

DOVER HIGH SCHOOL AND CAREER TECHNICAL CENTER

Feasibility Study

Dover, New Hampshire

August 2015

Volume 1 of 3



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Introduction

Section 1

1.1 Overview of Process

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Image courtesy Google Maps

Aerial View of Dover High School & Career Technical Center

Feasibility Study Overview

Since being hired in December HMFH Architects in conjunction with our consulting engineers have completed the following tasks to determine the most cost effective and educationally appropriate solution for the Dover High School & CTC students, and the Town of Dover.

The team began by surveying the existing school property and undertaking a thorough analysis of the existing buildings. The Existing Conditions Report chronicles all of the systems and finishes in the buildings and also reviews life safety and building codes. Please refer to **Volume 2** for the complete report.

A Visioning Study was also conducted. The Visioning Study was led by Dr. Frank Locker and involved members of the community, students, staff and teachers, and JBC members. The Visioning session resulted in setting the following goals for the project:

- Integrate the career education programs with the traditional programs to the greatest degree reasonable.
- Create flexibility in all aspects of the planning and thinking about the future of education at Dover
- Continue to shift the educational mode to one that is research based and student centered
- Teach 21st century skills of communication collaboration, creativity and critical thinking
- Foster relationship building in all aspects of education including relationships among students, relationships between students and faculty, relationships between students and community, and relationships between students and family
- Inspire to create independent, life-long learners
- Create programs of staff professional development to support these principles.



Introduction

Facility Concepts: The facility concepts evolved from the educational vision. They establish key relationships and goals in laying out the physical organization of the school. They include the following:

- Create a centralizing space to be called the Commons or 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
- Organize the school into smaller learning communities, each with access to a full range of academic resources
- Integrate career tech education spaces and traditional academic spaces within each small learning community to the greatest extent possible
- 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 in all planning
- Take in to account safety and security concerns in all planning

See Appendix A.1 for the complete Visioning Report.

In addition to the Visioning process, the Joint Building Committee (JBC) has conducted, a series of public meetings and high school tours and a public Green Charrette to review the project with the community. The project was openly discussed to confirm project scope, educational program and key design decisions throughout the process.

HMFH met with the high school and career technical teachers and staff to determine the Academic and CTE Space Needs for a new or renovated facility for 1500 students. See **Appendix A.2** for complete account of space needs, adjacencies and ammenities. From these detailed lists of space requirements, HMFH built the Space Summary spreadsheet that is included in Section 2.3. This program will continue to be vetted and tested during schematic design to verify that there is adequate space given to each of the individual programs. This program was then assembled into a conceptual diagrm and tested on the site in various locations to determine which areas of the site were large enough to accommodate the new school.

The Site Exploration exercise explored 4 possible areas on the high school campus as potential building sites. In addition HMFH explored the potential of rehabilitating the existing high school building and expolored the site of McIntosh College as a possible swing spaces during a full rehibilitation process. Criteria for the site 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

A detailed account of the site exploration documentation is provided in Section **3.1.** The area directly west of the existing school was determined to be the best location for both new construction and for the potential additions to the existing school because it best met all of the criteria listed above.

A preliminary Geotechnical investigation was undertaken and a Phase I Environmental Report was completed. See **Appendix A.3** for the full reports. Once the site was determined initial borings were done and a Preliminary Foundation Report was completed. These are also documented in Appendix **A.2**. The results from the preliminary borings show that the worst soils for bearing are immediately adjacent to the existing building to the west of the Gymnasium and Auditorium. Most of the remaining area could support a facility on standard spread footings with soil improvement.



Introduction

HMFH explored a range of options in this location for both new construction and a new addition and a renovation of the existing Gymnasium and Auditorium. These options were reviewed by the JBC.

The Joint Building Committee (JBC) has held opening meetings bimonthly to track the progress of the feasibility study. All aspects of the study have been vetted at these meetings to confirm project scope, educational program and key design decisions throughout the process.

The JBC selected three options to estimate; new construction, renovation of the Gymnasium and Auditorium with a new addition to the west of the existing school and a base rehabilitation option. The base rehabilitation option was not a preferred option for the JBC because it would entail a seven year phased occupied construction project that would have the greatest amount of disruption for the students and staff of the high school and CTC. The JBC chose to estimate this option to determine if it would be a cost effective way to move forward. The all new option and the renovation with addition option were the preferred options because they met all of the Visioning goals and accommodated the Educational Space Program. These options as well as a base rehabilitation option are described in detail in Section 4.

HMFH Architects' estimator PM&C and PC Construction did simultaneous but separate estimates on all three options. These estimates were then reconciled to within 1% of each other. The Estimates for all three options are provided in Appendix A.3.

These two estimates were done to provide checks and balances to ensure a true representation of the cost of construction for the project. The estimates showed that all of the options are very similar in cost, but the all new option has the highest cost at approximately \$87 million. The base rehabilitation option was not significantly less expensive than the preferred options. It does not achieve any of the educational goals for the school and only replaces aging systems and brings the building up to meet life safety and building codes. This option is the most invasive and disruptive to the students because the construction will be phased over 7 years. The contractors and the students will share the school for that period of time. This option has the highest level of unknowns and therefore the most risk. The estimates showed that subcontractor pricing would increase due to the inefficient schedule and long duration of construction. This option will require temporary modular classrooms for students and this cost will not benefit the educational program.

From all of the information produced for the Feasibility Study, the estimates and the public feedback the JBC determined that the all new option is the Preferred Solution. This option meets all of the Educational Goals, is preferred by the public, has the least impact to the students and staff, has the most future flexibility, best long term value and least amount of risk. The JBC would also like to explore the potential of reusing the existing gym as a practice gymnasium.

Construction costs continue to rise at approximately 4.5% per year. That means that this same project will cost more if the town continues to put off the project. In five years the cost could rise from \$87 million to over \$108 million. Currently borrowing rates are at a historic low of 2%, but are beginning to rise. For these reasons, the JBC is recommending that the project proceed immediately.



Introduction

Educational Program / Visioning Report

- 2.1 Visioning Report Summa
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2.1 Visioning Report Summary

The Visioning Process involved 45 participants, educators, community members, and students. They all came together to discuss the future of education at the Dover High School and Dover Regional Career Technical Center. Over the course of 5 different meeting the group was exposed to the educational trends, best practices, and issues affecting the delivery of 21st century education from around the country and around the world. The larger group broke into smaller groups to discuss concepts, to problem solve, and to prioritize what they heard, taking into consideration what had the greatest relevance to Dover and imagining how the concepts might manifest themselves in Dover. The smaller groups would then present to the larger group and share their ideas. The very process of collaborating, creative thinking, creating, and communicating, came to represent many of the outcomes that resulted from the process. The outcomes focused in 2 primary areas, Educational Vision and Facility Concepts.

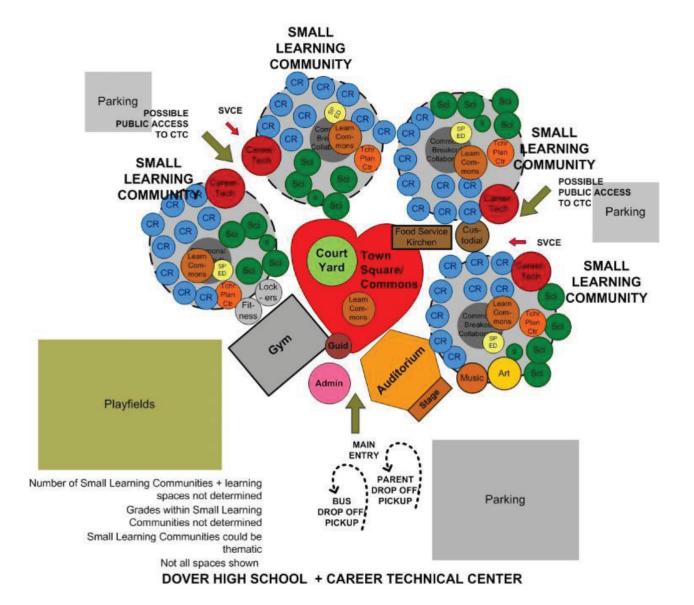
Educational Vision: The educational vision is a set of guidelines developed to define the values and beliefs for the future of the school as they were determined over the course of the visioning. These values include:

- Integrate the career education programs with the traditional programs to the greatest degree reasonable.
- Create flexibility in all aspects of the planning and thinking about the future of education at Dover
- Continue to shift the educational mode to one that is research based and student centered
- Teach 21st century skills of communication collaboration, creativity and critical thinking
- Foster relationship building in all aspects of education including relationships among students, relationships between students and faculty, relationships between students and community, and relationships between students and family
- Inspire to create independent, life-long learners
- Create programs of staff professional development to support these principles.



Visioning Report / Teacher Meetings / Educational Program

Visioning Report / Teacher Meetings / Educational Program



Need for Natural Light in Classrooms



Poor Ventilation



Facility Concepts: The facility concepts evolved from the educational vision. They establish key relationships and goals in laying out the physical organization of the school. They include the following:

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- Provide easy public access to the public career tech spaces such as • cosmetology, marketing and culinary arts, ideally as part of the central space
- Organize the school into smaller learning communities, each with access • to a full range of academic resources
- Integrate career tech education spaces and traditional academic spaces within each small learning community to the greatest extent possible
- 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 in all planning •
- Take in to account safety and security concerns in all planning

2.2 Faculty & Teacher Interview Summary, and Meeting Notes

In addition to the Visioning, HMFH met with all of the educators and staff in both the high school and the CTC to discuss their current spaces, what works for them and what does not and what they would like to see in a new or renovated facility. Ideal locations for each space and adjacent departments were discussed. The notes from each department or CTC program interview are listed below. The most common responses were the need for windows, a working heating and ventilation system, technology that was accessible and reliable, and more space to meet collaboratively for both students and staff. Collaborative space was requested for large groups but also for small groups. Loud areas that were potentially messy as well as quiet personal spaces were both deemed necessary to allow for all types of learning styles to be accommodated. Direct and easy accessible routes to allow for equity among all of the students and staff were emphasized as a must. Flexible furniture that could be rearranged easily and marker boards or idea paint on all walls of the classroom were also requested.

Dover HS – Teacher interview Notes 2/11 through 2/13/15

Guidance

- Air purifier filters are dirty quickly-IAQ issues in current space
- Windows natural light would be great, current space is interior
- Small spaces with students in crisis often need view to the outside
- Fluorescent lighting is a problem with students with migraines
- Group meetings could use conference rooms, 1 larger up to 12, 1 smaller up to 4

Offices for:

- 6 counselors
- 1 psychologist

lssues

- If population increased, need for more counselors, provide extra office for growth
- Outside agencies come in often, could meet in conference rooms
- Educational talent search
- Could share conference rooms with other departments, could be distributed throughout school
- In school therapist- 2 days per week
- Guidance should be located in one area •
- Don't want to be connected to the Main Office because they are not part of discipline •
- Near entrance near admin but not connected
- Central location near the students near the commons area. •
- Accessible to students but private- avoid the fish bowl
- Need for display to promote services offered to students
- 2 secretary/administration people •
- Could share teacher planning area
- Sink and frig/ microwave in suite
- 301/counselor has a good room size (150 sf) •
- Could use a forum space for presentations to 60 to 90 students
- The auditorium would be much too big
- Tack boards for display of posters in offices
- Printer copy shredder for main office
- Storage file cabinets in each office
- Back storage-old cumulative files /vault now
- Door with a window

Librarv

- Fiction collection is growing and nonfiction is diminishing
- Database and internet are the things that classes most go to the library for
- Help with research papers
- No assigned classes •
- Work room
- Laminator
- ¹/₂ the storage is needed
- Daylight
- Outside space if students could use it

Social Studies

Issues

- Classrooms that overlook the CTC roof (which is metal) sun reflects off the roof and heats up the space and there is terrible glare.
- Storage cabinets in classrooms now are too tall
- Child in a wheelchair does not have an accessible route through the classroom and no accessible workstation
- Department offices with the classrooms-currently they are not
- Store old textbox and materials and over summer everything has to be locked up
- CTC noise and smells are a problem •
- Furniture does not fit all of the students-too small
- Department meetings are held in an open classroom •

Wants

- Space to meet with a student currently they use department head office
- Project display areas outside of the classrooms
- Need for reliable technology, use smart boards
- White boards are needed everywhere •
- Currently the teachers that travel have desks in a classroom that they share.
- Kids are up working on boards on multiple sides of the room, hard to keep kids engaged for 90 minutes need multiple spaces in a classroom
- Small group work within the room 4-6 students
- 32 students per class/ smallest class is 28
- Pass through doors are good
- Folding walls may not work due to scheduling issues but it could be useful
- Learning Commons would work because they do work in small groups and would send kids out of the room to work independently
- 32 students in a classroom
- Lecture hall that can be scheduled-smaller than an auditorium



Visioning Report / Teacher Meetings / Educational Program

Visioning Report / Teacher Meetings / Educational Program

- Lecture hall for criminal justice and honor society should be next to a public entrance?
- Forum could be used for movies
- Need space for Independent study/ clubs that teachers advise/ place to make phone calls
- Flexile classrooms that can be set up in multiple ways/ different types of workstations
- Learning commons/space for students to be social or go to for study hall
- Teacher dining should be central for all school not part of planning
- All 30 student classes/ 21-22 students are a rarity
- Share room with another teacher/2 desks
- Central storage area
- Lab space between two classrooms shared by both not worth having if that sf has to come from the classrooms
- Windows natural light very important
- Flexible set up so others can swap out of classes
- Project work area-kids lay on the floor
- AP tests often and it has to be safe-individual work stations
- Working shades/glare control
- Multi copy books stored in bookcases along window wall
- Central book collection with movable books
- 3-4 different set ups over the years since it was built so it needs flexibility for the future
- Teacher collaboration/planning rooms with department head office adjacent to the classrooms where everyone teaches
- laptops with printers in classrooms and planning center
- Planning center with English would be fine
- Book and newspaper donations -need to be accessible to the studentslearning commons
- Ceiling tracks for hanging display in the classrooms
- Get rid of bells go to a light system and use flat screen tv to do announcements
- Would like to project on multiple walls at the same
- Flat screen TV's for announcements
- TV studio? Money set aside?
- Should be designed for kids comfort-booths for lunch tables acknowledging teenage ergonomics
- One wall could be tack surface for posters and student work could be displayed
- Paintable ceiling tiles in the new school?

- Offices for two teachers between every room would be nice
- Planning could be two departments English and SS-collaboration •
- Concord- designated places around the school teacher was assigned to an office and kids can schedule extra help
- Small group room could be extra help/teacher offices/SPED/ small group projects
- Advisory services is starting so teachers will need spaces to meet with 8-10 students

Adjacencies

- Music/Art/SS
- Culinary Arts could be in the Humanity House
- Library should be central to everyone-2 floors/ access from everywhere
- Collaborate with Art and Music-history Chris Stricklen
- SS and English teach together-could collaborate more if schedule allowed
- World Language- world cultures and world language
- Marketing/Psychology
- Library adjacency would be the most important

Other Spaces to See

- Noble HS- inviting space with benches and plants communal feel, commons with terraced middle has the main office cafeteria off of it
- Cafeteria should have a variety of seating, with beautiful huge murals that depict history. Dover is the 7th oldest continuously lived in community.
- Portsmouth Middle School has a lot of glass at the entrance-glass bridges that connect buildings.

Math Department

- 14-15 teachers in department-some travel
- Staff bathroom on the second floor is a joke
- Classrooms are hot in the summer and freezing in the winter.
- Math and Science could be adjacent to each other
- Adjoining rooms that could combine with movable partitions as long as they are acoustic
- 32 students with room to move and rearrange tables/furniture and access whiteboards
- Could use a small group room for independent study
- Current storage: bookshelves and two double tall cabinets in classrooms plus one storage room for book storage which needs to be locked.
- SMART boards do not have math software and teachers have not had training.
- 75% of walls should be white boards
- Small amount of tack board



Visioning Report / Teacher Meetings / Educational Program

- Would be better to have work on chrome books so students could project their work on the SMART boards.
- Flexible furniture that you can make into tables
- 75% of kids use their lockers
- Like being all together
- Chair travels
- Sink with closed cabinets work well
- Lower level classes tend to lose things so they store more things in the classrooms
- Larger classroom can have separate area with tables for tutoring or projects-Math Resource room or math lab for special help
- Average class is 30
- Assortment of furniture in classrooms
- Classroom of the future with all marker boards or idea paint
- Lecture hall for three classes of students so you can teach all three honors classes at once for lecture then they break out into smaller groups for "lab" work.
- AP classes have kids at the board all of the time
- Adjacencies: Science/lecture hall spaces could be used by CTC for math lectures then apply lesson in their CTC lab
- Teacher planning is done in Math Department head office
- Dinning should be separate
- Math Lab could be a maker space as long as it had supervision
- Small group rooms could be used by upper level kids
- 7th and 8th graders come up and take math classes
- White boards ٠
- Room for 20 kids to be at the board
- Sink
- 29 students in classes-room is too small
- 326 has two tall cabinets and low cabinets
- Could use storage closet if it was centrally located
- Forum could be used for calculus and physics
- STEM academy
- Project work- maker space
- Teacher planning would be great/dinning should be separate
- Timberlane has a math lab
- Science and SPED adjacencies
- 337 is an okay size for 11-19
- All math classrooms should be in the same area to share materials and provide coverage for other classes

- Small Group room could be used as teacher office, advisory, SPED pull out
- Faculty planning office might be too loud to get work done so a small conference room might be needed or they could use the Small Group Rooms
- Math lab
- Family and Consumer Science should be adjacent to Culinary -teacher

SCIENCE

Science teachers have their own classrooms, so planning typically happens in classroom where they have all the resourced they need. Don't see much benefit from joint teacher planning centers because they need access to their specific resources to plan, but like the idea of being about to go into a space where teachers could meet to collaborate.

Chemistry

- currently 3 teachers, and 3 classroom, free 1 block a day each
- current chemistry storage is inadequate and dangerous
- Prep Room to have lots of storage and dishwasher (around 250 sf) •
- Earth Science & Physical Science (geology is taught with this)
- Two Earth Science Teachers 2 classrooms
- Two Physical Science teachers 2 classrooms
- Would like to be closer to exterior, takes students outside to walk to Bellemy Park.
- Would like to see classroom layouts all the same, similar to current Chemistry Model. Two classrooms with joint Prep/storage room in between. Each room should have minimum of 6 lab stations, and flexible chairs for lecture area. Lots of white board space needed
- Physical Science also introductory, for freshman
- Need lots of storage, the geology class has very heavy rocks
- Physical Science would needs gas, multiple sinks, and 6 lab stations for classroom
- Biology (teacher came in late only talked to for 5 minutes)
- Likes the "Brewster Academy Model", a technology driven school, where each lab station is equipped with a computer hook up station
- Currently 4 classrooms & 4.5 teachers (1/2 teacher is BioTechnology)
- Has need for Seminar/forum area to bring together multiple classes (2 or 3), bring in guest speakers and open it up to other classes. Auditorium is too large of a space
- Wants to introduce technology into lab area
- Look into "Portal" and "Moodle" used in Brewster Academy
- Like to have larger tables for group work, maybe gas for one room



Adiacencies

Physical Science teacher frequently takes trips to CTC (electrical and Automotive) for demonstrations on how things work, said it is the most popular part of his class, being adjacent to these spaces would be great, a STEAM suite would be great too

Teamed up with CTC to make soap (can't remember what program) A natural fit with CTC Biotechnology, Math, Arts, STEAM suite would be ideal

General Needs/Wants

- As much whiteboard space as possible, current requirement to post class goals and agenda for every class takes up space. Some science teachers still like chalkboards
- Need for adequate storage
- Lab table for teacher is not necessary, movable table is better •
- Like to have classroom area, lab area, and prep area
- Consistent and reliable technology, interactive projector
- Maker Space type areas would be would be used by science teachers
- Want lab set up to be very accessible, current fixed tables are really wide and hard to get around, prefer more narrow lab tables, Peninsula's work
- Room 302, has plenty of upper and lower cabinet storage for reference
- 6 lab spaces work for 24 kids (4 students per lab station) one teacher like to work in groups of 2 students (12 lab stations)
- Size of the classroom #307- too small, enough white board, not enough storage
- Chem room 301 labs are stuck in place and take up too much room, so kids are squished, not size appropriate, too much storage but not enough white boards
- Lots of safety concerns •
- Movement in space is very limited •
- Nice to have office space to meet with a kid or group of kids,
- Access to computers a lab station, Would be great •
- Need safety showers in all rooms

Examples of good science rooms

- Pinkerton Academy
- Brewster Academy

World Language

8 teachers – 8 Classrooms

- Sinks in room with drinking fountains
- White boards are okay but could use more.
- Door alcoves are strange not good visual connections to the hallway
- No built in storage at all-empty room in the summer
- Enclosed stairwell is bad for monitoring-doors are too small circulation is poor; solid doors
- Takes a long time to get from bathrooms and lockers to the WL wing
- Accessibility to the second floor very difficult
- Windows leak, windows don't close noticeable draft
- Remote from everyone else, never see anyone else in the building
- Telephones
- Rectangular rooms
- Flexible furniture/ group size changes frequently during class •
- Standing desk
- Projects and display
- Support materials for students, workbooks posters, artwork,
- History, art marketing community culinary
- Shared kitchen classroom for the department/maker space
- WL is loud group
- 75 person presentation space for guest lecturers
- Teacher planning is done frequently
- Classes are up to 30 but prefer 24/current classrooms are too small-800 sf classrooms
- No lockers in the world language wing-good less distractions
- MS has lockers in a central area- good
- Language department is loud- good acoustical treatment needed
- Like the sinks in their rooms sometimes they cook
- Drafty windows- view is nice
- Being above the ground level is better so they can't see people outside coming and going
- Lots of white boards posting objectives and notes Two boards at the front and two at the back works well • Built for classes of 24 so they are too small for 30 students, furniture that they
- need no built in storage
- Built in storage especially for summer
- Flexible furniture so they can reconfigure class •
- Ants
- Exterminate before building



Visioning Report / Teacher Meetings / Educational Program

- Technology
- Isolation
- Culinary
- Math-recognizing patterns
- Music in the classroom
- Toilet access for students and teachers on every floor
- Language lab or one to one technology
- ADA access
- Reliable technology
- Fire doors that work
- Overall building:
- Lactation stations/ place to change
- Macintosh schools for relocation- 2 schools

English Teachers

- Having a classroom works well, stores books for all prep, currently there is unreliable book storage. A bathroom has been converted to English book storage room, the books are being destroyed by mold because it is not proper storage. It was suggested that a more central system where academic books could be stored, checked out, and then returned would be helpful, both to save time for individual teachers, provide proper storage, and have a better follow up system to reclaim books. Currently when books are not returned, unless someone spends the time to fill out reorder forms, and follow through the books are not replaced, and then they are short books at the start of the semester. Could this be the function of the librarian?
- Room 316 (approximately 820 sf) has 34 desks, very crowded, very noisy
- Mythology Class
- need ability to show lots of films, consistent wireless ability, area to store stuff, more space for kids, would utilize small group rooms, variety of space in classroom is needed, and would be willing to give up classroom space for a small group room space. (one teacher)
- Journalism to 20 computers with color printers /cubicles

Adjacencies

- English and SS work well together
- Greek Mythology taught from a western civilization perspective
- Art
- Graphic novel class is teaming up with art, •
- As a senior elective teacher she teaches a lot of CTC students for English requirements, more connection with CTC would be nice
- Humanities Wing would be great
- Social Studies/Humanities

Student Needs

- Kids need more space to process, experiment, to try, need to be more social. need ability to be more on their own. Need to be more part of the community
- Enjoys watching the kids before the school, it is interesting how kids group together as pods, and those pods find locations within the school to gather
- Seniors have late arrival or early release if they met their credit requirements.
- Better storage for the kids to use, doesn't necessarily have to be more lockers. Maybe cubbies within a classroom. Place to hang up their coat and leave their bags closer to their classrooms
- General Needs ٠
- As much whiteboard space as possible, current requirement to post class goals and agenda for every class takes up space.
- Need for adequate storage of books (space to close down classrooms at end of year)
- Consistent and reliable technology, interactive projector
- Designated outdoor classroom area, could be in a courtyard, or away from building, shade protected
- Seminar/Forum space to hold two classrooms would be sufficient, and utilized a lot
- A maker type space within a Humanities wing would be great
- Teacher planning areas separate from teacher lunch areas, and located more central to the teaching
- Like square classrooms, lots of windows
- More community type spaces the provide more opportunities for students and teachers to connect
- Would like option to take kids out of class
- Need for laptop cart storage if not one to one ratio
- Internal rooms are the worst; classes with movable partitions have ATC on one side and heat on the other
- Journalism classroom-rectangle doesn't work bank of computers on one wall
- Departmental wing with office within it •
- Noble 3 pods 2 teams each per floors 9/10 first floor 11/12 second floor
- Freshman and sophomore need more coddling
- Outside space for teaching and relaxing •
- Office is tiny/no common planning time/ dining room should be separate from planning
- White boards would be good-the more the better
- Storage-organize books/multi-copy book rooms
- Need more computers/have to go to the library now-competing with other classes to get in there now.
- Writing Lab- could go during study hall to type and print during study hall
- "Nice" space for the students to be

Visioning Report / Teacher Meetings / Educational Program

IT Department issues

• Two laptop carts for English was purchased through a grant, but they are not supported, because it was not part of the grant, so they basically go un used. A better way to support technology gifted or provided through securing grants is needed.

