

Guidelines and Best Practices For school site selection.

Report to the Board of Education 3/21/22

This report outlines the thinking and the design elements, including site selection, for a new elementary school on the south side of Springfield. The original plan in the Our Schools Our Future facilities plan included the combination of Laketown and Hazel Dell Elementary Schools. This plan is now exploring the inclusion of Southern View Elementary into this plan. The details of the site selection component of this plan are outlined in this report from the our architectural and engineering team that have helped us realize our facilities plan for the future. At the time of the Our Schools Our Future community engagement sessions and at the present, the actual site has not been chosen or purchased. This report highlights the pros and cons of existing sites and potential new pieces of property that are in the south side of our community.

Background:

Until 2004 the Council of Educational Facility Planners International (CEFPI) recommended the following guidelines:

A minimum of one acre of land for every 100 students plus 10 acres for an elementary school, 20 acres for a middle school, and 30 acres for a high school. Thus, an elementary school with 450-500 students would need 16 acres; a middle school with 900 students, 29 acres; and a high school with 2,400 students, 54 acres (CEFPI).

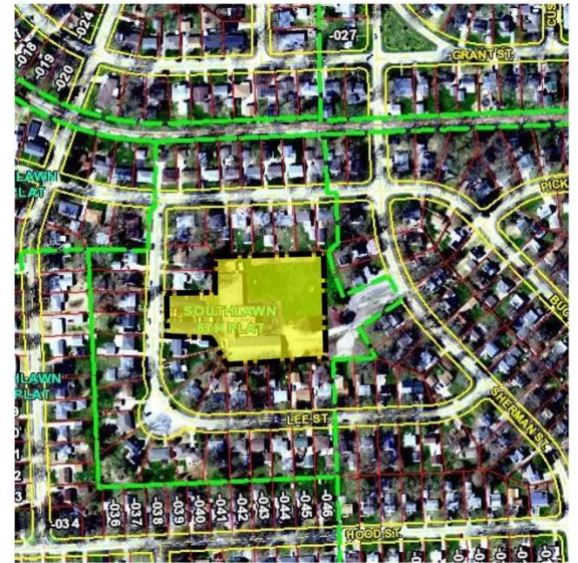
In 2004 CEFPI changed their guidance to be more influenced by community and educational needs as opposed to a fixed formula.

Many school design experts agree that it is possible to accommodate educational programs on a variety of parcels, however except for school systems located in dense population centers, the minimums adopted by the CEFPI are prudent and effective guidelines. When considered with other site-specific concerns, such as utilities, neighboring properties, access, traffic, and student population the guidelines are valuable benchmarks in site evaluation.

Site Analysis

BLDD Architects created a site comparison tool to evaluate the suitability of various properties for our clients. In evaluating the three existing sites and the parcel available for purchase, **we found the 3 existing sites to range from fair to borderline.**

Laketown: The current site is not large enough to accommodate a student load larger than its current size. Measuring approximately 2.4 acres, nearly half of the site would be required to house the building footprint and would limit parking, playground, and outdoor play areas. The narrow access points on the East and West boundaries limit both access and effective circulation. The required fire loop would further erode buildable space on the small site and would likely make staff, visitor, delivery, and bus traffic on the site impossible to safely separate. The nature of the property, surrounded by residential housing and accessed by narrow residential A3 (crowned oil and chip) roads without sidewalks, further detracts from this parcel's viability for a long-term investment. The disruption and burden that construction and operational traffic would have on the neighborhood would create long term challenges for residents.



Hazel Dell: The current Hazel Dell site does meet the minimum requirements for a 600 student K-5 Elementary school. Measuring approximately 6.3 acres, the current boundaries are near the minimum size recommended for the facility. However additional investigation reveals several characteristics that make the Hazel Dell site a less desirable school site long term. Its unique setting surrounded by residential properties on 3 sides makes it challenging site to access for both daily use and construction. It is accessed from a single point and has limitations on separating and cuing bus, car, and delivery vehicles. Its remote location in the district boundaries, also makes it a remote location for most of the students that would be in its likely attendance boundary. The existing building would need to be vacated during the construction phase.



Southern View: The Southern View site is below the recommended minimum area of 6.11 acres for the program with 4.2 acres. It does have adjacent park land that could improve the usable space if access can be negotiated with the village. However, the site has a very narrow, approximately ½ a city block, shape in the buildable area. It is bounded by retail and residential properties on 3 sides.



