

Statement of Purpose: The playground at Frank Porter Graham Bilingue needs a comprehensive renovation to create a first-class resource to meet our health, recreation and community needs, and to address the multiple factors that are currently limiting its overall safety, quality and usefulness.

Overview of Current Conditions:

The playground is a large, mostly open space of approximately 2.5 acres. There is adequate area for multiple sub-spaces for activities organized by age and type, and for enhancements such as educational features, seating, storage, utilities, etc. as well as improvements to protect the natural environment. There are some areas of mature trees near the borders of the space and a significant stream just below the main playing field, divided from it by a fence system. The space is adjacent to the school buildings, but at a ground level significantly lower than the school, limiting the ease of transitioning back and forth between the two.

The facility has some quality accessories, but lacks organization and orientation. Many separate and disparate pieces of equipment have been installed in the space over a 50+ year time span without an overall site plan, without establishing useful relationships and proximity amongst the features, and without assessing/addressing overall needs and functionality.

The playground accessories suffer from the impacts of age, with some features in need of comprehensive maintenance and others at the apparent end of their useful life. Basic infrastructure such as sidewalks and storm drains are a “mixed bag” with maintenance issues as well as functionality issues by modern standards.

Virtually the entire site is challenged by drainage issues (unregulated surface water flowing from the school campus above, as well as from the concrete court surfaces), and flooding issues (flooding events from the near-by stream and up-stream water shed). Drainage issues such as erosion and boggy areas arise during/after virtually all significant rain events. Flooding issues arise in severe conditions and can impact approximately 50% of the space with unsurprising frequency, perhaps annually. The entire existing playground site sits in the 100-year flood zone. Combined, the current water and erosion issues generate on-going significant negative safety, utility, and environmental impacts both on and beyond the school campus.

Needs, Uses and Challenges:

There are interconnected needs and opportunities to be addressed in the work to improve the playground.

During the school day, children use the playground at recess on a regular basis and for class activities on occasion. Children tend to be divided and supervised in younger (K-2) and older groups (3-5). Pre K classes do not typically use the main playground as it is not outfitted for the purpose. (There is a smaller pre-k playspace on the school property, which is also in need of renovation or replacement.) Likewise, the P/E and Aftercare programs do not typically use the main playground as a recreation space as there are significant resources absent such as bathrooms, sheltered spaces for passive/quiet activities, storage for equipment, and so forth. On occasion the school community as a whole uses the playground for events and gatherings.

Attached below as “Attachment A: Itemized List of Improvements” is a comprehensive listing of desirable repairs and improvements. Significant challenges to be addressed include:

- Access to utilities. The playground is of some distance from the nearest school building. There are no bathrooms, drinking fountains, electrical service or lighting available on the playground.
- Safe, healthy spaces. Staff’s sight lines for supervision are disorganized; older equipment has fewer safety features and/or more maintenance issues; traditional mulching in fall zones is subject to washing out; mud, ruts and/or flood water create undesirable conditions; closing of the playground in wet conditions limits children’s activity; play areas and limited seating are not organized in a fashion to provide shady options in hot weather.
- The K-2 equipment is the oldest on the playground and close to the end of its useful life

- The 3-5 climbing equipment is located at the lowest point on the playground and is most frequently flooded. Additionally, sand being used in the fall zone (in lieu of mulch that would wash out) is damp, sticky and messy and is carried back to classrooms on clothes, shoes and in children's hair.
- The grit surfaced walking track is repeatedly eroded.
- The entire facility...playground and school...date from an era when environmental impact was not a design consideration. For an outside space in an educational environment, it is a deficient model of how the built world can successfully co-exist with the natural world. Negative environmental impacts of the uncontrolled run off are on-going in the stream corridor below the site.
- Likewise, out dated design provides limited consideration for access/recreation for children, staff, or community members with mobility challenges or other life circumstances.

