A Master Plan for Elementary School
Campus Improvements

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Introduction

School Philosophy

The mission and philosophical beliefs of Smith Renaissance School of the Arts is to develop the abilities of each student through active involvement with the arts as a means of achieving higher academic levels and personal development. Smith is committed to giving each student learning skills that will increase the success and appreciation for each student for cultural experiences in everyday life.

Only through the combined efforts of educators, parents, students, and the community can this type of quality education be achieved.

Smith Renaissance School of the Arts believes that all children:
- Want to learn
- Can learn
- Will learn
- Need high standards and expectations that result in quality performance

Smith Renaissance School of the Arts believes that every child has the right to:
- A stimulating, safe, and nurturing environment
- Be academically challenged
- Have their creative abilities developed
- Succeed!

Smith Renaissance School of the Arts believes that integrating the arts with academics:
- Can increase standardized test scores
- Meets individual needs of the whole child
- Motivates children to attend and participate in school
- Leads to self-directed learning and problem solving skills

Project Description

Denver Public Schools has commissioned this Master Plan to provide a comprehensive design for the campus grounds. The Master Plan consists both of this document as well as a rendered Master Plan Drawing, a reduction of which is included in Appendix A. This plan provides a cohesive design framework such that site improvements may be phased in a logical and economical manner. In addition, it provides a cohesive vision for the whole site.

Location & Background

Smith Renaissance School of the Arts is located at 3590 Jasmine Street, Denver Colorado, 80207, as indicated in the area map on the following page. This school serves the North East Park Hill Neighborhood.

Smith Elementary School was established in 1955. The school was built to accommodate six hundred ninety students. Because the community was quickly growing, an addition was built in 1957 increasing the capacity to nine hundred sixty students. The current student body, ECE through 5th grade, is 520 pupils.
With the end of court ordered busing, Smith Elementary has become a neighborhood school. The ethnic diversity is as follows:

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian</td>
<td>0.2%</td>
</tr>
<tr>
<td>African American</td>
<td>72.4%</td>
</tr>
<tr>
<td>Asian</td>
<td>2.2%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>22.3%</td>
</tr>
<tr>
<td>White</td>
<td>2.8%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

"Among the student population currently being served by Smith Renaissance School of the Arts, 48.6% meet the criteria for being "at-risk" children, 9% are in special education programs, 72% are eligible for free lunch; and a significant number of students are being reared by grandparents, foster parents, or single parents."^2

Smith student CSAP scores for the year 2000 compared to all of DPS and State Wide were as follows:^3:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Reading</th>
<th>Writing</th>
<th>Math</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smith</td>
<td>23%</td>
<td>22%</td>
<td>10%</td>
</tr>
<tr>
<td>DPS</td>
<td>47%</td>
<td>37%</td>
<td>18%</td>
</tr>
<tr>
<td>Colorado</td>
<td>69%</td>
<td>61%</td>
<td>36%</td>
</tr>
</tbody>
</table>

---

Students & Faculty

The landscape architects from GPD Land Design met with Smith Renaissance School of the Arts principal Joyce Simmons and with faculty to present the improvement project and master planning process. It was decided that a student workshop would be a valuable brainstorming exercise.

Four student representatives from each grade level, kindergarten through 5th,
were chosen to participate in the workshop. Prior to the workshop, many of the classes and faculty members planned playgrounds and compiled program elements, which they brought with them. The wish list generally included the following elements:

- Keep monkey bars
- Turtle shape with sand inside
- Merry-go-round
- Treehouse/playhouse
- Bridge
- Swings
- Grass with track
- Tire
- Ringers
- Slide
- Flowers/gardens
- Igloo
- Apple tree

The workshop itself began with discussion of landscape architecture as the design of outdoor spaces in general and the Smith playground in particular. The juxtaposition of architecture and landscape architecture was presented as well. The ideas of plan drawing, elevation drawing, and program elements were introduced.

The workshop concluded with the students drawing their playground plans, some of which are pictured here.

**Existing Site**

**History**
Margaret Mendenhall Smith School was opened on February 28th, 1955. The school was named in honor of Margaret Mendenhall Smith who had worked within Denver Public Schools for many years as a teacher and elementary school principal. She was born in London, England and started teaching in Denver in 1898. She retired in 1941 and died in 1952.