Music

- Practice Rooms Current rooms are sized appropriately
- Equipment storage is needed, podium, uniforms, easy access to the stage, adjacent to the band rooms allowing for pianos,
- Deep sink in band room, and regular sink in chorus room
- Band room outside and theater •
- Piano Lab use computers, song writing 20 with computers (need dedicated computers with specific software)
- Wenger Cart tables, with Piano Keyboard •
- Close to theater department, close access to green room
- Theater is needed for concerts and practice
- Audio system in rooms for recording, in practice •
- Music production class, could be taught in music room with computers
- Music pit would be on a wish list
- Technology, lots of white boards, some with musical staff on part of • boards
- Good visual connections in practice rooms
- Their current storage needs to be larger •
- Program
- Large Band and Chorus room 70+ kids each room (trying to grow program)
- Storage for instruments
- Large Storage for uniforms, outfits, gowns, large band equipment (podium/colorguard)
- Large Practice Rooms
- Small Ensemble rooms

Adiacencies

- Need access to exterior for band, should be on first floor
- Adjacent to theater, double doors to roll equipment on stage is • preferred

Theater Needs

- Fly space with lots of space in wings
- Green Room with Bathroom
- Boys and Girls Changing Rooms
- Set building area
- Sound and lighting booth

Misc Program Spaces

Robotics

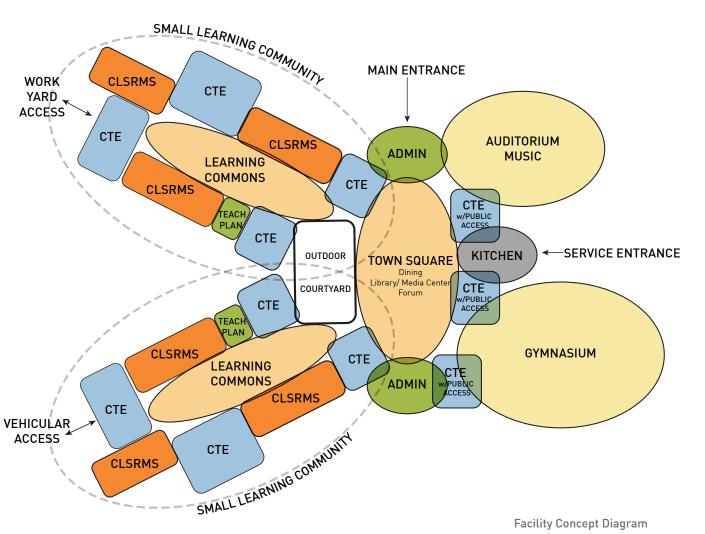
One room 32x40 would meet needs, if Robotics club could have access to a maker type space or one of the CTC programs, it would not need its own space, but would need some secure storage space.

The Mez

- Is liked as an icon of the school, and its centrally located. People know Dover School by the "Mez".
- Other teachers feel it's a safety concern and seemed to feel more responsible to make sure students are safe when they are hanging our around the Mez
- Mezzanine is a safety issue-kids could get pushed over or jump over
- Mixed feelings some of the younger teachers feel like the identify with the mezz- it s a symbol of Dover...safer way to design it
- Mezz- identifying feature of the school; memorable should be repeated in the new facility



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Facility Concept Diagram



ΗM

Conclusions

From the information that we gathered from the high school and CTE educators combined with the information that came out of the Visioning sessions, HMFH was able to diagram a building layout. Please see the Facility Concept Diagram on the next page. The concept is to have the school organized around a Town Square. The Town Square will be the heart of the new school and will be open to the larger Dover community. The CTC programs such as Cosmetology, Culinary Arts and the school store will be accessible to the school and to the larger community from the Town Square. Other spaces that will be located in or adjacent to the Town Square include the cafeteria, kitchen, book collection, and an exterior learning space. The Town Square will act as the lobby space for the Gymnasium and the Auditorium and will be open longer hours during the day than the academic wings of the school to accommodate the community and also the students before and after school.

The new school will have small learning communities or houses. Each house will have a smaller number of students and integrated high school and CTE spaces. The school will be laid out in such a way that the size of the small learning communities can be flexible. The small learning communities could be one floor or two and could also become departmental if the school chooses to organize itself differently in the future. Possible adjacencies within the small learning communities include Science, Bio-Engineering, Arts, Engineering, Electrical, Woodworking, and Building Sciences. The Arts programs, Electrical, Woodworking and Building Technologies would like to share an exterior work yard and loading area for materials. Sports Medicine, EMT, and Health Sciences could be co-located with the Gymnasium and the Athletic Trainer. English, Marketing, Business and Technology classes could also be co-located. World Languages had a desire to be adjacent to the culinary program and Culinary would like to be located adjacent to the Life Sciences program. The Animal Sciences programs which include Dog Grooming and Obedience Training, Small Animals and the Equestrian program will be co-located in separate free standing buildings adjacent to the current barn for small animals.

The vision of the school is to allow for a broad range of educational delivery methods. These may involve individual endeavors or small group endeavors. There very likely will be a higher level student directed learning and technology will need to be accessible in most instances. There need to be physical spaces that support hands-on building projects with access to infrastructure and materials to support those efforts.

A manifestation of this will be the Learning Commons within each small learning community. Instead of one large Library space, there will be a book collection area. Each small learning community will have its own Learning Commons area where students can collaborate in large or small groups. There will be small group rooms,

Visioning Report / Teacher Meetings / Educational Program

conference rooms, presentation areas and quiet areas within the Learning Commons as well as teacher work rooms and staff collaboration space. This space will be available for students during the entire school day. The Learning Commons may also have a snack bar for students who wish to eat at times other than when lunch is served in the main dining area. Along with the Learning Commons, each small learning community will have project areas where hands on learning can happen. Learning by doing already occurs in the CTE labs and in the new facility these project areas will make hands-on activities more readily accessible for the high school classes as well.

2.3 Educational Space Program & Template

The development of the Education Program Space requirements started with a thorough analysis of Dover High School and Career Technical Center's current master class schedule. HMFH analyzed various data provided by the school, such as how many classes per subject, current enrollment in each class, max enrollment in each class, how many periods per week the class meets, and how many sections the class is taught. From this data HMFH was able to create a baseline for the number of classrooms needed to run the school efficiently. Due to a projected increase in enrollments in the coming years, the Joint Building Committee requested the HMFH provide a program for an anticipated school population of 1500 students. The baseline classroom number was multiplied by approximately 10%, to represent the projected increase to 1500 students from 1375 students. For the remaining and special program spaces for the high school, HMFH met with representatives from the the Athletic Department, Music Department, Art Department, Administration, Nurse, Guidance, Special Education, and Kitchen management representatives. In each case the disussions with the faculty resulted in an understanding of the programs space needs and of critical adjacencies. For the Career Technical Center Administration, and all of the Career Technical Center Programs, HMFH met directly with the Program Directors and came up with prelimary space requirements for each program. Per Department of Education guidelines, each CTC program must be reviewed by the advisors of each of the programs and agreed to by the advisors. HMFH attended a CTC event where the program was reviewed by the advisors, and then updated the CTC space program to reflect any comments that came from this review.

All the space program information was gathered and input into a Space Program Template, which can be viewed on the following pages. Getting the program correct is very important, not only to ensure the new school will function, but also to ensure every square footage is being highly utilized, and purposeful. HMFH has passed along our recommended space program from our analysis, and requested the DHS – CTC do a test fit schedule to ensure it has captured the correct amount of spaces. As the design process moves forward, the space program will evolve, and continually be tested to ensure the most appropriate and flexible spaces are being created for the new Dover High School and Career Technical Center.

Proposed Space Summary - L	ımmary - Dover High School & Regional Career Technical Center	School & H	Regional	Caree	r Tech	nical Cer	iter
DHS & CTC	Existing Dov	Existing Dover High School 1375 Students	1375 Students		New S	New School 1500 Students	Idents
ROOM TYPE	ROOM NFA ¹	# OF Classroom	Area Totals		ROOM NFA ¹	# OF Classroom	Area Totals
CORE ACADEMIC SPACES		58	53,130			65	69,470
Classroom - General 1 (Up to 30 Students)					850	44	37,400
General Classroom 3 (Up to 15 seats)					500	2	1,000
Small Group / Pull Out Rooms	110	-	110		175	8	1,400
Self-Contained SPED		4	850		ann	4	3 600



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H	S/CTC & NEW 1500 STUDENT DHS/CTC		
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Self-Contained SPED Toilet				_
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SPED Coordinator Office	230	-	230	
SPED Resource (Case Managers Office/reception)	066	-	066	
Testing	860	-	860	
PAQ Room	220	-	220	
Para Professionals Storage (33 in building)	300	-	300	
Life Skills	350	2	200	
Lower Level General Classrooms (Existing)	570	2	1,140	_
Main Level General Classrooms (Existing)				
World Language	810	4	3,240	
General Classrooms (820 sf - 840sf)	830	10	8,300	-
General Classrooms	860	3	2,580	, ,
				-
2nd Level General Classrooms (Existing)	-			
World Language	840	4	3,360	
General Classrooms	810	4	3,240	
General Classrooms	830	7	5,810	
General Classrooms	840	5	4,200	
General Classrooms	860	-	860	
General Classrooms	066	7	1,980	
General Classrooms	1,240	1	1,240	
				_
Science Classroom / Lab				
Physical Science Classrooms	840	2	1,680	_
Physics Science Classrooms	850	2	1,700	_
Earth Science Classrooms	860	2	1,720	
Chem Science Classrooms	1,100	3	3,300	_
Biology Science Classrooms	970	2	1,940	_
Science Prep	410	ę	1,230	
Science Chemical Storage	150	-	150	
Taabaa Diaminaa				-
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	190		190	_
SS Unice	250		230	-
	750		230	
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English Unice	NQ7	-	007	-
Forum (up to 3 Classrooms)				
ART & MUSIC			7,700	_
Art Classrooms	3,640	e	3,640	_
Ceramics/Sculpture CR				-
2D Drawing CR				
Jeweiry CR				
Kiln (1 room 2 large Kilns)				-
Art Storage				-
Spray Booth				
Photography Dark Room				
	000 0	Ţ	000 0	-
Band - 50 - 100 seats	2,820	-	2,820	_
Music Practice	248	9	1,240	-
Large Practice				
Music/Chorus Offices				-
Chorus - 50 - 100 seats				_
Ensemble				
Uniform/Band Storage				_
Music Storage				-
				_

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		DHS & CTC	Existing Dover High	er High School 1375 Students	New (School 1500 Students	dents
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Construction Construction<		Copy/Mail Boxes			150 250		150
Chare Serie Offer Cite Lanzworken Signed Series Signed Series <thsigned Series Signed Series</thsigned 		Conference Room/Technology Room			450		450
Substructivity Substructivity Substructivity Substruction Substru		Career Services Office Career Assessor Office			125 125	<u> </u>	125 125
Survey Survey<		Staff Lunch/Workroom			250	<u> </u>	250
Annual Server, sans class alter (023) Z.200 Z.200 <thz.200< th=""></thz.200<>		•			200	-	200
Cacurany Lub Signal Constrained Signal			2,090	2,090	650	2	7700 1300
Sha koon		Grooming Lab			500	-	500
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Clinit Relation Signification Signif		Bathrooms / Locker Rooms			200		200
Subscription Subscription<		Client Restroom			100		100 50
Consequences Consequences<		Storage			200	- N	400
Bann (Snall and Lage Annuals) Mit (Auge Annuals) Automation Automati		Waiting Area/Reception/Store			100		100
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ered seating) 400 1 b 100 1 c 150 2 c 2,000 1	Culinary Dinning (35 to 40 Seats)				1,000	-	1000
	Classroom (tiered seating)				400	~	400
	Kitchen Office				100	c	100
	Locker Room Kitchon Area / Storada				150	7 7	300

Visioning Report / Teacher Meetings / Educational Program

Dover High School & Career Technical Center

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SPACE PROGRAM TEMPLATE - EXISTING DHS/CTC & NEW 1500 STUDENT DHS/CTC

	· ·	# OF 0	# OF Classroom	ROOM #OF Classroom Area Totals	ROC	
Firefighter Academy (EMT Program In House) - max class size (14)				0		
Offsite at local fire station Lab Space EMT					500	500 1
					500	500 1
Health Sciences - max class size (20)	1,460			1,460	1,460	1,460
					800	
					600	
Adaptive Kitchen Storage					150	100 1
					100	100 1
					100	100 1
					150	150 1
HESS Washer/Dryer					50	50 1
Sports Medicine (Future Program) - max class size TBD						
Classroom					500	500 1
Lab Space					500	500
Life Sciences (Future Program)	3,090			3,090		
Classroom					1 000	1 000 600
Storage					200	
Green House Room					700	700 1
NJROTC - max class size (26)	1,490			1,490		
Classroom Storage Area					1,200	1,200 1 600 1
Office Drill Space - (oversized classroom provided to accommodate)					200	200 1
Marketing - max class size (24)	1,600			1,600	1,600	1,600
Classroom (24 Work Stations)					1,200	300 1
Storage Room					200	
Student Store					300	300 1
Pre-Engineering Academy - max class size (22)	2,790			2,790	790	790
Classroom Computer Lab Area Prototopa Magnifecturing					1,000	1,000 1,000
Storage					500	
Office					100	100 1

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High School Space Summary 1500

Pr oposed Space Summary - Dover High School & Regional Career **Technical Center**

ROM TYPE HEALTH & PHYSICAL EDUCATION Gymnasium Gymnasium PE Alternatives Athletic Director's Office Men's Coaching Offices Women's Coaching Offices Women's Coaching Offices Coach's Locker Rooms / w toilets (Men and Women) Changing Area for Referee's Locker Rooms - Boys w/ Toilets	Existing Dover High	r High School 137	1375 Students	New	School 1500 Students	udents
EALTH & PHYSICAL EDUCATION Gymnasium F Athentives Athetic Director's Office Men's Coaching Offices Women's Coaching Offices Coach's Locker Rooms / w toliets (Men and Women) Caach's Locker Rooms / w toliets (Men and Women) Changing Area for Referee's Locker Rooms - Boys w/ Toliets	ROOM NFA ¹	# OF Classroom	Area Totals	ROOM NFA ¹	# OF Classroom	Area Totals
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PE Alternatives Athletic Director's Office Men's Coaching Offices Women's Coaching Offices Coach's Locker Rooms / w toilets (Men and Women) Changing Area for Referee's Locker Rooms - Boys w/ Toilets Team Rooms	13,690	1	13,690	13,500	-	13,500
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Men's Coaching Offices Women's Coaching Offices Coach's Locker Rooms / w toilets (Men and Women) Changing Area for Referee's Locker Rooms - Boys w/ Toilets Team Rooms	230	-	230	150	-	150
women's Coacring Unices Coach's Locker Rooms / w toliets (Men and Women) Changing Area for Referee's Locker Rooms - Boys w/ Toliets Team Rooms	123	ю (370	75		225
Coach's Locker Hooms / w toilets (Men and Women) Changing Area for Referee's Locker Rooms - Boys w/ Toilets Team Rooms	GA	7	061	G/		GZZ
Locker Rooms - Boys w/ Toilets Team Rooms				150 200	D D	900 9
	4 480	÷	4 480			
	001-61	-	00+ ⁽ +	800	2	1,600
PE Locker Room				450	1	450
Private Showers				25	4	100
Toilets				200	-	200
Equipment Storage				800	-	800
Locker Rooms - Girls w/ Toilets	2,520	-	2,520	000	c	000 1
DE Lookor Boom				800	.7 +	1,600
Private Showers				25	- 4	100
Toilets				200	-	200
Equipment Storage				800	1	800
Weight Room	1,230		1,230	2,000		2,000
I rainer Koom	300	<u> </u>	300	900		1 000
Cardio Room Phys. Ed. Storade	286	ι.	1 430	800 800		800 800
Gym Storeroom		0	-	500		500
MEDIA CENTER			6,110			8,600
Media Center / Reading Room	6,110	~	6,110	8,600	~	8,600
			:			
AUDITORIUM / DRAMA			9,240			10,400
Auditorium	6,290		6,290	1,500		1,500
	150		Z, 13U	1,000		1,000
Controls / Lighting / Projection	540		540	200		200
Band Booster CL	110	+	110	100	Ð	Ð
Set Building Area				200	θ	θ
Make-up / Dressing Rooms w Bathrooms				300	2	600
		6390	10.010			10.010
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Careteria / Suudrin Lounge / Dicar-ou	3 100		3 100	2.500		2.500
Dry Storage	1,000		1,000	800		800
Dish Washer	570	-	570	250	-	250
Scramble Serving Area	006	-	006	550	с	1,650
Kitchen Office	150	ю	450	150	2	300
Chair / Tahle Storace				525	-	
Staff Lunch Room	066	-	066	925 625		625
MEDICAL			750			910
General Nurse Area	750		750			
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Nulses Office / Walung Room				100	- m	002
Evamination Room / Restind				100	р m	o ri

Visioning Report / Teacher Meetings / Educational Program

Dover High School & Career Technical Center

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SPACE PROGRAM TEMPLATE - EXISTING DHS/CTC & NEW 1500 STUDENT DHS/CTC

Modult Modult<	ROOM TYPE Main Administration Main Administration Administration General Office / Waiting Room / Toilet General Office / Waiting Room / Toilet Teachers' Mail and Time Room Duplicating Room Records Room Principal's Office w/ Conference Area Principal's Office - AP1 Assistant Principal's Office - AP1 Assistant Principal's Office - AP2 Supervisory / Spare Office Conference Room Records Room Records Room Records Room	ROOM NFA ¹ 3 140	# OF Classroom				
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zou I zou transition 200 I 174,230 I	Nistuist Otossas	250	•	267	0E0	•	750
	LISTIC: DIVIAGE	007	-1	NC7	700	-	007
	Total Building Net Floor Area (NFA)			174.230			227,315
	Proposed Student Capacity / Enrollment						
	Total Building Gross Floor Area (GFA) ²			250,000			309,148
	Crossion factor (CEA/NEA)			1 13			1 36
	GIOSSIIIA IACOI (GERVINER)			1.43			00.1



ividual Room Net Floor Area (NFA) al Building Gross Floor Area (GFA)

udes the entire building gross square footage measured from the outside face of ex

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gh School Space Summary 1500

Visioning Report / Teacher Meetings / Educational Program

Site Exploration & Preliminary Evaluation of Options

3.1 - Site Expl

3.2 - Prelimin

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ption Analysis - Site 4	
Additions & Renovations New Construction	54 57
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Site Exploration

The Dover High School and Career Technical Center sits on approximately 44 acres of land. Nearly all of the land surrounding the High School and Alternative High School has been developed into drives, paved parking or athletic fields. The small percentage of undeveloped land is either steeply graded, wetlands, or within the wetland buffer zone. The survey above highlights the footprints of existing structures as well as graphically highlights the wetlands and their setback requirements.







