINE BENCH (O-IB)****Machine Weight: 198 lbs Starting Resistance: N/A****Size: in. = 51L x 52W x 58H**

- > Offers an Olympic style incline bench press with the same high-grade durability and quality that comes with Hammer Strength benches and racks
- > Optional: weight storage (OBWS), floor bumpers (3)

**HAMMER STRENGTH OLYMPIC MILITARY BENCH (O-MB)****Machine Weight: 339 lbs Starting Resistance: N/A****Size: in. = 56L x 48W x 65H**

- > Offers an Olympic style military bench press with the same high-grade durability and quality that comes with Hammer Strength benches and racks
- > Optional: weight storage (OBWS), floor bumpers (5)

**HAMMER STRENGTH SMITH MACHINE (HSSM)****Machine Weight: 635 lbs Starting Resistance: 15 lbs****Size: in. = 43L x 86W x 91H**

- > The Smith Machine bar path follows a seven-degree angle, which is the free weight motion of Olympic lifting — to give you the same workout environment as Olympic athletes.
- > Standard weight horns – 8
- > Adjustable bench not included



**HAMMER STRENGTH HD ELITE POWER RACK****Machine Weight: 725 lbs    Max Training Weight: 855 lbs****Size: in. = 79L x 67W x 96H**

- > Fully enclosed Rack provides the ultimate lifting space
- > Walk through design so the users do not have any structural foot obstructions from the front to the rear of the rack
- > ASTM / EN957 Certified to guarantee the ultimate in performance and strength of the product
- > Anvil Bracing™ – Multi-plane bolting configuration increases structural rigidity
- > Spider Gusset™ – 45 degree angle braces with diamond plate to increase lateral stiffness
- > HammerLock™ – Hammer Strength-originated bolting mechanism allows for higher fastening torque and eliminates exposed hardware for a cleaner look
- > 4"x3" laser cut 7-gauge steel uprights with laser cut numbering system ensures maximum structural integrity and provide efficiency in moving attachments to various positions
- > Rack frame receives an electrostatic powder coat finish to ensure adhesion and durability
- > Rack available in 8' and 9' configurations
- > Bar Supports designed with replaceable 5/16" (8mm) UHMW wear strips protect the Olympic bar from metal on metal contact
- > Bar Catches designed with Solid 1" (2.5cm) diameter stainless steel adjustment shaft
- > Weight horns have 2 degree angle to prevent weight plates from slipping off the horn during heavy use
- > Integrated labeling system for the weight horns keeps weight plates organized
- > Standard band and chain storage helps keep the floor clear and the equipment organized and accessible on every rack
- > Available in 9 standard frame colors. Custom colors also available
- > Shown with Standard Bar Catches, Bar Supports, Bar Storage and Standard Storage
- > Also shown with optional Rotating Chin-Up, Thick Grip Pull-Up, Side Mount Pull-Up, Power Pivot, Top Band Pegs, Adjustable Bottom Band Pegs, Kettle Bell/Bumper Storage, Adjustable Bench and Dock 'N Lock



**HAMMER STRENGTH HD ELITE HALF RACK****Machine Weight: 504 lbs    Max Training Weight: 855 lbs****Size: in. = 57L x 67W x 96H**

- > Space efficient, open front design allows for unrestricted movements
- > Walk through design so the users do not have any structural foot obstructions from the front to the rear of the rack
- > ASTM / EN957 Certified to guarantee the ultimate in performance and strength of the product
- > Anvil Bracing™ – Multi-plane bolting configuration increases structural rigidity
- > Spider Gusset™ – 45 degree angle braces with diamond plate to increase lateral stiffness
- > HammerLock™ – Hammer Strength-originated bolting mechanism allows for higher fastening torque and eliminates exposed hardware for a cleaner look
- > 4"x3" laser cut 7-gauge steel uprights with laser cut numbering system ensures maximum structural integrity and provide efficiency in moving attachments to various positions
- > Rack frame receives an electrostatic powder coat finish to ensure adhesion and durability
- > Rack available in 8' and 9' configurations
- > Bar Supports designed with replaceable 5/16" (8mm) UHMW wear strips protect the Olympic bar from metal on metal contact
- > Bar Catches designed with Solid 1" (2.5cm) diameter stainless steel adjustment shaft
- > Band peg options on the top and bottom of the rack offer various options for over-speed training, variable resistance training and technique development
- > Weight horns have 2 degree angle to prevent weight plates from slipping off the horn during heavy use
- > Integrated labeling system for the weight horns keeps weight plates organized
- > Standard band and chain storage helps keep the floor clear and the equipment organized and accessible on every rack
- > Available in 9 standard frame colors. Custom colors also available
- > Shown with Standard Bar Catches, Bar Supports, Bar Storage and Standard Storage
- > Also shown with optional Straight Bar Pull-Up, Power Pivot, Top Band Pegs, Adjustable Bench and Dock 'N Lock