Smith Elementary, pictured below, originally contained eighteen classrooms, two kindergarten rooms, a library, lunchroom and gymnasium. The student capacity was six hundred ninety students.


The school received an addition in 1957. This addition created nine more classrooms and lavatory areas, thus increasing the capacity to nine hundred sixty children.

When Denver Public Schools implemented theme-based magnet schools, Smith Elementary became Smith Renaissance School of the Arts. "Smith Renaissance School of the Arts is combining innovative program design with sound educational basics, re-involving parents, community and businesses in an artistic and creative approach that is destined to produce positive academic and personal growth results in our students."

**Site Inventory**
Smith is at the southwest corner of Jasmine Street and 36th Avenue. The building is sited on roughly a city block which totals 162,742 square feet (sf) of asphalt, squeegee, and grass. Detached sidewalks and a tree lawn surround the site on all four sides. All square footages within this site inventory are taken from the DPS Existing Site Conditions drawing on page 2.2. Square footages of key elements are as follows:

<table>
<thead>
<tr>
<th>Gravel Play Field</th>
<th>Soft Surface</th>
<th>Asphalt Play Area</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>43,417 sf</td>
<td>9,405 sf</td>
<td>29,985 sf</td>
<td>162,742 sf</td>
</tr>
</tbody>
</table>

**Asphalt Play Area**
The existing play area asphalt is 29,985 sf. There are games of four square, wall ball, hopscotch, basketball, and tetherball within this area.
Plan Drawing: Existing Site Conditions provided by Denver Public Schools.
**Playground Equipment**
The school has an ECE play structure and a primary play structure. Current play elements on the site include 4 slides, 20 swings, 5 climbers, 2 horizontal ladders, 1 horizontal bar, 2 travel rings, 5 tetherball courts, 6 hopscotch games, 6 four square courts, a ball wall, 1 full and 1 half court basketball courts, and a soccer field.

**Playing Field**
The playing field is a graveled, non-irrigated area of 43,417 sf.

**Track**
There is no track at this site.

**Soft Surface**
The soft surface area is comprised of three play pits: one for ECE, one for play structures, and one for swings. Their square footages respectively are: 1,473 sf, 5,812 sf, and 2,120 sf.

**Plant Materials**
This site contains an incredible specimen oak tree. This tree, in the middle of the asphalt play area, provides shade to a significant portion of the playground. The west side of the building contains numerous deciduous shrubs and trees. In addition, the north, east, and south sides of the playground have irrigated tree lawn with numerous healthy street trees.

**Vehicular Access and Parking**
There are two parking lots on the site. The north lot contains 17 spaces and 1 handicap space. The south lot contains 34 spaces and no handicap spaces. Fire access is available on the north and west sides of the building, on 36th Avenue and Jasmine Street, respectively.

**Handicapped Accessibility**
There are two handicap accessible building entrances. One is located at the main entrance on the west side and the other on the east side of the building at the south end. Existing playground equipment is not accessible.

**Surrounding Uses**
The site is bounded on all sides by single-family housing. Several day care centers operate in the immediate area.

**Adequacy of On-Site Uses**

**Safety**
An opening in the fence between the primary play pit and the eastern swings, pictured at right, presents an entrapment hazard. In addition, the concrete curbing enclosing this
play pit presents a trip hazard where it meets grade. This condition is shown at right.

The basketball goals, pictured below, are not the gooseneck type and have the potential to catch hands or clothing.

A small space immediately north of the main, east playground entry cannot be supervised from the playground and should be fenced.

There is some exterior lighting on the grounds in addition to the streetlights.

**Play Equipment**

Much of the older play equipment fails current safety standards. Notable failures include swings with 3 swings per bay rather than 2, inadequate safety zones for swings, and the metal chain netting pictured at right. In addition, all safety surfacing is squeegee which does not appear to meet the DPS and Consumer Product Safety Commission (CPSC) minimum depth of 12 inches. A completed DPS Playground Safety Site Assessment is included in Appendix B.

The quantity of equipment is inadequate for the current 520 students enrolled in ECE-5th grade. Existing equipment can accommodate approximately 140 students (27% of the student body) at any one time.