Site Exploration & Preliminary Evaluation of Options

Alternate Building Areas

HMFH explored 4 possible areas on the high school campus as potential building sites. In addition 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)
- Minimal impact to students during construction
- Improved traffic conditions
- Plan for flexibility and adaptability as needs change • Minimize impact on parking and ball fields to reduce replacement costs
- Strong pedestrian access and easy servicing for deliveries
- Servicing for deliveries
- Solar orientation to optimize natural light

HMFH developed 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 - Bellamy Fields (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)

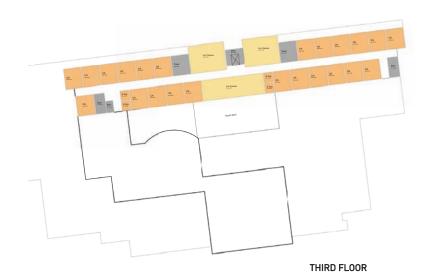
Site 5 -Base Rehabilitation of the Existing Building

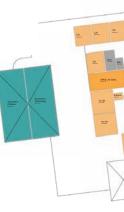


Site Exploration & Preliminary Evaluation of Options











SECOND FLOOR

ΗM

Site Exploration & Preliminary Evaluation of Options

Dover High School & Career Technical Center

OPTIONS ANALYSIS - SITE 1 - New Construction

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.

OPTIONS ANALYSIS - SITE 2 - New Construction

Site 2: The site at the intersection of Alumni Drive and Bellamy Road

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

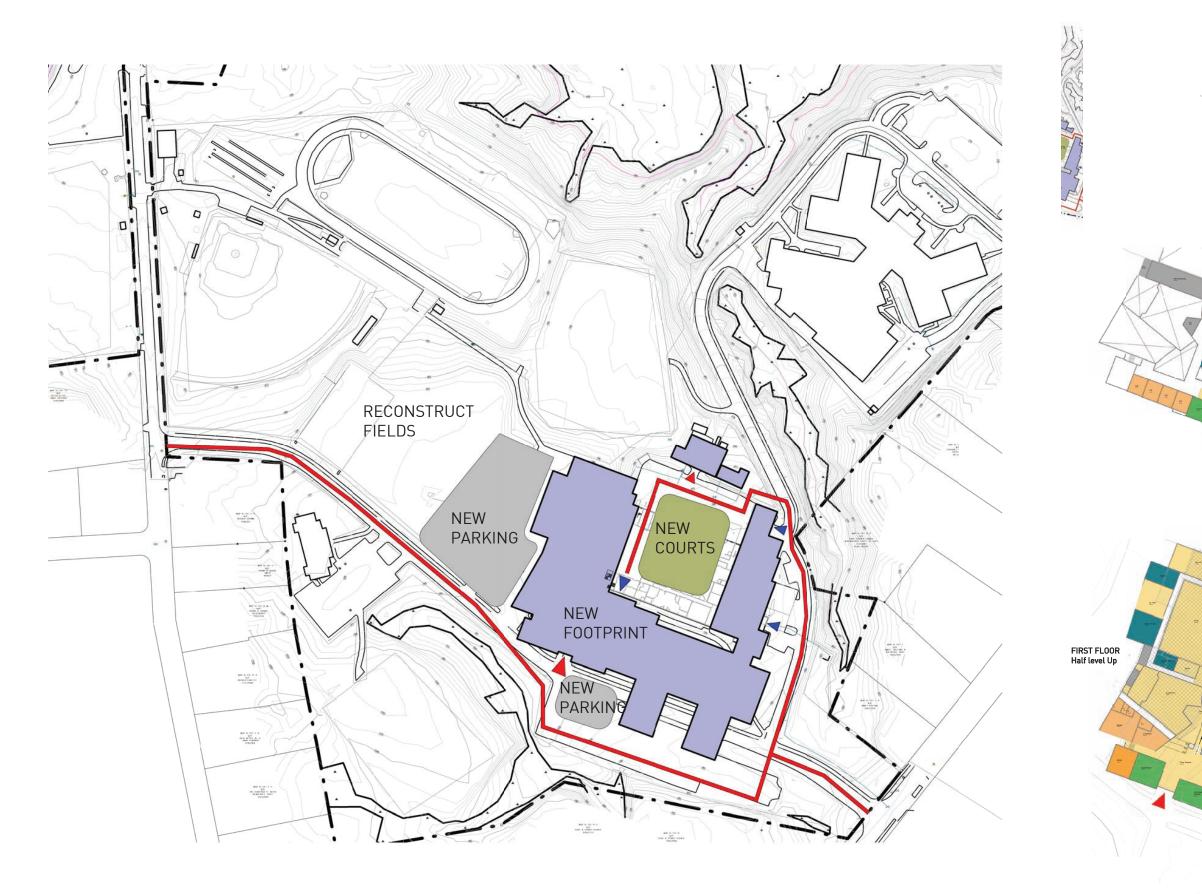
Although the site could fully accommodate the program, and the solar orientation was positive, the location proved to be problematic. JBC voted not to pursue this site because of the traffic and safety concerns at the Alumni Drive– Bellamy Road intersection and due to long term impact on the playing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





Site Exploration & Preliminary Evaluation of Options







Site Exploration & Preliminary Evaluation of Options

Dover High School & Career Technical Center

OPTIONS ANALYSIS - SITE 3 - 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.
- •

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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.

OPTIONS ANALYSIS - SITE 4 - Additions and Renovations

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

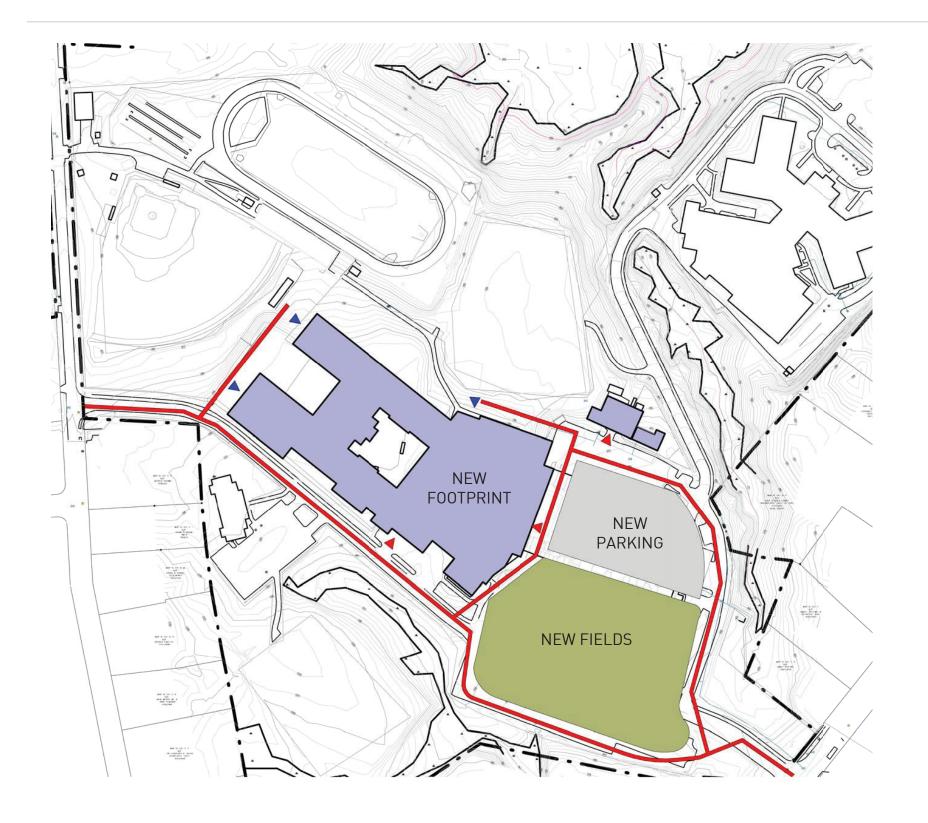
Site 4 Pros

- 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.

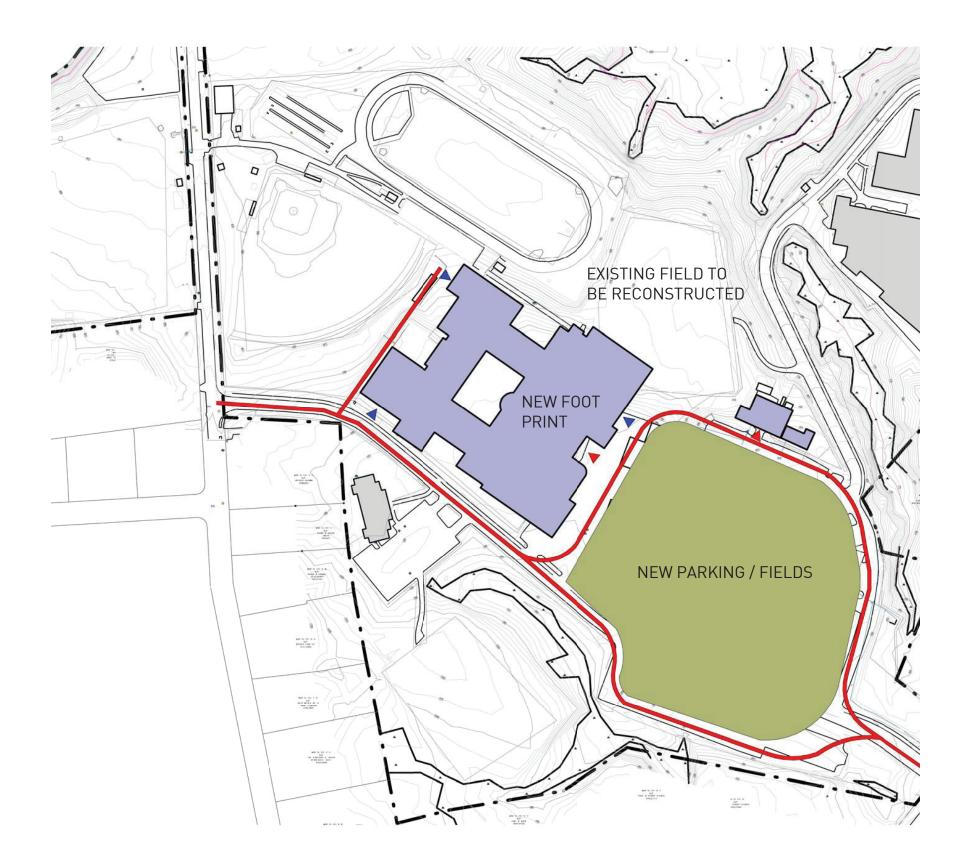
This option achieves the educational goals and does not cause major disruption to the ongoing education of the students. The JBC voted to pursue this as one of the options to be more fully developed and then to proceed with cost estimating for it.





Site Exploration & Preliminary Evaluation of Options







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Site Exploration & Preliminary Evaluation of Options

Dover High School & Career Technical Center

OPTIONS ANALYSIS - SITE 4 - NEW CONSTRUCTION

Site 4 All New Construction immediately to the west of, and adjacent to the existing building:

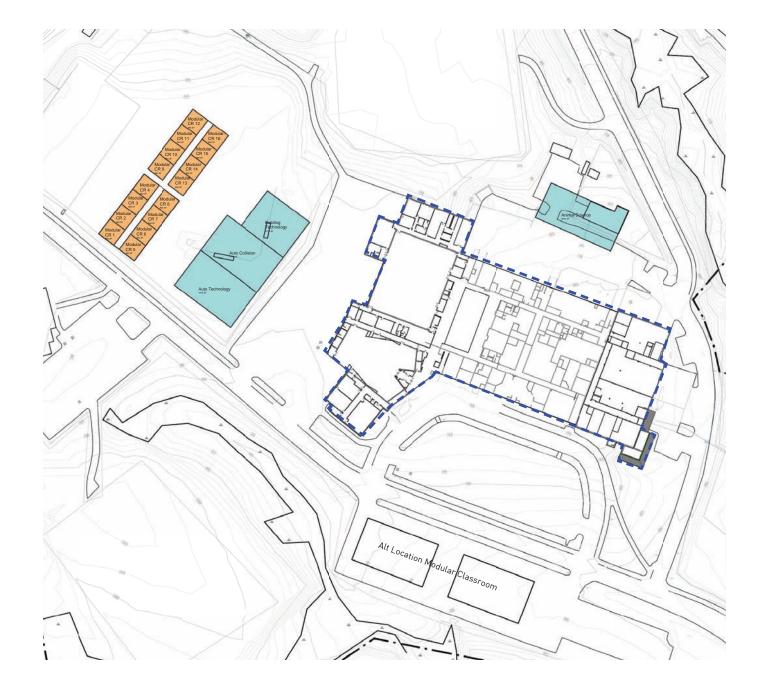
Site 4 Pros

- 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

- 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.



OPTIONS ANALYSIS - SITE 5 - Base Rehabilitation and CTC Addition

This approach only addresses replacement of mechanical, electrical, plumbing, and fire protection systems that have out lived their useful life and brings the building up to code in terms of life safety and accessibility. It has the greatest impact on the students and faculty and provides the least in terms of educational improvements. While several CTE programs would be moved into larger spaces because the current spaces do have required safety clearances, there would be no other net gain in space for the other academic programs. In fact some rooms would be made smaller due to the necessity of enlarging some toilet rooms and the need for additional vertical chases for new mechanical ductwork. The concerns about size and numbers of classrooms would still be the same and there still would be large numbers of classrooms without natural light. Because some of the CTE programs would be moved into the separate building, the CTE programs would be even more segregated from the academic programs.

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 this option be further investigated and a cost estimate be pursued for this approach. The JBC 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.



Site Exploration & Preliminary Evaluation of Options

- 4.1 Ba
- 4.2 Ad
- 4.3 Ne
- 4.4 Co
- 4.5 PC
- 4.6 PN

Section 4

Final Evaluation of Options & Cost Estimates

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PHASE 1 - YEAR 1



4.1 - Base Rehabilitation Option

With direction from the JBC to further investigate the base rehabilitation in order for the option to be cost estimated, HMFH conducted further analysis into alternate locations to house approximately 1/4 of the students during the phased renovation, as swing space would be required for this option during the renovation phases. In order to renovate the high school, approximately

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 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. The location of the modular classrooms is represented in orange on the site plan to the left

Before the renovation can commence new construction for 4 new CTE programs would have to be completed. As these programs require very specific spaces, and can not be relocated into modular classroom. These programs are Automotive Repair, Collision, Electronics and Animal Sciences. The construction of these spaces would take approximately 1 year to complete and would be Phase 1. Once those programs can be relocated into their new spaces, approximately 400 students would be

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

Renovation 250,000 sf **New Construction**

30,000 SF

Estimated Schedule

Phase 1 - 12 Months Phase 2 - 12 Months Phase 3 - 12 Months Phase 4 - 12 Months Phase 5 - Summer Phase 6 - Summer Phase 7 - Summer

Estimated Costs

Construction Cost: \$64,418,000

> Soft Costs: \$20,141,010

Total Project Costs \$84,559,010

See 4.5 - PC Cost Estimates For all detail of cost estimate



PHASE 2 - YEAR 2

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.

As indicated in the phasing diagrams Phase 2, year 2 of the renovation 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. Students 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.

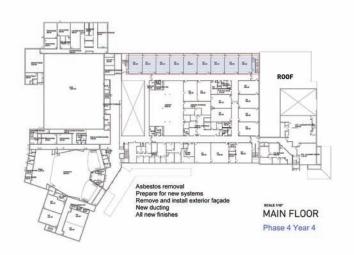
The following year the classrooms in the front of the building facing the parking lot would be completely renovated, including the replacement of the window and window framing system. Again, all 3 floors would be closed off from the students. The 4th year all 3 floors of the rear facing classrooms would 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.

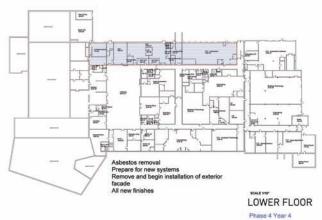
Final Evaluation of Options and Cost Estimates



PHASE 3- YEAR 3

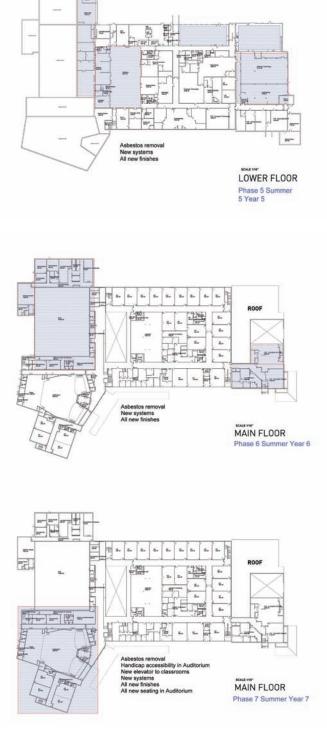


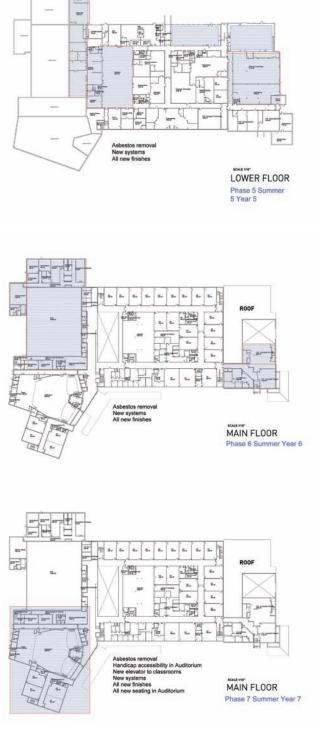




PHASE 4- YEAR 4







Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

PHASE 5, 6 & 7- YEAR 5, 6 & 7 - SUMMERS

4.2 - Option 2B- Renovation of the Gymnasium and Auditorium with New Additions

This approach builds the school to the west of the existing high school. It preserves and renovates the Gymnasium and Auditorium, and the rest of the building is demolished once the new construction is completed. This approach creates small learning communities or small "houses" and integrates the CTE and the academic programs. There is generally good solar orientation for all of the classrooms. The existing small animal barn can be reused and there is easy access to it from the new facility. Access roads around the building, while not complete, will allow access for safety vehicles to all sides of the building.

A challenge for this option is that the new construction is directly adjacent to the existing building so that there will be some impact on the students. The renovations of the boiler plant, Gym, Auditorium and Small Animal barn total approximately 66,000 SF. These renovations would need to be done during the summers throughout the construction project and thus might lengthen the construction period beyond an all new construction option. The CM should determine ways to complete renovations during the allotted new construction period. The existing boilers located under the locker room were replaced in 2002 and can remain in this option. The Gymnasium is in very good physical condition and will require mostly systems upgrades. The small animal barn is also relatively new and does not need any major upgrades. For these reasons this option could provide a significant project cost savings.

This option is two stories high and provides a courtyard between the Academic wings for a protected outdoor classroom and performing arts area. A new parking lot, a new softball field and new tennis courts would need to be constructed where the existing building currently sits as a second phase to the construction project.

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

66,000 sf **New Construction** 239,000 SF

Renovation

Estimated Schedule

Phase 1 - 24 Months Phase 2 - 12 Months

Estimated Costs

Construction Cost: \$67,450,000

> Soft Costs: \$16,731,050

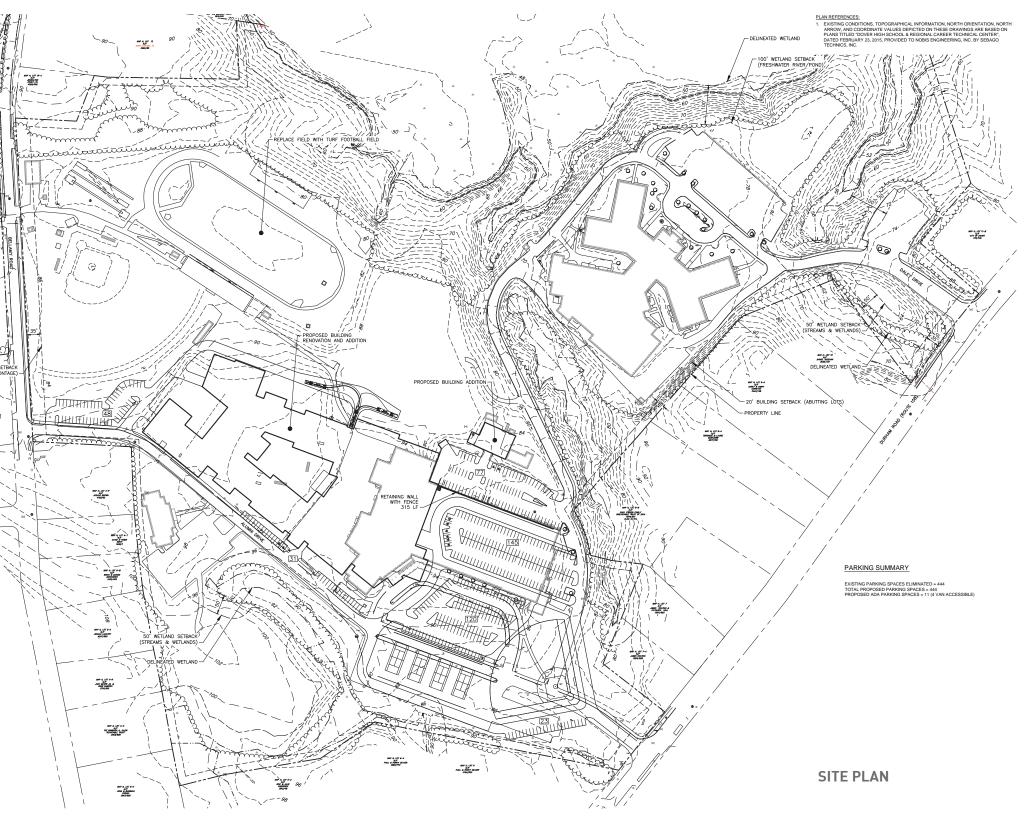
Total Project Costs \$84,181,050

See 4.5 - PC Cost Estimates For all detail of cost estimate





Final Evaluation of Options and Cost Estimates







Dover High School & Career Technical Center





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Dover High School & Career Technical Center

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4.3 - Option 3A- New Construction

The new option is located adjacent to the existing building on the left hand side where there is currently teacher parking. The existing building would be demolished once the new building is completed. The new option has an exterior courtyard created by the academic wings for outdoor classroom space. Two legs of the courtyard are three stories tall which helps to minimize the overall footprint and foundations.

