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**SCIENCE CENTER OF IOWA**

LOCATION / DES MOINES, IOWA

CONCEPTUAL DESIGN

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**SITE DESIGN AND  
BUDGET NUMBERS**

**01**



# SITE DESIGN AND

# BUDGET NUMBERS

## DAYCARE DROP-OFF

### Daycare Drop-Off

Create dedicated safer and more convenient pull-off lane separated from public street traffic by bio-retention island. including:

- Safer pedestrian movement with flush curbs, vehicular bollards and pavement graphics.
- Seat walls, lighting and signage.
- Ability for vehicular traffic to safely exit both east bound and west bound onto Market Street.

\$390,000 to \$440,000 construction costs

\$468,000 to \$528,000 project costs

## MAIN ENTRY PLAZA

Provide more dramatic arrival experience that marks SCI's main entrance while highlighting the existing architectural features including:

- Pavement graphics and revised curbs to enhance pedestrian safety and more intuitively direct vehicular traffic.
- Provide large circular planters with seat height edges to frame the building entrance while providing casual "waiting/meeting" seating.
- Create large scale iconic light fixtures that frame the building entrance and act as (dark sky appropriate) beacons to express the SCI mission.

\$300,000 to \$350,000 construction costs

\$360,000 to \$420,000 project costs

## BUS PLAZA

Create a flexible, multi-purpose plaza that accommodates bus operations as well as other activities while linking SCI with their parking garage including:

- Removal of curbs and bright science inspired pavement graphics to create a dramatic and unique SCI environment.
- Bollards, lighting and bio-retention planters to define vehicle zones.
- Raised planters with seating and native plantings including overstory shade trees.
- Lighting effects that visually link the garage and SCI building while enhancing safety.
- Designated outdoor space for staff and volunteers.
- Green wall for south façade of garage.

\$920,000 to \$1,150,000 construction costs

\$1,104,000 to \$1,380,000 project costs

## EAST PLAZA

Reconfigure water feature and large paved area as a multi-purpose plaza for temporary and permanent science displays that express the SCI mission in a community visible location including:

- Smaller scale water feature with dramatic highly visible vertical water effects inspired by natural systems such as springs and waterfalls with reduced maintenance and chemical requirements. Optional fogger to enhance water experience and projected imagery while reducing heat from plaza pavement.

# SITE DESIGN AND

# BUDGET NUMBERS

- Enhanced public pedestrian experience along Third Street as well as bump outs for safer vehicular exits from SCI garage and bus plaza.
- Locations with electrical service for four interactive displays that express the SCI mission and act as public markers
- Outdoor dining with a harvest table with science inspired canopy as well as moveable furniture, with the ability to provide a secure perimeter.

\$850,000 to \$1,250,000 construction costs

\$1,020,000 to \$1,500,000 project costs

## PLANETARIUM HILL

Sculpt a dramatic landform with an open-air planetarium on its peak at SCI's most visible corner including:

- Spiraling walkway with orbiting planets
- Tall grass prairie
- Covered shelter with planetarium features, lighting and seating
- Digital mapping (projected imagery) on SCI's existing reflective cylinder architecture with space inspired imagery/video

\$400,000 to \$525,000 construction costs

\$480,000 to \$630,000 project costs

## STREAM BED AND BOARDWALK THROUGH MAPLE/OAK/HICKORY GROVE

Reconfigure existing detention areas as a meandering stream with riparian environments a maple/oak/hickory grove connected by a continuous, arcing boardwalk and walkway including:

- Interactive light totems with adjacent seating
- No mow savannah with gentle land forms and casual walkways
- Riparian environments including sedges and hydrophilic plant communities

\$450,000 to \$725,000 construction costs

\$540,000 to \$870,000 project costs

## INTERACTIVE NATURE PLAYGROUND PLAZA

Create opportunities for exploration and discovery thru natural features integrated with riparian environments located both inside and outside the secure area including:

- Inside the secure area:
  - Perforated metal or translucent fabric canopy inspired by the movement of water
  - Large stone block "Canyon" climb and slide with stairs, accessible ramp and geologic formations
  - Site overlook with telescope
  - Interactive wall with interchangeable displays
  - Flexible patio area for staged events and temporary exhibits
  - Misc. lighting, display graphics...

\$350,000 to \$700,000 construction costs

\$420,000 to \$840,000 project costs

# SITE DESIGN AND

# BUDGET NUMBERS

- Outside the secure area and integrated with the riparian environment:
  - Stepping stones and log
  - “Snag” play forms and seating
  - Group swings
  - Discovery icons
  - Misc. lighting, display graphics...

\$80,000 to \$225,000 construction costs

\$96,000 to \$270,000 project costs

## SECOND FLOOR BALCONY FEATURES

Provide shade with “water” canopy cascading from roof to ground level patio including:

- Perforated metal or translucent fabric canopy inspired by the movement of water
- Up-Lighting on canopy
- Moveable furniture
- Display graphics describing site features below

\$260,000 to \$325,000 construction costs

\$312,000 to \$390,000 project costs

## ROOF GARDEN

Create sustainable roof garden over existing IMAX theater space including:

- Planting trays that feature Iowa native plant material along with other drought tolerant plantings
- Perimeter plantings that are taller grasses as well as draping vines that make rooftop plantings visible to the public

\$240,000 to \$360,000 construction costs

\$288,000 to \$432,000 project costs

## EVERGREEN DISCOVERY GROVE

Plant a natural and man-made evergreen grove with opportunities for discovery including:

- Large evergreen plantings
- Re-purposed utility poles modified as man-made evergreens with carved messages/icons
- “Fallen” log seating, climbing, balancing...
- Moveable tree trunk chips and seating
- Misc. lighting, display graphics...