Related Institutions:

The following institutions have key connections to the FPG playground site:

- CHCCS owns the property and sets policies regarding playground safety. General Administration takes responsibility for emergency repairs and/or safety issues on the site. CHCCS does not typically provide on-going preventive up-keep or renovation of playgrounds, tasks generally left to each school's PTA
- Town of Chapel Hill Parks and Recreation is currently planning for the extension of the Morgan Creek Greenway, which will pass directly adjacent to the playground at creek-side. It is not believed at this time the Greenway extension will claim land from the playground site itself, but it may impact pedestrian flow across the site and/or the population using the playground
- Town of Chapel Hill Zoning has authority over regrading and new structures in the 100-year flood plain.
- The UNC Frank Porter Graham Childhood Development Institute (CDI) is co-located on the FPG campus and borders the elementary school property, sharing infrastructure on the site.

Design Principals:

In addition to addressing specific challenges described above, the playground design will have the following characteristics:

- Age appropriate design. The organization and features of the playground will be tailored to two age groups: a K to 2nd grade group and a 3rd to 5th grade group. Each age group will have improvements clustered in proximity to one another such that a single age group can be supervised in a subsection of the over-all site and/or that different age groups can play simultaneously on different sections of the playground.
- Healthful environment. Improvements will encourage active play for groups and individuals. Materials are to be chosen thoughtfully. The over all environment will be stimulating and inviting.
- User friendly. Play will fit comfortably in appropriately sized areas so as to keep the over all flow on the playground as conflict free as possible. Multiple spaces will accommodate multiple activities at the same time allowing for diverse interests. Spaces will be user friendly from a supervision perspective also and will include good lines of sight and appropriate boundaries.
- Environmentally appropriate. The site will include native plantings and feature conspicuous examples of storm water control measures that meet best practices. The design will offer children and the school community the opportunity to experience and study how the environmental impacts of the built-world may be dealt with in thoughtful, effective ways.
- Durability and sustainability. These improvements represent a significant social and financial investment for the FPG community. They are to be lasting. As such, they need to be durable, low maintenance, and be manageable with mostly volunteer labor. The program for the playground will include a maintenance plan that institutionalizes the cycle of work necessary for care-taking as well as any technical need-to-know information such as types of materials, sources, and vendors.

Attachment A: Itemized List of Improvements:

For purposes of the descriptions of locations and orientation, “up” or “above” indicates a direction towards higher grade/ closer to the school buildings and “down” or “below” indicates a direction towards lower grade/toward Morgan Creek. “East” indicates a direction towards the adjoining apartment complex and “West” indicates a direction towards Smith Level Rd.

(R) Recreation Equipment/Features:

Fitness Path; all ages: A loop approximately 985’ in length (replacing an existing path of 1000’), elongated from east to west traversing above and below the basketball courts. The new alignment is to be on ground of a higher elevation than the existing path and at a greater distance from Morgan Creek. It is to be laid as much as possible perpendicular to the flow of rain water to avoid scouring and erosion along its length. The path will likely be a combination of a grit base in shaded/wooded areas, and a mown turf surface distinguished by conspicuous markers (set flush to ground level for safety and ease of maintenance) in grassy portions of the site.

Two Play Fields; grades k-2 and 3-5: Two grass playing fields bounded by the fitness path above and by the planted stream buffer below; separated by a shallow drainage swale. The K-2 field to be approximately 60’ x 120’ (compared to a standard U-7 soccer field of 60’ x 90’). The 3-5 field to be approximately 70’ x 150’ (a U8 soccer field is 75’ x 105’). These grassy fields are intended as all-purpose play spaces; the surface is to receive minimal maintenance, but should be properly prepared and kept in a usable condition.

Natural Play Area; grades k-2. A defined space inside the western half of the fitness path, under the drip line of the hardwood trees in that area. An interactive play space for younger grades built with materials such as logs, ropes, rocks, fossil-dig sediment and moveable objects used for creative, social play encouraging fun use of balance, coordination and skill building. Likely with a mulched surface suitable for hosting climbing and physical challenge oriented play. Bounded on the higher side by a feature suitable for seating that will also define and separate the contour of the fitness path (essentially a low “sit-able” retaining wall enhanced with creative play elements like variable heights, unusual materials, built-in art, etc.). Possible additional plantings in the area could include low growing plants of interest, like herbs, or some additional trees to expand shade. No features or plantings are to be of a character that would unduly obstruct supervision or sight-lines.

