

2012 HCC Chancellor's Symposium on Engineering September 29, 2012

- Event Schedule
- Facilities Map
- Event and Parking Map

2012 HCC Chancellor's Symposium on Engineering

Event Schedule for September 29, 2012

- 9:00 Schools begin arrival @ JSC (last bus at 11:00)
- 11:00 Schools begin arrival @ Space Center Houston & get lunch (last bus at 1:00)
- Design Zone Exhibit opens (closes at 6:30)
 - Career and education booths in the Astronaut Gallery open (close at 6:30)
- 1:15 Opening presentation/remarks by Dr. Mary Spangler
- 1:45 Student educational activities start. Each of the sessions are about 45 minutes in duration and can accommodate up to 120 students
- Middle School
 - Martian Food
 - 1:45, 2:45, 3:45
 - Balloon Astronaut
 - 2:00, 3:00, 4:00
 - High School
 - Martian Rovers
 - 2:00, 3:00, 4:00
 - Water Bottle Rocket
 - 1:45, 2:52, 4:00
 - Martian Habitat
 - 1:45, 2:45, 3:45
- Parents, Teachers and Counselors Informational Forums
- Engineering discussion forum (2 sessions each can accommodate 650 people)
 - 2:00, 4:00
 - Guided Tours (last about 30 minutes and open to anyone attending the HCC event)
 - Starship Gallery (historic space flight artifacts)
 - 2:00, 3:00, 4:00
 - Shuttle Nose (mockup of the nose of the shuttle)

- 1:45, 2:30, 3:15, 4:00
- Visit with Exhibitors, Universities, HCC Representatives in Astronaut Gallery
 - 2:00 – 5:00
- 5:15 Final presentation/closing remarks by Dr. Mary Spangler
- 5:30 Guests get snacks and load buses for departure

Detail of Educational Activities

Middle school

High school

- 1M Food
 - Bio engineering, chemical engineering (composition of water substrate, genetics of plants)
 - Show ways to get food to mars and hydroponics and how they can be used to grow food and make O₂
 - Use a calorimeter to determine the calories in staple foods that will be taken to Mars
 - Have them design a full set of meals for a day that meet nutritional needs and can be made with the materials that they bring or grow there
 - Sculpt one element of the meal out of dough
- 2M Balloon Astronaut
 - Bio-mechanical Engineering, structural engineering, space suit engineering (what materials to use in what order to support itself and the astronaut)
 - Talk about suit and space station design and what materials are used to keep astronauts safe
 - Fill small balloons with water and try to protect them from “micro-meteoroids” using various protective materials (each represent a suit/layer component)
 - Taught using the scientific method
- 1H SVO Rover activity
 - Electrical engineering, mechanical engineering (electricity/wiring to make it run, actually constructing a machine that works) technology to make the rovers wireless
 - Shows how we can explore Mars with limited risk to humans
 - Rover race/competition to see whose works the best in each group
- 2H Habitat design
 - Civil engineering, industrial engineering and Technology
 - Design a habitat that will meet all needs for protection as well as experimentation and living needs
 - Must also meet space/size requirements
 - Actually build the habitat
 - 2 students using computer graphic software
 - 3 students working hands on with simulated materials

- 3H Transportation/Rockets
 - Aerospace engineering, everything else engineering
 - Show current forms of propulsion and experimental forms of propulsion as well as rocket/shuttle designs, then have them design their own with 2 liter bottles
 - Each group get to launch water bottle rockets in the parking lot

Detail of Informational Forums for Parents, Teachers and Counselors

2:00 – 3:00 pm

The first selected group of 650 parents, teachers and counselors will attend the informational forum in the Space Center Theatre.

2:00 – 2:15 Introduction of Dr. Mary Smith, Assistant Deputy Commissioner, Office of Academic Planning and Policy, Texas Higher Education Coordinating Board, by Dr. Mary Spangler.

Overview of Engineering Education in the State of Texas by Dr. Smith

Introduction of Panel Members

Introduction of Dr. James K. Nelson, Current Chair of the Tuning Oversight Council for Mathematics, CIS, MIS and Business and Past Chair of Tuning Oversight Council for Science and Engineering.

