

Site Options Analysis

HMFH explored 4 possible areas on the high school campus as potential building sites. In addition they explored the potential of renovating the existing high school building. The 2 sites adjacent to the existing school were considered for both new construction and for the potential for renovations and additions. Sites further from the existing school were only considered for new construction. Criteria for the site exploration were established. The criteria included:

- Safety (minimizing street crossings, ease of access for emergency vehicles)
- Impacts on students during construction
- Impact on traffic
- Plan for flexibility and adaptability as needs change
- Minimize impact on parking and ball fields to reduce replacement costs
- Pedestrian access
- Servicing for deliveries
- Solar orientation to optimize natural light

In addition, through the Visioning process that took place as part of the overall Feasibility Study process a number of discreet **Educational Facility Goals** were established that have been deemed necessary to help prepare Dover students for the 21st Century. These include:

- Create small learning communities
- Create integrated academic and CTE programs
- Create prominent and centralized Town Square that will be used by all students and by the public as well and will be viewed as the heart of the school
- Provide easy public access to the public career tech spaces such as cosmetology, marketing and culinary arts, ideally as part of the central space
- Provide opportunities for hands-on project based learning and interdisciplinary learning throughout the building
- Encourage a high level of visual connection throughout the school and visual connection to the out-of-doors.
- Provide a range of spaces for different types of learning experiences to take place
- Assure flexibility and adaptability for future needs in all planning
- Take in to account safety and security concerns in all planning

HMFH develop conceptual options for each site to test the appropriateness of each site. The conceptual options were based upon an Educational Space Program that was developed through discussions with educators and an analysis of the existing facilities. This Educational Program lists the size and number of all spaces required for the high school and career tech programs. The Educational Program was integrated with the Educational Facility Goals to create conceptual floor plan options for the school. The options were then judged against the criteria above. The sites explored included:

Site 1 - Across Bellamy Road and west of the existing school (new construction)

Site 2 – At the intersection of Alumni Drive and Bellamy Road (new construction)

Site 3– On the parking lot south of the existing school and including parts of Alumni Drive (additions and renovations)

Site 4 – Immediately west of the existing school on the ball field and tennis courts (both new construction and additions renovations options)

Site 5 -Base Renovation of the Existing Building

OPTIONS ANALYSIS

Site 1: The site across Bellamy Road and west of the existing school

Site 1 Pros:

- New structure would meet some educational goals
- Less impact on play fields
- Minimal impact on students during construction
- Good solar orientation

Site 1 Cons:

- Parcel size not quite large enough to fit new facility
- Integration of CTE and Academic programs difficult
- Access challenges: Safety/Emergency vehicles, service and delivery vehicles, drop off / pick up queuing
- Parking and athletic fields across Bellamy Road requiring constant road crossing by pedestrians
- Remoteness from the existing barn is also a concern

Despite the advantages of having minimal impact to current students during construction, the physical site was deemed too small to accommodate a new facility which would provide adequate educational and access needs. Safety concerns due to the significant amount of foot traffic that would have to cross Bellamy Road to/from parking and athletic fields were also made this option less attractive. These factors led the JBC to vote against pursuing this option any further.

Site 2: The site at the intersection of Alumni Drive and Bellamy Road (new construction)

Site 2 Pros

- Minimal impact of the construction to on-going programs.

- Able to meet many of the academic goals.

Site 2 Cons

- Does not have a good solar orientation
- Has major impact on the ball fields including eliminating vehicular access to the track and football field.
- Drop off and pick up area for buses is very constrained by the location
- May worsen traffic concerns at the intersection of Alumni Drive and Bellamy Roads.
- Emergency access around the building is incomplete making safety a concern.
- Remoteness from the existing barn is also a concern

Although the site could fully accommodate the program, and the solar orientation was positive, the location proved to be problematic. JBC voted not to pursue this site because of the traffic and safety concerns at the Alumni Drive– Bellamy Road intersection and due to long term impact on the playing fields.

Site 3: On the parking lot south of the existing school and including parts of Alumni Drive (additions and renovations)

This option preserves and renovates the Career Tech Center and the Gym and Auditorium wings of the high school while demolishing the central classroom portion of the existing building. The classroom portion is replaced with a new entrance and academic center placed on the existing parking lot to the south of the high school. This approach was suggested by the findings of the existing conditions report. The existing conditions report determined that the central classroom portion of the high school would be the most complex and costly portion of the school to renovate. This is due primarily to the structural upgrades that would accompany any significant renovation in that portion of the building. In contrast, neither the CTC wing nor the Gym and Auditorium portions of the building require significant structural upgrades.

Site 3 Pros

- Minimal impact of the construction to on-going programs.
- Achieves some academic goals.
- Minimal impact on play fields

Site 3 Cons

- Does not integrate the CTE programs with the academic programs.
- Would have significant impact on the students during construction.
- Challenges for emergency access to all sides of the existing building during construction
- Longer construction duration than new construction option
- Length of construction challenging. The construction duration would be approximately 6 months beyond a new construction option.

- The impact of having the construction adjacent to the classrooms would be significant. Many of the classrooms that would be adjacent to the construction rely on the operable windows for ventilation and cooling.
- Acoustical impacts would also be great for those south facing classrooms.
- Entry and bus drop off would be challenging
- Access to the animal sciences barn and building service area would be severely constrained by the new layout.