**HAMMER STRENGTH HD ELITE PLATFORMS****4'x8' Platform****Weight: 188 lbs    Size: in. = 48"L x 92"W x 3"H****6'x8' Platform****Weight: 269lbs    Size: in. = 72"L x 92"W x 3"H****8'x8' Platform****Weight: 350lbs    Size: in. = 96"L x 92"W x 3"H**

- > Available in 4' x 8', 6' x 8' and 8' x 8' configurations
- > Painted custom logos available for additional charge (Hammer Strength logo on wood platform not included)
- > Optional Ramp available

**HAMMER STRENGTH MTS ISO-LATERAL V-SQUAT****Machine Weight: 750 lbs    Weight Stack: 390 lbs****Size: in. = 96L x 31W x 79H**

- > Adjustable starting position to accommodate all size users and to alleviate difficult entry/exit found on similar competitive machines
- > Belt provides smooth, durable resistance transfer
- > Angled foot platform positions user in bio-mechanically correct lifting stance

**HAMMER STRENGTH LINEAR LEG PRESS****Machine Weight: 630 lbs    Starting Resistance: 118 lbs****Size: in. = 95L x 65W x 6H**

- > Linear bearings create a smooth feel and function
- > Flip-in, flip-out racking mechanism is intuitive and easy to use
- > Molded pads offer higher durability and longer product life
- > Standard weight horns – 8

**HAMMER STRENGTH ISO-LATERAL BENCH PRESS****Machine Weight: 350 lbs    Starting Resistance: 7 lbs****Size: in. = 49L x 52W x 69H**

- > Two movement arms move independently around non-breakable ductile iron castings
- > Movement arm path of motion causes adduction of the arms to allow for greater involvement of the pectorals
- > U.S. Patent No. 5,044,631 covers the unique features of this machine
- > Choose either horizontal or vertical hand grip position
- > Starting resistance – 7 lbs
- > Optional counter balance
- > Standard weight horns – 6





**HAMMER STRENGTH ISO-LATERAL FRONT LAT PULLDOWN**

**Machine Weight: 315 lbs    Starting Resistance: 1 lb**  
**Size: in. = 65L x 41W x 80H**

- > Two arms rotate and move independently around non-breakable ductile iron castings
- > Movement arms rotate back, up and out offering a unique upper back training
- > Underhand grip ensures natural path of motion ideal for training the Latissimus Dorsi
- > Additional handle provides user stabilization during one-arm exercises
- > Standard weight horns – 6

**HAMMER STRENGTH ISO-LATERAL SHOULDER PRESS**

**Machine Weight: 350 lbs    Starting Resistance: 10 lbs**  
**Size: in. = 51L x 58W x 74H**

- > Enables each arm to work independently with the workarms of the machine extending and adducting simultaneously for optimal deltoid training
- > The seat is angled back to minimize lumbar compression
- > Optional counter balance
- > Standard weight horns – 6

**HAMMER STRENGTH ISO-LATERAL WIDE PULLDOWN**

**Machine Weight: 320 lbs    Starting Resistance: 2 lbs**  
**Size: in. = 71L x 42W x 80H**

- > *Two movement arms rotate and move independently around non-breakable ductile iron castings*
- > *Movement arms path of motion causes adduction of the arms to allow for greater involvement of the pectorals*
- > *U.S. Patent No. 5,044,631 covers the unique features of this machine*
- > *Standard weight horns – 6*

**HAMMER STRENGTH SEATED CALF RAISE**

**Machine Weight: 200 lbs    Starting Resistance: 60 lbs**  
**Size: in. = 50L x 30W x 55H**

- > Seat pivots to allow user to use his/her own bodyweight
- > Foot platform is angled in two planes to allow for natural foot movement
- > Range-of-motion release conveniently located in front of the user





**SIGNATURE SERIES ADJUSTABLE DECLINE/  
ABDOMINAL BENCH****Machine Weight: 135 lbs    Weight Stack: N/A****Size: in. = 61L x 44W x 32H**

- > Adjustment angles: -10 ½, -15 ½, -20 ½, -25 ½
- > Drop-down handle and wheels allow easy mobility

**SIGNATURE SERIES LEG RAISE****Machine Weight: 140 lbs    Weight Stack: N/A****Size: in. = 46L x 33W x 64H**

- > Unique back pad provides lumbar and back support that conforms to the varying angles of the body throughout the range of motion
- > The flexible domed back pad allows the user to fully extend and contract lower and upper abdominals by allowing full extension at the start position and providing extra support at the finish position
- > Handles and foot platforms allow for easy entry and exit for all sized users

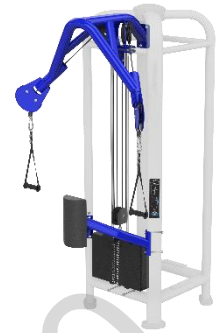
**SIGNATURE SERIES MULTI-JUNGLE CORE****Station Weight: 225 lbs****Weight Stack: N/A****Size: in. = 32.5L x 32.5W x 92H****SIGNATURE SERIES MULTI-JUNGLE ADJUSTABLE CROSSOVER  
CONNECTS CORE****Station Weight: 600 lbs****Weight Stack: 190 lbs****User resistance per handle: 95 lbs****Size: in. = 148.5L x 32.5W x 92H**