\$175,000 to \$350,000 construction costs

\$210,000 to \$420,000 project costs

# SITE DESIGN AND **BUDGET NUMBERS**

## **SOUTHWEST ARRIVAL GROVE AND DISPLAY GRAPHIC**

Create a distinct SCI display graphic with a dense tree grove backdrop for the most significant site gateway including:

- Dense plantings to screen utilities and service area as well as frame views of graphic display
- Vertical kinetic display graphic with lighting as arrival marker for SCI site

\$255,000 to \$425,000 construction costs

\$306,000 to \$510,000 project costs

## **NORTHWEST GATEWAY FEATURE**

Provide directional display graphic directing vehicles and pedestrians toward SCI building entries including:

- Linear tree planting and unique streetscape on 5th Street
- Directional display graphic with lighting. Optional location on perimeter of parking lot to the north.

\$120,000 to \$180,000 construction costs

\$144,000 to \$216,000 project costs

## **EXPANDED DAYCARE PLAY AREA**

Create larger play area, compliant with requirements associated with increased enrollment, that features diverse opportunities for exploration, discovery, physical activities...including:

- Circuits of movement and events
- Natural features including shade trees, unique plantings, digging zones...
- Man-made and natural features providing a range of activities for diverse age groups
- Relocated security perimeter
- Resilient and safe surfaces for high traffic areas
- Moveable furniture for a range of users

\$150,000 to \$300,000 construction costs

\$180,000 to \$360,000 project costs

## **TOTALS**

\$4,940,000 to \$7,305,000 construction costs

\$5,928,000 to \$8,766,000 project costs

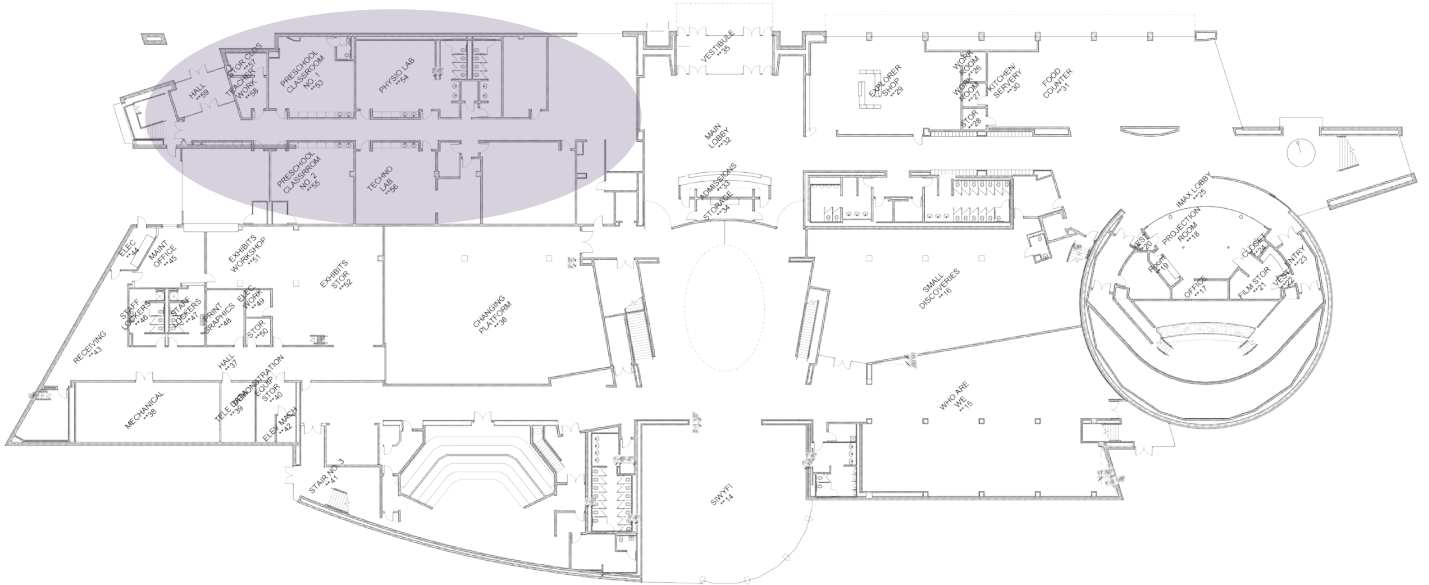
**BUILDING DESIGN AND  
BUDGET NUMBERS**

**02**





# BUILDING DESIGN AND BUDGET NUMBERS



## PRESCHOOL REMODEL

The preschool program and the Science Center have been and continue to be highly successful. Waiting lists are always long. To help provide additional space, the current preschool area will be remodeled to enhance the program to include:

- Two more classrooms with restrooms
- An adult resource center and Library to be used by parents, staff and visiting teachers including STEM coaching for parents
- An enhance entry and check in area
- Improved security systems
- Multipurpose transitional space for a variety of programming
- Washer and dryer space
- Food and snack preparation space with a sink
- Quiet/relaxation room
- Observation space/office for teacher training
- Small kitchenette
- Storage space
- Secure records storage space
- Support Space
- Upgraded lighting
- New finishes

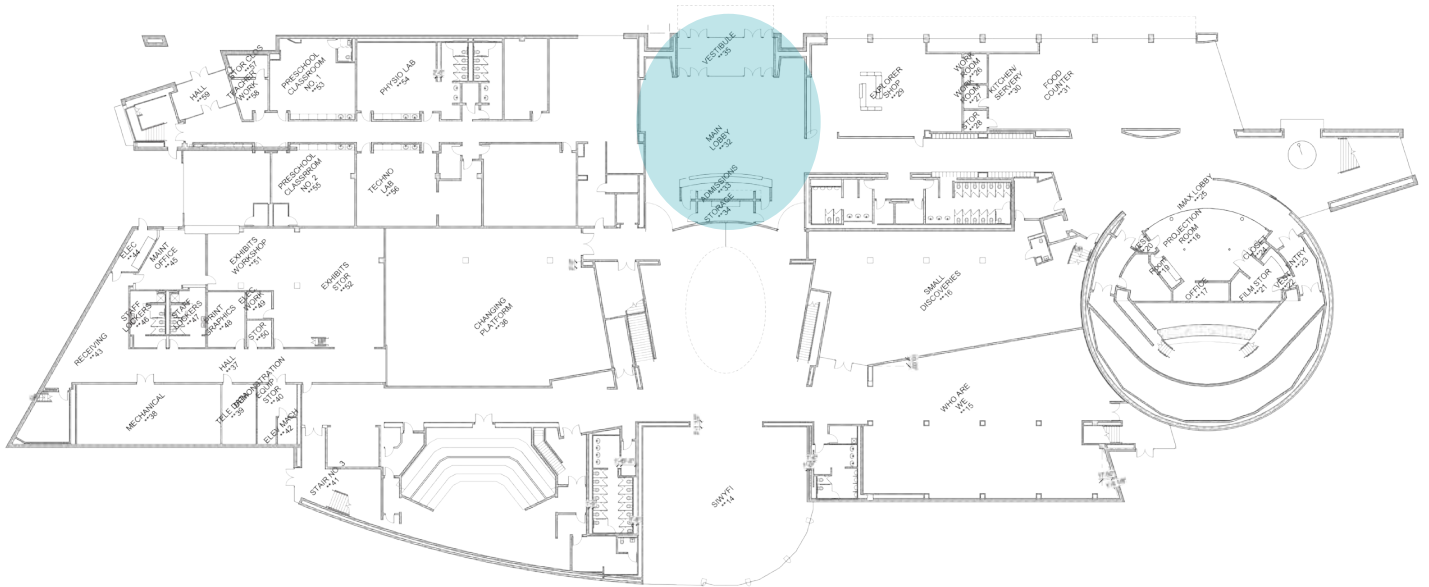
The newly remodeled space needs to have a new character and feel that “speaks of nature.”

## ANTICIPATED COSTS:

Construction cost: \$1,500,000 to \$1,650,000

Total Project costs with contingencies and soft costs: \$1,800,000 to \$1,980,000

# BUILDING DESIGN AND BUDGET NUMBERS



## MAIN ENTRY AND LOBBY

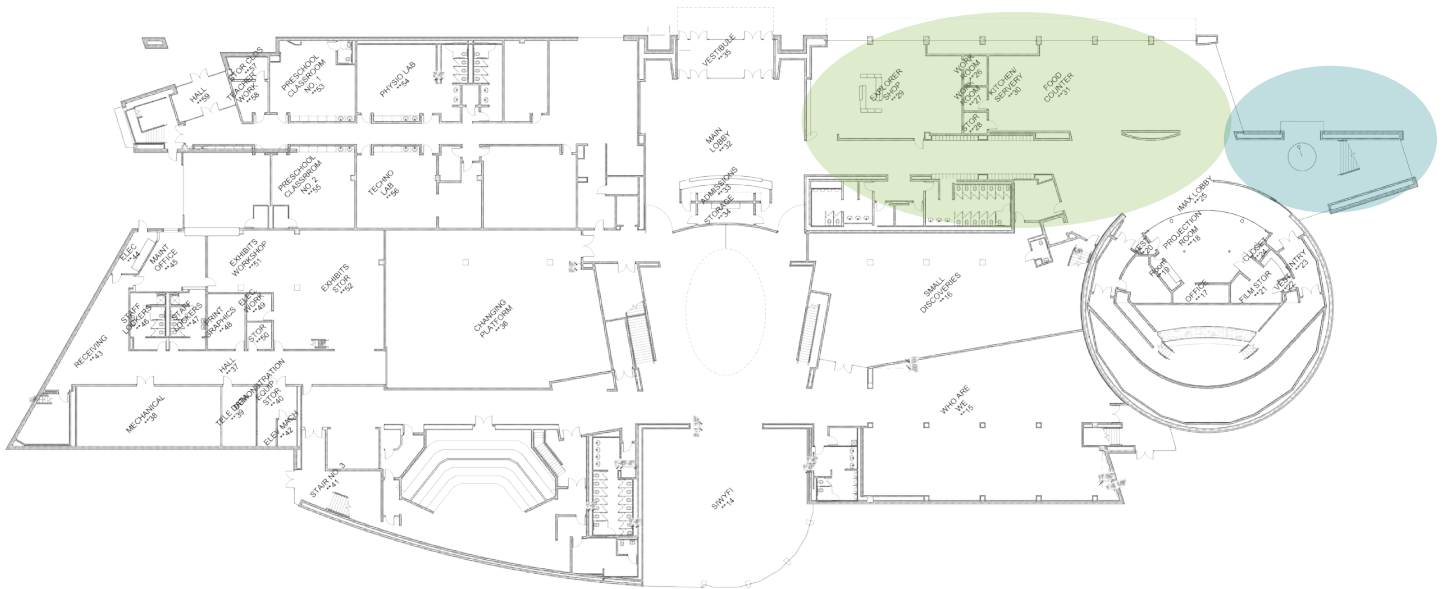
The main entry and lobby to the Science Center needs to be more inviting and provide the beginning of the Science Center experience. To enhance the entry experience the Lobby will be updated to provide the following:

- Needs a large queuing area to handle large crowds coming in, but shouldn't look like wasted space and present a more human scale
- The entry needs to provide a "wow" factor
- Enhance how people arrive and sequence through queuing and ticket purchase in a more user-friendly manner and augment purchase payment options.
- Ticket purchase counter improvements to eliminate the current barrier feeling with a more open configuration that visitors can circulate around
- Include better orientation and wayfinding conventions at the entry
- Improve the beginning of the Science Center experience that is currently blocked by the wall and rooms between the Lobby and Founders Hall with a more transparent definition of space
- New Lighting
- Improved finishes

## ANTICIPATED COSTS:

- Construction cost: \$800,000 to \$850,000
- Total Project costs with contingencies and soft costs: \$960,000 to \$1,020,000

# BUILDING DESIGN AND BUDGET NUMBERS



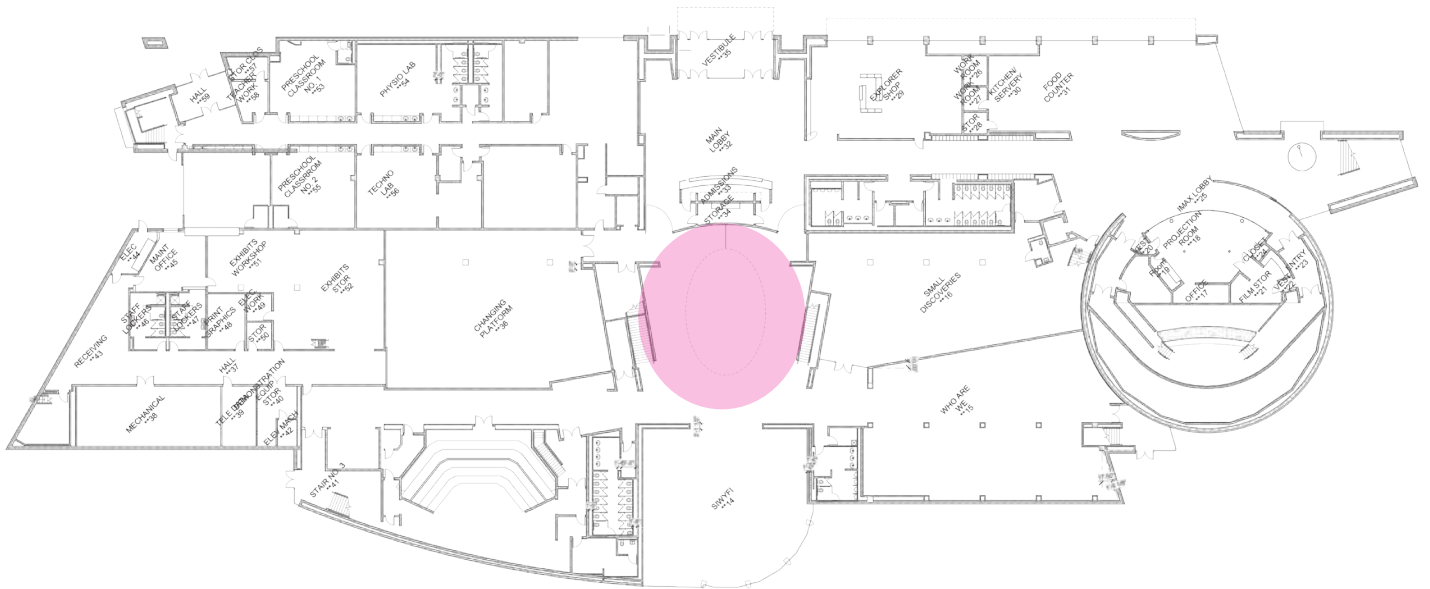
## GIFT SHOP AND FOOD SERVICE AREAS, PENDULUM AND STAIR

- The current gift shop is too large, and the food service aspect could be delivered with a better system in less square footage. To enhance both areas the proposed design combines these functions in a single space. This both provides some synergy between the two functions and reduces the staffing costs to operate them.
- Part of the space gained by the new combination of those spaces will be used to provide an appropriate space for Science Center volunteers who currently do not have a space to call their own. The Volunteer Lounge provides both a landing space for these valuable staff members and provides support space including a restroom and kitchenette for staff breaks.