Swing Set(s); grades k-2. One existing conventional swing set in the western portion of the play ground is to remain. The tire swing in that similar location is to be removed as it sits in a low lying section of the space and is in conflict with the intended position of the fitness path. Additionally, there is adequate space between the existing swing set and the site of the natural play ground such that an additional set of swings can be installed as part of the over-all k-2 play space.

Mini Hard Surface Play Court, grades k-2 (existing). The existing small concrete court surface to the far west of the site is to remain and to be incorporated into the over-all k-2 play space. Purposing of the court remains to be defined. Flood zone restrictions would prohibit any changes to the size or elevation of the hard surface, but the existing surface is permitted to remain as a “grand fathered” pre-existing use. Possible uses would be an open flex-use surface for activities such as jump rope or chalk drawings, a space marked out for activities such as hop-

scotch and 4-square, and/or a low (6') height basketball rim on a "mini court" for age appropriate basketball-type games. In any case, the surface of the space can be decorated with a creative motif. To the greatest extent possible the space should allow for creative and spontaneous play.

Grades K-2 Traditional Climbing Structure, (existing). The existing wooden play structure in the western end of the play ground is designed for and currently used by younger students. The structure has been identified by CHCCS staff as having a limited on-going usable life span of perhaps 5 years. It is the intent of this plan to phase out the use of this equipment as the features of the natural play area are fully developed. At that time, the structure could be retired and the low-lying area it sits upon would be claimed as part of the planted stream corridor buffer.

Hard Surface Play Court, grades 3-5 (existing). The hard surfaced court to the east of the basketball courts is currently marked and used for four square, hopscotch, and other spontaneous play. This surface is intended to be purposed for the use of the older (3-5) grades in conjunction with future play equipment to be sited immediately to the east. Like other hard surfaces of the playground, this one cannot be expanded or elevated due to flood zone restrictions...but it can be maintained. This feature can continue to serve the same use as it does now, or be repurposed creatively as desired.

Two Basketball Courts; differing age groups (existing). The concrete slab of the existing two basketball courts is largely intact and is to be maintained as a pre-existing feature of the playground. The markings for the court can be restored and/or a creative theme could be displayed on the concrete surface so long as it also remains suitable as a play surface. In the near future, the basketball goals be in need of replacement. Adjustable height basketball goals are problematic in that they require adult supervision to be adjusted safely, are subject to damage, require maintenance, and invite discord amongst users with differing opinions as to the desired adjustment. As such, it is recommended that fixed-height rims be installed, but that the two courts be outfitted with rims of different heights to provide a range of age appropriate play. The American Sports Education Program (ASEP) has the following rim-height recommendations: grade k-2: 6 ft.; grades 3-4: 8ft.; grade 5: 9ft.; grade 6 and above: 10ft. It is proposed that the rim heights be set at 8ft. on one court and 10ft. on the second. (And that, if desired, a 6ft. rim be added to the "mini hard surface play court" as described above.)

Grades 3-5 Climbing Structures; (replace). The existing grade 3-5 climbing structures in the lower east corner of the playground are sited in the lowest, boggiest section of the playground. They are "mulched" with sand in a less-than-successful attempt to build up a reasonably dry surface and because wood mulch washes away. While some of the main components of these structures are in good condition, the accessories and fastening hardware are heavily weathered and worn and the site is in on-going poor condition. It is proposed that a new, more appropriate location for replacement grade 3-5 climbing equipment will be on higher ground to the east of the basketball courts and inside the perimeter of the fitness path. The new equipment will generally serve the same "active play" function but may be of a similar or different character (i.e. "traditional" or "natural play"). Since the existing equipment is not near immediate failure, it is proposed this work be undertaken as a later step in the playground renovation. At such time as this equipment can be replaced in the new location, the existing equipment is to be removed and the old space can be assimilated into the planted stream buffer as shown on the Concept Plan.