This option creates small learning communities or "houses" and integrates the CTE and the academic programs. There is generally good solar orientation. The existing barn can be reused and there is easy access to it. Access roads around the building, while not complete, will allow access for safety vehicles to all sides of the building. The new construction is adjacent to the existing building and thus there would be some impacts students but not as much as the renovation and additions option because there will be a buffer zone of approximately 25' separating the new construction from the existing building. A new parking lot, a new softball field and new tennis courts would need to be constructed where the existing building sits currently as a second phase to the construction project.

New Construction

305,000 SF

Estimated Schedule

Phase 1 - 24 Months Phase 2 - 6 Months

Estimated Costs

Construction Cost: \$71,593,000

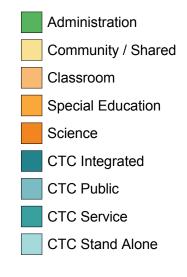
> Soft Costs: \$15,594,105

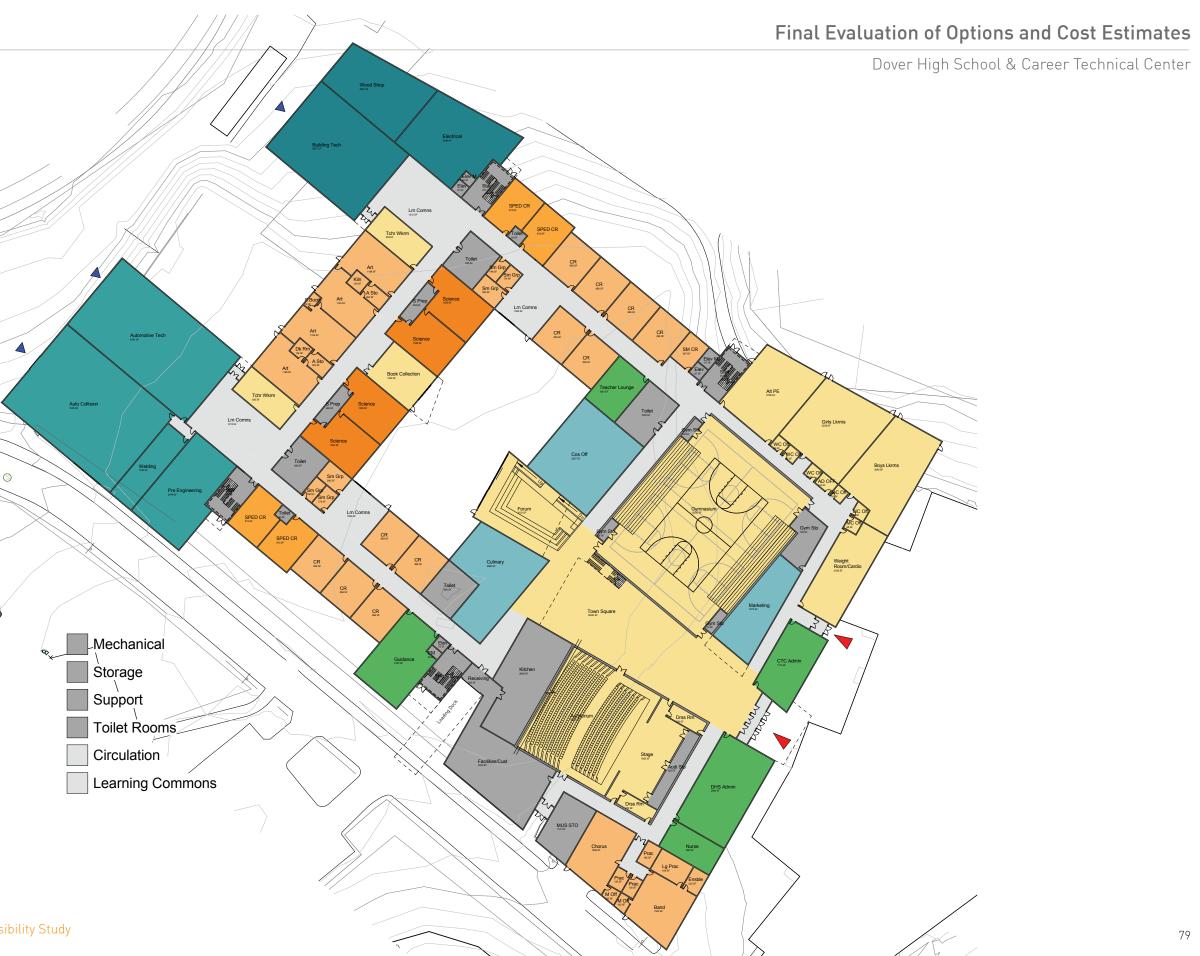
Total Project Costs \$87,187,105

See 4.5 - PC Cost Estimates For all detail of cost estimate

SITE PLAN

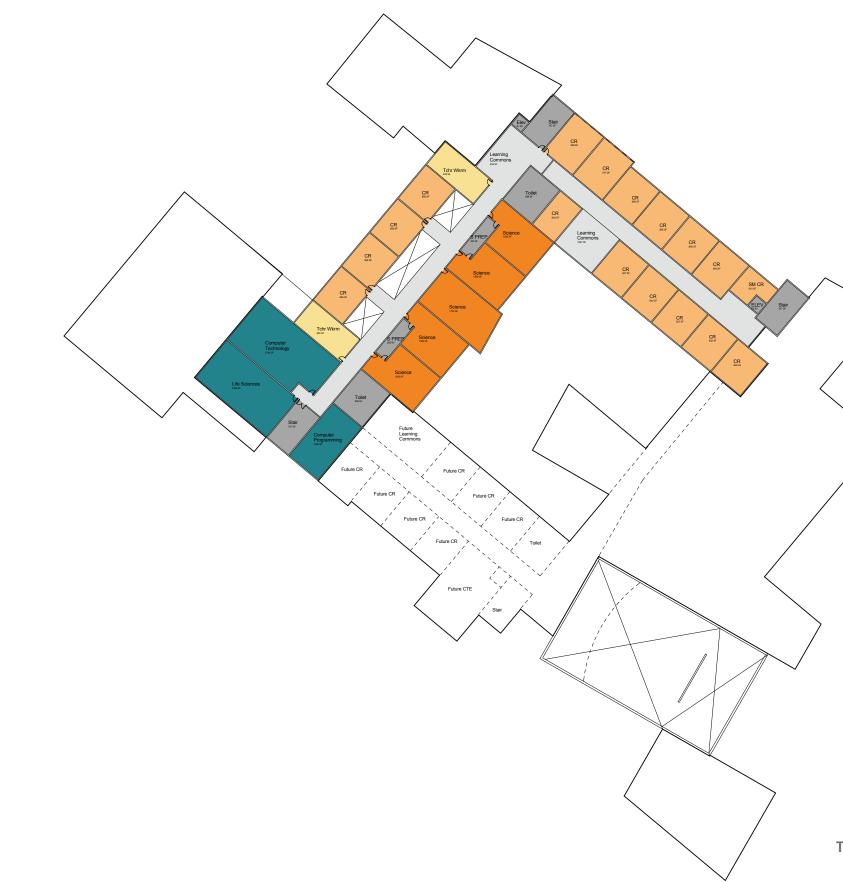












Dover High School & Career Technical Center

4.4 - Final Conclusions & Assumptions for New Construction

An overall design goal has been to develop an efficient layout that minimizes the footprint of the building and maximizes the open space on the site to allow a majority of existing play fields and roadways to remain untouched. The efficient plan and the simple exterior façade of metal stud back up with brick veneer will provide Dover with a very cost effective facility to operate. Aluminum windows and curtain wall will make up 30% of the façade. The roof will be a white thermoplastic membrane roof.

The interior finishes will consist of GWB with tile wainscot for a majority of the corridor, stairs and town square walls, linoleum for corridors, lobbies and classroom floors and rubber floor stair coverings. Acoustical ceiling tile for all learning spaces with some exposed ceilings in common areas. The Gymnasium in the new option would have a wood floor and CMU walls. The Auditorium in any option would have a wood floor at the stage and exposed concrete floor at the seating with carpeted aisles. The walls will have wood panels and acoustical treatments and the ceiling will have reflective wood clouds.

The functional diagram of the building has the High School Main entrance in the location of the existing building along the East side of the facility and the CTC entrance along Alumni Drive. Spaces such as the Cafeteria, Gymnasium, Auditorium, Cosmetology, and Culinary Restaurant, Marketing and school store and kitchen are centrally located off of the Town Square. The Vocational Programs with large equipment have public access or require vehicular access and programs that serve the severely challenged special needs students of the high school are located on the first floor. All of the general classrooms and science labs are located on all floors of the building. In the center of each classroom wing are Learning Commons which are multipurpose project areas for students to do project based, collaborative learning. The Learning Commons will also have small quiet spaces for students to work in smaller groups or receive tutorial assistance. These commons will have teacher planning and offices which will provide supervision of students working outside of their classrooms. Classrooms surrounding collaborative spaces will have windows looking onto the commons to promote both casual supervision and an awareness of learning in all of its forms. These borrowed lights will have blinds so that the teacher can control visibility from the classrooms to the collaborative space. The Library/Book Collection will be centrally located between the houses.

Presently the High School has a small number of outdated computers in some of the classroom, and limited interactive white boards. Technology supports a balanced teaching approach that is both learner –centered and teacher-directed. The Learner-centered approach takes advantage of the technology's ability to support self-directed, collaborative and interactive learning. Teacher-directed instruction and core knowledge based



instruction are supported by technology by opening broad opportunities for teachers to customize instruction in order to engage and reach learners of different abilities and to engage learners with different learning styles. Technology is expanding the boundaries of the classrooms and creating worldwide learners. The proposed technology plan is designed to expand the classroom and support learning everywhere. The building will have a wireless network. Each classroom will have casework designed to accept a cart of laptops or tablets for charging. The goal is to have a cart of laptops or tablets shared between two classes of students. Separate Project Areas will have hard wired data outlets that can be set up as a computer lab stations when necessary for a class or for testing but will not have desk top computers permanently installed. These Project Areas will also have printers and Interactive White boards. Each teaching space within the building will have an interactive white board. Each teaching space will also have a ceiling mounted projector. Projectors will also be located in the Gymnasium, Auditorium, Town Square /cafeteria and all other potential teaching stations.

The High School and CTC will have two separate main entrances. Each entrance will have a secured vestibule which is visually monitored by the adjacent Main Office staff who will have the ability to first screen and then buzz visitors into the school facility. All other doors to the exterior of the school will be egress only and will be locked at all times. Security cameras at the main entrances and the loading dock will also allow staff to monitor the exterior of the building.

The new school will be designed to be a sustainable building. The site will have student and community gardens, minimized parking and will limit heat-island effect through the use of landscaping and roof material. Energy efficiency measures will be met by minimized air conditioning and the use of displacement ventilation to dehumidify the school. A wood chip plant and PV systems will be studied. Water reduction will be achieved through the use of low flow fixtures. Reuse of rainwater for irrigation system will be studied. Electricity usage will be minimized by use of natural light in 90% of classroom spaces and through the use of automatic daylight dimming systems in 100% of teaching spaces. High efficiency light fixtures will also be used. The indoor environmental air quality will be enhanced by the use of low-emitting materials, improved acoustic quality and providing access to views from all classrooms. Ductwork and all absorptive materials will be protected during construction to ensure no mold or contamination is established in the building. The facility will receive a full flush out after construction is complete and before occupancy. Whenever possible, materials will be selected with recycled content, manufactured from a regional source and use certified wood.

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

4.5 - PC Construction Cost Estimate - All Options Dover High School Schematic Estimate

OPTION 1 - Complete Renovation

ESTIMATE SUMMARY

Project #: 15027 Building GSF: 268,330

			Totals
Direct Cost		%	\$ 49,932,184
	Material Sales Tax (N/A)	0.00%	\$ _
	Labor & Material Escalation (Years 3 through 6)	3.00%	\$ 6,266,929
Gross Cost			\$ 56,199,113
	Building Permit - by Owner	0.00%	\$ -
	Builder's Risk insurance	0.07%	\$ 43,993
	Liability Insurance	0.75%	\$ 483,135
	Construction Manager's Contingency	10.00%	\$ 5,619,911
	P & P Bond (\$7.77 per \$1,000)		\$ 500,528
	Sub Total		\$ 62,846,680
	CM Fee	2.50%	\$ 1,571,167
Total			\$ 64,418,000
Total Cost p	er square foot		\$ 240

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



June 23, 2015 | PC Construction Company



Job #: 15027 Project Size: 0 SF Recap - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

Item Description	Quantity	UM	Total	Total
Code			UnitCost	Cost
Option 1 - Full Rehabilitation				
10 - FOUNDATIONS				1,725,883
310 - SUPERSTRUCTURE				846,199
20 - EXTERIOR CLOSURE				3,424,367
330 - ROOFING				361,327
10 - INTERIOR CONSTRUCTION				3,999,625
20 - STAIRCASES				123,729
30 - INTERIOR FINISHES				3,971,902
010 - CONVEYING SYSTEMS				199,423
020 - PLUMBING				2,359,536
030 - HVAC				8,870,778
040 - FIRE PROTECTION				970,299
050 - ELECTRICAL				7,157,151
10 - EQUIPMENT				509,818
20 - FURNISHINGS				211,477
10 - SPECIAL CONSTRUCTION				16,574
20 - SELECTIVE BUILDING DEMOLITION				2,123,957
310 - SITE PREPARATION				99,328
320 - SITE IMPROVEMENTS				788,722
330 - SITE UTILITIES				228,929
10 - GENERAL				7,492,992
20 - MAJOR CUSTOM PROGRAM ELEMEN				4,450,166
Total Option 1 - Full Rehabilitation				49,932,184
Total Gross Cost				49,932,184

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

ltem Code	Description	Quantity	UM	Total UnitCost	Total Cost
Ontion 1	Full Debebilitation				
	Full Rehabilitation				
A10 - FO	UNDATIONS				
A1010	- STANDARD FOUNDATIONS				
2210.205	Structure Excavation (AT, AC, BT)	900.00	CY	12.13	10,915
2210.205	Structure Excavation (Barn Addition)	300.00	CY	12.13	3,638
	BF Frost Wall w/ Crushed Stone (AT, AC, BT)	600.00	CY	42.51	25,506
2220.335	BF Frost Wall w/ Crushed Stone (Barn Addition)	180.00	CY	42.51	7,652
2220 340	BF Frost Wall w/ On Site Matl (AT, AC, BT)	300.00	CY	17.51	5,253
	BF Frost Wall w/ On Site Matl (Barn Addition)	180.00	CY	17.51	3,152
	8" x 16" Continuous Footing (Barn Addition)	294.00	LF	38.00	11,172
	1' x 2' Continuous Footing (AT, AC, BT)	852.00	LF	45.00	38,340
	1' x 3' Grade Beam	3,100.00	LF	52.00	161,200
	1' x 3' Grade Beam - At H Piles	2,578.00	LF	52.00	134,056
		2,378.00	LF	124.00	
	8" x 5' Frost Wall (Barn Addition) 12" x 5' Frost Wall (AT, AC, BT)	294.00 852.00		151.00	36,456 128,652
	12 x 5 Flost Wall (A1, AC, B1) 18" x 4' Concrete Pier with 2' x 2' x 1' Footing			321.92	
	(50' Dia Riding RIng)	14.00	EA		4,507
	Damproof Frost Wall (AT, AC, BT)	2,862.00	SF	1.50	4,293
	Damproof Frost Wall (Barn Addition)	1,323.00	SF	1.50	1,985
	Rigid Insulation - 2" Frost Wall (AT, AC, BT)	3,160.00	SF	2.08	6,585
	Rigid Insulation - 2" Frost Wall (Barn Addition)	1,323.00	SF	2.08	2,757
	0 - STANDARD FOUNDATIONS				586,118
	- SPECIAL FOUNDATIONS				
2080.500	Temp Shoring of 1967 Wing Structure to replace pile caps & grade beams	10,800.00	SF	11.00	118,800
2490.105	HP10 Steel Piles - 30' Grid, 3 per location: 84 @ 30' Deep (AT,AC, BT)	2,520.00	LF	60.00	151,200
2490.110	Drilled Micro Piles - 30' Grid, 4 per location: 210 @ 30' Deep (1967 Wing)	1,440.00	LF	85.00	122,400
*** Total A102	0 - SPECIAL FOUNDATIONS				392,400
A1030	- LOWEST FLOOR CONSTRUCTIO	N			
2220.332	Crushed Stone Under Slab - 8" (AT, AC, BT)	700.00	CY	42.51	29,757
	Crushed Stone Under Slab - 8" (Barn Addition)	200.00	CY	42.51	8.502
	15 Mil Stego Wrap Under Slab Vapor Barrier - Taped Seams	46,000.00	SF	0.71	32,793
3250.451	15 Mil Stego Wrap Under Slab Vapor Barrier -	22,650.00	SF	0.71	16,147
2052 457	Taped Seams (AT, AC, BT)	0 740 00	05	0.74	1701
3250.451	15 Mil Stego Wrap Under Slab Vapor Barrier - Taped Seams (Barn Addition)	6,710.00	SF	0.71	4,784
3300.008	10" SOG - (AT, AC, BT)	21,574.00	SF	14.00	302,049
	10" SOG - (Drilled Micro Pile Areas)	10,800.00	SF	14.00	151,206
	5" SOG - (Barn Addition)	6,100.00	SF	8.71	53,133
	Alter Auditorium Floor for ADA compliance	15,500.00	SF	8.71	135,011
	Rigid Insulation - 2" Underslab (Barn Addition)	6,710.00	SF	2.08	13,982
	0 - LOWEST FLOOR CONSTRU	-,	-	2.00	747,366
	FOUNDATIONS				1,725,883
B10 - SU	PERSTRUCTURE				
B1010	- FLOOR CONSTRUCTION				
5010.000	Reinforce existing structural steel (1967 Wing, 10,800 SF/FIr totalling 32,400 SF) 4 lbs/sf	65.00	TON	8,000.00	520,000
7850 001	Spray Fireproofing - Structural Steel		SF	2.50	
	Spray Fireproofing - at new bracing only	1.00	LS	2.50	50,000
	0 - FLOOR CONSTRUCTION	1.00	LO	50,000.00	570,000
	- ROOF CONSTRUCTION				
5200,100	Steel Joists (2 lbs/ SF) (AT, AC, BT)	23.00	TON	1,800.00	41,400

...\15027 Dover HS Schematic Estimate MASTER 22JUN15.est

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Page 1

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

Page 1



Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

ltem Code	Description	Quantity	UM	Total UnitCost	Total Cost
5300 205	1-1/2"X20ga Galv Mtl Deck (AT, AC, BT)	23,731.00	SF	1.70	40.343
	Roof Trusses w/ sheathing (Barn Addition)	6.100.00	SF	8.00	48.800
	Pavilion Framing (50' Dia Riding Ring)	3,300.00	SF	18.38	60,657
	Entrance Canopy	1.00	EA	45,000.00	45,000
	Entrance Canopy - Premium	1.00	EA	40,000.00	40,000
*** Total B102	0 - ROOF CONSTRUCTION				276,199
** Total B10 - \$	SUPERSTRUCTURE				846,199
B20 - EX	TERIOR CLOSURE				
B2010 -	- EXTERIOR WALLS				
4000.205	Brick Veneer (AT, AC, BT)	12,720.00	SF	24.00	305,280
	10" CMU Partitions - 20' Ht (AT, AC, BT)	17,040.00	SF	12.00	204,480
	Repair/Repoint existing masonry veneer	15,000.00	SF	18.00	270,000
4020.400	(Locations unknown)	13,000.00	51	10.00	270,000
6100 612	2x6 Partitions w/ 1/2" OSB Sheathing - 12' Ht	3,880.00	SF	4.60	17,836
0100.012	(Barn Addition)	0,000.00	01	4.00	17,000
6200.512	T&G Siding - Red Cedar (6" Exposure) (Barn	3,880.00	SF	8.00	31,036
	Addition)				
7210.806	3" Spray Foam Insulation (R-21) (Existing	46,000.00	SF	3.00	138,000
7040 000	Building)	10 700 00	<u>сг</u>	2.00	20.400
	3" Spray Foam Insulation (R-21) (AT,AC, BT)	12,720.00	SF SF	3.00	38,160
7260.120	Air Infiltration Barrier - Spray-On / Roll-On (AT,	12,720.00	5F	3.00	38,160
9280 031	AC, BT) 3-5/8 LGS w/ abuse resistant GWB Back-up	13,992.00	SF	8.11	113,510
5200.051	(AT, AC, BT)	10,002.00	01	0.11	113,510
*** Total B2010	0 - EXTERIOR WALLS				1,156,462
					.,,
	- WINDOWS				
8800.800	Curtainwall	28,000.00	SF	75.00	2,100,000
8800.820	4x8 Storefront Windows (AT, AC, BT)	12.00	EA	1.760.00	21,120
8800.840	Barn Windows (Barn Addition)	10.00	EA	600.00	6,000
*** Total B202					2,127,120
Baaaa					
	- EXTERIOR DOORS				
	Sliding Barn Door (Barn Addition)	3.00	EA	1,788.76	5,366
	3070 Exterior Door	16.00	EA	1,404.76	22,476
8010.010	3070 HM Door (Barn Additon)	8.00	EA	1,104.76	8,838
	3070 HM Door Frame (AT, AC, BT)	12.00	EA	1,104,76	13.257
	6070 Exterior Door	13.00	EA	2,065.16	26,847
	Overhead Door (AT, AC, BT)	6.00	EA	8,000.00	48,000
	Overhead Door (Loading Dock & Woodshop)	2.00	EA	8,000.00	16,000
					140,785
	EXTERIOR CLOSURE				3,424,367
B30 - RC					
	- ROOF COVERINGS		[
	12" Batt Insulation (R38) (Barn Addition)	8,020.00	SF	1.15	9,217
7310.015	Asphalt Single Roof (50' Dia Riding Ring)	3,300.00	SF	5.79	19,119
	Asphalt Single Roof (Barn Addition)	8,020.00	SF	5.79	46,465
	Thermoplastic Membrane Roof		SF	10.00	
	Thermoplastic Membrane Roof (AT, AC, BT)	21,574.00	SF	0.50	10.787
	Thermoplastic Membrane Roof (AT, AC, BT)	21,574.00	SF	10.00	215,740
	Roof Canopy	1.00	LS	60,000.00	60,000
		1.00	L0	00,000.00	
*** Total B3010					361,327
					361,327
	TERIOR CONSTRUCTION		1		
	- PARTITIONS				
	In Wall Blocking	1.00	LS	50,000.00	50,000
6010.000	In Wall Blocking	1.00	LS	24,437.84	24,438
	Glazed Partitions	2,200.00	SF	60.00	132,000