The ECE equipment meets safety requirements but can accommodate approximately 12 students at a time, whereas ECE and kindergarten enrollment totals 118 students.

**Vehicular Access and Parking**

The existing 51 parking spaces exceed the minimum standard of 48 spaces \([\frac{1}{\text{classroom}} + (\frac{0.5}{\text{ECE-3 classroom}}) + 20]\) for elementary schools. Dual parking lots provide convenient access to the building.

**Handicapped Accessibility**

Existing and additional play equipment must be made accessible.

**Drainage**

The playground surface drains from the northwest to the southeast. No drainage or erosion problems are evident. The addition of a turf field on the southern edge of the asphalt will help mitigate pollution from storm water run-off from the asphalt.
Shade
The site contains little shade except for the large oak tree described above under "plant materials." Although significant, additional shade is desirable, particularly given the southern exposure of this playground.

Ambience
Surrounding streetscapes are irrigated, planted, and generally well maintained. A mural above the main building entrance helps to set a positive tone for arrival. The playground itself has one highly positive element: the oak tree. In addition, the newer primary equipment and the new ECE equipment are generally adequate. However, overall the playground environment is over fenced, hardscrabble, utilitarian, and devoid of plant life and color.

“The need is to create an environment which not only provides for the developing child’s educational needs, but where a special ambience is created which signifies that young people are cherished, respected, and considered.”

Eileen Adams, 1993
The Vision

Conceptual Plan
Artistic inspiration and self-expression are fundamental to Smith’s curriculum as a Renaissance School of the Arts. As the setting for this curriculum, the playground should likewise seek to inspire and encourage children. The playground should provide an impetus for imagination, creativity, and learning both in the performing and visual arts and for traditional student achievement in reading, writing, and math. To do so, the playground design seeks to evoke surprise, wonder, and possibility.

The playground will emphasize the ideas of self-awareness, community awareness, and joy in learning. Appreciation and respect for self will be demonstrated through words as well as through multiple spaces, each with a different tone and spatial quality. The way these spaces fit within the larger playground will be thoughtfully articulated to demonstrate the relationship of self to the larger society. Both types of spaces will encourage empathy and respect both for self and for others. Experiential learning elements will be intrinsically and carefully designed to create an atmosphere unifying knowledge and fun in joyful learning.

Overall, the design of the playground will stimulate play as well as catalyze learning in the landscape; both are afforded through traditional play equipment and non-traditional, pluralistic elements. Inclusion of outdoor learning activities encourages observation and creative thinking. The design seeks to accommodate differences in gender, learning style, and personality through creation of various kinds and sizes of spaces. The design strives to include art, science, language, and math within a hands-on outdoor environment.

Perhaps the most powerful signal that Smith is an important place and that learning is valuable is the action of improving the playground.

Goals and their Program Elements
The objectives described above can be consolidated within the following goals:

1. Promote participatory, hands-on learning through outdoor settings
2. Create a campus appropriate to the curriculum of a School of the Arts
3. Make a fun, peaceful place to be and play
4. Recognize the individual as independent and as coexistent

The conceptual plan and its proposed elements are presented in the Master Plan Drawing on page 3.2 and in Appendix A.
The Vision
**Goal 1. Promote Participatory, Hands-on Learning through Outdoor Settings**

**Game Tables**
Often a highly active, noisy place, a playground also needs spaces for quiet and solitude. Game tables offer space for peaceful activities like board games, seating, and reading. Board games offer learning opportunities through participation. The tables would themselves also be art elements, likely including painted tile. Located within the Oak Commons, the tables could also be used for eating and as spectator seating for the stage and surrounding court games.

**Compass**
As the boundary of the Oak Commons, the compass can orient the students to the playground, the neighborhood, and the city. In addition, all other painted maps would be oriented to agree with this compass. Learning opportunities, especially when including the maps, include geography, longitude, latitude, global positioning systems (GPS), and solar aspect.

**Maps**
Smith faculty indicated interest in including the US map on the playground. The map will include additional details of major rivers and Denver County. Additionally, global maps will be included within the tetherball circles. The maps can help present the geographical relationship of city, state, country, and world.