Shaded Activity Spaces (various): Shaded play and resting places are a desirable feature. In the long term, tree canopy creates ideal shade above with relatively open spaces below. In addition, tree roots stabilize soil and soak up excess water. As is feasible, appropriate tree planting could occur in three identified locations:

- At the eastern edge of the natural play area to extend the existing tree canopy there,
- On the western edge of the dry creek bed in proximity to a site to be used for an outdoor classroom space (such that it does not interfere with the playing fields),
- Immediately south of the basketball and four-square courts in conjunction with the design for the upper “T” of the bio-swale. Varieties of trees should be native to the Piedmont and compatible with their locations.

(U) Utilities/Amenities:

Drinking Fountain: The most requested amenity currently absent from the playground is a source of drinking water. An existing water line (that once served a drinking fountain fixture) is present immediately to the west of the basketball courts. This is a good location for a new drinking fountain fixture. Professional labor should be used to install a new fountain in an appropriate manner. The fountain should be ADA accessible, be appropriate for the site (frost proof), and be durable. Additionally, since the school buildings are at a distance from the playground, it would be of benefit if the fixture included a hose bibb connection to provide a water source for general needs and that can double as a “faucet” when need be.

Seating Areas (various): There are numerous opportunities for seating around the playground. The current seating options are limited, with benches and seating at random locations that are not coordinated with activity spaces. The following opportunities for seating are identified:

- As noted in the Natural Play Area section, a permanent fixed seating feature in the form of a low “wall” at the back of the space that can serve as seating, as an additional creative feature of the play space, and as needed structure to define the contours of the adjacent fitness path. This feature would be in full shade
- A permanent fixed seating fixture in the form of a crescent shaped low “wall” off the north west corner of the basketball courts in proximity to the large storm drain grate in that location, oriented towards the courts. Such feature would create spectator space for the courts and a transition/waiting space close to the drinking fountain. The structure of that feature would provide a boundary between the planted hillside above, and the active space below, as well as a flattened “rim” behind the seating feature on the side of the slope in that location for the fitness path to loop above the court area. Additionally, the structure will allow the fitness path surface to be raised to the level of the storm grate and be slope back to the grate so as to create a large “fool proof” water catchment to collect the heavy surface water flow in that location and direct it into the storm drain. This feature would be in full sun, but could be partially shaded with additional tree plantings on the slope above.
- Seating TBD in proximity to the grades 3-5 climbing equipment (east of the basketball courts), potentially above the loop of the fitness path such that some of the seating is shaded under the tree line. Possibly fixed or possibly moveable, such as picnic benches or the like, configured to create face to face social interaction and to provide table surfaces. This feature would be in a mix of shade and sun.
- Seating intended to create a useable outdoor classroom feature; see next item “Outdoor Meeting Space”.

Outdoor Meeting Space: Upon completion of the environmental improvements, there will be spaces ideal for outdoor learning such as at the dry creek bed or in a section of the stream buffer where the ecology of the native

plantings create a “living laboratory”. With input from students and staff, these areas should be enhance with simple features such as benches and/or a work surface for outdoor learning activities.

Outdoor 110 Electrical Connection: If feasible, the installation of a properly safeguarded 110 electrical connection would be useful for running any sort of electrical accessory as may be needed for an activity on the playground, such as a sound system, carnival game, outdoor movie projector, etc.

Outdoor Equipment Storage: A simple and secure storage space on or near the playground would make it possible to keep sports equipment and balls close at hand to the playground.

Coat and Clothing “Rack”: Staff report that as children and staff cycle from classroom to lunch to the playground, various personal items get transported along, as do coats and layers of clothing. Currently there is no proper way to store and safeguard these items while children are at play. A simple rack or similar accessory could keep these items out of the dust and mud...and also be a creative piece of art on the playground.

Accessibility Features: Much of the playground and its infrastructure pre-date any type of ADA standards for accessibility. As features are amended or replaced, consideration should be given to creating a positive environment for users with accessibility or developmental challenges.