- > Including: 2 Short Handles, 1 Ankle Strap



**SIGNATURE SERIES MULTI-JUNGLE DUAL PULLEY HIGH**

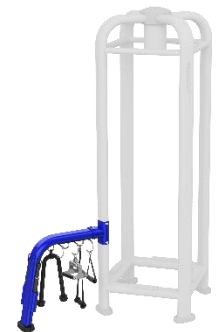
**Station Weight: 430 lbs**  
**Weight Stack: 290 lbs**  
**User resistance per handle: 72.5 lbs**  
**Size: in. = 20L x 50W x 92H**  
 > Including: 2 Adjustable Handles

**SIGNATURE SERIES MULTI-JUNGLE DUAL PULLEY LOW**

**Station Weight: 435 lbs**  
**Weight Stack: 290 lbs**  
**User resistance per handle: 72.5 lbs**  
**Size: in. = 22L x 48W x 92H**  
 > Including: 2 Adjustable Handles

**SIGNATURE SERIES CABLE MOTION MULTI-JUNGLE HANDLE/ACCESSORY RACK**

**Machine Weight: 31 lbs**   **Weight Stack: n/a**  
**Size: in. = 27L x 8.5W x 28H**  
 > Provides convenient storage for accessories used with Cable Motion Multi-Jungles  
 > Mounts to the corner of any Multi-Jungle adjustable pulley station  
 > Includes 6 chrome hooks and 2 storage tubes to hold accessories

**SIGNATURE SERIES MULTI-JUNGLE LAT PULLDOWN**

**Station Weight: 340 lbs**  
**Weight Stack: 260 lbs**  
**User resistance per handle: 260 lbs**  
**Size: in. = 36L x 47W x 92H**  
 > Including: 1 Pulldown Bar



**SIGNATURE SERIES MULTI-JUNGLE DUAL PULLEY PULLDOWN**

**Station Weight: 340 lbs**  
**Weight Stack: 260 lbs**  
**User resistance per handle: 130 lbs**  
**Size: in. = 36L x 47W x 92H**  
 > Including: 2 Short Handles, 1 Pulldown Bar

**SIGNATURE SERIES MULTI-JUNGLE DUAL PULLEY ROW**

**Station Weight: 360 lbs**  
**Weight Stack: 260 lbs**  
**User resistance per handle: 130 lbs**  
**Size: in. = 72L x 32.5W x 92H**  
 > Including: 2 Short Handles

**SIGNATURE SERIES MULTI-JUNGLE LOW ROW**

**Station Weight: 360 lbs**  
**Weight Stack: 260 lbs**  
**User resistance per handle: 260 lbs**  
**Size: in. = 72L x 32.5W x 92H**  
 > Including: 1 V-Bar

**SIGNATURE SERIES MULTI-JUNGLE TRICEPS PUSHDOWN**

**Station Weight: 225 lbs**  
**Weight Stack: 190 lbs**  
**User resistance per handle: 190 lbs**  
**Size: in. = 11L x 32.5W x 92H**  
 > Including: 1 Tricep Rope



**FREE WEIGHTS TWIN TIER DUMBBELL RACK (16250)****Dimensions: 90" x 22" x 31" (229 cm x 56 cm x 79 cm)****Weight: Machine Weight 181lbs (82kg)**

- > Offset angle prevents wrist strain while removing and replacing dumbbells.
- > Individual dumbbell cradles improves rack safety profile.
- > Dumbbell saddles made of wear resistant high-density polyethylene plastic.
- > Full shelf prevents dumbbells from falling through.
- > Storage space for 10-pairs of any size dumbbell.
- > Available in 15 frame colors or a virtually unlimited variety of custom colors.

**PLATE LOADED HACK SQUAT (16200)****Dimensions: 81" x 61" x 54" (206 cm x 155 cm x 137 cm)****Weight: Machine Weight 390lbs (124kg)**

- > Fully enclosed linear bearing system.
- > Hip-height plate loading.
- > Large nonskid footplate.
- > Dual height start position.
- > Six plate storage positions.
- > Available in 15 frame colors or a virtually unlimited variety of custom colors and 33 upholstery colors.



### SELECTORIZED STRENGTH SERIES EAGLE NX 20000 EAGLE NX CHEST PRESS

**Size: 44" x 57" x 71" (112cm x 144cm x 180cm)**

**Weight: Weight Stack 305lbs (139kg)**

**Machine Weight 623lbs (283kg)**

- > Dual Axis technology provides variety and versatility with both machine-defined and user-defined movements. Choose your level of intensity and train with confidence.
- > Independent arms add training variety and achieve balanced strength development. Converging Path of Motion: Train through a more complete range of movement for better results.
- > Gas-assisted seat and back pads easily adjust to allow different body types to enjoy a comfortable range of motion.