- The gift shop and food service are will be enhanced to provide a better visual and physical connection to the Lobby
- Part of the space gained will be repurposed to provide the Center for Innovation classroom space. This highly visible space with lots of daylight and visual connection to the street will be used for many different activities including a demonstration kitchen and opportunities for visitors to learn about food. It can also accommodate roll-in demonstrations on many topics and maker space activities.
- To make one of the Science Centers iconic features more visible, we will be relocating the pendulum from its current location to the window facing Third Street. Facing east will provide a dramatic motion that will be visible from the high traffic 3rd Street. To do this, the stairway that is currently in that location will be reworked as part of the IMAX repurposing.
- In the window where the pendulum was located a new Student Entrance will be added to allow students a convent entry point from the bus loading lanes.
- New lighting
- New finishes

## ANTICIPATED COSTS:

- Construction cost: \$1,300,000 to \$1,400,000
- Total Project costs with contingencies and soft costs: \$1,560,000 to \$1,680,000

# BUILDING DESIGN AND BUDGET NUMBERS



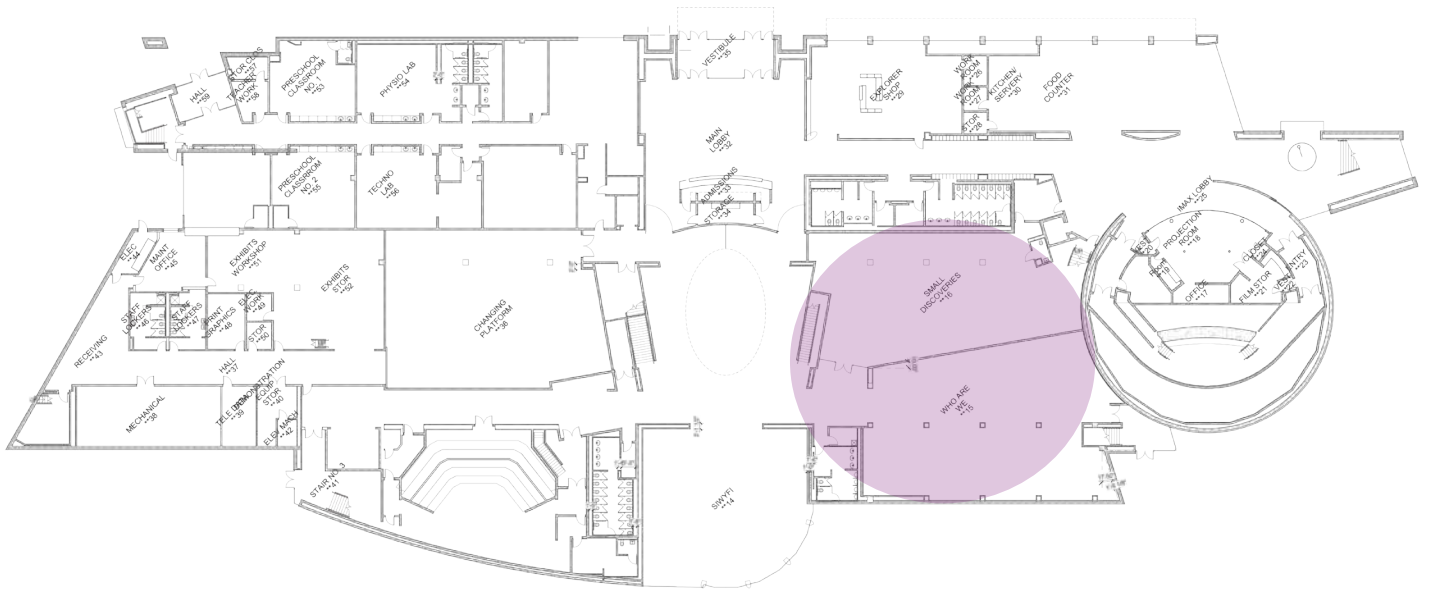
## FOUNDERS HALL

Founders Hall is a multipurpose space used for events and moveable exhibits. At this time no improvements are planned for this area other than what is needed to open the area to the Lobby.