2:15 – 2:35 James Nelson

Overview of Careers in Engineering

Overview of Educational Pathways to Engineering and Engineering Technology/Technician

2:35 – 3:00 Question and Answer from Audience

3:00 – 3:55 Continuation of Q & A with Panel Members in Astronaut Gallery

4:00 – 5:00 Second group of 650 parents, teachers and counselors will attend the informational forum in the Space Center Theatre.

4:00 – 4:15 Introduction of Dr. Mary Smith by Dr. Mary Spangler.

Overview of Engineering Education in the State of Texas by Dr. Smith

Introduction of Panel Members

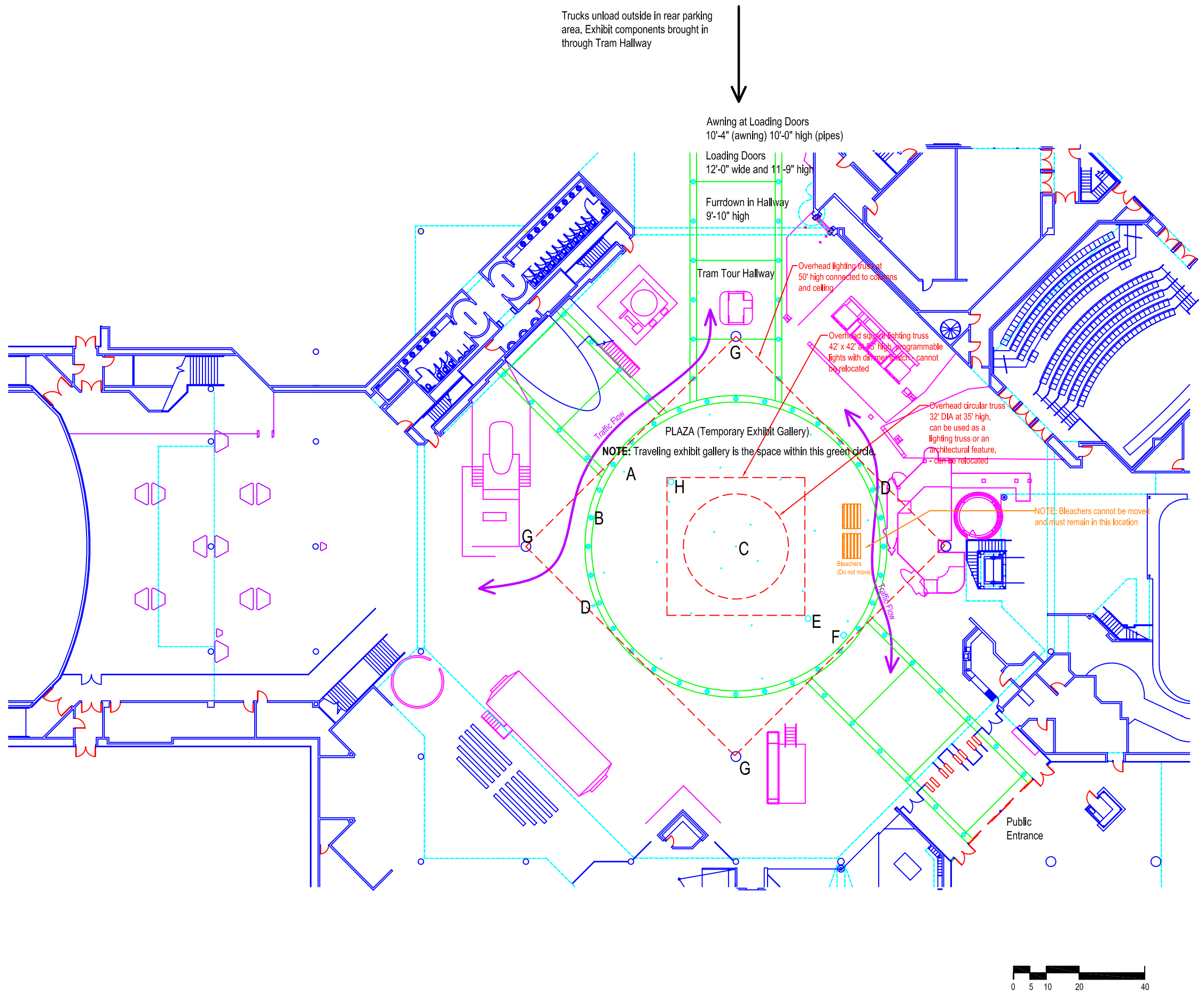
Introduction of Dr. James K. Nelson

4:15 – 4:35 James Nelson

Overview of Careers in Engineering

Overview of Educational Pathways to Engineering and Engineering
Technology/Technician

4:35 – 5:00 Question and Answer from Audience



Trucks unload outside in rear parking area. Exhibit components brought in through Tram Hallway

Awning at Loading Doors
10'-4" (awning) 10'-0" high (pipes)

Loading Doors
12'-0" wide and 11'-9" high

Furrdown in Hallway
9'-10" high

Tram Tour Hallway

Overhead lighting truss at 50' high connected to columns and ceiling

Overhead square lighting truss 42' x 42' at 35' high, programmable lights with dimmer switch, cannot be relocated

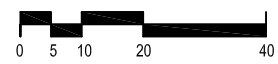
Overhead circular truss 32' DIA at 35' high, can be used as a lighting truss or an architectural feature, - can be relocated

NOTE: Traveling exhibit gallery is the space within this green circle.

NOTE: Bleachers cannot be moved and must remain in this location

Bleachers (Do not move)