#### USER AMENITIES

- > Placards review proper set-up, movement and muscles trained.
- > QR codes provide access to step-by-step videos demonstrating correct form and multiple exercise options.
- > Smartphone/tablet holder designed to secure your device safely with adjustable clip
- > Standard on every Prestige machine, water bottle/towel holder keep water and towel within reach.
- > Twist select incremental weight system allows user to adjust weight quickly and simply in 5 pound increments.
- > Colors are available in 15 frame colors or a variety of custom colors, 33 upholstery colors and 4 enclosure styles.



### SELECTORIZED STRENGTH SERIES EAGLE NX 20040 EAGLE NX LEG PRESS

**Size: 68" x 42" x 73" (172cm x 106cm x 185cm)**

**Weight: Weight Stack 505lbs (230kg)**

**Machine Weight 1020lbs (464kg)**

- > Greater range of motion with seat back angle adjusts to five positions, providing comfort and greater range of motion.
- > More complete training by articulating carriage moves backward and tilts for greater range of motion and complete training of glutes and hamstrings.
- > Designed to replicate safe, controlled squat.

#### USER AMENITIES

- > Placards review proper set-up, movement and muscles trained.
- > QR codes provide access to step-by-step videos demonstrating correct form and multiple exercise options.
- > Smartphone/tablet holder designed to secure your device safely with adjustable clip
- > Standard on every Prestige machine, water bottle/towel holder keep water and towel within reach.
- > Twist select incremental weight system allows user to adjust weight quickly and simply in 5 pound increments.
- > Colors are available in 15 frame colors or a variety of custom colors, 33 upholstery colors and 4 enclosure styles.



**21010 PRESTIGE VRS OVERHEAD PRESS****Size: 63" x 60" x 58" (160 cm x 152 cm x 147 cm)**

**Weight: Standard Stack 165 lbs (75 kg)**  
**Heavy Stack 205 lbs (93 kg)**  
**Standard Weight 492 lbs (224 kg)**  
**Heavy Weight 532 lbs (242 kg)**

**Features**

- > Converging path of motion: Allows for a more complete range of movement for unparalleled training results
- > Independent arms: Offer balanced strength development and bilateral reciprocal training
- > Standard and neutral grips: Provide multiple grip choices

**User Amenities**

- > Placards review proper set-up, movement and muscles trained.
- > QR codes provide access to step-by-step videos demonstrating correct form and multiple exercise options
- > Smartphone/tablet holder designed to secure your device safely with adjustable clip
- > Water bottle/towel holder keep water and towel within reach
- > Twist select incremental weight system allows user to adjust weight quickly and simply in 5 pound increments
- > Colors are available in 15 frame colors or a variety of custom colors, 33 upholstery colors and 4 enclosure styles



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**21020 PRESTIGE VRS PULLDOWN****Size: 66" x 44" x 75" (168 cm x 112 cm x 191 cm)****Weight: Standard Stack 245 lbs (111 kg)  
Heavy Stack 305 lbs (138 kg)  
Standard Weight 558 lbs (254 kg)  
Heavy Weight 618 lbs (281 kg)****Features**

- > Diverging path of motion: Invites a more complete range of movement for optimal training results
- > Independent arms: Offer balanced strength development and bilateral reciprocal training
- > Adjustable thigh pad: Optimizes experience for different body types and strength levels

**User Amenities**

- > Placards review proper set-up, movement and muscles trained.
- > QR codes provide access to step-by-step videos demonstrating correct form and multiple exercise options
- > Smartphone/tablet holder designed to secure your device safely with adjustable clip
- > Water bottle/towel holder keep water and towel within reach
- > Twist select incremental weight system allows user to adjust weight quickly and simply in 5 pound increments
- > Colors are available in 15 frame colors or a variety of custom colors, 33 upholstery colors and 4 enclosure styles



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**21030 PRESTIGE VRS ROW****Size: 68" x 38" x 58" (173 cm x 97 cm x 147 cm)**

**Weight: Standard Stack 245 lbs (111 kg)**  
**Heavy Stack 305 lbs (138 kg)**  
**Standard Weight 503 lbs (229 kg)**  
**Heavy Weight 563 lbs (256 kg)**

**Features**

- > Diverging path of motion: Invites a more complete range of movement for optimal training results
- > Independent arms: Offer balanced strength development and bilateral reciprocal training
- > Variable resistance: Closely matches user's capability throughout the range of motion

**User Amenities**

- > Placards review proper set-up, movement and muscles trained.
- > QR codes provide access to step-by-step videos demonstrating correct form and multiple exercise options
- > Smartphone/tablet holder designed to secure your device safely with adjustable clip
- > Water bottle/towel holder keep water and towel within reach
- > Twist select incremental weight system allows user to adjust weight quickly and simply in 5 pound increments
- > Colors are available in 15 frame colors or a variety of custom colors, 33 upholstery colors and 4 enclosure styles



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## SELECTORIZED STRENGTH SERIES PRESTIGE VRS 21050 PRESTIGE VRS LEG EXTENSION

**Size: 49" x 41" x 58" (124cm x 104cm x 162cm)**

**Weight: Standard Stack 245lbs (111kg)**  
**Heavy Stack 305lbs (138kg)**  
**Standard Weight 565lbs (257kg)**  
**Heavy Weight 625lbs (284kg)**

21-piece strength line provides a premium option for facilities seeking an exceptionally versatile, user-friendly, biomechanically correct solution for "walkup and workout" users.