The JBC voted not to pursue this option primarily because of construction impacts on the ongoing programs. With construction immediately adjacent to the existing building ventilation and acoustics would be compromised over an extended period of time. In addition both vehicular and pedestrian access to and from the existing school including would be difficult for the duration of the construction. The desired educational goals were not fully accomplished through this approach with the CTC and the academic program still primarily separated.

Site 4 Renovation of the gym and auditorium and contiguous new construction immediately west of the gym and auditorium:

Site 4 Pros

- Creates small learning communities and integrates the CTE and the academic programs.
- Generally good solar orientation.
- The existing barn can be reused and there is easy access to it.
- Access around the building, while not complete, will provide safety vehicles access to all sides of the building.

Site 4 Cons

- New construction is adjacent to the existing building so that there will be some impact on the students and teachers. The west parking lot will no longer be accessible.
- The renovations of the Gym and Auditorium would need to be done during the summer and thus might lengthen the construction period beyond an all-new construction option.
- A new ball field and basketball courts would need to be constructed.

This option achieves the educational goals and does not cause major disruption to the ongoing education of the students. The JBC voted to pursue this as one of the options to be more fully developed and then to proceed with cost estimating for it.

Site 5 All New Construction immediately to the west of, and adjacent to the existing building:

Site 5 Pros

- Creates small learning communities and integrates the CTE and the academic programs.
- Generally good solar orientation.
- The existing barn can be reused and there is easy access to it.

- Access around the building, while not complete, will provide safety vehicles access to all sides of the building.

Site 5 Cons

- Due to adjacency to the existing building there would be some impacts students and teachers. The west parking lot will no longer be accessible.
- 1 Ball field and the basketball courts will need to be re-constructed

This option achieves the educational goals and does not cause major disruption to the ongoing education of the students. The JBC voted to pursue this as one of the options to be more fully developed and then to proceed with cost estimating for it.

Site 6 Base Renovation Option:

Swing space during renovation: In order to renovate the high school, approximately $\frac{1}{4}$ of the current student body would have to be relocated elsewhere. HMFH investigated the possibility of reusing the McIntosh College campus as a temporary swing space for students during construction. The building is wood construction. The building could be set up with a dining area, reading/ study area, offices and approximately 12 classrooms. It is reported to be an Educational Use. While there are numerous visual aspects of the building that are of concern, poor condition of baseboards due to flooding, staining of ceiling tiles, and generally run down, the owner has said that the building will be brought back to an “as new” condition before any new lease would be put in place. More seriously, the existing conditions analysis of the buildings resulted in concerns about accessibility, structural integrity of the roofs and general durability of the construction for this age group. In addition, approximately $\frac{1}{3}$ of the building is heated with electricity. A new elevator would be required and toilet rooms would have to be expanded and made accessible.

There were also concerns expressed about additional operational costs of running the facility, hiring additional teachers and administering a remote campus. 4 modular classrooms would still be required in addition to the necessary upgrades to the building described above.

For all of these reasons it was determined that the investment in the building was not favorable for the City. The alternative is to locate approximately 16 modular classrooms on the high school campus.

High school renovation logistics: Before the renovation can commence new construction for 4 new CTE programs would have to be completed. This would take approximately 1 year. These programs are Automotive Repair, Collision, Electronics and Animal Sciences. Once those programs can be relocated into their new spaces, approximately 400 students would be relocated into the modular classrooms. At that point, the renovation of the existing building can commence. The renovation will have to occur over 3 full years and an additional 3 summers beyond. The relocation of students would be necessary for the 3 years of renovation.

The first year will require significant structural reinforcing of the central, interior classroom portion of the building including installing new mini pile foundations and new structural bracing. All three floors of

that internal portion of the building would be segregated off from the rest of the school to allow this to happen. Once the structural work is completed new mechanical, electrical and plumbing systems will be put in place. Student would be able to circulate around the inner core classrooms that were being renovated and construction workers would be limited to a single egress stairs but there would still be points of intersection between the students and the workers.

The following year the classrooms in the front of the building facing the parking lot would be completely renovated, including the replacement of the window and window framing system. Again, all 3 floors would be closed off from the students. The 3rd year all 3 floors of the rear facing classrooms would be closed off to students. Over the course of the following 3 summers the Career Tech Center would get renovated, the Gym and Cafeteria would be renovated and the Auditorium and World Language classrooms would be renovated.

This approach has the greatest impact on the students and faculty and provides the least in terms of educational improvements.

Site 6 Pros:

- Several CTE programs would be moved into larger new spaces
- The renovated building will meet code and life safety requirements and will be upgraded with new mechanical, plumbing and electrical systems

Site 6 Cons:

- The general layout will be identical to existing layout
- Most programs will remain where they are after the renovation with no gain in area
- Some rooms would be made smaller due to the necessity of enlarging toilet rooms and the need for additional vertical chases for new mechanical ductwork.
- Concerns about size and numbers of classrooms would still be the same. There still would be large numbers of classrooms without natural light.
- CTE programs would be even more segregated from the academic programs with more CTE classrooms remote from the main building than there are now.

The JBC was not in favor of this approach although they did recommend that a cost estimate be pursued for this approach. They felt with an intensive renovation of this nature the risks for delays and unforeseen costs were extremely high. They were concerned that student safety was compromised throughout the construction process and that the extended construction period would have a significant impact on both learning and on the tuition program. The dispersed facilities that resulted from this approach were not ideal and that, despite the extended period of construction, there was a reduced potential for having a positive impact on students once the building was complete.