**Math Queries**
Tetherball circles will be subdivided to show fractions; likewise, foursquare can be numbered to show fractions. Items throughout the playground can be numbered to assist in simple character recognition as well as basic counting. The maps can be used for measuring distances and presenting the ideas of scale, units, and speed or rates of travel.

**Classroom Garden**
Classroom garden space is provided. Not only does this space enhance the site's aesthetic quality, it also abounds with learning opportunities. Scientific ideas might include biology of plants, life cycles of insects, solar aspect, microclimates, and water use. Garden experiments may also be used to present mathematical concepts like measuring ratios (compost to soil or plants to area), measuring growth rates, and charting growth rates.

Another option is to plant the garden as a bird and butterfly ecosystem that can show how multiple species of plants with like needs co-exist and support another kingdom. The space would include good host species for caterpillars, nectar flower species for butterflies, and materials for habitat improvement.

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> "...rather than short-right-answer worksheets and recitations, they participate in the concrete experiences that underlie superior concept development and creative problem-solving in mathematics, engineering, science, and social studies."  
> (On building and equipping a solar greenhouse.)  
> Anne Taylor, 1993

> "Play environments have to be far more complex and replete with possibilities than they have been up to now."  
> Robin C. Moore, 1974
Goal 2. Create a Campus Appropriate to the Curriculum of a School of the Arts

The Stage
As a Renaissance School of the Arts, imagination, creativity, and performance are pivotal to Smith's curriculum. The Stage, placed against a south building wall, will be stamped into concrete which will serve to delineate it from the surrounding asphalt. The wall will be painted to provide the backdrop. Audience "seating" will also be marked on the asphalt to the south of the stage.

The Stage speaks to Smith's curriculum by tapping into the imagination: it is a stage and it isn't a stage. This paradox seeks to spark creativity. Although usable for more formal performances, its dominant role is for daily play as a place of make believe and imagination.

Mural Wall
This piece will highlight the entry corridor from Kearney Street. The mural will either be painted directly on the wall or onto an outdoor "canvas" attached to the wall. The mural must be placed high such that wall ball can be played beneath it. The art may be created by a local artist or designed by a local artist and painted by students. The piece might be treated as mutable, emphasizing themes relevant to the school's curriculum.

Perspective Grid
The impetus for this design is the one-point perspective grid. This grid is set into the ground plane to speak to the visual art element of the curriculum and to emphasize the stage. The focal point of this grid is shifted up onto the backdrop of the stage. This deliberate skewing of perspective is intended to assist the leap from the real to the imagined, befitting an Arts School.

Banner Poles
Multiple banner poles are included in the site design, typically in places that facilitate pedestrian circulation. Each banner pole holds two 2'x3' banners that can be easily changed as desired. The mutability provides display space for successive students as well as opportunity to display seasonal, holiday, or thematic artwork.

Art Elements
Podiums and banners will strategically accent the site for the display of art from both the students and the larger community. Focal points, like the Oak Commons, will exhibit multiple art pieces. The pieces might be permanent, semi-permanent, or temporary works of both professional and student artists. Ideas for pieces include kinetic sculpture and sound pieces.
Goal 3. Make a Fun, Peaceful Place to Be and Play

Boulders
Small boulders will be set low to the ground providing both seating and climbing. The boulders also provide material for study of geology, condensation, heat retention, mass, and density. The boulder field will be sited to meet DPS safety standards.

Track
A crusher fines track is included to facilitate play for the students and to provide a place for neighbors to walk for exercise. In addition, it helps to prevent weed growth within the fencing.

Game Courts
Traditional play features including tetherball, basketball, hopscotch, and foursquare will be included within the asphalt. The numbers will meet or exceed the existing numbers on the site.

Traditional Play Equipment
Primary & Intermediate
The existing green and white, primary play equipment will remain as will the southernmost set of ringers. The surrounding play pit will be expanded to accommodate a new piece of intermediate play equipment as well as new swings which meet current safety standards. The primary and intermediate play pit will be combined to preserve the existing equipment, for easy monitoring, and for separation from ECE. Space is sufficient for both primary and intermediate pieces with room between to allow reasonable separation of the two. All safety surfacing will be engineered wood fiber (EWF).