### Features

- > Optional Range Limiting Device: allows user to choose a comfortable starting position with optimal resistance
- > Angled Back Pag: Spring-assisted to provide a natural and comfortable workout position and less hamstring tension
- > Offset Input Arm: Provides optimal positioning without affecting the starting angle of the knee

### User Amenities

- > Placards review proper set-up, movement and muscles trained.
- > QR codes provide access to step-by-step videos demonstrating correct form and multiple exercise options.
- > Smartphone/tablet holder designed to secure your device safely with adjustable clip
- > Standard on every Prestige machine, water bottle/towel holder keep water and towel within reach.
- > Twist select incremental weight system allows user to adjust weight quickly and simply in 5 pound increments.
- > Colors are available in 15 frame colors or a variety of custom colors, 33 upholstery colors and 4 enclosure styles.



**SELECTORIZED STRENGTH SERIES PRESTIGE VRS 21060  
PRESTIGE VRS SEATED LEG CURL**

**Size: 56" x 39" x 58" (142cm x 99cm x 162cm)**

**Weight: Standard Stack 165lbs (75kg)  
Heavy Stack 205lbs (93kg)  
Standard Weight 535lbs (243kg)  
Heavy Weight 575lbs (261kg)**

21-piece strength line provides a premium option for facilities seeking an exceptionally versatile, user-friendly, biomechanically correct solution for "walkup and workout" users.

**Features**

- > Optional Range Limiting Device: lets users choose a comfortable starting position, while ensuring the resistance profile is always optimal.
- > Spring-assisted back pad: makes it easy for users to get a natural and comfortable workout. Angled back pad relieves hamstring tension.
- > Thigh stabilization pad: significantly reduces knee stress as compared to other methods.

**User Amenities**

- > Placards review proper set-up, movement and muscles trained.
- > QR codes provide access to step-by-step videos demonstrating correct form and multiple exercise options.
- > Smartphone/tablet holder designed to secure your device safely with adjustable clip
- > Standard on every Prestige machine, water bottle/towel holder keep water and towel within reach.
- > Twist select incremental weight system allows user to adjust weight quickly and simply in 5 pound increments.
- > Colors are available in 15 frame colors or a variety of custom colors, 33 upholstery colors and 4 enclosure styles.



DRAFT 5/20/2017

**21070 PRESTIGE VRS ARM CURL****Size: 58" x 40" x 58" (147 cm x 102 cm x 162 cm)**

**Weight: Standard Stack 165 lbs (75 kg)**  
**Heavy Stack 205 lbs (93 kg)**  
**Standard Weight 425 lbs (193 kg)**  
**Heavy Weight 465 lbs (211 kg)**

**Features**

- > Grips: Adjust automatically to accommodate all forearm lengths
- > Gas-spring-assisted seat: Makes it easy for users to get a natural and comfortable workout

**User Amenities**

- > Placards review proper set-up, movement and muscles trained.
- > QR codes provide access to step-by-step videos demonstrating correct form and multiple exercise options
- > Smartphone/tablet holder designed to secure your device safely with adjustable clip
- > Water bottle/towel holder keep water and towel within reach
- > Twist select incremental weight system allows user to adjust weight quickly and simply in 5 pound increments
- > Colors are available in 15 frame colors or a variety of custom colors, 33 upholstery colors and 4 enclosure styles

**21080 PRESTIGE VRS ARM EXTENSION****Size: 49" x 42" x 58" (125 cm x 106 cm x 162 cm)**

**Weight: Standard Stack 165 lbs (75 kg)**  
**Heavy Stack 205 lbs (93 kg)**  
**Standard Weight 440 lbs (200 kg)**  
**Heavy Weight 480 lbs (218 kg)**

**Features**

- > Grips: Adjust automatically to accommodate all forearm lengths
- > Adjustable, angled back pad: Stabilizes torso
- > Gas-spring-assisted seat: Makes it easy for users to get a natural and comfortable workout

**User Amenities**

- > Placards review proper set-up, movement and muscles trained.
- > QR codes provide access to step-by-step videos demonstrating correct form and multiple exercise options
- > Smartphone/tablet holder designed to secure your device safely with adjustable clip
- > Water bottle/towel holder keep water and towel within reach
- > Twist select incremental weight system allows user to adjust weight quickly and simply in 5 pound increments
- > Colors are available in 15 frame colors or a variety of custom colors, 33 upholstery colors and 4 enclosure styles



**21110 PRESTIGE VRS FLY/REAR DELT****Size: 53" x 59" x 74" (135 cm x 150 cm x 188 cm)****Weight: Standard Stack 244 lbs (111 kg)  
Heavy Stack 305 lbs (138 kg)  
Standard Weight 575 lbs (261 kg)  
Heavy Weight 615 lbs (280 kg)****Features**