Emergency/Service Vehicle Access: Current vehicle access to the site is via the service road behind the CDI building and through the gate at the south west corner of the playground. This access should remain unrestricted by changes made to the playground, including changes made by the Town of Chapel Hill during the Morgan Creek Greenway extension project. All stakeholders should be reminded on an on-going basis of the importance of this access to assure the access is maintained.

(E) Environmental Improvements:

Riparian Buffer: A 50-foot wide strip of land along the southern border of the play area will be seeded with native meadow plants to create a riparian buffer that slows floodwaters when Morgan Creek rises above its banks. Plant roots that extend several feet into the ground will hold soil in place and the tall foliage will slow water as it advances towards the play space. While children will not play in this area during recess, there is an opportunity to site an outdoor classroom here and/or create some nature trails through the space (see below, Nature Trails).

Drainage Swales (various): A significant amount of storm water crosses the playground area. Directing and facilitating that drainage in a pro-active manner will improve conditions in the play areas, as well as improve water quality in Morgan Creek and provide unique, positive features on the site:

- **Dry Creek Bed:** A preexisting drainage pattern brings a considerable flow of water down the fence line on the east side of the playground. Due to a lack of vegetation and severe erosion each rain cycle recreates a muddy corridor down the length of this side of the playground. Installing a “dry creek bed” of river stone and appropriate low-growing vegetation will provide a controlled channel for the water flow that will be dry in dry

conditions and still be a usable area for students in wet conditions. Restoring this area will also decrease the amount of sediment reaching Morgan Creek and offer more diverse habitat for wildlife.

- **Bio-Swale:** In each storm event, significant water flow is generated by the hardcourt surfaces in the middle of the playground. This water currently saturates the playing fields immediately below the hard courts; the fields stay in that poor condition for multiple days after a heavy rain. A bio-swale created for the purpose of carrying the surface water from the courts to a new riparian buffer, by-passing the playing fields, will improve these conditions. The swale will also slow, filter, and absorb the runoff before it reaches Morgan Creek, a job currently being done by the field space. Because of the swales position between the two playing fields, it will be vegetated with low grasses such that entering the swale to retrieve a ball or the like can be easily accomplished. Likewise, the swale will be easily crossed by yard maintenance or other equipment as need-be. The swale itself could be maintained by seasonal mowings with basic equipment in a prescribed course-of-care TBD with CHCCS grounds crews.
- **Other:** Smaller but important drainage features are to be incorporated into the design of the play areas as needed such that storm water moves across and past the play areas causing minimal disruption to play or to the features themselves. At no point is water intended to be permanently retained on the site.

Plantings (various): Plantings will be used in various locations on the site to 1) stabilize soil, 2) slow, direct, filter and absorb storm water, 3) create habitat, 4) buffer the playground area from flooding, 5) define or create play spaces, and 6) to enhance the learning environment. Plant varieties will be indigenous to the area, appropriate for the conditions of the site, compatible with the play areas in proximity, not create any undue hazards on or near the play spaces, and be reasonable to maintain.

Water Retention/Filtering: In the lower areas of the existing play space, there are locations where surface water collects and puddles in wet weather. In the renovated playground design, these areas will be within the confines of the newly planted riparian buffer (outside the active play areas). These areas are to be enhanced with plantings to create wet weather ephemeral ponds. ("Ponds" is used as a descriptor of the habitat to be created; the sites will remain as "puddles" in a vernacular sense of the word.) As possible, surface water from the play areas above will be directed to these locations to be slowed, filtered, and absorbed before reaching Morgan Creek. (Because ephemeral ponds cycle back and forth from wet to dry, they will remain shallow and have little risk of hosting mosquitoes or other water-centric insects.

Natural Trail(s): In addition to the Fitness Path described above, the various features, habitats and improvements on the site will create interesting spaces that invite users to move around and explore. In consultation with staff and in consideration of supervision and safety issues, there is an opportunity to create small "nature trails" along the dry creek, and/or in and out of the naturalized riparian buffer. This pattern can be coordinated with the Outdoor Classroom as described above.