Public Entrance



SPACE CENTER HOUSTON
FACILITY INFORMATION

- A** Floor electrical outlets each at 110V, 20 amp total
- B** Power available from floor lights 110V each, 20 amp total - two circuits alternating every other light
- C** Central floor electrical outlet 480V, 90 amp total
- D** Floor electrical box (under carpet tile) 110V or 220V, amps as required up to 100 amps
- E** Water & Compressed Air connection (ceiling)
- F** Electrical box (ceiling) 480V, 90 amps Can drop power where required
- G** Two lighting rings per column
- H** 220V single phase and three phase available from lighting truss in ceiling

Circuits from ceiling (in addition to Electrical box "E")
(12) - 30 amp circuits
(8) - 20 amp circuits
Can drop power where required

Square Truss and Circular Truss
(10) - 20 amp circuits - total combined power

Dimmer System
Dimmer system is currently on the square truss, but can be moved to the circular truss

Compressed Air
Available from ceiling - 120 lbs at 90 cfm
Can be dropped from ceiling where required

Floor
Concrete with Stonhard finish - black
6" - 8" thick concrete
9,000 lbs/sq.ft. load capacity

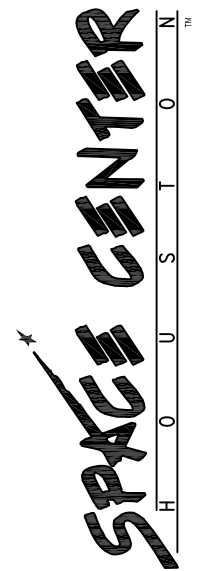
Loading Doors
12' wide x 11'-9" high located at Tram Tour Hallway exterior entrance

Awning at Tram Tour Hallway Entrance
10'-4" to awning and 10'-0" to pipes

Tram Tour Hallway
Inside Furrdown 9'-10" high

Plaza Ceiling
50'-0" from floor to bottom of Bar Joists

office (281) 244-2124
fax (281) 283-7729
1601 NASA Parkway, Houston, Texas 77058



PLAZA -
Traveling Exhibit Gallery

PLAN - First Floor

REVISIONS:	

