Kennedy Space Center℠

VISITOR COMPLEX

Request for Proposal

Project: Education Center Environment & Software

December 22, 2015

DNC Parks & Resorts at KSC, Inc., Mail Code: DNPS, Kennedy Space Center, Florida 32899
Attention: Jim Christensen

Definitions

A & E	Architecture & Engineering
ASVC	Apollo Saturn V Center
ATA	Astronaut Training Academy (working name for complete education program)
ATX	Astronaut Training Experience
ATX-F	Family Astronaut Training Experience
ATX-P	Private Astronaut Training Experience
DNCPR	Delaware North Corporation Parks & Resorts
eMAT	Enhanced Multi Axis Trainer (simulator)
ENG	Engineering Lab (Mars Base Experience)
FBS	Flexible Briefing Space
ISS	International Space Camp
KSCVC	Kennedy Space Center Visitor Complex
LCC	Launch Control Center
LV	Launch Vehicle (simulator)
MBE	Mars Base Experience
mG-EVA	Microgravity Extravehicular Activity (simulator)
MSMP	Motion Simulator Mission Platform (simulator)
NASA	National Aeronautics and Space Administration
OPS	Operations (Mars Base Experience)
SEA	Space Explorers Adventure
SSG	Space Snack Preparation Galley
STEM	Science, Technology, Engineering, and Mathematics
TCC	Training Control Center
VLS	Video Log Station
VRTS	Virtual Reality Terrain System (simulator)

Table of Contents

1 Executive Summary

The focus of this document is to seek proposals for fabrication and development of the new education center. The center will consist of two distinct sides as described in sections 4.1.1.1 and 4.1.1.2. The East side will contain the EVA Hangar/Simulator Bay. This area is a large open room that will contain simulators and physical experiences. The West side will contain spaces to support briefings related to the ATX Center and Mars Base Experience education activity offerings. The education programs are described in 4.1 Scope of Work. The project will also require spaces that can be flexibly used to conduct the programs described in Section 4.4, Mars Base Experience (Sections 4.4.1 through 4.4.10).

Vendors can contact potential partners who are qualified simulation designers/manufacturers for fabrication, development of content, and development of simulations for the east side Simulator Bay.

A separate Request for Information (RFI) will be distributed to invite potential vendors to create proposals which may or may not be the simulator/physical experience selections you have chosen. DNCPR will have full authority on simulator company decisions.

2 Request for Proposal

DNC Parks & Resorts at KSC, Inc. ("DNCPR"), the authorized concessioner of Kennedy Space Center Visitor Complex ("KSCVC") is issuing a Request for Proposals from vendors for a project titled "Astronaut Training Academy" (working concept title). The KSCVC Project Team is comprised of representatives from DNCPR and the National Aeronautics and Space Administration ("NASA"). Proposals are due on February 12, 2016.

The intent is to develop a new education center which creates an environment where participants are a part of the story of how we will explore space, travel to and from Mars, and explore Mars. Participants will be a part of a dynamic launch, experience simulated microgravity, land on Mars, drive and walk on Mars, live on Mars, and lift-off from Mars. Everything about the new center will be built around the idea of immersive experiences, learning related to these experience, and working as a part of a team.

Teams will be evaluated on the merits of their qualifications at the sole discretion and professional assessment of the KSCVC project team. An established matrix will score (quantitatively and qualitatively) each team based on the established criteria as defined in Paragraph 5.3 Criteria for Selection.

DNCPR reserves the right to not award any work or contract for this project and/or adjust plans as a result of the information gathered in this process.

3 Project Background

3.1 Education Program Overview

The vision of Delaware North Parks and Resort Corporation is to inspire minds through memorable space experiences. DNCPR has been involved in education programs at Kennedy Space Center Visitor Complex since becoming the concessionaire on May 1, 1995. Over the most recent four years, participation in education programs has averaged over 18,000 participants per year. A much larger number of students visit Kennedy Space Center Visitor Complex each year as a part of field trips. The purpose of the redesign of the education program is to allow DNCPR to take the next steps in terms of

improving the quality of educational experience for our participants. We also take seriously our role in promoting STEM for our participants, promoting an interest in space, and telling the NASA story.

DNCPR currently offers the following programs:

- Astronaut Training Experience (ATX) is a 3 to 4-hour hands-on training experience that allows you to experience a portion of astronaut training. Participants take part in a mission briefing, a launch control/space shuttle launch and landing simulation, multiple training simulators, and a graduation ceremony. They also hear a presentation by an astronaut and have opportunity to meet and have pictures with the astronaut. There are related ATX programs targeted to specific groups such as families and private groups.
- International Camp KSC (ISS) is a three-day opportunity for international groups to take part in many of the activities described in the ATX description along with hands-on science, technology, engineering, and mathematics (STEM) activities. Participants also take tours of venues across the Visitor Complex. The program culminates with a graduation ceremony.
- Overnight Adventures (OA) allow participants to sleep under either the Saturn V rocket at the Apollo Saturn V Center or under the space shuttle Atlantis. Participants take part in STEM activities and tours before entering their sleeping bags for the night.
- Space Explorers Adventure (SEA) is a program closely related to the ATX program without the option of meeting an astronaut.
- Salute Programs are an opportunity for various groups (i.e. homeschool, Boy Scouts, Girl Scouts, etc.) to tour the center and participate in activities specially designed to their interests.
- Camp KSC is a weeklong summer program repeated throughout the summer where elementary through high school students take classes at their grade level that are organized around a space theme, include STEM activities, and involve tours of the Visitor Complex.
- Brevard Space Week is a program where every sixth grade student in the Brevard County Public School system visits Kennedy Space Center Visitor Complex for a day. This program, despite its name, requires 10-12 days to conduct.
- Field Trips and Guided Field Trips are programs where school groups visit Kennedy Space Center Visitor Complex for a day.

Each of these programs will be impacted by the development of the new education center.

- Astronaut Training Experience (ATX) will make a dramatic change as it takes advantage of the new simulations and physical experiences to shift the focus of the training from space shuttle to future missions.
- International Camp KSC (ISS) will also shift its focus to future missions and take greater advantage of easy access to the Visitor Complex.
- Overnight Adventures (OA) may be conducted in the new education center as well as Apollo Saturn V Center and Atlantis. Some OA activities may shift to the education center, as well.
- Space Explorers Adventure (SEA) is expected to change in the same way as ATX.
- Salute Programs will base from the new education center.
- Camp KSC will be housed in the flexible spaces designed in the new education center. Various grade levels may also make use of specific simulations and physical experiences.

- Brevard Space Week will make use of the new education center to provide space to conduct challenge activities and serve as emergency/rain area for serving lunch.
- Field Trips and Guided Field Trips will make use of the new education center space by having the field trip participants enter security through the south entrance of the education center, allow use of the restrooms inside the education center, allow the group to pass through a hallway that provides views of the education center, including the eMAT, and enter the Visitor Complex through the north side.

DNCPR intends to add a new program tentatively entitled Mars Base Experience. In this experience teams of students will operate a base on Mars for the course of a day. During this time the teams will rotate between areas where they will learn to conduct the operations of the base. After learning their jobs a settlement-wide emergency will arise that will require the team at each area to design a solution and take action.

The DNCPR Education department is developing the story, curriculum, and activities related to each of these programs. It is important to note that while the basic story will drive the curriculum and activities, the RFP/RFI authors recognize that opportunities for specific simulations and experiences may exist about which we have no knowledge. We are seeking the insight of vendors in shaping the experience and do not intend our descriptions to be limiting. It is for this purpose, creating an understanding of our vision and goals, that the RFP/RFI documents contain significant background information concerning marketing research and other assets available at the Kennedy Space Center Visitor Complex.