- > Floating inputs: Adjust for varied arm lengths
- > Grips: Adjust automatically to accommodate all forearm lengths
- > Gas-spring-assisted seat: Makes it easy for users to get a natural and comfortable workout

**User Amenities**

- > Placards review proper set-up, movement and muscles trained.
- > QR codes provide access to step-by-step videos demonstrating correct form and multiple exercise options
- > Smartphone/tablet holder designed to secure your device safely with adjustable clip
- > Water bottle/towel holder keep water and towel within reach
- > Twist select incremental weight system allows user to adjust weight quickly and simply in 5 pound increments
- > Colors are available in 15 frame colors or a variety of custom colors, 33 upholstery colors and 4 enclosure styles



**SELECTORIZED STRENGTH SERIES PRESTIGE VRS 21120  
PRESTIGE VRS STANDING CALF**

**Size: 48" x 37" x 68" (122cm x 94cm x 173cm)**

**Weight: Standard Stack 305lbs (138kg)  
Heavy Stack 405lbs (184kg)  
Standard Weight 590lbs (268kg)  
Heavy Weight 690lbs (314kg)**

21-piece strength line provides a premium option for facilities seeking an exceptionally versatile, user-friendly, biomechanically correct solution for "walkup and workout" users.

**Features**

- > Angled Pads: Designed to match the natural angle of the shoulder
- > Curved Footplate: Enter the start position comfortably stretched and ready
- > Adjustable: Input arm moves for variable user height

**User Amenities**

- > Placards review proper set-up, movement and muscles trained.
- > QR codes provide access to step-by-step videos demonstrating correct form and multiple exercise options.
- > Smartphone/tablet holder designed to secure your device safely with adjustable clip
- > Standard on every Prestige machine, water bottle/towel holder keep water and towel within reach.
- > Twist select incremental weight system allows user to adjust weight quickly and simply in 5 pound increments.
- > Colors are available in 15 frame colors or a variety of custom colors, 33 upholstery colors and 4 enclosure styles.



DRAFT 21120

**SELECTORIZED STRENGTH SERIES PRESTIGE VRS 21140  
PRESTIGE VRS PRONE LEG CURL**

**Size: 77" x 39" x 58" (195cm x 99cm x 162cm)**

**Weight: Standard Stack 165lbs (75kg)  
Heavy Stack 205lbs (93kg)  
Standard Weight 475lbs (216kg)  
Heavy Weight 515lbs (234kg)**

21-piece strength line provides a premium option for facilities seeking an exceptionally versatile, user-friendly, biomechanically correct solution for "walkup and workout" users.

**Features**

- > Optional Range Limiting Device: lets users choose a comfortable starting position, while ensuring the resistance profile is always optimal.
- > Forearm pads and hip pad: angle encourages proper spine alignment and minimizes back stress.
- > Leg pad: positioning intuitive and virtually effortless.

**User Amenities**

- > Placards review proper set-up, movement and muscles trained.
- > QR codes provide access to step-by-step videos demonstrating correct form and multiple exercise options.
- > Smartphone/tablet holder designed to secure your device safely with adjustable clip
- > Standard on every Prestige machine, water bottle/towel holder keep water and towel within reach.
- > Twist select incremental weight system allows user to adjust weight quickly and simply in 5 pound increments.
- > Colors are available in 15 frame colors or a variety of custom colors, 33 upholstery colors and 4 enclosure styles.



DRAFT 5/20/2024



## SELECTORIZED STRENGTH SERIES PRESTIGE VRS 21170 PRESTIGE VRS GLUTE

**Size: 63" x 42" x 58" (159cm x 105cm x 147cm)**

**Weight: Standard Stack 245lbs (111kg)**  
**Heavy Stack 305lbs (138kg)**  
**Standard Weight 555lbs (252kg)**  
**Heavy Weight 595lbs (270kg)**

21-piece strength line provides a premium option for facilities seeking an exceptionally versatile, user-friendly, biomechanically correct solution for "walkup and workout" users.

### Features

- > Path of Motion: Curvilinear design encourages training of the glutes without relying on alignment of the hips
- > Proper Alignment: Adjustable abdominal support, combined with positioning the knee under the hip minimizes back stress

### User Amenities

- > Placards review proper set-up, movement and muscles trained.
- > QR codes provide access to step-by-step videos demonstrating correct form and multiple exercise options.
- > Smartphone/tablet holder designed to secure your device safely with adjustable clip
- > Standard on every Prestige machine, water bottle/towel holder keep water and towel within reach.
- > Twist select incremental weight system allows user to adjust weight quickly and simply in 5 pound increments.
- > Colors are available in 15 frame colors or a variety of custom colors, 33 upholstery colors and 4 enclosure styles.