11th Street Property: The 11th Street Property that is being considered has the highest potential for a new school facility. At 13.2 acres the property could allow expansion of both the facility and the outdoor program areas. The property was designed with the goal of commercial development and is located on roads designed for modern traffic and access. The on-site drainage and detention are valuable infrastructure investments that will reduce the cost of site development. The only downside to the site is the need to purchase the property, however the site improvements in place including potential office and land for further use, lack of required site clearing, and high-quality on-site infrastructure make it a financially viable property. This site also has an important safety benefit of modern access for bus transportation and car drop off, due to the improved roadways. Additionally, the proximity of the site to the center of the student population makes it attractive to the current and future populations it will serve.



Site Study

Finally, to test the validity of these conclusions, we requested the design team study the placement of the current program on the various sites.

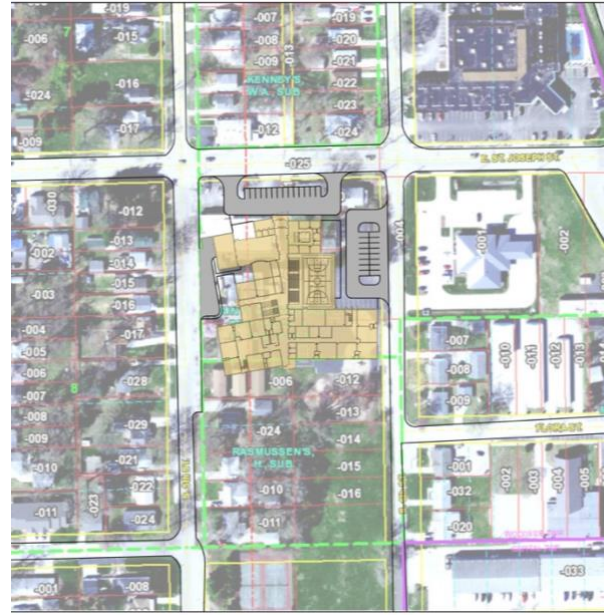
Laketown: As described above, the facility would overwhelm the 2.3-acre site. The ability to meet the required fire lane around the building and apparatus access and maneuvering would not be possible. Parking and bus traffic could only be accommodated with district access through the east neighborhood property. Minimal parking and play areas would be available.



Hazel Dell: The Hazel Dell site is slightly more accommodating of the program as it does meet the minimum acreage once the existing facility is removed. It would require access from the narrow residential roads at the north and south of the site. Unfortunately, its remote nature at the very edge of the S186 boundary makes reinvestment in this property less viable. During the Community Engagement, most attendees regarded rebuilding on the Hazel Dell site as less desirable than a new site more central to the student population.



Southern View: The Southern View site would require the purchase of additional properties to accommodate the program proposed due to its long narrow property lines.



Student and Neighborhood Proximity:

The travel distances to the campus areas are similar to those currently experienced by the surroundings at Laketown and Hazel Dell respectively.

Using the current campus locations as a guide

Laketown Campus to Hazel Dell Campus 1.3 Miles

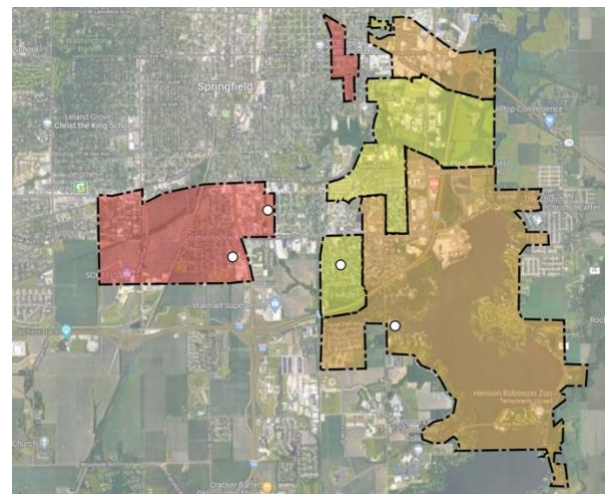
Laketown Campus to Southern View Campus – 1.8 Miles

Laketown Campus to 11th Street Property – 1.8 Miles

Hazel Dell to Southern View campus – 2.5 miles

Hazel Dell to 11th Street Campus – 2.9 miles

Southern View to 11th Street Campus- 0.8 miles



Site Selection Data

SITE SELECTOR RESULTS - AT A GLANCE

Springfield Public Schools 186

New Elementary School

Student Population

450

| | | | |
|-----------------------------------|------------------------------|----|----|
| PARKING CALCULATION RESULTS | Minimum zoning requirements | 30 | |
| | Owner parking requirements | | |
| | Staff | 50 | |
| | Students | | |
| | Visitor | 10 | |
| | Event | 80 | |
| | TOTAL - Car Parking Required | | 80 |