Ultimately, we believe that development of these programs will contribute to inspiring people to take the next steps beyond low Earth orbit. We recognize the need to develop a cadre of people with the skills and knowledge to both create new technology and applications, but also to work collaboratively in a complex and unforgiving environment. We need to identify and develop those with high ability and a willingness to work hard. We need to change the definition of "the right stuff" to be inclusive of all those who will support and commit their best efforts toward the goal of exploration and future settlement. The concept of the Astronaut Training Academy at Kennedy Space Center Visitor Complex is rooted in these notions. At Astronaut Training Academy participants can learn about the challenges of space in an environment rich in ideas to be assimilated, experiences to be understood, and fascinating people with whom to develop relationships. People will come to Astronaut Training Academy to experience a portion of what it will soon be like to prepare for a mission beyond low Earth orbit and learn the NASA story. The Astronaut Training Academy will offer a spectrum of options for a range of audiences. It will be developed by the work of teams representing both DNCPR and NASA along with assistance from outside contractors. All of these efforts will contribute to the goal of establishing an essential future in space.

3.2 Market Research and Demographics

The following is a summary of the segments that comprise the majority of the visitors to KSCVC, based on a project conducted 2012-2013 for KSCVC. This information is provided to assist vendors in responding to the RFP and is to be considered confidential and proprietary.

There are multiple lenses through which to understand the KSCVC audience. The first is geographic. In the past few years, visitors have come from:

1. Florida: 10%-15%
2. United States (Non-Florida): 30%-35%
3. International: 50%-55%

The top five international markets are:

1. United Kingdom
2. Germany
3. Canada
4. Brazil
5. France

Another lens through which to view the KSCVC visitor is demographic. (All percentages are approximate and based on historic survey data.)

Age ranges of the adult visitors:

1.	Adults 34 and younger	15%
2.	Adults 35-44	30%
3.	Adults 45-54	30%
4.	Adults 55-64	15%
5.	Adults 65 and older	10%

Gender:

Male	55%
Female	45%

45% of visitors came with children 18 or younger in the party, 75% of the visitors have at least a Bachelor's degree, and many have an advanced degree.

The lens that we found most useful for understanding KSCVC's visitors is the psychographic segmentation derived from consumer quantitative and qualitative research. In that research, two core audiences were identified on which to focus product development and outreach.

Both domestic and international visitors fall into these segments (note that the surveys of international visitors were limited to visitors from English-speaking countries for this project). The approximate breakout for current visitors is:

Core segments: 80% of visitors

- Space Enthusiasts: 50%
  - History buffs (also interested in future)
  - Future focused (still appreciate history)
- Educational Families: 30%

Variable segments: 15% of visitors

- Marginally Interested: 10%
- Special Event Chasers: 5%

Space Enthusiasts are about half of the current visitors. Their interest in space or space exploration was their explicit reason to visit. This does not mean that all of them are ***extremely*** passionate about space or space exploration; their levels of interest span a broad continuum from:

1. Interest in science and technology that extends to space and space exploration
2. Space and space exploration is a favorite subject
3. Having a personal connection to space (including direct experience working in connection with the space program, viewing a launch, etc.)

Space Enthusiasts are very well educated. They are three times more likely than the United States average to have at least a Bachelor's degree, and four-and-a-half times more likely to have an advanced degree.

Their household incomes tend to be higher than the typical United States household. They have a broad age range similar to the age range of the typical visitor to KSCVC, with a slight likelihood of being a bit older (20% are likely to be over 65, vs. 10% of most visitors.)

Space Enthusiasts visit KSCVC because they are interested in space and space exploration. They are much more likely than other visitors to have visited the facility multiple times (and within the past five years), and are more likely to participate in special programs such as the Special Interest Tours and Lunch with an Astronaut.

Space Enthusiasts seek original (authentic) space-related objects, facts, and information. They tend to have emotional responses to those objects as well as KSCVC as historic site. This group is hoping to find deeper experiences and even more relevant information to feed their interests when they visit KSCVC.

Educational Families are about a third of current KSCVC visitors. Most of the families visiting from other countries also fall into this category. Educational Families also visit other family attractions in the area, such as Disney World, SeaWorld, and The Wizarding World of Harry Potter. Their visit to KSCVC is explicitly motivated by a desire to provide an educational experience for their children; even with that, the vast majority are still interested in space and both the future and history of space exploration. Because they are in the family life stage, their age tends to fall between thirty and fifty-four years old.

Educational Families are also very well educated. They are three times more likely than the typical adult to have at least a Bachelor's degree, and five-and-a-half times more likely to have an advanced degree. They have much higher income levels than most households.

The most important experience for the Educational Family to have at KSCVC is an ***entertaining and immersive educational experience*** for their children.

Most international visitors are either Space Enthusiasts or Educational Families; their stated motivation for visiting combined with similar levels of educational attainment point to this categorization.

International visitors who do not fall into one of the above categories likely fall into the variable segments, which are either marginally interested in space or attending KSCVC for a launch or special event. These segments are a relatively small audience, and in the past have been found to be the least likely to return to KSCVC, least likely to recommend someone else visit KSCVC, and the least satisfied with their experience at KSCVC.

Market research directly related to proposed activities conducted in July-August of 2015 revealed that improving the educational program is less about retiring unappealing content, and far more about staying relevant with the times while paying homage to the well-loved history of American space flight.

- Concepts focused on Mars were about *dreaming of what could be* – unveiling the "mysterious" planet.
- Astronaut training concepts unleashed *personal dreams* of being an astronaut, both past and current. The experiences are as close to reality as many of these dreamers will ever get.

This market research also confirmed that the more realistic the experience, the better. Some features that increased the appeal of activities were:

- Physical activity that replicates what an astronaut would do in terms of driving a rover, experiencing zero gravity, or having an underwater experience was very well received.
- Representing the brain power behind rocket science, *Launch Control* is simply the iconic experience. Anyone who has watched space flight in past decades understands well and relates to this experience.
- The Mars Mission series played well with those who love problem solving and respondents sparked to both the 3-D printer and hydroponic crops. Technology that is on the forefront today, and can be used personally – not just with large scale operations – seems to be intriguing.

Specific concepts were tested for their appeal with various groups:

	Total	Florida Residents	Domestic Tourists	International Tourists	Educators
Drive on Mars	8.21	8.19	8.23	8.05	8.37
Walk on Mars	8.20	8.13	8.22	8.04	8.51
Combination of simulations into a new ATX program	8.01	7.98	8.04	7.69	8.35
Launch Control	7.98	7.76	8.12	7.78	8.41
Current ATX	7.87	7.72	7.96	7.63	8.32

Mars Base Experience: Life Support	7.76	7.59	7.83	7.55	8.26
Mars Base Experience: Mission Research	7.74	7.46	7.92	7.73	8.07
Mars Base Experience: Engineering	7.68	7.36	7.88	7.47	8.24
Mars Base Experience: Command	7.64	7.42	7.80	7.36	8.05

3.3 Project Goals and Objectives

We do not intend to build anything resembling a traditional school. We do not intend to create units that can be adequately described as classes. We are seeking to create experiences where participants learn by placing their hands on equipment, engage their minds through interaction, gain insight through creating connections between ideas, and operate as an integral part of a team in a rich and immersive environment. We intend our programs to be intense, exciting, unique, inspiring, and very fun.