**ANTICIPATED COSTS:** no construction costs are included for this area.



# BUILDING DESIGN AND BUDGET NUMBERS



## EARLY CHILDHOOD HALL

### Early Childhood Exhibit Hall

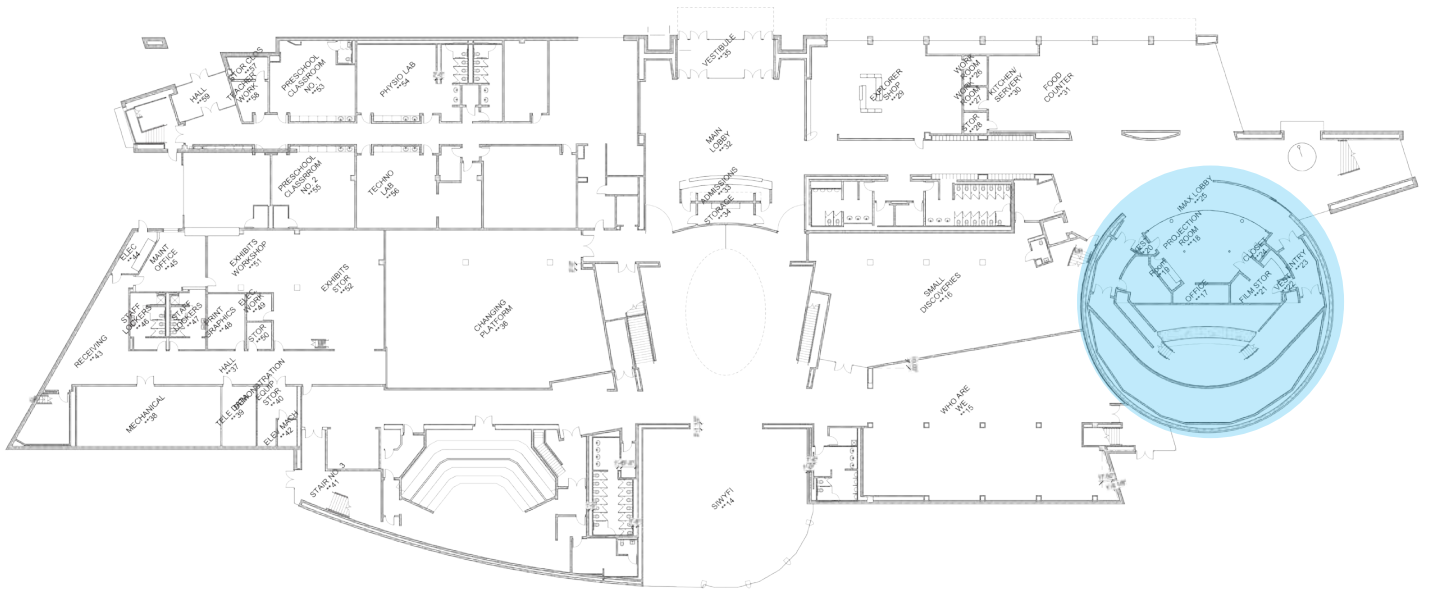
The current Small Discoveries Exhibit hall will be expanded into the Brick by Brick hall to create a new Early Childhood Exhibit Hall. This expanded exhibit hall will include much of the Small Discoveries interactive display item/areas and be enhanced with additional interactive activity and learning areas. The storyline of this new exhibit hall is “Play with Science.”

- A new water feature/water experience activity will be added
- An interesting climbing structure will be added
- The exhibit hall layout will provide improved sight lines throughout
- An area of the hall will be contained/controlled to provide a more secure area with one entrance for toddlers. This will be accomplished with exhibits, displays and furnishings rather than permanent walls.
- Restrooms will be added including a family/caregiver restroom
- A lactation room will be added
- A meeting room for caregiver training and education with observation space will be added. Entrance to this room will be accessible from outside the exhibit hall.
- Storage space
- Upgraded lighting
- Improved finishes

### ANTICIPATED COSTS:

- Construction cost: \$1,300,00 to \$1,400,000
- Total Project costs with contingencies and soft costs: \$1,560,000 to \$1,860,000

# BUILDING DESIGN AND BUDGET NUMBERS



## IMAX THEATER REPURPOSE TO THE CENTER FOR INNOVATION

The IMAX was severely damaged by a roof drain leak last year that flooded the theater. It has been empty and closed since. The Science Center Board went through an exhaustive analysis of the IMAX and what it would take to get it back in operation versus the benefit it provides Science Center users. The conclusion reached was that there was an insufficient return on investment and the space could be better utilized to enhance the Science Centers mission. The proposed design repurposes that space to include the following:

- The very tall IMAX structure will be modified to allow for three floor levels: the existing ground floor level, a second floor level designed to match the existing second floor of the Science Center and a new third floor level. This modification will provide approximately 12,500 additional square footage on the upper two floors and 6,250 repurposed space on the mail floor level.
- The new ground floor area will become the Center for Innovation. It will include the Center for Innovation and Technology Lab and Maker Space, a Wet Lab area and a Black Box Lab along with support spaces. These areas will be flexible to accommodate Camps, Workshops, STEM Classes and Workshops for advance users, High- and Low-tech demonstrations and will serve a wide range of users. The area directly outside the current IMAX space will provide collaboration space along with small group meeting area.
- The added second floor area will become an expanded exhibit hall space for “What on Earth” exhibits and the addition of two large classroom spaces with a movable wall between them to maximize the flexibility of those spaces. This added classroom spaces will be used for many educational activities including Camps, Teacher and User workshops, STEM teacher training and staff training initiatives.
- The added third floor area will become the Administrative offices. This new floor will contain offices and workstations for the staff. It will also contain support spaces including a reception desk, planning office, mail room, restrooms, supply room, I.T. room, kitchenette, training room/lounge with balcony, staff collaboration space and a Board Room.