| | | | |
|-------------------------------|------------------------------|--------|--------|
| Building Square Footage | One Story Footprint | 67,500 | |
| | Two Story Footprint | 47,250 | |
| | Three Story Footprint | - | |
| | Four Story Footprint | - | |
| | TOTAL -First Floor Footprint | | 47,250 |

| | | | |
|---------------------------|--|------|------|
| Acreage Required (Net) | Acres Required for Drop-off and Services | 2.02 | |
| | Acres Required for Parking | 0.56 | |
| | Acres Required for Playground | 0.22 | |
| | Acres Required for Fields | 1.00 | |
| | Acres Required for Building | 1.08 | |
| | Acres Required for Buffers | 1.22 | |
| | TOTAL - Acres Required (min.) | | 6.11 |

| | | | |
|-----------------------|---|--------------|---------------|
| Site Selector Results | | Total Points | Total Ranking |
| | Site #1 Laketown | 354 | 2.34 |
| | Site #2 Hazel Dell | 424 | 2.81 |
| | Site #3 Southern View | 515 | 3.41 |
| | Site #4 11th Street | 701 | 4.64 |
| | | | |
| | | | |
| | | | |
| | <1.5 = unacceptable (cost/quality) 1.5 - 2.9 = below average 3.0 - 4.4 = acceptable > 4.5 = excellent (most desirable/most cost effective) | | |
| | | | |

Site Selection Data

SITE ANALYSIS - ACRES REQUIRED

Springfield Public Schools 186
New Elementary School
Student Population

450

Outdoor Program

| | QTY | AREA | UNITS | SF | ACRES |
|---|-----|--------|----------|--------|-------|
| Bus drop-off/pick-up (including space for angled parking and driveways with turning radius) | 10 | 5500 | sf/bus | 55,000 | 1.26 |
| Bus drop-off/pick-up (parallel loading at sidewalk) | | 650 | sf/bus | 0 | 0.00 |
| Car drop-off/pick-up queuing | 100 | 250 | sf/car | 25,000 | 0.57 |
| Service court (including space for 3 dumpsters, loading, and turning area for 2 trucks) | 1 | 8000 | sf | 8,000 | 0.18 |
| Subtotal | | | | 88,000 | 2.02 |
| Parking space (including portion of 2-way drive access) | 85 | 288 | sf/space | 24,480 | 0.56 |
| Staff - 50 | | | | | |
| Visitor - 10 | | | | | |
| Event - 85 | | | | | |
| Subtotal | | | | 24,480 | 0.56 |
| Kindergarten play area | 1 | 1800 | sf/area | 1,800 | 0.04 |
| Paved elementary play area | 1 | 4500 | sf/area | 4,500 | 0.10 |
| Playground equipment area | 1 | 3200 | sf/area | 3,200 | 0.07 |
| Subtotal | | | | 9,500 | 0.22 |
| Baseball field | 0 | 129600 | sf/field | 0 | 0.00 |
| Softball field | 0 | 57500 | sf/field | 0 | 0.00 |
| Basketball | | 7300 | sf/court | 0 | 0.00 |
| Football field - Competition | | 100000 | sf/field | 0 | 0.00 |
| Football field with track and field event space | 0 | 360000 | sf/field | 0 | 0.00 |
| Football field - practice | 0 | 88000 | sf/field | 0 | 0.00 |
| Soccer field - competition | 0 | 106000 | sf/field | 0 | 0.00 |
| Soccer field - practice | 0 | 88000 | sf/field | 0 | 0.00 |
| Tennis | | 7200 | sf/court | 0 | 0.00 |
| Volleyball | | 5500 | sf/court | 0 | 0.00 |
| Grass/lawn Play area | 1 | 43560 | sf | 43,560 | 1.00 |
| Subtotal | | | | 43,560 | 1.00 |

Building Program

| | | | | | |
|---|-----|------|------------|--------|------|
| Elementary School | 450 | 150 | sf/student | | |
| One Story | | | | 67,500 | 1.55 |
| Two Story | | | | 47,250 | 1.08 |
| Subtotal | | | | 47,250 | 1.08 |
| Net to Gross Factor (10-30%) to provide walkways and buffers between activity areas | | 25 % | | 53,198 | 1.22 |