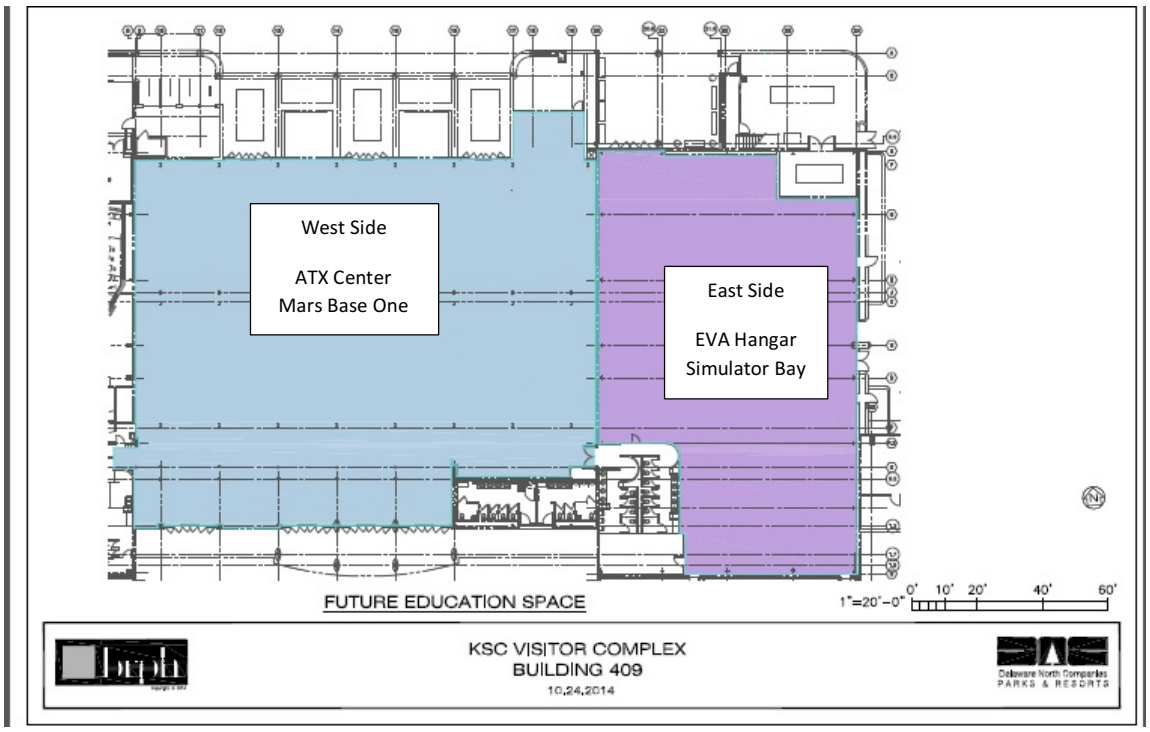
1. What we do will be intellectually honest science and engineering.
2. Our activities will be designed to be of high interest and fun.
3. The primary goal for participants will be to develop teamwork and communications skills while learning about spaceflight.
4. Each program will seek a balance between the use of virtual reality and physical experience.
5. Programs will leverage the use of other resources throughout the Visitor Complex and potentially throughout the NASA system using technology. *Reference Appendix 9*
6. Each program will seek ways to incorporate awareness of the environment and the need for sustainability.
7. Each program will strive for the standard of “as only NASA can.”

4 Description of Professional Services to be provided for Education Program Design

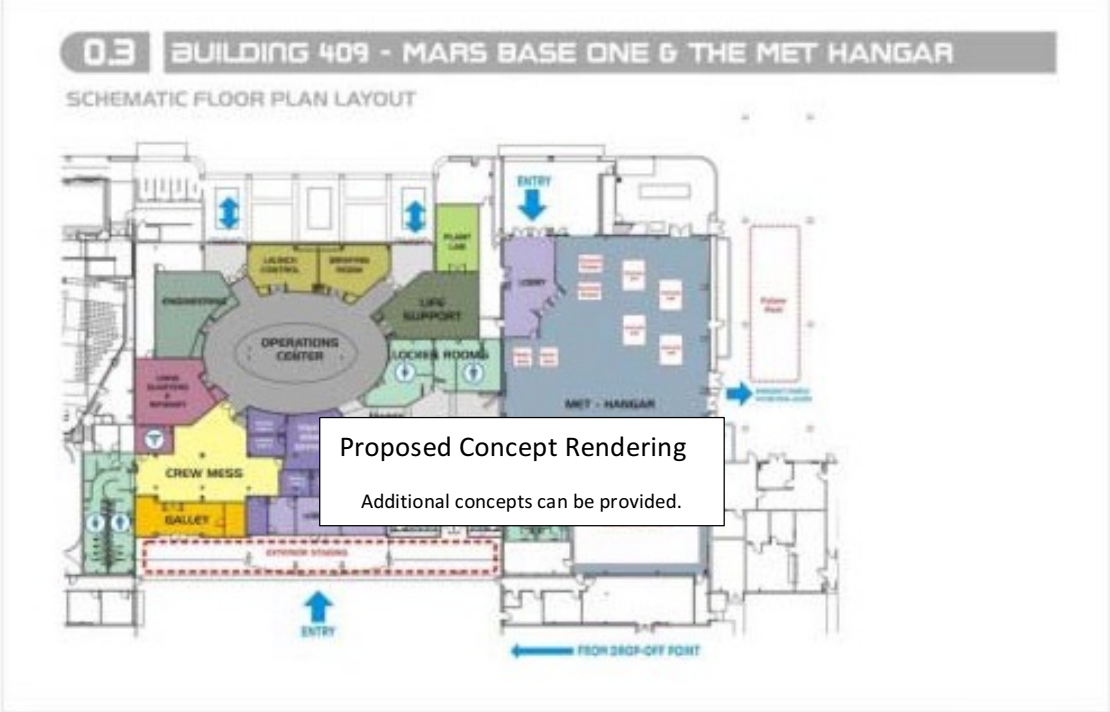
4.1 Scope of Work

The scope of work covers both the west side ATX Center/Mars Base Experience and the east side EVA Hangar/Simulation Bay. It includes the fabrication and content development of the themed education space concept including both software and hardware that support the educational story and content for the Astronaut Training Academy ATX program and derivatives (ATX-Private, ATX-Family, Space Explorers Adventure, and International Camp KSC), Camp KSC, and Mars Base Experience (*see descriptions in 3.1*). This includes technical and mechanical components, software development, design, fabrication, and installation of components that are educational, highly Immersive, NASA-themed training simulation experiences. The selection of partners or teams as subcontractors is encouraged, but not required.

A separate RFI is being distributed for development and implementation of both the simulators and physical experiences. You are encouraged to seek partner that may be chosen but DNCPR has full authority over final decisions.



A previous concept has been created which can serve to offer insight into the generation of refined concepts to meet the goals of the programs. The following diagram illustrates a concept that can be used as a starting point.



There are two areas associated with the education project concept:

4.1.1.1 Simulator Bay/ EVA Hangar

The Simulator Bay is designed to function as an Astronaut Training Experience that prepares trainees as astronauts for space travel and the future development of a Mars colony. The allocated space is approximately 9,500 square feet and comprised of four different but connected training simulations (Virtual Reality System, Motion Simulator Mission Platforms, Launch Vehicle, Microgravity EVA), and the central Training Control Center. The ceiling height varies from 13 to 27 feet.

4.1.1.2 ATX Center/Mars Base Experience

The ATX Center, west side of the Astronaut Training Academy, is approximately 14,700 square feet with a ceiling height (bottom of joist) of 17 feet. This area will support the activities of the Simulator Bay as well as other education programs. It must include flexible briefing spaces to be used as a part of training related to the simulations in the Simulation Bay as well as for other education programs, a Launch Control room, locker rooms, and the Quartermaster's area. There are also three sets of restrooms in this space. Two accessed from inside and one from outside the training area. The area must also house an entry way on the north side, an entry way with security accommodations on the south side, a passage way through the center for entering field trip groups, a Galley, a Crew Mess Hall and management offices. The Mars Base Experience will also be conducted in the ATX Center. The Mars Base Experience is a simulation involving six themed locations of a Mars base. The different areas of this experience will include the Operations Center, Engineering Center, Launch Control Center, Briefing Room, and Life Support Laboratory.

The **vendor will be responsible for**:

1. Fabrication and content development based on program development by DNCPR Education team across both sides of the education center.
2. Coordination with the DNCPR Project Manager.
3. Coordination with selected simulation experience vendors.
4. Coordination with Architect of Record as selected by DNCPR.

4.2 Simulator Bay/EVA Hangar Experiences

The simulators and physical experiences will be located on the east side of the education center. The plan calls for four simulation/experience activities and a Training Control Center divided to manage each of the simulations.