DRAFT 15/20/2020

**21180 PRESTIGE VRS TRICEPS PRESS****Size: 54" x 49" x 58" (136 cm x 125 cm x 162 cm)**

**Weight: Standard Stack 165 lbs (75 kg)**  
**Heavy Stack 205 lbs (93 kg)**  
**Standard Weight 455 lbs (207 kg)**  
**Heavy Weight 495 lbs (225 kg)**

**Features**

- > Forward tilted back pad: Provides stability without the use of a seat belt
- > Extra-sized grips: Reduce pressure on the hands for greater comfort
- > Dual grip positions: Accommodate various body sizes and movements

**User Amenities**

- > Placards review proper set-up, movement and muscles trained.
- > QR codes provide access to step-by-step videos demonstrating correct form and multiple exercise options
- > Smartphone/tablet holder designed to secure your device safely with adjustable clip
- > Water bottle/towel holder keep water and towel within reach
- > Twist select incremental weight system allows user to adjust weight quickly and simply in 5 pound increments
- > Colors are available in 15 frame colors or a variety of custom colors, 33 upholstery colors and 4 enclosure styles



DRAFT 5/20/2020

**SELECTORIZED STRENGTH SERIES PRESTIGE VRS 21200  
PRESTIGE VRS HIP ABDUCTION**

**Size: 56" x 27" x 58" (143cm x 70cm x 162cm)**

**Weight: Standard Stack 165lbs (75kg)  
Heavy Stack 205lbs (93kg)  
Standard Weight 435lbs (198kg)  
Heavy Weight 475lbs (216kg)**

21-piece strength line provides a premium option for facilities seeking an exceptionally versatile, user-friendly, biomechanically correct solution for "walkup and workout" users.



**Features**

- > Knee Pads: Minimize stress on the knees during exercise
- > Weight Stack: Front-facing to serve as a privacy shield during movement
- > Accommodating: Dual footbars service a wide range of user heights

**User Amenities**

- > Placards review proper set-up, movement and muscles trained.
- > QR codes provide access to step-by-step videos demonstrating correct form and multiple exercise options.
- > Smartphone/tablet holder designed to secure your device safely with adjustable clip
- > Standard on every Prestige machine, water bottle/towel holder keep water and towel within reach.
- > Twist select incremental weight system allows user to adjust weight quickly and simply in 5 pound increments.
- > Colors are available in 15 frame colors or a variety of custom colors, 33 upholstery colors and 4 enclosure styles.

DRAFT 15/20/2022

**SELECTORIZED STRENGTH SERIES PRESTIGE VRS  
21210 PRESTIGE VRS HIP ABDUCTION**

**Size: 47" x 46" x 58" (119cm x 117cm x 162cm)**

**Weight: Standard Stack 165lbs (75kg)  
Heavy Stack 205lbs (93kg)  
Standard Weight 600lbs (273kg)  
Heavy Weight 640lbs (291kg)**

21-piece strength line provides a premium option for facilities seeking an exceptionally versatile, user-friendly, biomechanically correct solution for "walkup and workout" users.

**Features**

- > Knee Pads: Minimize stress on the knees during exercise
- > Weight Stack: Front-facing to serve as a privacy shield during movement
- > Accommodating: Dual footbars service a wide range of user heights

**User Amenities**

- > Placards review proper set-up, movement and muscles trained.
- > QR codes provide access to step-by-step videos demonstrating correct form and multiple exercise options.
- > Smartphone/tablet holder designed to secure your device safely with adjustable clip
- > Standard on every Prestige machine, water bottle/towel holder keep water and towel within reach.
- > Twist select incremental weight system allows user to adjust weight quickly and simply in 5 pound increments.
- > Colors are available in 15 frame colors or a variety of custom colors, 33 upholstery colors and 4 enclosure styles.



DRAFT 10/20/2022

**21230 PRESTIGE VRS DIP/CHIN ASSIST****Size: 68" x 55" x 98" (157 cm x 139 cm x 249 cm)****Weight: Heavy Stack 305 lbs (138 kg)  
Heavy Weight 720 lbs (327 kg)****Features**

- > Extra-sized, dual-position grips: Increase hand comfort, accommodate different user sizes and allow for dip movement variety
- > Pull-up bar: Offers both bar and neutral grips for individual preference
- > Footbar: Easily flips up for unassisted pull-ups and dips

**User Amenities**

- > Placards review proper set-up, movement and muscles trained.
- > QR codes provide access to step-by-step videos demonstrating correct form and multiple exercise options
- > Smartphone/tablet holder designed to secure your device safely with adjustable clip
- > Water bottle/towel holder keep water and towel within reach
- > Twist select incremental weight system allows user to adjust weight quickly and simply in 5 pound increments
- > Colors are available in 15 frame colors or a variety of custom colors, 33 upholstery colors and 4 enclosure styles



DRAFT 5/20/2020

**21090 PRESTIGE VRS ABDOMINAL****Size: 59" x 40" x 58" (150 cm x 102 cm x 147 cm)**

**Weight: Standard Stack 225 lbs (102 kg)**  
**Heavy Stack 265 lbs (120 kg)**  
**Standard Weight 480 lbs (218 kg)**  
**Heavy Weight 540 lbs (245 kg)**