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Item	Description	Quantity	UM	Total	Total
Code				UnitCost	Cost
9270.001	Tape Gypsum Walls - Level 4 (String coat, 2 finish coats, sanding)	326,145.00	SF	0.75	244,609
9280.030	Classroom Fit Up (AT,AC,BT) 3 - 20'x20' classrooms	1,200.00	SF	30.00	36,000
9280.030	Classroom Fit Up (Barn Addition) 2 - Classrooms	450.00	SF	30.00	13,500
9285.005	LGS Partitions (50% of existing building)	59,000.00	SF	8.61	508,055
	LGS Furred Partition - Interior	9,500.00	SF	5.09	48,391
9285.023	Fire Stopping	1.00	LS	18,000.00	18,000
9285.023	Fire Stopping	1.00	LS	48,000.00	48,000
9288.039	Misc Drywall Work	1.00	LS	35,000.00	35,000
	Misc Drywall Work	1.00	LS	9,000.00	9,000
	- PARTITIONS			.,	1,166,993
C1020	- INTERIOR DOORS				
	3070 Interior Door	379.00	EA	1,204.76	456,604
	6070 Interior Door	64.00	EA	1,204.70	112,970
	Corridor Lock Down Hardware	1.00	LS	50.000.00	50.000
	Interior Borrowed Lites	45.00	EA	609.52	27,428
	Misc Painting - Door Frames, Misc Metals	1.00	LS	10,000.00	10,000
	Misc Painting - Door Frames, Misc Metals	1.00	LS	40,000.00	40,000
) - INTERIOR DOORS	1.00	10	40,000.00	697,003
	- SPECIALTIES / MILLWORK	00.00		000 50	40.050
	6'-0" Laminated Maple Bench	20.00	EA	992.58	19,852
	Base Cabinets (Classrooms)	760.00	LF	266.10	202,239
	Full Height Cabinets (Classrooms)	335.00	LF	306.10	102,545
	Wall Cabinets (Classrooms)	559.00	LF	191.10	106,827
	Full Height Cabinets (Mail Room)	24.00	LF	306.10	7,346
	Restroom Wood Apron at Solid Surface	132.00	LF	159.92	21,109
	Solid Surface Restroom Counter w/ integral sink	132.00	LF	221.90	29,291
	Countertops-Solid Surface (Classrooms)	760.00	LF	191.10	145,239
	Wall Mount Solid Surface Counter (Mail/Work Room)	71.00	LF	216.10	15,343
	Countertops - Epoxy Resin	468.00	LF	161.64	75,646
	Solid Surface Window Sill and Apron (New Const Only)	1,785.00	LF	64.26	114,700
	Wall Cabinets - Solid Surface (Science Labs)	351.00	LF	161.65	56,738
	Full Height Cabinets - Solid Surface (Science Labs)	351.00	LF	255.73	89,760
	Wood Cubbies - Mail Room	24.00	LF	251.10	6,026
	Casework Allowance (Misc)	1.00	LS	231,000.00	231,000
	Closet Shelving	1.00	LS	10,000.00	10,000
	*** DESK MILLWORK***				
	Admin/Guidance Front Desk	31.00	LF	441.10	13,674
	Library Desk	78.00	LF	491.10	38,306
	FRP Panels 10' ht - Kitchen	3,518.00	SF	7.14	25,133
	FRP Panels 8' ht - at Janitorial sinks only	1,510.22	SF	7.14	10,789
	FRP Panels - Art Rooms	80.00	SF	7.14	572
	Toilet Partitions W/ Door - Phenolic	34.00	EA	430.52	14,638
	Urinal Screen - Phenolic	8.00	EA	305.52	2,444
	Shower Door	18.00	EA	277.76	5,000
	Locker Room Bench	80.00	LF	80.28	6,422
	Privacy Curtain: Track W/Supports (No Curtain) - Nurse	64.00	LF	22.50	1,440
	Display & Trophy Case Allowance	1.00	LS	40,000.00	40,000
10410.150		1.00	LS	10,000.00	10,000
10410.150	Sigange	1.00	LS	78,000.00	78,000

...\15027 Dover HS Schematic Estimate MASTER 22JUN15.est

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

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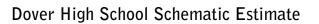
4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

ltem	Description	Quantity	UM	Total	Total
Code	Description	Quantity	UW	UnitCost	Cost
	Sealed Concrete (Barn Addition)	6,100.00	SF	1.50	9,150
	Paint Gym Floor Logo Walk-Off Foot Grilles (Alum Grid W/ Frame &	1.00 400.00	LS SF	3,000.00 72.08	3,000 28,831
1207 1.103	Pan)	400.00	эг	12.08	20,031
*** Total C3020) - FLOOR FINISHES				1,914,998
C3030 ·	CEILING FINISHES				
	Gypsum Ceiling: Suspended drywall grid 5/8" type X GWB (1 layer), taped (lvl 4)	16,056.00	SF	5.31	85,211
	Misc Drywall Soffits	1.00	LS	95,000.00	95,000
	Misc Drywall Soffits	1.00	LS	35,000.00	35,000
9500.100 9500.102	ACT - Auditorium	162,350.00	SF SF	5.00 4.00	649,400
	ACT ACT(Cleanable) - Kitchen	7,215.00	SF	4.00 8.00	57,720
	24x24x5/8 Lay-In (AT, AC, BT)	1,200.00	SF	3.00	3,600
	24x24x5/8 Lay-In (Barn Addition)	450.00	SF	3.00	1,350
	Acoustical Wood Clouds - Auditorium	1.00	LS	40,000.00	40,000
9500.612	Tectum Ceilng Panels - 2"	6,870.00	SF	8.00	54,960
	Paint Ceilings	9,520.00	SF	0.85	8,092
	Paint Exposed Ceiling Structure	53,550.00	SF	1.75	93,713
	Paint exposed ceiling - Gym	13,710.00	SF	2.00	27,420
	Paint exposed ceiling - Auditorium	15,500.00	SF	2.00	31,000
) - CEILING FINISHES NTERIOR FINISHES				1,182,465 3,971,902
					5,971,902
	NVEYING SYSTEMS				
	ELEVATOR				
	12" Base Slab	128.00	SF	14.42	1,846
	12" x 5' Foundation Wall	72.00 2.00	LF EA	128.35 1.813.09	9,241
	Elevator Pit Misc Metals Drywall Partition	2,640.00	SF	9.36	3,626 24,710
	Hydraulic Passenger Elevator (1 Ea)	4.00	STOP	40,000.00	160,000
) - ELEVATOR		0.01	10,000.00	199,423
** Total D10 - (CONVEYING SYSTEMS				199,423
D20 - PL	UMBING				
	LUMBING				
	Domestic Water - Temporary Service -	1.00	LS	5,000.00	5,000
15400.001	Modulars	1.00	LS	3,500.00	2 500
	Natural Gas - Temporary Service - Modulars Domestic Water Heater, Residential Gas-Fired	2.00	EA	3,500.00 1,863.51	3,500 3,727
10401.020	(NG/P) Atmospheric, Foam Lined Tank, Vent	2.00	LA	1,005.01	5,121
	Not Included, 100 Gal.				
15401.338	Domestic Water Heater, Commercial Gas-	2.00	EA	20,205.11	40,410
	Fired (NG/P) Atmospheric, Std. Controls, Vent				
	Not Included, 250 MBH Input, 245 GPH				
15401.554	Potable Water Storage Tank, Indoor, Glass-	1.00	EA	14,272.02	14,272
15/01 556	Lined PE, 605 Gal., 48" OD, 87" Long Round, Stainless Steel, 26 ga., 8" OD - Water	160.00	LF	28.50	4,560
13401.330	Heater Vent	100.00	LF	20.00	4,500
15410.208	Comm. Water Closet, Floor Mounted VC,	37.00	EA	760.73	28,147
	Flush Valve, Bowl only, incl. Seat, w/Floor				· · · · · · · · · · · · · · · · · · ·
	Outlet 1.28 gpf ADA				
15410.210	Rough-In, Supply, Waste and Vent for Comm.	37.00	EA	697.37	25,803
	Floor Mounted WC				
15410.404	Urinal, Wall Hung VC w/ Hanger and Valve,	6.00	EA	857.02	5,142
45440 400	Water Saving 0.5 gpf	0.00	F A	050.00	5 4 F O
15410.406	Rough-In, Supply, Waste and Vent for Wall Hung Urinal	6.00	EA	858.39	5,150
					l
5007 D 110 0 1					0/00/0045 40 05 DM

...\15027 Dover HS Schematic Estimate MASTER 22JUN15.est





Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

ltem Code	Description	Quantity	UM	Total UnitCost	Total Cost
10500.002	Staff Lockers - Single Tier (3' X 15" X 15") - Kitchen	15.00	EA	227.76	3,416
10500.002	Staff Lockers - Single Tier (3' X 15" X 15") - Staff	100.00	EA	227.76	22,776
10500.004	Lockers - Double Tier (6' X 18" X 18") - Student	1,500.00	EA	317.76	476,640
10500.006	Lockers - Double Tier - Locker Rooms (100 per Room)	200.00	EA	317.76	63,552
10500.006	Lockers - Double Tier - Student Athletic	50.00	EA	317.76	15.888
	Fire Extinguishers	80.00	EA	125.46	10,037
	Fire Ext Cabinets	80.00	EA	302.76	24,221
	Operable Wall Partition (57' L x 28' HT)		SF	99.95	_ ,
10800.106		30.00	EA	101.38	3,041
	Surface Mtd Double Roll Tph	30.00	EA	197.38	5,921
	Surface Mounted SND	16.00	EA	377.38	6,038
	Surf Mtd Waste Receptacle	18.00	EA	282.38	5,083
	Liquid Soap Dispenser	18.00	EA	177.38	3,193
	Folding Shower Seat	18.00	EA	301.38	5,425
	Electric Hand Dryer	16.00	EA	301.38	4,822
10810.100	30"x30" Framed Mirror	26.00	EA	211.38	5,496
) - SPECIALTIES / MILLWORK				2,135,630
	NTERIOR CONSTRUCTION				3,999,625
C20 - ST	AIRCASES				
C2010	- STAIR CONSTRUCTION				
5520.050	Hand Rail - Standard Metal Picket	650.00	LF	119.42	77,624
5520.072	Steel Wallrail - Primed	650.00	LF	70.93	46,105
*** Total C201) - STAIR CONSTRUCTION				123,729
** Total C20 - 3	STAIRCASES				123,729
	FERIOR FINISHES				
C3010	- WALL FINISHES				
6200.040	Wood Wall Finish - Auditorium	11,520.00	SF	25.00	288,000
9300.200	Tile Wainscot - 4' AFF (Corridors)	15,000.00	SF	10.00	150,000
9300.202	Tile Wainscot - 4' AFF (Town Square)	2,700.00	SF	10.00	27,000
	Tile Wainscot - 4' AFF (Toilet Rooms)	4,100.00	SF	10.00	41,000
9300.204	Tile Wainscot - Premium for 5' AFF	5,450.00	SF	10.00	54,500
	everywhere including stairwells				
9900.100	Paint Interior Walls (AT, AC, BT)	21,360.00	SF	0.82	17,515
	Paint Interior Walls (Barn Addition)	3,528.00	SF	0.82	2,893
	Paint Walls	345,330.00	SF	0.85	293,531
*** Total C301	0 - WALL FINISHES				874,439
	- FLOOR FINISHES				
	Tile Base	871.00	LF	10.00	8,710
	Quarry Tile Floors - Culinary	3,315.00	SF	15.00	49,725
	Quarry Tile Floors - Kitchen	4,527.00	SF	15.00	67,905
	Quarry Tile Base	760.00	LF	12.00	9,120
	Mosaic Tile - Bath, Locker Rooms	5,175.00	SF	12.00	62,100
	Wood Floor - Gym	13,710.00	SF	18.00	246,780
	Wood Floor - Stage	2,620.00	SF	16.00	41,920
9650.010		163,752.00	SF	6.00	982,512
	Rubber Base	35,167.00	LF	1.85	65,059
	Replace Stone Treads (40% of existing)	2,328.00	SF	40.00	93,120
	Carpet - Auditorium	1,722.00	SY	45.00	77,490
	Carpet Tile	1,100.00	SY	35.00	38,500
	Rubber Sports Flooring	4,158.00	SF	12.45	51,756
	Moisture Mitigation	04 000 00	SF	8.00	10.050
	Sealed Concrete	31,306.00	SF	1.50	46,959
9900.400	Sealed Concrete (AT, AC, BT)	21,574.00	SF	1.50	32,361

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Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

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Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

ltem Code	Description	Quantity	UM	Total UnitCost	Total Cost
15410.640	Rough-In, Supply, Waste and Vent for Res. Vanity Top Lavatories	44.00	EA	769.85	33,873
15410.640	Rough-In, Supply, Waste and Vent for Salon Lavatories (no fixture)	10.00	EA	769.85	7,699
15410.698	Sink w/Faucet and Drain, SS Self Rimming, 43"x22" Double Bowl	14.00	EA	1,295.00	18,130
15410.702	Rough-In, Supply, Waste and Vent for Sinks	14.00	EA	841.37	11,779
15410.826	Laboratory Sink, Corrosion Resistant, 12"x12"x8" Sink, 14.5"x14.5" OD	38.00	EA	482.03	18,317
15410.832	Rough-In, Supply, Waste and Vent for Laboratory Sinks	38.00	EA	623.02	23,675
15410.834	Laboratory Faucet, Gooseneck Spout, Wrist Handles	38.00	EA	238.01	9,044
	Service Sink, Floor (Corner), PE, 28"x28" w/Rim Guard	10.00	EA	1,242.96	12,430
15410.844	Rough-In, Supply, Waste and Vent for Floor Service Sink	10.00	EA	1,972.62	19,726
	Hose Bibb, Exterior Freeze-Proof, Lockable	20.00	EA	106.10	2,122
15411.314	Stall Shower, One-Piece Fiberglass w/Three Walls, Drain Only, 32" Square	18.00	EA	653.38	11,761
	Thermostatic Valve for Shower	18.00	EA	585.00	10,530
	Rough-In, Supply, Waste and Vent for Shower	18.00	EA	938.10	16,886
	Emergency Shower, Single Head, Drench, Ball Valve, Pull Style, Freestanding, No Rough-In	8.00	EA	584.03	4,672
	Emergency Eyewash Fountain, SS Bowl, Pedestal Mount, No Rough-In	8.00	EA	544.03	4,352
	Electric Water Cooler, Wall Mounted, Full Recessed, SS, Bi-Level	10.00	EA	1,883.15	18,832
	Rough-In, Supply, Waste and Vent for Electric Water Cooler	10.00	EA	564.12	5,641
	Floor Drain, Heavy Ducty, Galvanized w/Sediment Bucket, 12" OD Grate, 2"-6" Pipe Size	23.00	EA	1,135.69	26,121
15412.730	Roof Drain, Integral Expansion Joint, Galvanized, 12" Dome, 4" Pipe Size	70.00	EA	1,081.02	75,671
15412.730	Roof Drain, Integral Expansion Joint, Galvanized, 12" Dome, 4" Pipe Size - Emergency	70.00	EA	1,081.02	75,671
15414.126	Water Meter, Bronze, Comm./Dom., Flanged, 4" OD, 320 GPM	2.00	EA	5,394.09	10,788
15420.106	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3/4" OD	13,100.00	LF	10.93	143,127
15420.108	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 1" OD	8,750.00	LF	14.34	125,479
	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 2" OD	3,900.00	LF	32.45	126,555
	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3" OD	1,200.00	LF	77.68	93,213
	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 4" OD	400.00	LF	127.33	50,932
	Fiberglass 1" Insulation With All Service Jacket 3/4" Pipe	13,100.00	LF	4.12	53,977
	Fiberglass 1" Insulation With All Service Jacket 1" Pipe	8,750.00	LF	4.33	37,848
	Fiberglass 1-1/2" Insulation With All Service Jacket 2" Pipe	3,900.00	LF	6.06	23,636
15421.208	Fiberglass 1-1/2" Insulation With All Service Jacket 3" Pipe	1,200.00	LF	6.79	8,149
15421.212	Fiberglass 1-1/2" Insulation With All Service Jacket 4" Pipe	400.00	LF	8.04	3,216

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Item	Description	Quantity	UM	Total	Total
Code				UnitCost	Cost
15/01 500	Valves and Accessories	1.00	LS	25,000.00	25,000
		1.00			
	Valves and Accessories	1.00	LS	150,000.00	150,000
	UG Hub & Spigot, CI, No Hangers, 6" Pipe	250.00	LF	53.47	13,368
	Casty Iron SW&V, Hangers 5' OC, 1-1/2" Pipe	5,750.00	LF	18.61	107,019
15440.054	Casty Iron SW&V, Hangers 5' OC, 2" Pipe	3,000.00	LF	22.45	67,350
	Casty Iron SW&V, Hangers 5' OC, 4" Pipe	1,650.00	LF	31.69	52,290
	Corrosion Resistant Pipe, Sch. 40	2,500.00	LF	25.61	64,024
10770.002	Polypropylene, No Coupling/Hangers, 2" OD - GW	2,000.00		20.01	04,024
15440.386	Corrosion Resistant Pipe, Sch. 40 Polypropylene, No Coupling/Hangers, 4" OD - GW	1,300.00	LF	46.16	60,006
15440 500	Limestone Chip Acid Neutralizer - 200 Gallon	2.00	EA	17.500.00	35.000
		500.00	LF	25.34	12,668
	Sch40 PVC W/Couplings and Hangers, 10ft OC, 4" OD				
	Sch40 PVC W/Couplings and Hangers, 10ft OC, 6" OD	500.00	LF	38.16	19,081
15460.100	Black Steel, Schedule 40, Threaded W/Couplings And Hangers, 10ft OC, 2" OD - NG	5,600.00	LF	21.70	121,529
15460.102	Black Steel, Schedule 40, Threaded W/Couplings And Hangers, 10ft OC, 1-1/4" OD - NG	5,600.00	LF	14.93	83,615
15460.200	Valves and Accessories	1.00	LS	10,000.00	10,000
	Valves and Accessories	1.00	LS	50,000.00	50,000
	Air Compressor, Reciprocating, Air-Cooled,	1.00	EA	14,100.00	14,100
13470.100	Tank Mounted, Two Stage, 3 Phase, 105 CFM @ 125 PSI, 25 HP, 250 Gal. Tank	1.00		14,100.00	14,100
15470.100	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3/4" OD - CA	1,000.00	LF	10.93	10,926
15470.102	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 1" OD	500.00	LF	14.34	7,170
15470.212	Compressed Air Outlet, Recessed Wall, Single	50.00	EA	126.51	6,325
	Commissioning Support	1.00	LS	7,000.00	7,000
	Commissioning Support	1.00	LS	60,000.00	60,000
	Coordination & Management	1.00	LS	10,000.00	10,000
	Coordination & Management	1.00	LS	75,000.00	75,000
	Coring & Patching & Firestopping	1.00	LS	2,500.00	2,500
15495.008	Coring & Patching & Firestopping	1.00	LS	25,000.00	25,000
	Flushing & Sanitizing	1.00	LS	2,000.00	2,000
	Flushing & Sanitizing	1.00	LS	20,000.00	20,000
	Fees & Permits	1.00	LS	4,000.00	4,000
	Fees & Permits	1.00	LS		25,000
		1.00	10	25,000.00	
*** Total D20 - ** Total D20 - I					2,359,536 2,359,536
D30 - HV					
D30 - H					
	Custom, 20" High, Insulated Roof Curb	37.00	EA	1,200.00	44,400
15620.206	AHU-21, 22, Indoor, Central Station AHU, HC, CC, Filters, Mixing, Single Zone, CV, 6500 CFM	2.00	EA	1,034.00	2,068
15620.323	Outdoor, MAU, Indirect Gas-Fired (NG), Gravity Vent, SS Exchanger, 70degF Rise, 550 MBH Input	3.00	EA	18,107.34	54,322
15620.421	Zone, Gas Heat, 12 Ton Dx Cooling, 180 MBH Heating, Heat Wheel, 4000 CFM	20.00	EA	3,061.13	61,223