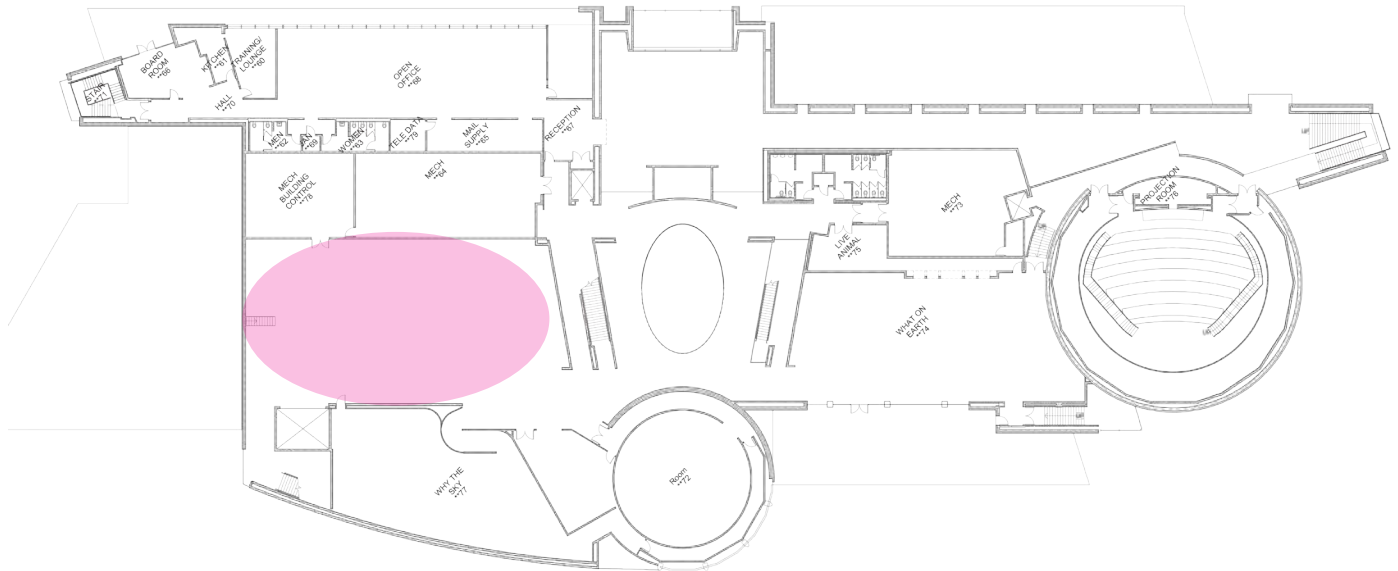
## ANTICIPATED COSTS:

- Construction cost: \$7,500,000 to \$7,775,000
- Total Project costs with contingencies and soft costs: \$9,000,000 to \$9,330,000





# BUILDING DESIGN AND BUDGET NUMBERS



## WHEN THINGS GET GOING EXHIBIT HALL

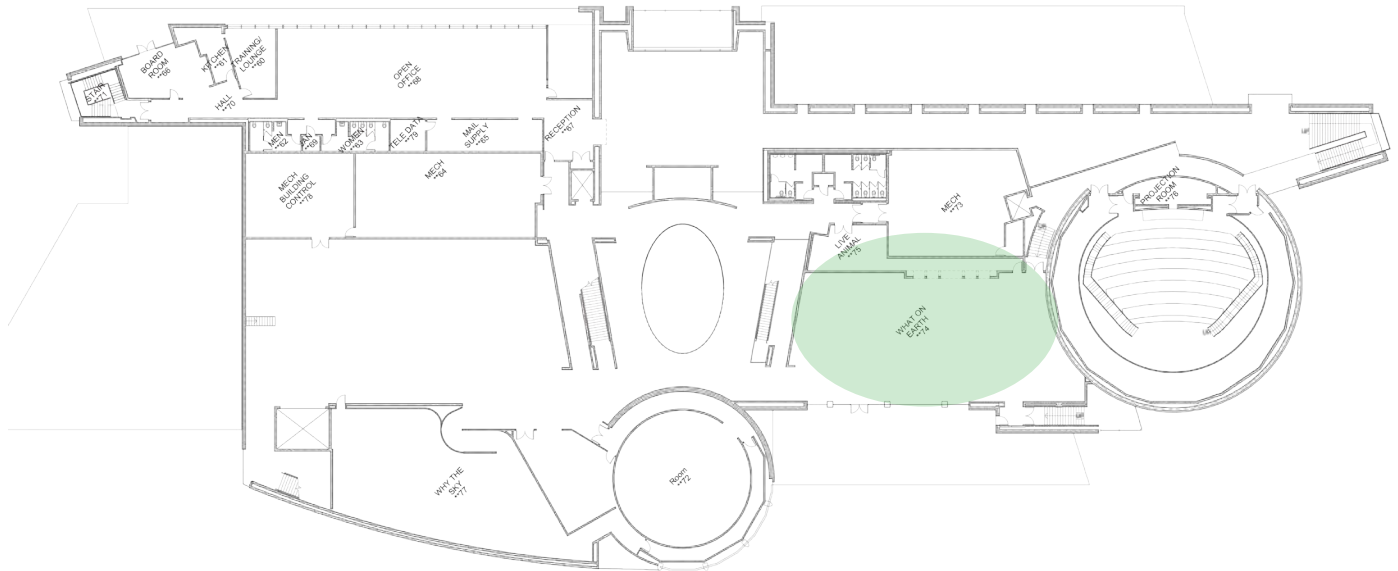
This is a highly active exhibit hall. Some of the feature exhibits in this hall are being reconsidered. Some may be relocated as part of the overall Exhibit Space improvements.