The concept supporting this plan is to make it possible for participants to learn related science concepts before experiencing a rich simulation of each of the steps it will take to travel from Earth to Mars and to actually conduct a mission on the surface before lifting off from the surface to dock with an orbiting return/transfer vehicle. At each step the participants will be immersed in engaging content related to the activity leading to a physical or virtual experience that reinforces the content. Participants will work as a team as the person experiencing the simulator will be assisted by a partner participant located at the Training Control Center as described in 4.2.4. This approach was validated through marketing research that has been conducted.

The flow of the experience is designed to follow this sequence: Participants will first take part in a rocket launch simulation as described in section 4.2.5 using a launch vehicle as described in 4.2.6. In an actual mission the next several months would be spent in transit. As a major factor of transit will be microgravity the next activity will be to learn the science of microgravity and the logistical factors of translation (movement), tethers, and tools. Briefings related to microgravity and working in microgravity will take place in a Flexible Briefing Space, as described in section 4.3.2, located in the ATX Center. This learning will be applied in the Microgravity EVA simulation as described in 4.2.3. Participants will attend a Mars aerography briefing (the Mars equivalent of a geography briefing on Earth) using Science on a Sphere (see Appendix Section 9.2). Participants will then use a motion simulator mission platform as described in section 4.2.2 to land on the Martian surface. The next opportunity will be to learn about the kinds of operations that take place on the surface of Mars. This surface operations briefing will take place in a Flexible Briefing Space in the ATX Center. The Virtual Reality Terrain System, described in 4.2.1, provides participants the options to walk on the surface of Mars. The Motion Simulator Mission Platforms, described in 4.2.2, have the capacity to be used as Mars Rover to allow participants, controlled by partners at the Training Control Center described in 4.2.4, to drive across the planet. This drive will take place after receiving instruction in a Flexible Briefing Space in the ATX Center concerning terrain, navigation, and objectives. Finally, participants can use the Motion Simulator Mission Platforms to lift-off from the surface, rendezvous, and dock with the orbiting transfer vehicle. Again, participants will receive training for the experience in a Flexible Briefing Space located in the ATX Center. At any time, participants can create video log entries as a part of the simulation or at a Video Log Station as described in 4.2.7. They may also get and prepare a snack at a Space Snack Preparation Galley as described in 4.2.8.

4.2.1 Virtual Reality Terrain System (VRTS)

4.2.1.1 Goal of Simulation

Create an immersive, high quality virtual experience of walking on the surface of Mars.

4.2.1.2 Essential Elements

1. Flow through of 24 participants in a 90-minute period while allowing a robust experience.
2. Ability to physically walk in the simulation.
3. Ability for controller to see what the participant is seeing (helmet camera).
4. Ability for participant and controller to communicate.
5. Ability to conduct some type of work on the planetary surface.
6. Information available to controller to allow the controller to direct the work of the participant.
7. Ability for participant to edit helmet camera video and audio and add commentary after the experience for download as a part of a video log of the event.

4.2.2 Motion Simulator Mission Platforms (MSMP)

4.2.2.1 Goal of Simulation

Create a team oriented, immersive, high quality experience of operating a vehicle capable of movement.

4.2.2.2 Essential Elements

1. Flow through of 24 participants in a 90-minute period while allowing a robust experience for each of the three missions of the MSMP.
2. Ability to configure the MSMP to serve as a lander, rover, or launch vehicle.
3. Ability for the simulator cabin to move in response to participant control inputs and outside conditions.
4. Ability for controller to see the participant.
5. Ability for participant and controller to communicate.
6. Information available to controller to allow the controller to direct the work of the participants.
7. Ability to conduct some type of work on the planetary surface.
8. Ability for participant to edit video and audio and add commentary after the experience for download as a part of a video log of the event.

4.2.3 Microgravity EVA (mG-EVA)

4.2.3.1 Goal of Simulation

Create as accurate as possible physical experience simulation of working in the microgravity environment of space.

4.2.3.2 Essential Elements

1. Flow through of 24 participants in a 90-minute period while allowing a robust experience for each participant.
2. Participants to wear a helmet and gloves.
3. Ability to physically move (translate) in a nearly friction-free environment with as many degrees of freedom as reasonable using handholds.
4. Ability to use tethers and tools.
5. Ability for controller to see what the participant is seeing (helmet camera).
6. Ability for participant and controller to communicate.
7. Information available to controller to allow the controller to direct the work of the participant.
8. Ability to conduct some type of work on a physical structure.
9. Ability for participant to edit video and audio and add commentary after the experience for download as a part of a video log of the event

4.2.4 Training Control Center (TCC)

4.2.4.1 Goal of the Simulation

Create a location where control of simulations, communication, and collaboration between participants occur.

4.2.4.2 Essential Elements

1. The Training Control Center is a location where the participants serving as controllers for each simulation/experience are located. The TCC is unique in that it is associated with all of the activities in the room.

2. A large screen and banks of participant/controller stations that support the activities required of each controller will be associated with each simulation/experience.
3. As the Motion Based Mission Platforms are flexible in mission (landing, roving, and launching), the TCC control station associated with it must also be flexible.
4. A method to identify participants will be developed.
5. Participants will have opportunity to create video log entries to be downloaded at the conclusion of the program.

4.2.5 Launch Control Center (LCC)

4.2.5.1 Goal of the Simulation

Create a simulation that allows participants to go through a dynamic process that includes interactions with the crew resulting in the launch of a rocket and/or reentry of a spacecraft.

4.2.5.2 Essential Elements

1. Flow through of 24 participants in 90 minutes in conjunction with the Launch Vehicle (LV).

1. Smart Simulations will be developed to allow multiple tracks through the launch script. A Smart Simulation is defined as a multi-player game where the choices by one participant change the course of the simulation for every other participant.

2. Required data and a flow chart will be displayed on each monitor that indicates the sequence and choices to be made by each controller and astronaut.

3. An explanation of what data must be considered will be included in a pop-up window. The participant will read the pop-up window description, consider the data, and respond by selecting the appropriate box on the flow chart.

4. The participant will have the option of keying their microphone in order to speak the required lines as provided on the flow chart or select a pre-recorded voice to respond.

5. Each choice by a participant will change the range of options downstream such that the script is dynamic.

6. The potential of a failed mission is an option but a failure must be indicated to multiple participants such that many people could have made the choice to avoid the failure so blame can never be affixed to a single choice by a participant.

7. The Launch Control Room will be a futuristic launch control center as displayed in the current Journey to Mars video presentation.

8. A large, wall mounted or portable, monitor cluster provides data displays during the launch countdown simulation.

9. Touch screen console tables provide multiple mission control stations to monitor data feeds and participate in the launch countdown simulation.

10. Participants will have opportunity to create a video log entry of their experience.

4.2.6 Launch Vehicle (LV)

4.2.6.1 Goal of the Simulation

Develop a simulated vehicle, potentially in a public area, to be used as a part of the Smart Launch Simulation (*Smart Simulation is defined in 4.2.5*).

4.2.6.2 Essential Elements

2. Flow through of 24 participants in 90 minutes in conjunction with the Launch Control Center (LCC).
3. System of communication between LCC and LV.
4. The software controlling the Launch Vehicle (LV) will be linked to the Launch Control Center (LCC) such that panel inputs, data and control inputs in either the LCC or LV effect participants in both locations.
5. Each astronaut will have a display and controls that are a part of the Smart Simulation multi-track game integrated to the Launch Control software.
6. Participants will have opportunity to create a video log entry of their experience.
7. Each astronaut participant will have significant duties during the mission.
8. Consideration shall be given to multiple mission scenarios including launch to orbit and approach/reentry to landing.
9. Every participant will have the opportunity to be both a controller and an astronaut.

4.2.7 Video Log Station (VLS)

4.2.7.1 Goal of Simulation

Create an opportunity for participants to record a video log of their experience immediately following during the experience in a way similar to that modeled in *The Martian* movie.