...\15027 Dover HS Schematic Estimate MASTER 22JUN15.est



Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

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Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

ltem Code	Description	Quantity	UM	Total UnitCost	Total Cost
15620.422	RTU 23, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 7.5 Ton Dx Cooling, 130	1.00	EA	3,061.13	3,061
15620.423	MBH Heating, 2500 CFM RTU 24, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 6.5 Ton Dx Cooling, 120	1.00	EA	3,061.13	3,061
15620.423	MBH Heating, 2000 CFM RTU 34, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 200 MBH Heating, Heat	1.00	EA	31,061.13	31,061
15620.424	Wheel, 3500 CFM RTU 25, 26, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, 200 MBH	2.00	EA	3,061.13	6,122
15620.424	Heating, 3200 CFM RTU 35, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 400 MBH Heating, Heat	1.00	EA	67,061.13	67,061
15620.425	Wheel, 8000 CFM RTU 27, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 35 Ton Dx Cooling, 480 MBH	1.00	EA	3,061.13	3,061
15620.425	Heating, 10000 CFM RTU 36, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 300 MBH Heating, Heat Wheel. 6000 CFM	1.00	EA	51,061.13	51,061
15620.426	RTU 28, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM	1.00	EA	3,061.13	3,061
15620.426	RTU 37, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 300 MBH Heating, Heat Wheel, 6200 CFM	1.00	EA	52,661.13	52,661
15620.427	RTU 29, Stor Controls, Curb, Econ., Multi- Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH Heating, 3500 CFM	1.00	EA	3,061.13	3,061
15620.428	RTU 30, Strid Controls, Curb, Econ., Multi- Zone, Gas Heat, 32 Ton Dx Cooling, 450 MBH Heating, 10500 CFM	1.00	EA	3,061.13	3,061
15620.429	RTU 31, Stod Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, 150 MBH Heating, 2500 CFM	1.00	EA	3,061.13	3,061
15620.430	RTU 32, Strd Controls, Curb, Econ., Multi- Zone, Gas Heat, 300 MBH Heating, Heat Wheel, 6000 CFM	1.00	EA	51,061.13	51,061
15620.431	RTU 33, Strid Controls, Curb, Econ., Multi- Zone, Gas Heat, 300 MBH Heating, Heat Wheel, 6000 CFM	1.00	EA	51,061.13	51,061
15620.500	Daikin Rebel / Maverick II RTU's - VFD's, Extended Warranties	1.00	LS	1,090,000.00	1,090,000
	Split System, Ductless, Cooling Only, Wall Mount, Single Zone, 1-1/2 Ton	8.00	EA	6,040.07	48,321
	Single Bathroom Exhaust Fan, 100 CFM	10.00	EA	406.01	4,060
	Bathroom Exhaust Fan, 1000 CFM	6.00	EA EA	1,683.76	10,103
	Exhaust Fan, 1500 CFM Kitchen Exhaust Fan, Centrifugal, 4000 CFM	2.00 2.00	EA	2,183.76 4,226.70	4,368 8,453
	Hot Water Condensing Boiler, Packaged w/Controls/Circulator/Trim, NG, 3000 MBH Output	4.00	EA	62,995.14	251,981
15640.114	Hot Water Condensing Boiler, Packaged w/Controls/Circulator/Trim, NG, 330 MBH Output	6.00	EA	10,270.14	61,621
15640.200	Salvage Existing Boilers	1.00	LS	-25,000.00	-25,000
	Glycol Treatment System	1.00	LS	10,000.00	10,000
	Chiller, Air Cooled, High Efficiency, 100 Ton	1.00	EA	70,660.58	70,661
1000.00001	Fume Hood, Fan, Ductwork	2.00	EA	5,500.00	11,000

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost	
	Vehicle Exhaust System, 2000 CFM	1.00	LS	15,000.00	15,000	
	Vehicle Exhaust System, 5000 CFM	1.00	LS	25,000.00	25,000	
15660.006	Paint Booth Exhaust System, 12000 CFM	1.00	LS	25,000.00	25,000	
15660.008	Dust Collection System, 4000 CFM	1.00	LS	65,000.00	65,000	
15660.010	Duct Collection System, 6000 CFM	1.00	LS	87,000.00	87,000	
	Chilled Water Pump, Centrifugal, Base	2.00	EA	5,627.77	11,256	
	Mounted, End Suction, 210 gpm w/VFD					
15660.206	Hot Water Pump, Centrifugal, Base Mounted, End Suction, 100 gpm w/VFD	4.00	EA	4,046.80	16,187	
15660.206	Hot Water Pump, Centrifugal, Base Mounted, End Suction, 800 gpm w/VFD	2.00	EA	21,046.80	42,094	
15680.040	Displacement Ventilation System (per Classroom)	65.00	EA	1,250.00	81,250	
15680.042	Sound Attenuator Device / Double Wall Ductwork (per RTU)	37.00	EA	2,500.00	92,500	
15680.112	Galvanized Ductwork, > 5000 LB	215.000.00	LB	10.34	2.222.197	
15684,102	Duct Insulation, Blanket Type, Fiberglass,	195,000.00	SF	2.65	516,809	
100011102	FSK, 1.0Lb Density, 1-1/2" Thick	100,000.00	0.	2.00	010,000	
15688.014	Gas Vent, Double Wall, Galvanized Steel, UL Listed, 12" Dia.	1,000.00	LF	49.25	49,252	
15690.102	Fin Tube Radiation, Wall Hung, 14" Slope Top, 1-1/4" Cu Tube, 4-1/4" Aluminum Fin	2,500.00	LF	65.24	163,099	
15691.004	Cabinet Unit Heater, Horizontal, Floor Mount, 60 MBH	35.00	EA	1,623.44	56,821	
15691.312	Unit Heater, Hot Water, Horizontal, 47 MBH	14.00	EA	723.44	10,128	
	Variable Air Volume Box, PI, w/Damper, Actuator, T-Stat, 1000 CFM	156.00	EA	895.01	139,622	
15699.000	Chilled Beam	280.00	LF	100.00	28,000	
	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3/4" OD	11,000.00	LF	10.93	120,183	
15700.112	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 1-1/2" OD	5,500.00	LF	22.82	125,516	
15700.118	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3" OD	1,250.00	LF	63.09	78,860	
15700.122	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 4" OD	200.00	LF	106.41	21,283	
15704.104	Fiberglass 1" Insulation With All Service Jacket 3/4" Pipe	11,000.00	LF	4.12	45,324	
15704.202	Fiberglass 1-1/2" Insulation With All Service Jacket 1-1/2" Pipe	5,500.00	LF	5.67	31,187	
15704.308	Fiberglass 2" Insulation With All Service Jacket 3" Pipe	1,250.00	LF	8.32	10,401	
15704.312	Fiberglass 2" Insulation With All Service Jacket 4" Pipe	200.00	LF	9.99	1,997	
15705.004	Air Separator w/Strainer, 2-1/2" Dia.	3.00	EA	1,447.82	4,343	
15705.008	Air Separator w/Strainer, 4" Dia.	1.00	EA	3,113.04	3,113	
15706.206	Expansion Tank, Steel, ASME, Rubber Diaphragm, 61 Gal. Accep. Vol.	3.00	EA	3,794.04	11,382	
15706.214	Expansion Tank, Steel, ASME, Rubber Diaphragm, 211 Gal. Accep. Vol.	1.00	EA	6,586.85	6,587	
15708.106	ARC Tubing, Type L Copper, Hard Tempered, No Couplings/Hangers, 5/8"	800.00	LF	7.26	5,808	
15708.112	ARC Tubing, Type L Copper, Hard Tempered, No Couplings/Hangers, 1-1/8"	800.00	LF	11.05	8,840	
15708.500	Valves & Accessories	1.00	LS	15,000.00	15,000	
15708.500	Valves & Accessories	1.00	LS	120,000.00	120,000	
	DDC Controls	268,330.00	SF	7.50	2,012,475	
	CO2 Sensor	153.00	EA	85.00	13,005	
	Air & Water Balance	268,330.00	SF	0.50	134,165	
	Coordination & Management	1.00	LS	20,000.00	20,000	

...\15027 Dover HS Schematic Estimate MASTER 22JUN15.est

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

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Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

ltem Code	Description	Quantity	UM	Total UnitCost	Total Cost
15001 501	Coordination & Management	1.00	LS	175.000.00	175,000
	Coordination & Management				
	Commissioning Support	1.00	LS	5,000.00	5,000
	Commissioning Support	1.00	LS	50,000.00	50,000
	Coring, Patching & Firestopping	1.00	LS	1,000.00	1,000
	Coring, Patching & Firestopping	1.00	LS	25,000.00	25,000
15801.504	Seismic Restraint	1.00	LS	15,000.00	15,000
15801.504	Seismic Restraint	1.00	LS	65,000.00	65,000
15801.505	Fees & Permits	1.00	LS	10,000.00	10,000
	Fees & Permits	1.00	LS	50,000.00	50,000
*** Total D30 -			20	00,000.00	8,870,778
** Total D30 -					8,870,778
	RE PROTECTION IRE PROTECTION				
	Fire Protection - Temporary FP Service -	1.00	LS	5.000.00	5.000
	Modulars	1.00		5,000.00	-,
15500.030	Interface w/Existing Sprinkler System - Daily	1.00	LS	50,000.00	50,000
15502.002	Fire Service Main - 6" Ductile Iron, Mech. Joint	150.00	LF	29.65	4,447
	6" Double Check Backflow Preventer W/OS&Y	2.00	EA	5,868.66	11,737
	Valves, 4 Test Cocks				
15502 110	FDC - Two Way Siamese - 3x3x6	2.00	EA	1,561.99	3,124
	4" Zone Flow Control Valve W/Trim And	13.00	EA	6.038.56	78,501
10002.110	Gauges	13.00		0,000.00	70,501
15500 100	Tamper Switch	25.00	EA	156.50	3,912
			LF		
15502.202	Sprinkler Main Sch 40 BS - 4", Grooved Joint,	7,820.00	LF	40.66	317,939
15502 222	W/Hangers 10 Ft O.C. Sprinkler Branch Sch 40 BS - 1" Threaded W/	15.650.00	LF	12.94	202.588
13302.222	Hangers 10 Ft O.C.	13,030.00		12.34	202,500
15500 000		7 705 00	LF	16.00	120 551
15502.226	Sprinkler Branch Sch 40 BS - 1-1/2" Threaded	7,725.00	LF	16.90	130,551
	W/ Hangers 10 Ft O.C.				
15502.300	Temporary Water Line to Pre-Plumbed	1.00	LS	10,000.00	10,000
	Modular Classrooms				
15502.400	Sprinkler Heads - Standard Pendant, 1/2"	2,350.00	EA	37.85	88,946
	NPT, 1/2" Orifice				
15505.006	2" Dry Pipe Valve With Trim And Gauges - RR	1.00	EA	2.548.98	2.549
	30 Gal., 1 HP Comp Air Sys For Fire	1.00	EA	1,110.76	1,111
10000.012	Protection - RR		273	1,110110	.,
15505 202	Sprinkler Main Sch 40 BS - 4", Grooved Joint,	115.00	LF	40.66	4.676
10000.202		115.00	LF	40.00	4,070
45505 000	W/Hangers 10 Ft O.C RR	400.00			a (aa
15505.222	Sprinkler Branch Sch 40 BS - 1" Threaded W/	190.00	LF	12.94	2,460
	Hangers 10 Ft O.C RR				
15505.400	Sprinkler Heads - Standard Upright, 1/2" NPT,	20.00	EA	37.85	757
	1/2" Orifice - RR				
15535.002	Coordination & Management	1.00	LS	5,000.00	5,000
15535.002	Coordination & Management	1.00	LS	12,000.00	12,000
	Hydraulic Calculations	1.00	LS	2,000.00	2,000
	Hydraulic Calculations	1.00	LS	8.000.00	8.000
	Coring & Patching & Firestopping	1.00	LS	4,000.00	4,000
		1.00	LS		
10000.010	Coring & Patching & Firestopping			11,000.00	11,000
	Fees & Permits	1.00	LS	2,000.00	2,000
	Fees & Permits	1.00	LS	8,000.00	8,000
	FIRE PROTECTION				970,299
** Total D40 -	FIRE PROTECTION				970,299
	ECTRICAL				
D50 - E	LECTRICAL				
	Temporary Electrical - Modulars	1.00	LS	10,000.00	10,000
	300 kW NG Emergency Generator w/Sound	1.00	EA	154,364.83	154,365
10020.210		1.00	LA	134,304.03	104,000
16000 040	Attenuated Enclosure	240 120 00	SF	1 50	260.105
10020.212	Emergency Power Equipment and Distribution	240,130.00	51	1.50	360,195

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

14 -	Description	0	1144	₹-4-1	T-1-1 1	
Item Code	Description	Quantity	UM	Total UnitCost	Total Cost	
Code				Unicosi	COSI	
16020 214	Emergency Generator - Testing	1.00	LS	5.000.00	5,000	
	3000 Amp Switchgear, 480/277V	1.00	EA	75,000.00	75.000	
	Transformer / Primary / Conduit **	1.00	LS	50,000.00	50,000	
10000.004	ALLOWANCE **	1.00	20	00,000.00	00,000	
16040.006	Panel Feeders	68.00	EA	2,500.00	170,000	
	Primary Conduit Only - (1) 4"	800.00	LF	4.40	3,520	
	Secondary Feeder - (8) 4" Conduits	800.00	LF	4.40	3.520	
	Secondary Feeder - #600 MCM Conductor	3,200.00	LF	34.35	109,920	
	Grounding/Bonding	1.00	LS	3.500.00	3,500	
	Grounding/Bonding	1.00	LS	10,000.00	10,000	
	20 KW UPS	2.00	ĒĀ	20,000.00	40,000	
	Panel 277/480V 100A - Lighting	17.00	EA	1,688.95	28,712	
	Panel 277/480V 100A - Mechanical	17.00	EA	1,688.95	28,712	
	Panel 277/480V 400A - Distribution	17.00	EA	3,361.74	57,150	
	Triple Tub Panel 120/208V 250 Amp	17.00	EA	9,850.14	167,452	
	Transformer Dry Type, Three Phase, 30kVA	17.00	EA	4,977.90	84,624	
	Transformer Dry Type, Three Phase, 75kVA	17.00	EA	7,257.30	123,374	
	Branch Devices	268.330.00	SF	1.00	268.330	
	Power and Branch Circuitry	28,200.00	SF	3.00	84,600	
	Power and Branch Circuitry	240.130.00	SF	4.00	960,520	
	RTU Feeder	38.00	EA	2,730.06	103,742	
	Boiler Feeder	10.00	EA	1,415.03	14,150	
	Pump Feeder	9.00	EA	1.985.05	17.865	
	Chiller Feeder	1.00	EA	8,380.11	8,380	
	2x4 Flourescent - MER	50.00	EA	345.01	17,251	
	Recessed LED's - Classrooms/Offices	1.426.00	EA	295.01	420,687	
	Direct LED's - Gymnasium	20.00	EA	1,090.02	21,800	
	Linear Indirect LED's - Corridor	305.00	EA	445.01	135,729	
	Pendant Mount / Indirect Flourescent -	58.00	EA	735.02	42,631	
10000.010	Cafeteria	00.00	271	100.02	12,001	
16080 018	2x2 LED Panels - Kitchen/Servery	45.00	EA	610.02	27.451	
	Direct Recessed LED's - Library	36.00	EA	295.01	10,620	
	Dimmable Flourescent - Auditorium	60.00	EA	345.01	20,701	
	Exterior Wall Mount - LED	32.00	EA	635.02	20,321	
	Exterior Pole Fixture - Custom LED	27.00	EA	5.000.00	135,000	
	Exterior Pendant - LED - RR	15.00	EA	635.02	9,525	
	Lighting Circuitry	268.330.00	SF	2.25	603,743	
	Lighting Controls	268,330.00	SF	1.25	335,413	
	Lighting Controls & Panels - Testing	1.00	LS	5,000.00	5,000	
	Lighting Controls & Panels - Testing	1.00	LS	15,000.00	15,000	
	Stage Lights / Sound System / Dimmer Rack **	1.00	LS	375,000.00	375,000	
	ALLOWANCE **				,	
16100.000	Sound System - Cafeteria ??	1.00	LS	20,000.00	20,000	
	Sound System - Gymnasium	1.00	LS	20,000.00	20,000	
	Sound System - Music Room	1.00	LS	10,000.00	10,000	
	Bi-Directional Antennae	1.00	LS	50,000.00	50,000	
	Tel/ Data/ CATV	28,200.00	SF	1.25	35,250	
	Tel/ Data/ CATV	240,130.00	SF	2.50	600,325	
	Card Reader System - Head End Equipment	1.00	EA	9,000.00	9,000	
	Card Readers - Swipes/Wires	40.00	EA	1,700.00	68,000	
	Master Clock	268,330.00	SF	0.35	93,916	
16180.001		268,330.00	SF	0.60	160,998	
	Communications - Testing	1.00	LS	5,000.00	5,000	
	Communications - Testing	1.00	LS	15,000.00	15,000	
	Security System - Head End Equipment	1.00	LS	35,000.00	35,000	
	Fixed Interior CCTV Cameras	35.00	EA	3,000.00	105,000	
	Pan-Tilt-Zoom Exterior CCTV Cameras	18.00	EA	5,000.00	90,000	
	Fire Alarm	268,330.00	SF	2.00	536,660	
	Fire Alarm Testing	1.00	LS	3,500.00	3,500	
	Fire Alarm Testing	1.00	LS	5,000.00	5,000	
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Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

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Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
ooue				Childost	0031
16400.002	Lightning Protection	1.00	LS	5,000.00	5,000
16400.100	Commissioning	1.00	LS	15,000.00	15,000
16400.100	Commissioning	1.00	LS	50,000.00	50,000
	Firestopping	1.00	LS	7,000.00	7,000
	Firestopping	1.00	LS	15,000.00	15,000
	Identification	1.00	LS	2.000.00	2.000
	Identification	1.00	LS	5,000.00	5,000
	Seismic Restraint	1.00	LS	2,000.00	2,000
	Seismic Restraint	1.00	LS	10,000.00	10,000
	Fees & Permits	1.00	LS	5,000.00	5,000
16400.108	Fees & Permits	1.00	LS	40,000.00	40,000
*** Total D50 - ** Total D50 -	ELECTRICAL				7,157,151 7,157,151
E10 EC	QUIPMENT				
	QUIPMENT, GENERALLY				
	12" Dock Seal - OH Doors	1.00	EA	1,585.04	1,585
	Rubber Dock Bumper 4 1/2"x14"x12"	2.00	EA	166.38	333
11480.006	OUTDOOR SCOREBOARDS - NOT INCLUDED				
11480.008	Gym Bleachers (One Side Only)	1.00	LS	25,000.00	25,000
	Gym Divider Curtain	1.00	LS	25,000.00	25,000
	Gym Divider Curtain - Existing to remain		LF	160.00	
	Basketball Hoop	6.00	EA	5,333.33	32,000
	Basketball Hoop - Existing to remain	0.00	EA	5,333.33	32,000
	Volley Ball Net w/ Floor Inserts	1.00	EA	1,900.00	1,900
		1.00			1,900
	Score Board - Existing to remain		EA	8,500.00	
	Upgrade Motorized Retraction System for Existing Bleachers		LS	20,000.00	
11480.062	Plastic Telescoping Stands - Hussey Maxam 26 Motorized Bleachers		EA	110.00	
11480.065	Gym Wall Padding - 6' Ht	470.00	LF	100.00	47,000
11480.080	Temporarily Relocate Existing Bleachers for Floor Replacement	1.00	LS	-18,000.00	-18,000
11480.080	Temporarily Relocate Existing Bleachers for Floor Replacement	1.00	LS	20,000.00	20,000
11650.000	Stage Set Fastening Equipment - In Line set Allowance				
11651.000	Lecture Hall Tables - 18" X 5'		EA	1,085.15	
	Auditorium Seating - Quattro By Hussey Seating	800.00	EA	250.00	200,000
11654 000	Line Sets & Shell Allowance - Auditorium	1.00	LS	175,000.00	175,000
	EQUIPMENT, GENERALLY	1.00	20	110,000.00	509,818 509,818
	IRNISHINGS				
	- FIXED FURNISHINGS				
	Smart Boards - N/A per HMFH		EA	2,677.73	
	Marker Board W/ Alum Trim - Classrooms & Labs	2,400.00	SF	15.63	37,518
10100.006	Tack Board W/O Trim	2,400.00	SF	8.32	19,959
	Hunter Douglas Roller Shades (50% of glazing)	14,000.00	SF	11.00	154,000
	0 - FIXED FURNISHINGS FURNISHINGS				211,477 211,477
F10 - SP	ECIAL CONSTRUCTION				
F10 - S	PECIAL CONSTRUCTION				
	50' Riding Ring w/ Fence (Roof in B10)	1.00	LS	10,000.00	10,000
	Crushed Stone Under Slab - Kennel	20.00	CY	42.51	850
2220.330	Grushen Stolle Ollnel Sign - Mellilei	20.00		42.01	000

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Item Description Code	Quantity	UM	Total UnitCost	Total Cost
2220.332 4" SOG - Kennel	400.00	SF	7.71	3,084
2720.115 Chain Link Fence - Vinyl Coated 6' H - Kennel	120.00	LF	22.00	2,640
(10' x 10') *** Total F10 - SPECIAL CONSTRUCTION				16,574
** Total F10 - SPECIAL CONSTRUCTION				16,574
F20 - SELECTIVE BUILDING DEMOLITION F2010 - BUILDING ELEMENTS DEMOLIT				
2020.110 Demo grade beams & pile caps 2032.000 Interior Demolition - Strip Walls & Clg GWB,	250.00 238,130.00	CY SF	103.95 8.00	25,988 1,905,040
Flooring, Casework, MEP		-		
2032.100 Remove gypsum fireproofing from exist columns for structural upgrades	70.00	EA	138.31	9,681
2032.550 Roof Penetrations - Roof Top Units 2032.570 Remove Membrane	37.00 111.649.00	EA SF	838.08 0.84	31,009 93,573
2032.750 Remove Curtain Wall	28,000.00	SF	2.10	58,666
*** Total F2010 - BUILDING ELEMENTS DEMO ** Total F20 - SELECTIVE BUILDING DEMOLIT				2,123,957 2,123,957
G10 - SITE PREPARATION				
G1020 - SITE DEMOLITION 2013.240 Demo Bit Conc Pvmt - Large Area	230,562.00	SF	0.16	37,927
2013.240 Demo Bit Conc Pvmt - Large Area (For Animal Barn)	6,000.00	SF	0.16	987
2013.280 Demo Conc Walk	11,800.00	SF	0.63	7,414
*** Total G1020 - SITE DEMOLITION G1030 - EARTHWORK				46,328
2110.290 Misc Erosion Control	1.00	LS	20,000.00	20,000
2110.306 Site Access/Laydown 2300.155 Dewatering	1.00 1.00	LS LS	25,000.00 8,000.00	25,000 8,000
*** Total G1030 - EARTHŴORK ** Total G10 - SITE PREPARATION				53,000 99,328
G20 - SITE IMPROVEMENTS				00,020
G2010 - SITE PAVING	00 505 00	01/	0.02	5.040
2600.050 Compact Road Subgrade 2600.060 Fine Grade Road Subgrade	22,535.22 22,535.22	SY SY	0.23 1.04	5,219 23,482
2600.200 Added 2" for Heavy Duty Paving - Lot C (33,106 SF)	408.00	TONS	110.00	44,880
2600.200 Bituminous Concrete P3.96g (4") 2600.201 22535.22	4,961.72 1.00	TON EACH	110.00	545,789
2600.210 **Paved Area**	22,535.22	SY		
2610.002 Grading For Curbs 2610.050 Bituminous Curbs	5,000.00 5,000.00	LF LF	2.68 2.25	13,400 11,250
2610.150 Bituminous Sidewalk 2610.151 **Bituminous Sidewalk Area**	203.87 11,001.00	TON SF	110.00	22,425
*** Total G2010 - SITE PAVING	11,001.00	01		666,444
G2050 - LANDSCAPING 2710.200 Landscaping	1.00	LS	120,000.00	120,000
10000.010 Flag Pole	1.00	EA	2,277.73	2,278
*** Total G2050 - LANDSCAPING ** Total G20 - SITE IMPROVEMENTS				122,278 788,722
G30 - SITE UTILITIES				
G3010 - SITE UTILITIES 2540.110 Water Line	800.00	LF	54.08	43,264
2540.114 Sanitary Sewer	800.00	LF	52.08	41,664
2540.118 Prim/Sec Electrical/Telcom Trenching	900.00	LF	32.08	28,872