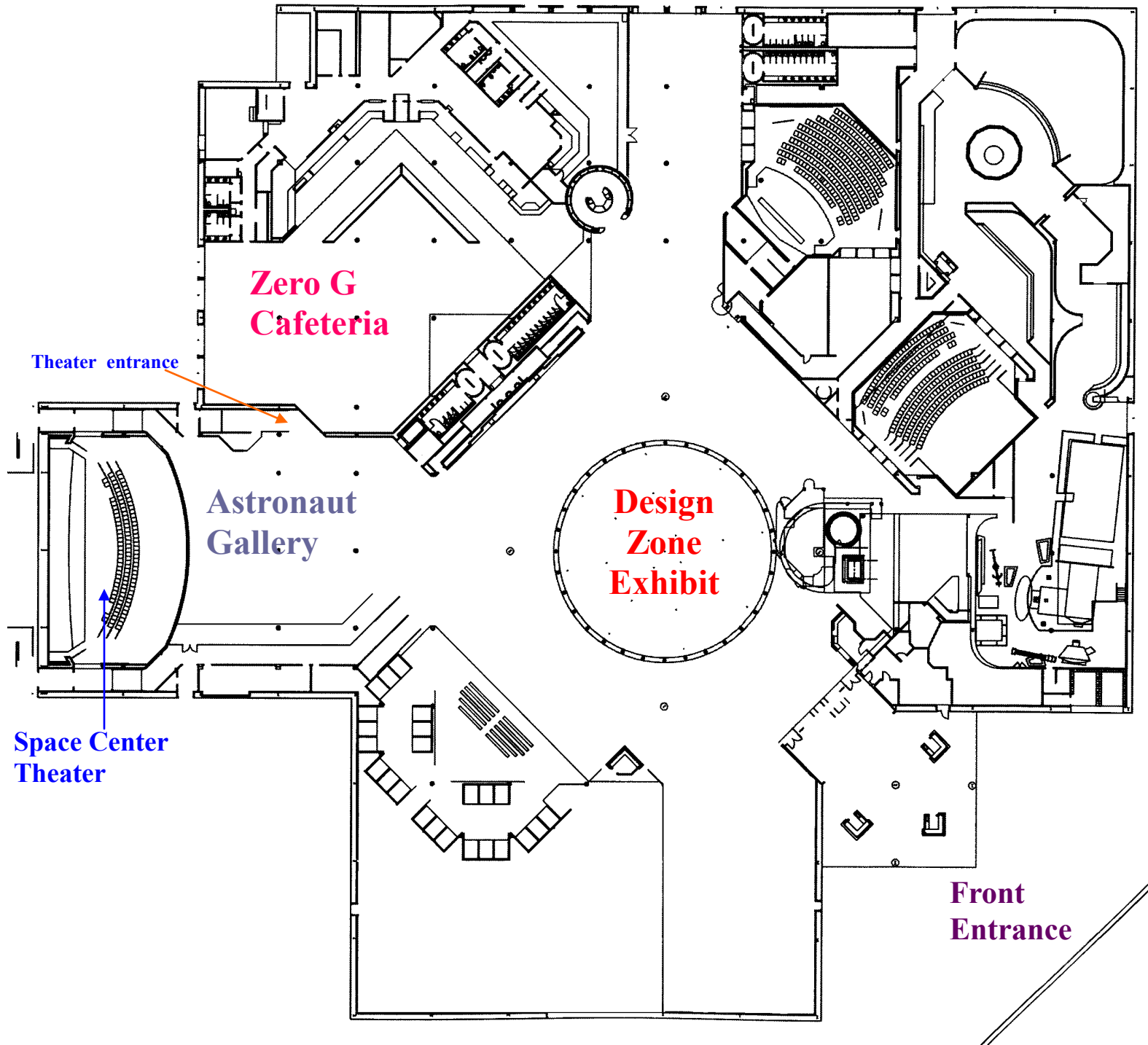
APPROVED BY:

DATE: JULY 26, 2012

SCALE: 1/32" = 1'-0"