4.2.7.2 Essential Elements

1. Stations will be developed that allow a participant to identify him/herself and record brief video and audio comments into a database.
2. Provision will be made for the individual's complete video log to be available to the participant after the program.

4.2.8 Space Snack Preparation Galley (SSG)

4.2.8.1 Goal of the Simulation

Allow participants to purchase and prepare their own space food snacks.

4.2.8.2 Essential Elements

1. Facility to allow for rehydration/preparation of snacks from space food options.
2. Vending machine stocked with appropriate space foods.

4.3 Astronaut Training Experience Center (ATX Center)

The Astronaut Training Experience Center is the west side of the Astronaut Training Academy building. This area is approximately 14,700 square feet with a ceiling height (bottom of joist) of 17 feet. The ATX Center will support the briefings related to the Simulator Bay, the Mars Base Experience as well as the other education programs detailed in Section 3.1 by providing flexible briefing spaces, locker rooms, and the Quartermaster's area. The area must also house an entry way on the north side, an entry way with security accommodations on the south side, a passage way through the center for entering field trip groups, a Galley, a Crew Mess Hall and management offices. There are also three sets of restrooms in this space. Two accessed from inside and one from outside the training area.

Some descriptions included in this section are highly specific and include square footage figures. These descriptions should not be viewed as limiting but rather as one potential concept for the space that may support the Mars Base Experience.

4.3.1 Enhanced Multi-Access Trainer (eMAT)

4.3.1.1 Goal of Simulation

Experience the disorientation associated with activities in an unfamiliar environment. Serve as a focal point of interest for people, especially field trip groups, walking through the passageway between entry ways.

4.3.1.2 Essential Elements

1. The eMAT experience consists of one, single-seat, and one, two-seat "cages-within-cages" that are used in current programs.
2. Located at a focal point on transfer pathway from south entrance to north entrance.

4.3.1.3 Description

Participants practice to overcome spatial disorientation that might occur during emergency conditions while in flight. As participants spin inside the multi-axis trainer, they are tasked with completing a series of simple geometric activities on a touch tablet affixed to the center spar of the trainer. Some activities are isolated for each participant to complete independently, while others require the participants to work together in completing a series of steps in sequence – and perhaps competing against other participants performing the same task in an adjacent trainer. While the hardware is currently available, the software, screens and interface needs to be developed. The mission will include a short mission assignment briefing, post mission debrief, and reflection period. During the activity each participant is in contact with and being monitored by another participant at a nearby control panel. Video of the participant is collected along with the contents of the participant's screen and audio transmissions. This data is made available to the participant for download after returning home. The brief/debrief will be done in an area with a view of a monitor displaying eMAT camera views. The reflection area will allow for participants to create a short video log entry for later download. Participants will "swipe in" or be identified by a RFID chip to tag video files and location.

4.3.2 Flexible Briefing Spaces (FBS)

Provide six areas to conduct briefings of content related to individual Simulation Bay activities; support activities related to the ATX series of programs (ATX, ATX-F, ATX-P), Space Explorers Academy (SEA), and

International Space Science (ISS) program; provide space for the new Mars Base Experience program; provide spaces for activities related to programs such as Camp KSC and Brevard Space Week, and other opportunities not yet envisioned.

These space are envisioned to make use of movable walls and will contain portable projection units that will allow access to the internet as well as content and hardware specific to each training requirement.

4.3.3 Quartermaster

Provide a space and system to allow the distribution, management, and tracking of flight suits, gloves, helmets and other equipment that may be checked out to participants as required. Integration of a database and a nametag system is encouraged.

4.3.4 Locker Rooms

Provide an area for participants to change into flight suits. The area must also provide secure locker space for participants' personal items.

4.3.5 Management and Instructor Office Space

Provide office space for six managers, work space for six educators, and a touchdown point for instructors.

4.3.6 Distance Learning Studio

Provide a space appropriate to conduct distance learning events from a quiet and protected environment. The area will require internet access, adequate controllable lighting, and a green screen.

4.3.7 Group Entry Portal and Check-in Desk

Provide an entry area and desk for check in of groups. The people served in this area will be those who are a part of a part of a field trip, overnight adventure, or other group opportunity who will pass through security at this location as a group. This area is expected to be on the south side.

4.3.8 Individual Entry Portal and Check-in Desk

Provide an entry area and desk for check in of individuals and small groups. The people served in this area will be those who have entered the park through the regular gate and are reporting for a scheduled opportunity. This area is expected to be on the north side of the building.

4.3.9 Passageway/Teaser Area

Provide an area where general guests can view the types of activities being offered. This may include monitors mounted outside the building and/or a location where guest can view multiple monitors on

the walls. These monitors shall display activities in the Simulator Bay. It may be a part of the passageway for groups entering the Visitor Complex through the ATX Center.

4.4 Mars Base Experience (MBE)

Mars Base Experience is a new program that will be conducted in the ATX Center. It is a collection of five experiences for up to five groups of 24 participants each that immerse the participants in the experience of living on Mars. The five experiences together take a day to complete. Each of the five experiences can be also stand alone in 90 minute programs.

4.4.1 Group Entry Area

The Group Entry Area is proposed space that serves the purpose of transitioning entering groups from Earth to Mars. The idea is to show video of a story of Earth launch through landing on Mars before the group enters into the Mars Base Experience.

4.4.2 Operations Center (OPS)

The Operations Center is about 2,600 square feet. It is the experiential hub of the facility. It serves as the operational control room for the facility during mission events. The large open area can also serve as a main reception area for special events. Thematically, the Ops Center features durable wall/ceiling treatments to visually convey a sealed space station environment. The floor also features a durable surface to support this aesthetic appearance. The interior columns are concealed by scenic elements that complement the interior. Activities in this area include command and control, leadership decision-making, and situational monitoring. Participants congregate around (4) console stations built into the exterior walls of the Ops Center as well as an additional (4) mobile console stations that are placed around the interior columns that provide access to power and data. Seating is built into each of these wall/mobile console stations for a maximum of 3 people at each console station. Maximum participant capacity is 24 people in the Ops Center during a mission event. Each console includes a large touch screen display with digital white board and video conferencing capabilities for accessing information and interacting with the situational scenarios that occur during mission events. Consoles have the option of displaying the same information at all stations or different feeds to each station based on distinctive roles or responsibilities for the participants during a particular mission event. A large display monitor is located above each wall console station providing facility status information and video feeds of the other areas in the facility. Sight lines allow participant seated at the mobile consoles to view these overhead monitors. Smaller display monitors located over the doorways leading into other areas of the facility display the station's current alert or operational status to increase the stressors during mission events and maintain the willing suspension of disbelief. All monitors would be integrated into the show control system so that situational or sudden crisis events during the mission events are synchronized. Participants will have opportunity to create a video log entry of their experience. Participants will "swipe in" or be identified by a RFID chip to tag video files and location.

The Ops Center will require Data monitors on wall w/ status updates, four wall console/communications stations for three people at a time, and four floor console/communications stations for three people at a time.