- Lighting in this area will be upgraded
- Updates will be further analyzed when the exhibit plan is in place.

## ANTICIPATED COSTS:

- Construction cost: \$125,000 to \$135,000
- Total Project costs with contingencies and soft costs: \$150,000 to \$162,000

# BUILDING DESIGN AND BUDGET NUMBERS



## WHAT ON EARTH EXHIBIT HALL AND BALCONY

A very popular exhibit hall is currently getting some minor improvements. Further improvements are needed to enhance the science experience in this area including:

- Dioramas in this hall need to be upgraded and the experience expanded.
- Green screen area and control room will be reimagined to provide a more experiential activity in a smaller footprint
- Additional furnishings are included to provide parent/caregiver a comfortable waiting/event area for snacks or drinks on the balcony
- Space for visitor gathering, drinks and snacks is added
- Sun control is added to the south facing glazing in the exhibit hall
- Enhanced bee observation area is proposed
- Convert an area of the Balcony to a green roof for environmental and food learning opportunities, a demonstration garden and/or a butterfly garden to bring a “living” element to it
- Star gazing telescope on the balcony with great views southeast south and southwest.
- Pumpkin drop area

### ANTICIPATED COSTS:

- Construction cost: \$1,175,000 to \$1,250,000
- Total Project costs with contingencies and soft costs: \$1,410,000 to \$1,500,000



**COST SUMMARY**

**03**



# COST SUMMARY

Science Center of Iowa					
Site				Total Project Cost Range with Contingencies and Soft Costs	
			Construction Cost Range		
Daycare Dropoff		\$390,000	\$440,000	\$468,000	\$528,000
Main Entry Plaza		\$300,000	\$350,000	\$360,000	\$420,000
Bus Plaza		\$920,000	\$1,150,000	\$1,104,000	\$1,380,000
East Plaza		\$850,000	\$1,250,000	\$1,020,000	\$1,500,000
Planetarium Hill		\$400,000	\$525,000	\$480,000	\$630,000
Streambed and Boardwalk through Maple/Oak/Hickory Grove		\$450,000	\$725,000	\$540,000	\$870,000
Interactive Nature Playground Plaza		\$350,000	\$700,000	\$420,000	\$840,000
Outside the Secure Area		\$80,000	\$225,000	\$96,000	\$270,000
Second Floor Balcony Features		\$260,000	\$325,000	\$312,000	\$390,000
Roof Garden		\$240,000	\$360,000	\$288,000	\$432,000
Evergreen Discovery Grove		\$175,000	\$350,000	\$210,000	\$420,000
Southwest Arrival Grove and Display Graphic		\$255,000	\$425,000	\$306,000	\$510,000
Northwest Gateway Feature		\$120,000	\$180,000	\$144,000	\$216,000
Expanded Preschool Play Area		\$150,000	\$300,000	\$180,000	\$360,000
<b>Site Budget Totals</b>		<b>\$4,940,000</b>	<b>\$7,305,000</b>	<b>\$5,928,000</b>	<b>\$8,766,000</b>
<b>Building</b>					
Area name	Area	Construction Cost Range		Total Project Cost Range with Contingencies and Soft Costs	
Pre-School	10902	\$1,500,000	\$1,650,000	\$1,800,000	\$1,980,000
Lobby	4037	\$800,000	\$850,000	\$960,000	\$1,020,000
Gift Shop, Kitchen, Dining, Pendulaum and Stairs	6554	\$1,300,000	\$1,400,000	\$1,560,000	\$1,860,000
IMAX Theater repurpose to Center for Innovation	18786	\$7,500,000	\$7,775,000	\$9,000,000	\$9,330,000
Early Childhood exhibit halls	9253	\$1,300,000	\$1,400,000	\$1,560,000	\$1,860,000
Founders Hall	4105				
South Hall	3388	\$500,000	\$600,000	\$600,000	\$720,000
Principal Hall					
Theater	3382				
Offices to Exhibit hall	4915	\$725,000	\$750,000	\$870,000	\$900,000
When Things Get Going Exhibit Hall	6556	\$125,000	\$135,000	\$150,000	\$162,000
Why the Sky Exhibit Hall	4059				
Star Theater	3168				
What on Earth Exhibit Hall	4430	\$1,175,000	\$1,250,000	\$1,410,000	\$1,500,000
Live Animal Care	979	\$240,000	\$250,000	\$288,000	\$300,000
<b>Total Building Budget</b>	<b>84514</b>	<b>\$15,165,000</b>	<b>\$16,060,000</b>	<b>\$18,198,000</b>	<b>\$19,632,000</b>
<b>Public Building/Site Art</b>					
To be determined		100000	200000	\$120,000	\$240,000
<b>Total Budget Projection</b>		<b>\$20,205,000</b>	<b>\$23,565,000</b>	<b>\$24,246,000</b>	<b>\$28,638,000</b>

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