**Features**

- > Patented pelvic stabilization system with adjustable foot brace: Allows users of varying heights to "lock into" the hip pad for optimal training effect
- > Innovative design: Isolates abdominal muscles for a more complete range of correct spinal flexion movement
- > Hip pad: Includes a curved lumbar section to promote full range of motion

**User Amenities**

- > Placards review proper set-up, movement and muscles trained.
- > QR codes provide access to step-by-step videos demonstrating correct form and multiple exercise options
- > Smartphone/tablet holder designed to secure your device safely with adjustable clip
- > Water bottle/towel holder keep water and towel within reach
- > Twist select incremental weight system allows user to adjust weight quickly and simply in 5 pound increments
- > Colors are available in 15 frame colors or a variety of custom colors, 33 upholstery colors and 4 enclosure styles

**HAMMER STRENGTH ROUND URETHANE FIXED BARBELLS**

- > Rounded barbells are overmolded with premium urethane from Germany, they're pressed and secured onto a splined shaft to prevent head loosening and rotation
- > All-around knurling for better grip and precision handling.
- > Available with Straight or EZ curl handles
- > Bright and visible weight numbers
- > Coating: Hard Chrome Plated handle
- > Available Sets:
  - > EZ Curl Bar 20-110 lbs
  - > Straight Bar 20-110lbs
- > Weight each: 20 lbs, 30lbs, 40 lbs, 50 lbs, 60 lbs, 70 lbs, 80 lbs, 90 lbs, 100lbs, 110lbs
- > Warranty : Set 5 years - Each 5 years



**HAMMER STRENGTH ROUND URETHANE DUMBBELLS**

- > Pressed and secured onto a precision machined splined shaft then overmolded with premium urethane shipped from Germany
- > Bright and visible weight numbers
- > Handle Size: 1-1/4" diameter up to 100 lbs, 1-3/8" diameter 105lbs and above
- > Handle Style: Straight, Nickel chrome plated
- > Weight range 5 – 150 lbs
- > Recommended Rack Style: Saddles
- > Customizable: No
- > 5-year warranty
- > Available Sets\*:
  - > Set 5 – 50 lbs: HS-DB-2000-01
  - > Set 55 – 100 lbs: HS-DB-2001-01
  - > Set 105 – 125 lbs: HS-DB-2002-01
  - > Set 130 – 150 lbs: HS-DB-2003-01
  - > Set 7.5 – 27.5 lbs: HS-DB-2004-01
  - > Set 32.5 – 52.5 lbs: HS-DB-2005-01



\* Dumbbells are sold as individuals, not as pairs. Item code unit of measure is each.

DRAFT 5/20/2020



**OLYMPIC BARS BUSHING (MENS)**

- > Type of use : Weightlifting, Olympic Weightlifting
- > Shaft Diameter: 28 mm
- > Length: 7'
- > Loadable Sleeve Length: 16.25"
- > Knurl Mark Spacing : 36"
- > Center Knurl: No
- > Available in: Black Zink, Hard Chrome, and Stainless Steel
- > End Cap Color : Black
- > Weight: 20kg / 44 lbs
- > 5 year warranty
- > Made in the USA

**CURL BARS (HAMMER STRENGTH & STANDARD)**

- > Type of use : Weightlifting, Multi-use
- > Sleeve Assembly : Bushing
- > Bar Length: 5'
- > Weight: 25 lbs
- > Handle Type - Available in : EZ Curl & Straight
- > Shaft Type/Coating Available in : Hard Chrome & Stainless Steel
- > Hammer Strength: 5 year warranty
- > Standard : 1 year warranty



**HAMMER STRENGTH ROUND URETHANE OLYMPIC PLATES**

- > Four ergonomic handles are designed to allow for easy pickup, storage, and have rougher grip texture for more control. (except on 5lb and 2.5)
- > Bright and visible weight numbers.
- > Stainless steel center ring provides a durable wear surface between the plate and the bar
- > Weights 2.5 lb, 5 lb, 10 lb, 25 lb, 35 lb, 45 lb
- > 5-year warranty

**HAMMER STRENGTH PREMIUM RUBBER BUMPERS**

- > Premium rubber bumpers deliver a proprietary rubber-to-core bonding system that increases resistance against harsh environments
- > The superior rubber blend ensures the correct ratio of drop absorption and bounce response, and is textured to resist wear and tear
- > Molded-in raised weight numbers for easy identification.
- > Made from precision machined high-grade-steel, and hard chrome plated
- > Durometer : 90 Shore A
- > Weights: 55 lb, 45 lb, 35 lb, 25 lb
- > Colors: Available in Colors, or all Black
- > Plate Widths - Black: 25 lb: 1.5" (38 mm); 35 lb: 2.0" (51 mm); 45 lb: 2.375" (60 mm); 55 lb: 2.875" (73 mm)
- > Plate Widths - Color : Green 25 lb: 1.5" (38 mm); Yellow 35 lb: 2.0" (51 mm); Blue 45 lb: 2.375" (60 mm); Red 55 lb: 2.875" (73 mm)
- > Bumper Diameter : 450MM
- > Hub Diameter : 140 MM
- > 3 year warranty