4.4.3 Engineering Lab (ENG)

The Engineering Lab covers about 1,300 square feet. It is the hands-on, builder/maker innovation lab of the facility. It serves as the design and repair workshop for the facility during mission events. This specialized area can also serve as a featured presentation area for special events. Thematically, the Engineering Lab uses the same durable wall/ceiling treatments to visually convey the sealed space station environment as well as a similar durable floor surface. Activities in this area include design, build, and test activities to solve specific challenges or obstacles. Participants congregate around (3) large worktables with (8) stools at each worktable for a maximum capacity of 24 participants in the Engineering Lab during a mission event. Each worktable will have (4) tablets available for participants to use in their research and design work. These tablets will require a dedicated charging station located on counter space along one of the walls adjacent to several 3D printers with themed cabinet storage for supplies. A series of tall mobile racks located along another wall of the Engineering Lab hold large bins containing the parts and/or materials that participants will use to create their own design solution based on that particular mission event. Additional storage for other mission event materials and parts can either be located elsewhere in the facility or behind hidden wall storage built into the Engineering Lab. A large, touch screen display with digital white board and video conferencing capabilities will be available for the educator in the Engineering Lab to use in conducting briefings and to communicate with other areas in the facility during mission events. Sight lines allow participants at any worktable to view this wall mounted monitor. A smaller display monitor located over the doorway leading into the Ops Center displays the station's current alert or operational status to increase the stressors during mission events. All monitors are integrated into the Master Show Control System so that situational or sudden crisis events during the mission events are synchronized. A small porthole/window is located on one of the Engineering Lab's exterior walls to provide a visual of the outdoor environment wherever the facility may be located. This exterior view is displayed on a monitor placed outside the window and is synced to the Master Show Control System so that environment conditions outside the facility are consistent with the situational realities inside it. The Engineering Lab features worktable and ambient lighting as well as show lighting enhancements to support mission events and facility status changes. Overhead speakers provide background and ambient audio to maintain sense of place as well as paging/announcement capabilities. An educator workstation is located in the Lab with access to power and data at a comfortable standing height. This provides the educator in the Engineering Lab a small, dedicated, observational work area within the context of that experiential environment. Participants will have opportunity to create a video log entry of their experience. Participants will "swipe in" or be identified by a RFID chip to tag video files and location.

4.4.4 Life Support & Plant Lab

The Life Support and hydroponic Plant Lab area is about 1,300 square feet. It is the environmental research and monitoring station of the facility and serves as the mitigation planning and contingency solution design area for maintaining consistent life support conditions for the facility during mission events. This specialized area can also serve as a featured presentation area for special events.

Thematically, Life Support uses the same durable wall/ceiling treatments to visually convey the sealed space station environment as well as a similar durable floor surface. The Life Support area also features additional wall surface embellishments such as tanks, piping, valves, and other industrial equipment items to convey the storage, conditioning, and monitoring of water, air, plus other fluids and gases that might need to be stored and utilized onsite. The hydroponic Plant Lab is aesthetically different, presenting a more "clean room" appearance with white walls and surfaces that reflect UV grow light illumination. A glass wall and entry door separates the hydroponic Plant Lab from Life Support. Activities in this area include the cultivation and management of crops and other nutritional resources, monitoring the quantity and quality of air, water and other life support elements, and the management of sustainable environmental conditions through the facility including recycling, thermal stability, and radiation protection. Participants congregate around (3) lab bench/cultivation tables, each with a large touch screen display with digital white board and video conferencing capabilities available for participants in Life Support to access information, design potential solutions, and to communicate with other areas in the facility during mission events. Each lab bench/cultivation table work area comfortably holds up to 8 people for a maximum capacity of 24 participants in Life Support during a mission event. Participants also have access to appropriate testing equipment connected to the Master Show Control System to monitor:

- Air temperature, humidity levels, and CO2 levels;
- Water temperature, pH, and presence of bacteria and other contaminants; and
- Digital microscopes and other viewing aids to observe specimens.

A large, wall mounted, touch screen display with digital white board and video conferencing capabilities is available for the educator in the Life Support to use in conducting briefings and to communicate with other areas in the facility during mission events. Sight lines allow participants at any of the 3 work areas to view this monitor. A smaller display monitor located over the doorway leading into the Ops Center displays the station's current alert or operational status to increase the stressors during mission events. All monitors are integrated into the Master Show Control System so that situational or sudden crisis events during the mission events are synchronized. A small porthole/window is located on one of Life Support's exterior walls to provide a visual of the outdoor environment wherever the facility may be located. This exterior view is displayed on a monitor placed outside the window and is synced to the Master Show Control System so that environment conditions outside the facility are consistent with the situational realities inside it. Participants will have opportunity to create a video log entry of their experience. Participants will "swipe in" or be identified by a RFID chip to tag video files and location.

4.4.5 Crew Quarters/Observatory

The Crew Quarters/Observatory area takes up about 825 square feet. It is the "off duty" spot within the facility for independent study and self-guided exploration while remaining "in story" inside MBA. It serves as the self-guided activity and exploration area for the facility during mission events. This specialized area can also serve as a lounge/socializing area during special events. Thematically, Crew Quarters uses the same durable wall/ceiling treatments to visually convey the sealed space station environment as well as a similar durable floor surface. Activities in this area include self-guided discovery and exploration of activities including Mars topography and the star canopy as seen from Mars, viewing video messages sent from Earth, adding to the facility's digital "wheel book" to advise future crews, recording a personal log entry for later download, and interacting with the on station robot while inside the facility. Participants will be identified by "swiping in" or by use of an RFID chip to allow organization of files for later access. Participants unwind inside comfortable seating pods and

futon-like wall couches as well as around (3) industrial tables with fixed seating for four. Participants have access to tablets inside Crew Quarters that allow them to access personal video communications from family/friends/park guests that engage them within the mission story of the facility. They can also pilot remote rovers and other robotics, some of which may be live connections to rovers on display elsewhere within KSCVC. Participants may even be required to use this time to research information and complete a recertification assessment while in story and inside the facility. These tablets will require dedicated charging stations for up to 24 tablets that can be accommodated by an adjacent back of house space. A large, touch screen display with digital white board and video conferencing capabilities will be available for the educator in Crew Quarters to use in conducting briefings and to communicate with other areas in the facility during mission events. Sight lines allow participants at most seating positions to view this wall-mounted monitor. A smaller display monitor located over the doorway leading back into the Ops Center displays the station's current alert or operational status to increase the stressors during mission events. All monitors are integrated into the Master Show Control System so that situational or sudden crisis events during the mission events are synchronized.

4.4.6 Crew Mess & Galley

The Crew Mess & Galley combined are about 1,600 square feet. This is where participants break for lunch while remaining "in story and on mission" while inside the facility. This dining and assembly area seats up to 60 participants while the Galley area provides F&B/catering services. This area can also serve as a catering kitchen/server prep area for special events. Thematically, the Crew Mess uses the same durable wall/ceiling treatments to visually convey the sealed space station environment as well as a similar durable floor surface. The Galley area will also reflect an industrial aesthetic, however it may require more functional design considerations for permitting and cleaning. Access to the crew mess and catering kitchen would include the adjacent bathrooms next to Building 409, the infirmary next to the Crew Quarters/Observatory, from both the managers' office and reception area, as well as the main circulation entry point off the Ops Center, and catering access directly into the kitchen from outside 409 to the south. Activities in this area will include the distribution of meals, briefings/debriefings, presentations, and other informal gatherings. Participants are seated at tables with fixed seating. Meals during mission events are envisioned to convey a thematic consistency with being "off world" and incorporate appropriate MRE (meals ready to eat) functionality, reduced gravity-friendly packaging, and the potential to re-hydrate a dessert allowing for absorption time and re-constituting of the dish while eating the other portions of the meal. An alternate is to reconstitute an edible item that they might later eat as part of the end of day/MBA mission completion celebration. Several large, wall mounted, monitors provide coverage for information and video content to be displayed in the Crew Mess with sight lines allowing for most participants to see at least one monitor screen. All monitors are integrated into the Master Show Control System so that situational or sudden crisis events during the mission events are synchronized. The Crew Mess features dining table and ambient lighting as well as show lighting enhancements to support mission events and facility status changes. The Galley area features required lighting for kitchen operations and access to water and drainage. Overhead speakers in the Crew Mess provide background and ambient audio to maintain sense of place as well as paging/announcement capabilities.