...\15027 Dover HS Schematic Estimate MASTER 22JUN15.est



Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

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Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

ltem Code	Description	Quantity	UM	Total UnitCost	Total Cost
2540.120	Reconfigure Natural Gas (Assumes existing		LS	15,000.00	
2540 100	size is adequate)	1.00		30,000,00	20.000
	Reconfigure Storm Drainage	1.00	LS	30,000.00	30,000
2540.124	Alter Underdrain at existing ball field for CTC	1.00	LS	10,000.00	10,000
2500 110	building	3 600 00	LF	8.04	28,944
	Elec Trench-Direct Burial (Site Lighting)	3,600.00	LF		
2580.120	Elec Trench-Duct Bank (Secondary/Primary	140.00	LF	12.32	1,725
2500 120	Under Roads)	560.00	SF	4.42	2,473
	Elec Ductbank Forms		-		
	Elec Ductbank Concrete	48.53 1.00	CY EA	121.08 9,983.05	5,876
2500.500	Grease Interceptor, Steel, 50 GPM, 100 LB Fat	1.00	EA	9,905.05	9,983
2500 202	Capacity	1.00	EA	26,127.79	26 129
2000.002	Grease Interceptor, Steel, 250 GPM, 500 LB Fat Capacity	1.00	EA	20,127.79	26,128
** Total C201	0 - SITE UTILITIES				228,929
	SITE UTILITIES				228,929
10tal 030 -	SITE UTILITIES				220,929
Z10 - GE	NERAL				
Z1010 ·	- GENERAL CONDITIONS				
0080.100	***DESIGN & ENGINEERING FEES BY CITY				
	OF DOVER***				
0100.000	Mobilize / Demobilize	1.00	LS	28,000.00	28,000
0100.020	Office Supplies	334.00	WK	150.00	50,100
	Office Furniture / Systems	1.00	LS	48,000.00	48,000
	Engineer's Furniture / Equipment - N/A		LS		
	Engineer's Computer / Software - N/A		LS		
	Project Kiosk 30" - Purchase	4.00	EA	5,000.00	20,000
	Janitorial Services	334.00	WK	80.00	26,720
	Temporary Wiring	1.00	LS	3,000.00	3,000
0100.065	Electrical Energy Costs	76.00	MO	450.00	34,200
	Water Usage Costs	76.00	MO	200.00	15,200
	Telephone / Communication	76.00	MO	1,000.00	76,000
0100.110	Sanitary / Facilities	76.00	MO	1,500.00	114,000
0110.080	Security / Watchman		WK		
0110.120	Photographs		MO		
0110.160	Documents & Reproductions	1.00	LS	15,000.00	15,000
0120.002	Estimating - GMP	1.00	LS	50,000.00	50,000
0120.003	Officer in Charge		MW	7,000.00	
0120.005	Construction Executive	17.00	MW	5,400.00	91,800
0120.008	Senior Project Manager	68.00	MW	4,720.00	320,960
	Project Manager	200.00	MW	3,800.00	760,000
0120.018	Senior Project Engineer		MW	2,880.00	
	Project Engineer (Full Time)	334.00	MW	2,400.00	801,600
	Office Engineer		MW	1,920.00	
	Senior Superintendent	334.00	MW	4,720.00	1,576,480
	Project Superintendent	84.00	MW	3,720.00	312,480
	Construction Coordination - SCP		MW	2,400.00	
	Scheduling Engineer		MW	2,280.00	
	Safety Manager		MW	3,720.00	
	Safety Engineer (1 Days/Week)	67.00	MW	2,280.00	152,760
	Administration	200.00	MW	1,720.00	344,000
	Living Allowance - Management	501.00	MWK	400.00	200,400
	Living Allowance - Foremen		MWK	125.00	/
	Travel and Expenses	76.00	MO	600.00	45,600
	Scheduling	1.00	WK	2,280.00	2,280
	Permit's & Fee's		LS		
	Building Permit - Excluded		LS		
	Design (Means & Methods)		LS		
	Professional Services		LS		
0150.200	Equipment Trucking		WK		

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
Coue				Unicost	COSI
0150.250	Off - Site Parking		WK		
	Personnel Elevator		мо		
0150.520	Field Office	76.00	тм	1.200.00	91,200
	Engineer / Architect Office		тм	400.00	
	Storage Trailers (2 Trailers)	152.00	ТМ	150.00	22,800
0160.300	Sub Bonds (Include w/ Subs)		LS		
0180.010	Gross Receipts Tax		LS		
0180.020			LS		
*** Total Z1010	- GENERAL CONDITIONS				5,202,580
Z1020 -	GENERAL REQUIREMENTS				
0200.010	Materials Testing		LS		
	Snow Removal	1.00	LS	40.000.00	40.000
	Field Engineering	4.00	WK	5.000.00	20.000
	Temporary GWB Partitions	48.300.00	SF	7.80	376,740
	ICRA / ILSM - N/A		LS		,
	Scaffolding - In COW		LS		
	OSHA / First Aid	334.00	Ŵĸ	771.89	257.812
	Material Handling	334.00	WK	940.00	313.960
	Cranes - In COW	004.00	CM	540.00	010,000
	Progress Cleanup (Labor & Dumpster)	334.00	WK	707.04	236,151
	Final Cleanup	268.330.00	SF	0.45	120,749
	Temporary Heat	1.00	LS	175.000.00	175,000
	Temporary Enclosure	1.00	LS	150,000.00	150,000
	Support Equipment	1.00	LS	130,000.00	130,000
	Sub Mobilization Costs	1.00	LS	600,000.00	600.000
	- GENERAL REQUIREMENTS	1.00	1.5	000,000.00	2,290,412
** Total Z10 - G					7,492,992
	JOR CUSTOM PROGRAM ELEMI				.,,
	MAJOR CUSTOM PROGRAM ELEM				
	Precon Services - N/A (Included under		LS	96,000.00	
	separate contract)			30,000.00	
	Asbestos Abatement Contract	1.00	LS	1,300,000.00	1,300,000
	Asbestos Abatement - 5% Increase per year	1.00	LS	359.166.00	359,166
	Replace existing football field with turf	1.00	LS	750,000.00	750,000
	Kitchen Equipment	1.820.00	SF	150.00	273,000
	Modular Classroom Rental - 16 EA for 78	78.00	Mo	12,000.00	936,000
	Months (ModSpace)	10.00	IVIO	12,000.00	930,000
13120.020	Modular Classroom Delivery/Install (ModSpace)	16.00	EA	36,000.00	576,000
	Modular Classroom Tear Down (ModSpace)	16.00	EA	16.000.00	256.000
	- MAJOR CUSTOM PROGRAM			10,000.00	4,450,166
	AJOR CUSTOM PROGRAM EL				4,450,166
	1 - Full Rehabilitation				49.932.184
Total Gross Co					49,932,184
10101 01055 00	31		I	I	43,332,104

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Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

	Dover High School - Option #1 - Full Re	novation - Estimate	e Comparison	
CONSTRUCTION		PC	PM&C	Cost Variance
	High School Total	\$64,417,847	\$65,141,515	\$723,668
A1010	Standard Foundations	\$586,118	\$281,788	-\$304,330
A1020	Special Foundations	\$392,400	\$566,000	\$173,600
A1030	Lowest Floor Construction	\$747,366	\$659,778	-\$87,588
B1010	Floor Construction	\$570,000	\$820,825	\$250,825
B1020	Roof Construction	\$276,199	\$448,000	\$171,801
B2010	Exterior Walls	\$1,156,462	\$918,878	-\$237,584
B2020	Windows	\$2,127,120	\$2,052,062	-\$75,058
B2030	Exterior Doors	\$140,785	\$182,490	\$41,705
B3010/3020	Roof Coverings & Openings	\$361,327	\$481,000	\$119,673
C1010	Partitions	\$1,166,993	\$1,423,750	\$256,757
C1020	Interior Doors	\$697,003	\$794,250	\$97,247
C1030	Specialties / Millwork	\$2,135,630	\$2,163,748	\$28,118
C2010	Stair Construction	\$123,729	\$77,000	-\$46,729
C3010	Wall Finishes	\$874,439	\$1,059,000	\$184,561
C3020	Floor Finishes	\$1,914,998	\$2,080,534	\$165,536
C3030	Ceiling Finishes	\$1,182,465	\$1,330,822	\$148,357
D1010	Elevator	\$199,423	\$122,500	-\$76,923
D2010	Plumbing	\$2,359,536	\$2,485,125	\$125,589
D3010	HVAC	\$8,870,778	\$8,585,251	-\$285,527
D4010	Fire Protection	\$970,299	\$926,625	-\$43,674
D5010	Electrical	\$7,157,151	\$7,433,138	\$275,987
E1010	Equipment, Generally	\$509,818	\$980,800	\$470,982
E2010	Fixed Furnishings	\$211,477	\$288,399	\$76,922
F10	Special Construction	\$16,574	\$425,000	\$408,426
F2010	Building Elements Demolition	\$2,123,957	\$2,125,232	\$1,275
G1020/1030	Site Demolition & Earthwork	\$99,328	\$2,793,500	\$2,694,172
G2010	Site Paving	\$666,444		-\$666,444
G2050	Landscaping	\$122,278		-\$122,278
G3010	Site Utilities	\$228,929		-\$228,929
Z1010	General Conditions	\$5,202,580	\$5,202,580	\$0
Z1020	General Requirements	\$2,290,412	\$1,690,412	-\$600,000
Z2010	Major Custom Program Elements	\$4,450,166	\$4,205,000	-\$245,166
	Option #1 Total Direct Cost	\$49,932,184	\$52,603,487	\$2,671,303
L		φ 4 3,332,104	\$ 52,003,407	φ 2,07 1,3 U3

4.5 - PC Construction Cost Estimate - A	All Options		
Dover High School - Option #1	- Full Renovation - Estimate	e Comparison	
Labor and Material Escalation	\$6,266,929	\$3,382,139	-\$2,884,7
Builders Risk Insurance	\$43,993		-\$43,9
Liability Insurace	\$483,135	\$444,114	-\$39,0
Construction Manager's Contingency (PC @ 10%)	\$5,619,911	\$7,090,491	\$1,470,5
P & P Bond	\$500,528	\$283,591	-\$216,9
CM Fee (2.5%)	\$1,571,167	\$1,337,693	-\$233,4
Option #1 Total Indirect Cost	\$14,485,663	\$12,538,028	-\$1,947,63
Option #1 Total Gross Cost	\$64,417,847	\$65,141,515	\$723,66



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Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

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OPTION 2 - Partial Renovation with Addition

ESTIMATE SUMMARY

Project #: 15027 Building GSF: 303,000

		Totals
Direct Cost	%	\$ 60,606,764
Material Sales Tax (N/A)	0.00%	\$ -
Labor & Material Escalation	0.00%	\$ -
Gross Cost		\$ 60,606,764
Building Permit - by Owner	0.00%	\$ -
Builder's Risk insurance	0.07%	\$ 46,064
Liability Insurance	0.75%	\$ 505,875
Construction Manager's Contingency	7.00%	\$ 4,242,473
P & P Bond (\$5.99 per \$1,000)		\$ 404,026
Sub Total		\$ 65,805,202
CM Fee	2.50 %	\$ 1,645,130
Total		\$ 67,450,000
Total Cost per square foot		\$ 223

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Recap - With Taxes and Insurance

Item Description	Quantity	UM	Total	Total
Code			UnitCost	Cost
Option 2b - Partial Addition & Rehab				
A10 - FOUNDATIONS				4,339,527
B10 - SUPERSTRUCTURE				6,288,028
B20 - EXTERIOR CLOSURE				
				6,167,022
B30 - ROOFING				1,793,174
C10 - INTERIOR CONSTRUCTION				5,803,467
C20 - STAIRCASES				331,790
C30 - INTERIOR FINISHES				4,159,973
D10 - CONVEYING SYSTEMS				199,423
D20 - PLUMBING				2,659,492
D30 - HVAC				8,104,390
D40 - FIRE PROTECTION				974,143
D50 - ELECTRICAL				6,867,084
E10 - EQUIPMENT				511,736
E20 - FURNISHINGS				246,257
F10 - SPECIAL CONSTRUCTION				326,474
F20 - SELECTIVE BUILDING DEMOLITION				1,465,023
G10 - SITE PREPARATION				692,468
G20 - SITE IMPROVEMENTS				1,576,630
G30 - SITE UTILITIES				484,555
Z10 - GENERAL				4,831,941
Z20 - MAJOR CUSTOM PROGRAM ELEMEN				2,784,166
* Total Option 2b - Partial Addition & Rehab				60,606,764
Total Gross Cost				60,606,764

June 23, 2015 | PC Construction Company

CONSTRUCTION

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Dover High School & Career Technical Center



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Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