TOTAL ACRES REQUIRED

265,988

6.11

Site Selection Data

SITE ANALYSIS - EVALUATION MATRIX

Springfield Public Schools 186
New Elementary School
Student Population

450

| Criteria | Weighting Factor (WF) | SITES | | | | | | | |
|--|-----------------------|----------------------|-----------------------------|------------------------|-----------------------------|---------------------------|-----------------------------|--------------------------|-----------------------------|
| | | Laketown - 2.4 Acres | | Hazel Dell - 6.3 Acres | | Southern View - 4.2 Acres | | 11th Street - 13.9 Acres | |
| | | Site 1 - Rankings | Site 1 - Totals (rank x WF) | Site 2 - Rankings | Site 2 - Totals (rank x WF) | Site 3 - Rankings | Site 3 - Totals (rank x WF) | Site 4 - Rankings | Site 4 - Totals (rank x WF) |
| Procurement of Site | | | | | | | | | |
| Site availability | 3 | 5 | 15 | 5 | 15 | 5 | 15 | 5 | 15 |
| Site Cost | 9 | 5 | 15 | 5 | 15 | 5 | 15 | 3 | 9 |
| Size of Site | | | | | | | | | |
| Acres available meets site program requirements | 9 | 0 | 0 | 3 | 27 | 2 | 18 | 5 | 45 |
| Location of Site | | | | | | | | | |
| Proximity to future expansion of the community | 5 | 1 | 5 | 1 | 5 | 1 | 5 | 4 | 20 |
| Proximity to population being served | 5 | 2 | 10 | 0 | 0 | 0 | 0 | 5 | 25 |
| Safe routes to school for pedestrians and bicycles | 5 | 0 | 0 | 0 | 0 | 5 | 25 | 4 | 20 |
| Proximity to shared resources (parks, parking, open area etc.) | 5 | 0 | 0 | 0 | 0 | 5 | 25 | 5 | 25 |
| Zoning/Land Use | 1 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Wetlands | 6 | 4 | 24 | 4 | 24 | 5 | 30 | 5 | 30 |
| Site located in a floodway/plain | 9 | 4 | 36 | 4 | 36 | 5 | 45 | 5 | 45 |
| Condition of Site | | | | | | | | | |
| On-site demolition/clearing | 9 | 1 | 9 | 2 | 18 | 2 | 18 | 5 | 45 |
| Site Drainage | 9 | 1 | 9 | 2 | 18 | 2 | 18 | 5 | 45 |
| Are there existing easements that restrict use | 3 | 5 | 15 | 5 | 15 | 5 | 15 | 5 | 15 |
| Topography - is the site relatively level | 5 | 5 | 25 | 5 | 25 | 5 | 25 | 5 | 25 |
| Are suitable soils available for construction | 5 | 5 | 25 | 5 | 25 | 5 | 25 | 5 | 25 |
| Aesthetic value | 2 | 1 | 2 | 4 | 8 | 2 | 4 | 4 | 8 |
| Site erosion | 4 | 5 | 20 | 5 | 20 | 5 | 20 | 5 | 20 |
| Potential for hazardous materials | 4 | 4 | 16 | 4 | 16 | 4 | 16 | 5 | 20 |
| Off-Site Conditions | | | | | | | | | |
| Off-site road improvements required | 9 | 0 | 0 | 0 | 0 | 2 | 18 | 5 | 45 |
| Availability of sewage utilities | 5 | 4 | 20 | 4 | 20 | 4 | 20 | 5 | 25 |
| Availability of water utilities | 5 | 4 | 20 | 5 | 25 | 5 | 25 | 5 | 25 |
| Availability of electrical power | 5 | 5 | 25 | 5 | 25 | 5 | 25 | 5 | 25 |
| Availability of fuel distribution | 5 | 5 | 25 | 5 | 25 | 5 | 25 | 5 | 25 |
| Adjacency to railroads, airports, factories | 3 | 5 | 15 | 5 | 15 | 4 | 12 | 4 | 12 |
| Roads and Secure Access | | | | | | | | | |
| Road Access | 6 | 0 | 0 | 1 | 6 | 3 | 18 | 5 | 30 |
| Proximity to fire response equipment | 3 | 4 | 12 | 4 | 12 | 4 | 12 | 4 | 12 |
| Visibility, safety of driveways | 6 | 1 | 6 | 2 | 12 | 3 | 18 | 5 | 30 |
| Driveway conflicts and internal circulation | 6 | 0 | 0 | 2 | 12 | 3 | 18 | 5 | 30 |
| Total Weighted Points | | | 354 | | 424 | | 515 | | 701 |
| Percentage of Total Possible Points | | | 46.89% | | 56.16% | | 68.21% | | 92.85% |
| Calculated Ranking Value | | | 2.34 | | 2.81 | | 3.41 | | 4.64 |

Weighting Factors - Typical

1 = not very important
3 = important
5 = essential

Weighting Factors - Construction Costs

1 = not very impactful
6 = impactful
12 = very impactful

Criteria Ranking Values

0 = unacceptable (least desirable/least cost effective)
1 = poor
3 = fair
5 = excellent (most desirable/most cost effective)