ECE Playground
The location of the existing ECE playground does not seem connected to the larger site. In addition, its placement immediately adjacent to the oak tree undermines the impact that the tree has for the remainder of the site as well as potentially undermining its health. The ECE playground equipment will be relocated northwest of its existing site and augmented with plant materials and shade elements.

Turf Play Field
An irrigated turf field provides an expansive open space for activities like field day, assemblies, graduation, and school performances. In addition, turf fields provide space for organized team sports. Turf also helps to create a cooler microclimate for this playground’s southern aspect as well as helping to mitigate pollution from storm water run-off from the asphalt.

Sand Box
Several of the children's drawings included sand boxes. Sand can be an artistic medium for sculpture as well as a mechanism for explaining physics principles like flow rates, screening, angle of repose, compaction, and infiltration.

Wall Ball
The 100 Sight Words will be added to the existing wall ball court on the southeast edge of the building. These words will enhance the entry corridor as well as provide additional wall ball
game options.

Coat Rack
Several of the children’s drawings included places to hang their coats. This practical, simple element facilitates keeping track of coats and backpacks.

**Goal 4. Recognize the Individual as Independent and as Coexistent**

**Being Walk**
The Being Walk meanders throughout the site, creating a symbolic life journey. Words and images draw the children along the poetry of the path. The vision for this path is not that it tells a straightforward, direct story but rather that it sparks imagination, association, and possibility through words and images set into and/or painted on the ground. The path deliberately changes as it collides with and reacts to other elements on the playground just as the path of life encounters obstacles, opportunities, and surprises.

**Oak Commons**
This space will include a series of benches, game tables, and art pieces surrounding the oak tree with the oak tree as center. The space functions on many levels: as central gathering space, as outdoor classroom, as quiet space, and as a central supervision point. This space is central to the playground both physically and symbolically.

**The Knoll**
Quiet and peaceful places are incorporated throughout the playground to meet children’s needs for solitude and placid play. The Knoll is a shady, irrigated, grassy berm situated between the entry and the swings. The Being Walk meanders through it for a short while, but the tone is generally quiet and calm.

**Welcome Arch**
This main gateway will mark the existing campus entry from Kearney Street. This gateway will be formalized to provide a welcoming entry for parents, students, and neighbors.

**Additional East Entry**
The site needed an additional entry point on the eastern edge for convenience. The new entry is aligned with the southern edge of the asphalt and with the entry from the opposite (west) side, south of the building.
Implementation

The estimated construction cost for the entire campus is $497,522.57. Some elements may be delayed or omitted in lieu of others. In addition, volunteer efforts, school projects, and in-kind goods and services will reduce the budget. A proposed phasing plan is shown below. Although it is somewhat variable, the infrastructure pieces are sequenced to minimize construction waste. Detailed budget worksheets by phase are included in Appendix C.

**Phase 1A**

- Turf Play Field
- Crusher fines track
- Add asphalt

**Phase 1**

$208,272.52

Program Elements

- Trees
- 6-Bay swings
- Being Walk
- 100 Sight words
- The Knoll
- Maps
- Banner poles with banners
- Asphalt painted games (tetherball, basketball, four square)
- Perspective grid
- Oak Commons sandset brick
- Compass
- Garden plants

Major Infrastructure

- Irrigation
- Demolition of asphalt, backstop
- Patch asphalt
- Asphalt seal coat
- Relocate ECE equipment
- Play pits with EWF
- Asphalt powerwash

**Phase 2**

$110,973.10

Program Elements

- Intermediate Play Structure
- The Stage
- Mural Wall
- Game Tables (Oak Commons)
- Art Elements (Oak Commons)
- Bench (Oak Commons)
- Surge Swings
- Welcome Arch
- Stage Backdrop
- Vertical Banners on Fencing
- Boulders
- Trash cans

**Total**

$497,522.57
Appendix A

Master Plan Drawing
Appendix B

DPS Playground Safety Site Assessment
Appendix C

Phase Budget Worksheets
Appendix D

Reference Materials
Footnotes

1 Smith Renaissance School of the Arts Promotional Packet & Information Guide.

2 Smith Renaissance School of the Arts Achievement Flyer.

3 Smith Renaissance School of the Arts Promotional Packet & Information Guide.

4 Smith Renaissance School of the Arts Promotional Packet & Information Guide.