4.4.7 Briefing Room

The Briefing Room (500sq.ft.) serves as a flex area for educators to use as breakout spaces for activities that do not require the specialized areas elsewhere in the facility. This area can also serve as additional

circulation space off the Ops Center for special events or as adjacent presentation area to the main reception area. Hidden storage built into the exterior walls of the briefing room provides additional space to store equipment and materials for the facility. Thematically, the Briefing Room uses the same durable wall/ceiling treatments to visually convey the sealed space station environment as well as a similar durable floor surface. Furnishings in the Briefing Room (work tables, chairs, etc.) match the industrial, space-aged aesthetic of the facility and could include a combination table/bench design suggested by KSC Educators. Activities in this area are TBD but can include media presentations, live speaker/video conferencing events, briefings/debriefings, or as a chaperone staging area during mission events. A large, wall mounted, touch screen display with digital white board and video conferencing capabilities is available for educators to conduct briefings and to communicate with other areas in the facility during mission events. A smaller display monitor located over the Briefing Room doorway leading back into the Ops Center displays the station's current alert or operational status increase the stressors during mission events. All monitors are integrated into the Master Show Control System so that situational or sudden crisis events during the mission events are synchronized. The Briefing Room features area and ambient lighting as well as show lighting enhancements to support mission events and facility status changes. Overhead speakers provide background and ambient audio to maintain sense of place as well as paging/announcement capabilities.

4.4.8 Reception Lobby/Manager's Office

The Reception Lobby and Manager's Office, located in the south public entry area of Building 409, is roughly 550 square feet. It comprises both a counter/small queuing area for KSCVC staff to answer guest inquiries, complete point-of-sale transactions for the facility, and receive participants as they first enter the facility. The aesthetics for this area is consistent with other guest facing operational areas across KSCVC, but with featured wall graphics and other supporting images as well as video content on display monitors that promotes the experiences, programs, and guest offerings available for purchase inside Building 409. This area includes operational requirements such as badging stations, lanyards, materials storage, POS & cash management system, and internal KSCVC/external phone and Wi-Fi connectivity. The Manager's Office will require a desktop workstation and drop safe for cash control, as well as connectivity to the Master Show Control System inside the facility. A participant badging system similar to magnetic hotel keys, bar code, QR code, or RIFD chip is envisioned to allow participants to "swipe in" to identify themselves at each station such that video/audio files of their personal experience can be cataloged for later access. Specifics TBD in consultation with the client regarding additional operational needs and requirements.

4.4.9 Quartermaster

A system to allow the tracking of flight suits and other equipment that may be checked out to participants is required. Integration of a database and the nametag system is encouraged.

4.5 Specific Tasks

1. Selected vendor will deliver a turn-key solution to the challenges identified in Section 4 of this RFP. **A separate RFI for simulations and physical experiences will be issued** but descriptions are provided in this document to provide bidders with insight in the total vision of the project.

2. Selected vendor or partnered vendor team must provide a 100 percent design, engineering, fabrication & content solution for the Simulator Bay and ATX Center of the new education center.
3. Selected vendor shall identify all vendor partnering entities & principals.
4. Selected vendor shall provide brief history of vendor and/or partnering companies.
5. Selected vendor shall coordinate specifics with the DNCPR Project Manager.
6. Selected vendor shall provide outlined work plan on how you can deliver program.
7. Selected vendor shall develop preliminary budget requirements.

4.6 RFP Deliverables

1. Integration of the simulator training experiences as based upon the story provided in the RFP.
2. Designed, created or off the shelf software and hardware that provides the immersive training as outlined in this RFP.
3. Network schematics in support of the electronic and mechanical designs.
4. Color renderings & sketches (both 11”x17” format & digital format) required to accurately and thoroughly portray the venue in its entirety as well as individual elements.
5. List of itemized hardware (computers, monitors etc.) based upon concept designs and the training outline.
6. Develop plan for content including suggested presentation methods and techniques for the themed education space.
7. Develop audio/visual plan including suggested presentation methods and techniques including suggested background music, if applicable.
8. Develop lighting scheme.
9. Develop preliminary graphics package including color palette.
10. Define instruction zones including required square footages.
11. Provide a suggested circulation plan. Plan should provide suggested layout within existing facility and define the extent of additional facility, if required.
12. Estimated project design & production schedule.
13. As built design documents for all areas included.
14. Schedule of recommended delivery, installation, and training in use of equipment required for the operation of the vendor’s scope.
15. Flow through calculations and schedules for each simulation. (The anticipation is that each simulation can serve 24 participants in 90 minutes.)

16. Spreadsheet of budget allowance for each element including backup documentation.
17. Recommended additions and/or alternatives including written description and itemized cost estimates.
18. Any other materials designer determines is necessary to clearly and accurately depict and/or describe the project and the project requirements.
19. Your proposed contract terms and conditions.

4.7 Budget

The budget will be defined by the services and deliverables to be received, which would include without limitation, items such as final experience design, show lighting, graphics, inter-actives, show control, media, themed set pieces, licensing, and copyright and trademark rights. The total budget for the project is **$7 million to include $5 million for build out and $2 million** for simulations. DNCPR/NASA will make value engineering decisions related to the successful proposal to meet budget and sponsorship realities.

4.8 Project Management

The vendor will coordinate with the DNCPR Director of Education and simulation experience vendors to execute the implementation of the individual simulations and software.

Selected vendor shall plan on at a minimum, a weekly meeting/teleconference to report and discuss status, actions, and issues of coordination.

4.9 What KSCVC Will Provide

1. The story that will be told by participation in the activities and experiences.
2. The curriculum/content/activities related to each program and experience.
3. A full written narrative of the guest experience including an overview and specific discussions of individual elements.
2. Report of marketing research (concept test) conducted including description of methodology, specifics of techniques, and sample size, report shall include summary of results as well as all raw data acquired.
3. Recommended STEM content opportunities for educational programming.
4. Opportunities for STEM messaging to be utilized in formal and informal education programming.

KSCVC staff (including both DNCPR and NASA personnel) shall provide access to Kennedy Space Center facilities when necessary (including KSCVC facilities), points of contact for inquiry and research including media libraries, as-built drawings of facilities specific to the project, marketing and demographic data that will assist the selected vendor in determining the target audience.

Please note, KSCVC personnel shall not be able to provide existing NASA videos, still images or audio recordings. These materials exist in numerous libraries and KSCVC personnel do not have access to these libraries, KSCVC staff can offer points of contacts for NASA controlled libraries and collections.

4.10 Project Schedule

Friday, January 15, 2016 – Bidders' conference (please limit participants to no more than 5):
Wednesday, February 17, 2016 – Selected vendor issued Notice to Proceed
Schedule for 30, 60 and 90 percent design reviews are negotiable
Friday, April 29, 2016 – Conceptual design complete at 100%

5 Selection Process

5.1 Selection Schedule

Tuesday, December 22, 2015 - Issue RFP
Friday, January 8, 2016 – Notice of intent to qualify
Friday, January 15, 2016 – Bidders' conference held at KSCVC
Monday, January 18, 2016 – Information from Bidders' conference posted
Monday, January 25, 2016 – Design team questions submitted to KSCVC
Friday, January 29, 2016 – KSCVC responses to design firm questions distributed
Friday, February 12, 2016 – Submittals to RFP due by interested design teams
Wednesday, February 17, 2016 – KSCVC project team selection of conceptual design team

5.2 Proposal Requirements

Proposals from interested teams are due by 5:00 pm EST on Friday, February 12, 2016. Respondent must:

1. Prepare a clearly readable document and attach all required information. Submission should be single sided, double spaced pages, written formats no larger than 11" x 17".

2. Indicate any deviations from the primary objectives and if necessary attach separate documents and/or explanations.
3. Include a statement confirming your knowledge, understanding and acceptance of this Request for Proposal ("RFP") and sign the Proposal to signify your agreement to the above statement.
4. Submit six (6) complete copies of the Proposal, one of which must have original manual signatures. Please indicate the point of contact from your company.
5. Proposals shall be submitted to Jim Christensen, Director of Education, of DNC Parks & Resorts at KSC, Inc. at the address listed on the cover page of this RFP by the due date and time listed above. Respondents mailing their Proposal must allow sufficient time to ensure receipt of their Proposal by the time specified. Electronically transmitted Proposals (i.e., via email or FTP) will **not** be accepted. It is advised that proposals be hand delivered, or delivered by delivery service (Fed Ex, UPS, etc.).