DRAWN BY: PCS

A1



**Zero G
Cafeteria**

Theater entrance

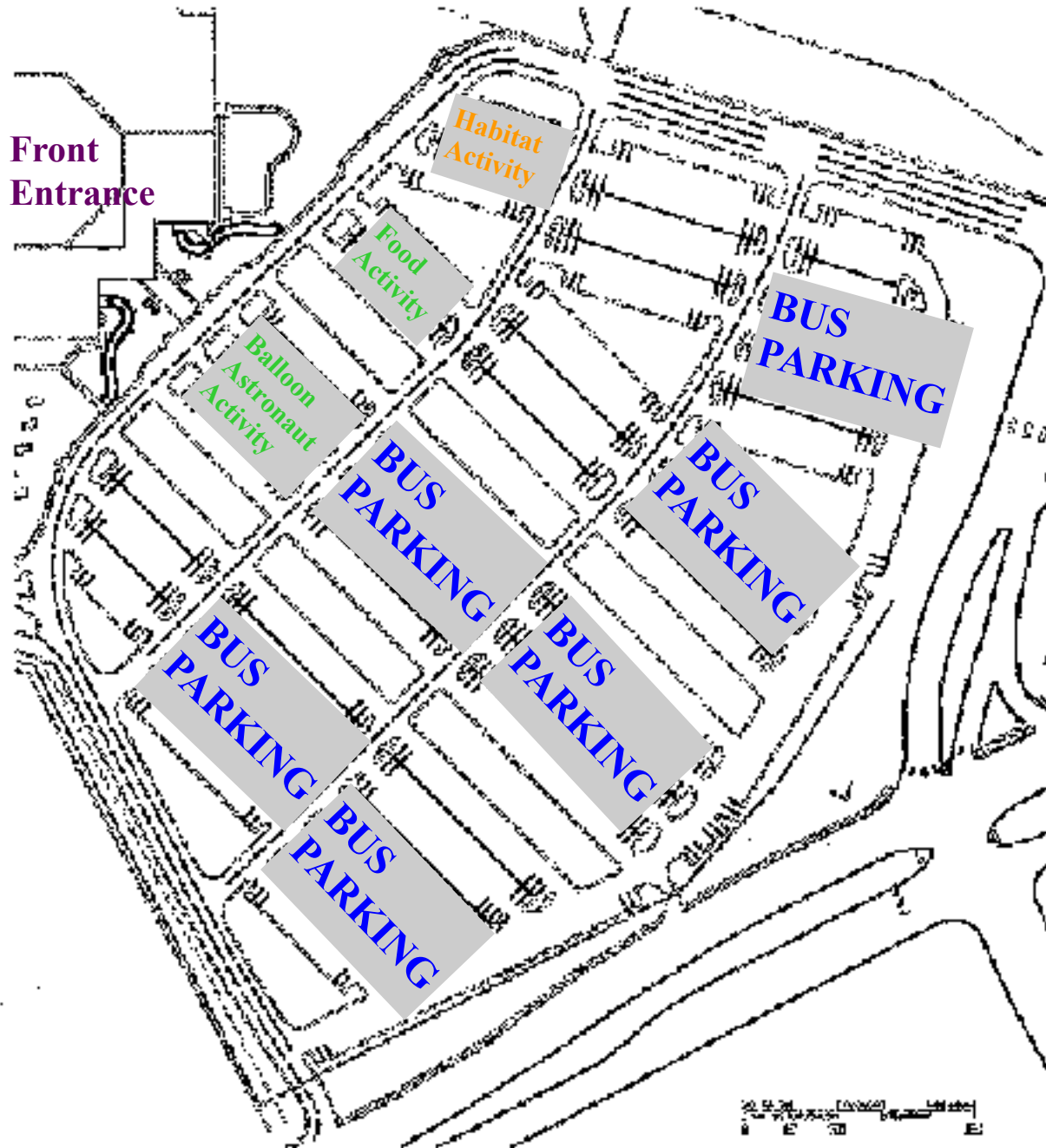
**Astronaut
Gallery**

**Design
Zone
Exhibit**

**Space Center
Theater**

**Front
Entrance**

Front
Entrance





High school activities are in orange
Middle school activities are in green