5.3 Criteria for Selection

- Creativity of Design as determined by KSCVC
- Utilization of Assets (facilities and objects)
- Marketability (attendance driver)
- Cost Efficiency (bang for the buck)
- Past Similar Experience
- Adherence to RFP Criteria
- Past project experience with KSCVC or NASA
- Team Members

5.4 Questions and Inquiries

Questions from interested teams may be submitted via e-mail to Jim Christensen at jchriste@delawarenorth.com by 5:00 pm EST on Monday, January 25, 2016. Responses to questions received will be distributed via e-mail to all teams who have received this RFP by 5:00 pm EST on Friday, January 29, 2016.

6 Point of Contact for Proposal Submission

Proposals shall be submitted to;

DNC Parks & Resorts at KSC, Inc.
Mail Code: DNPS
Kennedy Space Center, Florida 32899
Attention: Jim Christensen, Director of Education, DNC Parks & Resorts

7 Date/Time for Receipt of Proposals

Proposals are due to be delivered by close of business Friday, February 12, 2016.

Respondents mailing their Proposal must allow sufficient time to ensure receipt of their Proposal by the time specified. Electronically transmitted Proposals (i.e., via email or FTP) will **not** be accepted.

It is advised that proposals be hand delivered, or delivered by delivery service (Fed Ex, UPS, etc.).

8 Terms and Conditions

The firm selected as the successful bidder at the end of the RFP process will be expected to enter into a contract which includes provisions, among others, addressing the following:

1. Compliance with applicable federal, state and local laws, rules and regulations, including but not limited to, the Service Contract Act, the Davis-Bacon Act, and the Fair Labor Standards Act. In addition, to the extent applicable to the services to be performed by the firm, the firm will be required to comply with the General Provisions from DNCPR's agreement with NASA.

2. Firm's purchase and maintenance of insurance policies in types, amounts, and forms acceptable to DNCPR. DNCPR and NASA must be named as additional insured on liability policies and firm's insurance policies must be primary and non-contributing to insurance coverages available to DNCPR. With respect to worker's compensation policy, the insurer must waive its waiver of subrogation rights with respect to DNCPR.

3. DNCPR's ownership rights, including copyrights, patents, trademark rights, moral rights, and any other intellectual property rights (collectively, the "IP Rights"), in and to the concept designs and any other deliverables created and delivered by the firm pursuant to the contract (the "Deliverables"). All right, title and interest in and to the Deliverables, including IP Rights, will belong to DNCPR. To the

extent the firm proposes alternate conceptual designs or other deliverables for DNCPR's consideration, all proposed conceptual designs and deliverables shall be owned by DNCPR regardless of whether or not DNCPR approves and includes such design or deliverable in the project. The Deliverables shall be considered work-made-for-hire under U.S. Copyright Laws and to the extent they are not, firm will agree to assign its copyrights to DNCPR. The Deliverables may not incorporate any pre-existing work unless firm provides DNCPR prior written notice and obtains DNCPR's consent to inclusion of such pre-existing work.

9 Appendix – Additional Venues/Resources

This appendix provides information concerning additional venues and resources available at the Kennedy Space Center Visitor Complex. It is included solely for the purpose of providing additional insight to potential vendors in understanding the mission and operations of the Visitor Complex and resources that are available.

9.1 Cosmic Quest

Cosmic Quest may best be described as an educational video game experience distributed across four venues at the Kennedy Space Center Visitor Complex. Participants will receive instructions at an initial station then pick up additional information which will allow them to make choices that will allow them to complete a mission at Atlantis, Apollo Saturn V Center (ASVC), Journey to Mars, or IMAX. The missions relate to designing a rocket, providing life support for a mission, capturing an asteroid, and constructing a Mars Base.

9.2 Science on a Sphere (SOS)

Science on a Sphere is a 5.5' globe suspended in the middle of a dark room that is lit by four overlapping projectors. The globe can appear to be the Sun or any planet for which datasets are available. The planet can appear to rotate, display data in near real time, and can be manipulated by the presenter. SOS is located in the IMAX East gallery.

9.3 IMAX Theaters

Kennedy Space Center Visitor Complex is home to the only back-to-back IMAX theaters in the world, showcasing two large-format 3D motion pictures on five-and-a-half story tall screens. Included with admission.

Hubble 3D, narrated by Leonardo DiCaprio, brings the furthest depths of the universe to life, transporting audiences to distant galaxies to explore the mysteries of deep space. *Hubble 3D* offers an inspiring and unique look into the Hubble Space Telescope's legacy and its profound impact on the way we view the universe and ourselves. Featuring footage from the final Hubble repair mission, audiences will experience a space shuttle launch sequence, intricate spacewalks and a magnificent tour of the cosmos (43 minutes).

Journey to Space 3D is a brand new 3D IMAX® film showcasing NASA's bold plans for the future, including landing astronauts on Mars and capturing asteroids. Through visually stunning imagery and extensive interviews with astronauts Chris Ferguson, commander of the final shuttle mission, and Serena Aunon, a new astronaut chosen for future flights, as well as narration by film and television legend Sir Patrick Stewart, "Journey To Space" gives a sweeping overview of NASA's past space accomplishments, current activities and future plans. (45 minutes).

9.4 Journey to Mars

Step into the center of space travel and become part of the future of exciting possibilities at Journey to Mars. Be immersed in an environment of discovery and

exploration beyond our home planet. Live theater, interactive experiences and large scale multimedia presentations display what the future of space travel may look like, emphasizing that space exploration is not just about the hardware, but about the people behind the technology that make it all possible

9.5 Astronaut Encounter

Kennedy Space Center Visitor Complex is the only place on Earth where guests have the opportunity to come face-to-face with a real astronaut every day. This half-hour, interactive question and answer session aims at inspiring children and adults alike to strive for excellence. Guests have the opportunity to have a photo taken with the astronaut following the presentation. The theater is in process of renovation with a high definition projection system and the SCISS UniView system that allows access to photographic datasets to be used to create interactive programs. SCISS/UniView has implications for use with any simulations being created.

9.6 Mission Status Briefing

In the comfort of the Astronaut Encounter Theater, the Mission Status Briefing presents the most current and up-to-date information concerning the on-going operations of NASA, including what is happening both here on Earth and in space. The briefing is led by a trained space expert and each briefing includes a question and answer period.

9.7 Heroes and Legends

Highlighting the Mercury, Gemini, and Apollo space programs through Apollo 7, this facility will present a definition of heroism and tell the story of the heroes who flew early missions and pioneered early efforts by the United States to explore space. Construction is currently underway for the new facility to be housed in an enlarged footprint at the Debus Conference/Early Space Exploration venue.

9.8 The Rocket Garden

The ever-popular Rocket Garden is a Kennedy Space Center Visitor Complex hallmark. The outdoor garden features eight authentic rockets from the past, including a Mercury-Atlas rocket similar to the one used to launch John Glenn into space in 1962. Elements include dramatic lighting, water features, “climb-in” Mercury, Gemini and Apollo capsule replicas, seating and informative graphic elements.

9.9 Nature and Technology

This exhibit showcases the unique balance between technology and nature at Kennedy Space Center, which shares a common boundary with the 140,000 acre Merritt Island National Wildlife Refuge.

9.10 Astronaut Memorial

Dedicated in 1991, the Astronaut Memorial honors the 24 U.S. astronauts who gave their lives for space exploration. The 42.5-foot high by 50-foot wide “Space Mirror” brilliantly illuminates the names cut through the monument’s black granite surface.

9.11 Children’s Play Dome

A covered climbing structure, “junior astronauts” play among conceptual spacecraft and rockets and soar to places beyond Earth orbit in their imaginations. They can lift-off in spacecraft, climb a moon rock wall, crawl through rocket tunnels and slide to the surface of the moon.

- End-