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Option 2b - Partial Additi A10 - FOUNDATIONS A101 - STANDARD F1 2210.205 Structure Excavation 2210.205 Structure Excavation 2210.205 Structure Excavation 2220.335 BF Foundation Wall w Retaining Wall Value 2220.335 BF Frost Wall w/ Crus Addition 2220.340 BF Frost Wall w/ Crus Addition 2220.340 BF Frost Wall w/ Cns 2200.340 BF Frost Wall w/ Cns 2500.110 2200.340 BF Frost Wall w/ Cns 300.010 ** x 16" Continuous Fo 300.016 ** x 5" Continuous Fo 300.016 ** x 5" Continuous Fo 300.018 ** x 3" x 1" Isolated Fo 300.028 ** x 3" Grade Beam - / 300.028 * x 3" x 1" Isolated Fo 300.028 * x 3" Continuous Fo 300.018 * x 3" x 1" Isolated Fo 300.028 * x 3" Contail (Bat 300.018 * x 3" x 1" solated Fo 300.028 * x 3" contail (Bat 300.0128 12" x 13" Site Retainin 300.128 12" x 5" Frost Wall <t< th=""><th></th><th></th><th></th><th></th><th></th><th></th></t<>						
A10 - FOUNDATIONS A101 - STANDARD F1 210.205 Structure Excavation 2210.205 Structure Excavation 2220.335 BF Frost Wall w/ Crus Addition) 2220.340 220.340 BF Frost Wall w/ Crus Addition) 2220.340 2200.310 BF Frost Wall w/ On 3 2200.340 BF Frost Wall w/ On 3 2500.110 4" PVC Footing Drain 300.016 3" x 3" x 1" Isolated Fo 300.018 3" x 3" x 1" Isolated Fo 300.028 1' x 3" Grade Beam - 1 300.018 3" x 3" x 1" Isolated Fo 300.018 3' x 3" x 1" Isolated Fo 300.028 1' x 3" Grade Beam - 1 300.029 2' x 2' x 1-6" Pile Cag 300.020 1' x 3" Croatel Beam - 1 300.0218 12' x 5" Frost Wall 300.022						
A1010 - STANDARD F1 2210.205 Structure Excavation 2210.205 Structure Excavation 2210.205 Structure Excavation 2220.335 BF Fost Wall w/ Crus Addition) 2220.335 BF Frost Wall w/ Crus Addition) 2220.340 BF Frost Wall w/ Crus Addition) 2220.340 BF Frost Wall w/ On S 2220.340 BF Frost Wall w/ On S 2200.340 BF Frost Wall w/ On S 3300.010 a" x 16" Continuous For Wall) 3300.018 3' x 3' x 1' Isolated For 3300.028 1' x 3' Grade Beam - 3300.028 1' x 3' Grade Beam - 1300.028 1' x 3' Frost Wall (Ba 3300.048 12' x 13' Site Retainin 3300.148 12' x 13' Site Retainin 3300.152 18' x 4' Concrete Pier (50' Dia Riding RIng) 3300.156 1' x 1' - 5' Pilaster 7110.100 Damproof Frost Wall 710.100 Damproof Frost Wall						
2210.205 Structure Excavation 2210.205 Structure Excavation 2210.205 Structure Excavation 2220.335 BF Foundation Wall w Retaining Wall) 2220.335 BF Frost Wall w/ Crus Addition) 2220.340 BF Frost Wall w/ Crus Addition) 2220.340 BF Frost Wall w/ On \$ 2220.340 BF Frost Wall w/ On \$ 3300.010 4" PVC Footing Drain 3300.010 4" x 16" Continuous For Wall) 3300.018 1'x 5" Continuous For Wall) 3300.028 1'x 3" Grade Beam - 3300.028 1'x 3" Grade Beam - 3300.028 1'x 3" Grade Beam - 3300.028 1'x 3" Frost Wall (Ba 3300.045 12" x 5" Frost Wall (Ba 3300.148 12" x 13" Site Retainin 3300.148 12" x 13" Site Retainin (50" Dia Riding RIng) 3300.150 1" x 1" - 5" Pilaster 7110.100 Damproof Frost Wall						
2210.205 Structure Excavation 2210.205 Structure Excavation 2200.335 BF Fond Wall w Retaining Wall) 2220.335 BF Frost Wall w/ Crus 2220.335 BF Frost Wall w/ Crus Addition) 2220.340 BF Frost Wall w/ On 5 2220.340 BF Frost Wall w/ On 5 2500.110 4" PVC Footing Drain 3300.010 8" x 16" Continuous Fo 3300.016 1" x 5" Continuous Fo 3300.018 3" x 3" x 1' Isolated Fo 3300.028 1" x 3" Grade Beam 3300.028 1" x 3" Grade Beam - 3300.028 1" x 3" Grade Beam - 3300.048 1" x 5" Frost Wall (Ba 3300.048 1" x 5" Frost Wall (Ba 3300.048 12" x 5" Frost Wall (Ba 3300.045 12" x 5" Frost Wall (Ba 3300.045 12" x 5" Frost Wall (Ba 3300.045 12" x 13" Site Retainin 3300.128 12" x 13" Site Retainin 3300.126 1" x 1" - 5" Pilaster (50" Dia Riding RIng) 3300.156 1" x 1" - 5" Pilaster 7110.100 Damproof Frost Wall	OUNDATIONS	4.000.00	CY	12.13	48.510	
2210.205 Structure Excavation 2220.335 BF Foundation Wall w Retaining Wall) 2220.335 BF Frost Wall w/ Crus Addition) 2220.340 BF Frost Wall w/ Crus Addition) 2220.340 BF Frost Wall w/ On 5 2200.110 4" PVC Footing Drain 3300.016 8" x 16" Continuous Fo 3300.016 4" x 3' Continuous Fo 3300.018 3" x 3" x 1' Isolated Fo 3300.028 1' x 3' Grade Beam - , 3300.028 1' x 3' Frost Wall (Bar 3300.045 12" x 5' Frost Wall 3300.128 12" x 13' Site Retainif 3300.128 12" x 13' Site Retainif 3300.128 12" x 13' Site Retainif 3300.128 1' x 1' - 5' Pilaster (50' Dia Riding RIng) 3300.156 1' x 1' - 5' Pilaster 7110.100 Damproof Frost Wall	(Porn Addition)	4,000.00	CY	12.13		
2220.335 BF Foundation Wall w Retaining Wall) 2220.335 BF Frost Wall w/ Crus Addition) 2220.340 BF Frost Wall w/ Crus Addition) 2220.340 BF Frost Wall w/ On 3 2200.340 BF Frost Wall w/ On 3 2500.110 4" PVC Footing Drain 3300.010 4" x 16" Continuous Foo 3300.016 1' x 5' Continuous Foo Wall) 3300.018 1' x 3' Grade Beam - 3300.028 1' x 3' Frost Wall (Ba 3300.045 12" x 5' Frost Wall 3300.148 12" x 13' Site Retainif 3300.152 18" x 4' Concrete Pier (50' Dia Riding RIng) 3300.156 1' x 1' - 5' Pilaster 7110.100 Damproof Frost Wall		1,200.00	CY	12.13	3,638 14,553	
Retaining Wall) 2220.335 BF Frost Wall w/ Crus 2220.335 BF Frost Wall w/ Crus Addition) 2220.340 BF Frost Wall w/ On 3 2200.340 2200.340 BF Frost Wall w/ On 3 2500.110 # PVC Footing Drain 3300.016 1' x 3' Continuous For 3300.016 1' x 5' Continuous For 3300.018 3' x 3' x 1' Isolated For 3300.018 3' x 3' x 1' solated For 3300.028 1' x 3' Grade Beam - , 3300.040 8' x 5' Frost Wall (Bar 3300.041 12'' x 5' Frost Wall 3300.042 12'' x 5' Frost Wall 3300.128 12'' x 13' Site Retainir 3300.125 18'' x 4' Concrete Pier (50' Dia Riding RIng) 3300.156 3300.156 1' x 1' - 5' Pilaster 7110.100 Damproof Frost Wall		1,600.00	CY	37.51	60,016	
2220.335 BF Frost Wall w/ Crus Addition) 2220.340 BF Frost Wall w/ On 1 2200.340 BF Frost Wall w/ On 1 2500.110 4" PVC Footing Drain 3300.010 4" x 16" Continuous For 3300.016 1' x 5" Continuous For Wall) 3300.018 3' x 3' x 1' Isolated Fo 3300.028 1' x 3' Grade Beam - 3300.028 1' x 3' Frost Wall (Bar 3300.048 12" x 1's Ontal (Bar 3300.148 12" x 1's Ontal (Bar 3300.148 12" x 1's Site Retainif 3300.152 18" x 4' Concrete Pier (50' Dia Riding RIng) 3300.156 1' x 1' - 5' Pilaster 7110.100 Damproof Frost Wall	,					
Addition) 2220.340 BF Frost Wall w/ On 3 2220.340 BF Frost Wall w/ On 3 2500.110 4" PVC Footing Drain 3300.010 8" x 16" Continuous For 3300.016 1" x 5" Continuous For Wall) 3300.018 3" x 3" x 1" Isolated For 3300.028 1" x 3" Grade Beam - , 3300.028 1" x 3" Grade Beam - , 3300.028 1" x 3" Grade Beam - , 3300.028 1" x 3" Grade Beam - , 3300.032 2" x 2" x 1-6" Pile Cag 3300.040 8" x 5" Frost Wall (Ba 3300.148 12" x 13" Site Retainin 3300.148 12" x 13" Site Retainin 3300.152 18" x 4" Concrete Pile (50" Dia Riding RIng) 3300.156 1" x 1" - 5" Pilaster 7110.100 Damproof Frost Wall		2,600.00	CY	37.51	97,526	
2220.340 BF Frost Wall w/ On 3 2500.110 4" PVC Footing Drain 3300.010 8" x 16" Continuous Fo 3300.016 1" x 3' Continuous For Wall) 3300.018 3" x 3" x 1' Isolated Fo 3300.028 1' x 3' Grade Beam - 3300.040 8" x 5" Frost Wall (Bar 3300.040 8" x 5" Frost Wall (Bar 3300.040 8" x 5" Frost Wall 3300.128 12" x 8" Foundation W 3300.128 12" x 13' Site Retainir 3300.148 12" x 13' Site Retainir 3300.152 18" x 4' Concrete Pier (50' Dia Riding RIng) 3300.156 1' x 1' - 5' Pilaster 7110.100 Damproof Frost Wall	,	180.00	CY	37.51	6,752	
2500.110 4" PVC Footing Drain 3300.010 8" x 16" Continuous Fo 3300.011 1" x 3" Continuous For Wall) 3300.018 3" x 3" x 1' Isolated Fo 3300.028 1" x 3" Grade Beam - , 3300.028 2" x 2" x 1-6" Pile Cag 3300.028 2" x 2" x 1-6" Pile Cag 3300.040 8" x 5" Frost Wall (Ba 3300.045 12" x 5" Frost Wall 3300.148 12" x 13" Site Retainin 3300.148 12" x 13" Site Retainin (50" Dia Riding RIng) 3300.150 1" x 1" - 5" Pilaster 7110.100 Damproof Frost Wall		2,200.00	CY	17.51	38,522	
3300.010 8" x 16" Continuous F 3300.014 1' x 3' Continuous For 3300.016 1' x 5' Continuous For Wall) 3300.018 3' x 3' x 1' Isolated Fo 3300.028 1' x 3' Grade Beam - , 3300.032 2' x 2' x 1'-6" Pile Cap 3300.040 8" x 5' Frost Wall (Bar 3300.045 12" x 5' Frost Wall 3300.128 12" x 3' Frost Wall 3300.128 12" x 3' Frost Wall 3300.128 12" x 15' Concrete Pier (50' Dia Riding RIng) 3300.156 1' x 1' - 5' Pilaster 7110.100 Damproof Frost Wall 7110.100 Damproof Frost Wall		180.00	CY	17.51	3,152	
3300.014 1' x 3' Continuous Foc 3300.016 1' x 5' Continuous Foc Wall) 3300.018 3' x 3' x 1' Isolated Fo 3300.028 1' x 3' Grade Beam - , 3300.032 2' x 2' x 1'-6' Pile Cap 3300.040 8'' x 5' Frost Wall (Bar 3300.045 12'' x 5' Frost Wall 3300.128 12'' x 8' Foundation W 3300.148 12'' x 13' Site Retainir 3300.152 18'' x 4' Concrete Pier (50' Dia Riding RIng) 3300.156 1' x 1' - 5' Pilaster 7110.100 Damproof Frost Wall 7110.100 Damproof Frost Wall		4,300.00	LF	14.00	60,200	
3300.016 1' x 5' Continuous Foc Wall) 3300.018 3' x 3' x 1' Isolated Fo 3300.028 1' x 3' Grade Beam - 3300.032 2' x 2' x 1'-6' Pile Cag 3300.040 8'' x 5' Frost Wall (Bar 3300.045 12' x 5' Frost Wall 3300.128 12' x 8' Foundation W 3300.148 12' x 13' Site Retainir 3300.152 18'' x 4' Concrete Pier (50' Dia Riding RIng) 3300.156 1' x 1' - 5' Pilaster 7110.100 Damproof Frost Wall 7110.100 Damproof Frost Wall		294.00	LF	32.30	9,496	1
Wall) 3300.018 3' x 3' x 1' Isolated Fo 3300.028 1' x 3' Grade Beam - 3300.028 2' x 2' x 1'-6' Pile Cap 3300.040 8" x 5' Frost Wall 3300.45 12" x 5' Frost Wall 3300.45 12" x 5' Frost Wall 3300.152 18" x 4' Concrete Pier (50' Dia Riding RIng) 3300.156 1' x 1' - 5' Pilaster 7110.100 Damproof Frost Wall 7110.100 Damproof Frost Wall		3,325.00	LF	44.20	146,965	1
3300.028 1' x 3' Grade Beam - , 3300.032 2' x 2' x 1-6' Pile Cap 3300.040 8'' x 5' Frost Wall (Bat 3300.045 12' x 5' Frost Wall 3300.128 12' x 8' Foundation W 3300.148 12'' x 13' Site Retainir 3300.152 18'' x 4' Concrete Pier (50' Dia Riding RIng) 3300.156 1' x 1' - 5' Pilaster 7110.100 Damproof Frost Wall 7110.100 Damproof Frost Wall		3,325.00	LF	55.25	183,706	
3300.032 2' x 2' x 1'-6" Pile Cap 3300.040 8" x 5' Frost Wall (Bar 3300.045 12" x 5' Frost Wall 3300.128 12" x 5' Frost Wall 3300.128 12" x 13' Site Retainir 3300.148 12" x 13' Site Retainir 3300.152 18" x 4' Concrete Pier (50' Dia Riding RIng) 3300.156 1' x 1' - 5' Pilaster 7110.100 Damproof Frost Wall 7110.100 Damproof Frost Wall		69.00	EA	242.25	16,715	
3300.040 8" x 5' Frost Wall (Bar 3300.045 12" x 5' Frost Wall 3300.128 12" x 8' Foundation W 3300.148 12" x 13' Site Retainir 3300.152 18" x 4' Concrete Pier (50' Dia Riding RIng) 3300.156 1' x 1' - 5' Pilaster 7110.100 Damproof Frost Wall 7110.100 Damproof Frost Wall		2,578.00	LF	44.20	113,948	1
3300.045 12" x 5' Frost Wall 3300.128 12" x 8' Foundation W 3300.148 12" x 13' Site Retainir 3300.152 18" x 4' Concrete Pier (50' Dia Riding RIng) 3300.156 1' x 1' - 5' Pilaster 7110.100 Damproof Frost Wall	Concrete	48.00	EA	182.75	8,772	1
3300.128 12" x 8" Foundation V 3300.148 12" x 13 Site Retaini 3300.152 18" x 4" Concrete Pier (50' Dia Riding RIng) 3300.156 1" x 1" - 5' Pilaster 7110.100 Damproof Frost Wall	n Addition)	294.00	LF	105.40	30,988	
3300.148 12" x 13' Site Retainir 3300.152 18" x 4' Concrete Pier (50' Dia Riding RIng) 3300.156 1' x 1' - 5' Pilaster 7110.100 Damproof Frost Wall 7110.100 Damproof Frost Wall		3,017.00	LF	128.35	387,232	
3300.152 18" x 4' Concrete Pier (50' Dia Riding RIng) 3300.156 1' x 1' - 5' Pilaster 7110.100 Damproof Frost Wall 7110.100 Damproof Frost Wall		290.00	LF	191.25	55,463	
(50' Dia Riding RIng) 3300.156 1' x 1' - 5' Pilaster 7110.100 Damproof Frost Wall 7110.100 Damproof Frost Wall		315.00	LF	350.20	110,313	1
3300.156 1' x 1' - 5' Pilaster 7110.100 Damproof Frost Wall 7110.100 Damproof Frost Wall	with 2' x 2' x 1' Footing	14.00	EA	273.63	3,831	
7110.100 Damproof Frost Wall		79.00	EA	178.50	14,102	
7110.100 Damproof Frost Wall		17,405.00	SF	1.50	26,108	1
	(Barn Addition)	1,323.00	SF	1.50	1,985	
7200.105 Rigid Insulation - 2" F		17,405.00	SF	2.08	36,269	1
7200.105 Rigid Insulation - 2" F ** Total A1010 - STANDARD FOUN	rost Wall (Barn Addition)	1,323.00	SF	2.08	2,757 1,481,516	
					. ,	1
A1020 - SPECIAL FOU				-		1
2490.105 HP10 Steel Piles - 30 location: 144 @ 30' D		4,320.00	LF	60.00	259,200	
Gym/Auditorium) 2492.105 Aggregate Piers - 8' G		8,360.00	LF	97.01	811,000	
(Northeast corner of A ** Total A1020 - SPECIAL FOUNDA					1,070,200	
A1030 - LOWEST FLO						
2220.332 Crushed Stone Under		4,800.00	CY	37.51	180,048	1
2220.332 Crushed Stone Under		200.00	CY	37.51	7,502	
3250.451 15 Mil Stego Wrap Ur Taped Seams		64,000.00	SF	0.71	45,626	
3250.451 15 Mil Stego Wrap Ur Taped Seams (Barn A		6,710.00	SF	0.71	4,784	
3300.006 4" SOG (Non pile/pier	areas)	75,867.00	SF	6.55	497,217	
3300.008 10" SOG - (Agg Pier /		26,106.00	SF	11.90	310,674	
3300.008 10" SOG - (H Pile Are		46,032.00	SF	11.90	547,804	1
3300.008 5" SOG - (Barn Additi		6,100.00	SF	7.40	45,163	1
3300.012 Alter Auditorium Floor		15,500.00	SF	8.71	135,011	
7200.108 Rigid Insulation - 2" U		6,710.00	SF	2.08	13,982	
** Total A1030 - LOWEST FLOOR (* Total A10 - FOUNDATIONS	CONSTRU				1,787,811 4,339,527	
B10 - SUPERSTRUCTU						
B1010 - FLOOR CONS						

...\15027 Dover HS Schematic Estimate MASTER.est

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4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Item	Description	Quantity	UM	Total	Total
Code				UnitCost	Cost
3000 015	Trowel Finish (SOD)	78,210.00	SF	0.56	43,571
	Protect & Cure	78,210.00	SF	0.30	43,571 7,571
	Re-Steel @ Slabs On Metal Deck	31,066.75	LB	0.79	24,543
	6x6 4/4 Wwf	86,031.00	SF	0.78	67,104
	Wire Mesh Accessories	78,210.00	SF		
	Slab On Metal Deck Concrete	1,242.67	CY	36.57	45,446
3300.115	3000 Psi Concrete	1,242.67	CY	98.00	121,782
3300.200	Concrete Pumping	1,242.67	CY	8.00	9,941
5010.050	Structural Steel at Addition - 12 lbs/ sf	1,361.00	TON	3,100.00	4,219,100
	2"X20ga Painted Mtl Deck	86,031.00	SF	1.95	167,760
	Spray Fireproofing - Roof Deck (New Only)	148,005.00	SF	1.50	222,008
	Spray Fireproofing - Structural Steel (New	226,925.00	SF	2.50	567,313
1000.001	Only)	220,020.00	01	2.00	001,010
*** Total B1010) - FLOOR CONSTRUCTION				5,496,138
TOLAT DIVIL	- FLOOR CONSTRUCTION				5,490,130
B1020 -	- ROOF CONSTRUCTION				
	Steel Joists (2 lbs/ SF)	123.00	TON	1,800.00	221,400
	Steel Joists (2 lbs/ SF) CTC	28.00	TON	1,800.00	50,400
	1-1/2"X20ga Galv Mtl Deck	141.302.00	SF	1,000.00	240,213
	1-1/2"X20ga Galv Mtl Deck CTC	32,600.00	SF	1.70	55,420
	Miscellaneous Metals (Angle at Roof Curb)	1.00	LS	15.000.00	15,000
	Roof Trusses w/ sheathing (Barn Addition)	6,100.00	SF	8.00	48,800
	Pavilion Framing (50' Dia Riding Ring)	3,300.00	SF	18.38	60,657
	Entrance Canopy	2.00	EA	50,000.00	100,000
	- ROOF CONSTRUCTION				791,890
** Total B10 - S	SUPERSTRUCTURE				6,288,028
B20 - FX	TERIOR CLOSURE				
	EXTERIOR WALLS				
		F 000 00	05	40.00	00.000
4020.460	Repair/Repoint existing masonry veneer	5,000.00	SF	18.00	90,000
	(Locations unknown)				
	Brick Veneer (70% Envelope)	73,580.00	SF	24.00	1,765,920
6100.612	2x6 Partitions w/ 1/2" OSB Sheathing - 12' Ht	3,880.00	SF	4.60	17,836
	(Barn Addition)				
6200.512	T&G Siding - Red Cedar (6" Exposure) (Barn	3,880.00	SF	8.00	31,036
	Addition)				
7210.806	3" Spray Foam Insulation (R-21)	73,564.72	SF	3.00	220,694
	3" Spray Foam Insulation (R-21) - East Wall	18,200.00	SF	3.00	54,600
1210.000	Infill	10,200.00	<u>.</u>	0.00	01,000
7260 120	Air Infiltration Barrier - Fluid Applied	73,580.00	SF	2.50	183,950
		18,200.00	SF	2.50	45,500
1200.120	Air Infiltration Barrier - Fluid Applied - East	10,200.00	or	2.50	40,000
0000.051	Wall Infill	70 500 00	05	10.10	010 001
9280.051	6" LGS Stud w/ 5/8" GWB and 5/8" Densglass -	73,580.00	SF	12.42	913,621
	Ext Partitions				
	6" LGS Stud w/ 5/8" GWB and 5/8" Densglass -	18,200.00	SF	12.42	225,984
9280.051			1		
	Ext Partitions - East Wall Infill				
		500.00	LF	157.08	78,539
10000.010	Ext Partitions - East Wall Infill	500.00	LF	157.08	78,539 3,627,680
10000.010 *** Total B2010	Ext Partitions - East Wall Infill Roof, Ext Wall Expansion Joints D - EXTERIOR WALLS	500.00	LF	157.08	
10000.010 *** Total B2010 B2020 -	Ext Partitions - East Wall Infill Roof, Ext Wall Expansion Joints - EXTERIOR WALLS - WINDOWS				3,627,680
10000.010 *** Total B2010 B2020 - 8800.800	Ext Partitions - East Wall Infill Roof, Ext Wall Expansion Joints - EXTERIOR WALLS - WINDOWS Curtainwall (30% Envelope)	31,920.00	SF	75.00	3,627,680 2,394,000
10000.010 *** Total B2010 B2020 - 8800.800	Ext Partitions - East Wall Infill Roof, Ext Wall Expansion Joints - EXTERIOR WALLS - WINDOWS				3,627,680
10000.010 *** Total B2010 B2020 - 8800.800 8800.840	Ext Partitions - East Wall Infill Roof, Ext Wall Expansion Joints - EXTERIOR WALLS - WINDOWS Curtainwall (30% Envelope) Barn Windows (Barn Addition)	31,920.00	SF	75.00	3,627,680 2,394,000
10000.010 *** Total B2010 B2020 - 8800.800 8800.840 *** Total B2020	Ext Partitions - East Wall Infill Roof, Ext Wall Expansion Joints - EXTERIOR WALLS - WINDOWS Curtainwall (30% Envelope) Barn Windows (Barn Addition) - WINDOWS	31,920.00	SF	75.00	3,627,680 2,394,000 6,000
10000.010 *** Total B2010 B2020 - 8800.800 8800.840 *** Total B2020 B2030 -	Ext Partitions - East Wall Infill Roof, Ext Wall Expansion Joints - EXTERIOR WALLS - WINDOWS Curtainwall (30% Envelope) Barn Windows (Barn Addition) - WINDOWS - EXTERIOR DOORS	31,920.00 10.00	SF EA	75.00 600.00	3,627,680 2,394,000 6,000 2,400,000
10000.010 Total B2010 B2020 - 8800.800 8800.840 *** Total B2020 B2030 - 6200.300	Ext Partitions - East Wall Infill Roof, Ext Wall Expansion Joints - EXTERIOR WALLS - WINDOWS Curtainwall (30% Envelope) Barn Windows (Barn Addition) - WINDOWS - EXTERIOR DOORS Sliding Barn Door (Barn Addition)	31,920.00 10.00 3.00	SF EA EA	75.00 600.00 1,788.76	3,627,680 2,394,000 6,000 2,400,000 5,366
10000.010 Total B2010 B2020 - 8800.800 8800.840 *** Total B2020 B2030 - 6200.300	Ext Partitions - East Wall Infill Roof, Ext Wall Expansion Joints - EXTERIOR WALLS - WINDOWS Curtainwall (30% Envelope) Barn Windows (Barn Addition) - WINDOWS - EXTERIOR DOORS	31,920.00 10.00 3.00 20.00	SF EA EA	75.00 600.00	3,627,680 2,394,000 6,000 2,400,000
10000.010 B2020 - 8800.800 8800.840 **** Total B2020 B2030 - 6200.300 8010.010	Ext Partitions - East Wall Infill Roof, Ext Wall Expansion Joints - EXTERIOR WALLS - WINDOWS Curtainwall (30% Envelope) Barn Windows (Barn Addition) - WINDOWS - EXTERIOR DOORS Sliding Barn Door (Barn Addition)	31,920.00 10.00 3.00	SF EA EA	75.00 600.00 1,788.76	3,627,680 2,394,000 6,000 2,400,000 5,366
10000.010 Total B2010 B2020 - 8800.840 **** Total B2020 B2030 - 6200.300 8010.010	Ext Partitions - East Wall Infill Roof, Ext Wall Expansion Joints - EXTERIOR WALLS - WINDOWS Curtainwall (30% Envelope) Barn Windows (Barn Addition) - WINDOWS - EXTERIOR DOORS Sliding Barn Door (Barn Addition) 3070 Exterior Door	31,920.00 10.00 3.00 20.00	SF EA EA	75.00 600.00 1,788.76 1,404.76 1,104.76	3,627,680 2,394,000 6,000 2,400,000 5,366 28,095 8,838
10000.010 B2020 - 8800.800 Total B2020 B2030 - 6200.300 8010.010 8010.010	Ext Partitions - East Wall Infill Roof, Ext Wall Expansion Joints - EXTERIOR WALLS - WINDOWS Curtainwall (30% Envelope) Barn Windows (Barn Addition) - WINDOWS - EXTERIOR DOORS Sliding Barn Door (Barn Addition) 3070 HM Door (Barn Addition) 6070 Exterior Door	31,920.00 10.00 3.00 20.00 8.00	SF EA EA EA EA	75.00 600.00 1,788.76 1,404.76 1,104.76 2,065.16	3,627,680 2,394,000 6,000 2,400,000 5,366 28,095 8,838 3,3,043
10000.010 *** Total B2010 B2020 - 8800.800 8800.840 *** Total B2020 B2030 - 6200.300 8010.010 8010.010 8010.020 8300.100	Ext Partitions - East Wall Infill Roof, Ext Wall Expansion Joints - EXTERIOR WALLS - WINDOWS Curtainwall (30% Envelope) Barn Windows (Barn Addition) - WINDOWS - EXTERIOR DOORS Sliding Barn Door (Barn Addition) 3070 Exterior Door 3070 HM Door (Barn Addition)	31,920.00 10.00 3.00 20.00 8.00 16.00	SF EA EA EA EA	75.00 600.00 1,788.76 1,404.76 1,104.76	3,627,680 2,394,000 6,000 2,400,000 5,366 28,095 8,838

...\15027 Dover HS Schematic Estimate MASTER.est

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

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Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
** Total B20 -	EXTERIOR CLOSURE				6,167,022
B30 - RC	OFING				
	- ROOF COVERINGS				
	Roof edge blocking	7,200.00	LF	7.78	55,981
	12" Batt Insulation (R38) (Barn Addition)	8,020.00	SF	1.15	9,217
	Asphalt Single Roof (50' Dia Riding Ring)	3,300.00	SF	5.79	19,119
	Asphalt Single Roof (Barn Addition)	8,020.00	SF	5.79	46,465
	Thermoplastic Membrane Roof	151,209.00	SF	10.50	1,587,695
	Entrance Canopy Roof 0 - ROOF COVERINGS	2.00	EA	30,000.00	60,000 1,778,475
B3020	- ROOF OPENINGS				
5550.162	4' Sq Hatch Cover - Stainless Steel	2.00	EA	7,349.20	14,698
*** Total B302	0 - ROOF OPENINGS				14,698
** Total B30 -					1,793,174
C10 - IN	TERIOR CONSTRUCTION				
	- PARTITIONS				
5500.000	Miscellaneous Metals (Angle at CMU	1.00	LS	15,000.00	15,000
	Partitions)			I	
	In Wall Blocking	1.00	LS	74,437.84	74,438
	Glazed Partitions	2,200.00	SF	60.00	132,000
9270.001	Tape Gypsum Walls - Level 4 (String coat, 2 finish coats, sanding)	461,605.00	SF	0.75	346,204
9280.030	Classroom Fit Up (Barn Addition) 2 - Classrooms	450.00	SF	30.00	13,500
9285.005	LGS Partitions w/ 5/8" GWB, Sound Batt - Interior	230,803.00	SF	8.61	1,987,468
9285.013	LGS Furred Partition - Interior	13,440.00	SF	5.09	68,461
	Fire Stopping	1.00	LS	20,000.00	20,000
	Fire Stopping	1.00	LS	55.000.00	55.000
	Misc Drywall Work	1.00	LS	40.000.00	40,000
	Misc Drywall Work	1.00	LS	10,000.00	10,000
*** Total C101	0 - PARTITIONS				2,762,070
C1020	- INTERIOR DOORS				
8012.010	3070 Interior Door	466.00	EA	1,204.76	561,418
8012.020	6070 Interior Door	79.00	EA	1,765.16	139,448
8014.000	Corridor Lock Down Hardware	1.00	LS	50,000.00	50,000
8014.020	Interior Borrowed Lites	55.00	EA	609.52	33,524
9900.205	Misc Painting - Door Frames, Misc Metals	1.00	LS	10,000.00	10,000
	Misc Painting - Door Frames, Misc Metals	1.00	LS	40,000.00	40,000
*** Total C102	0 - INTERIOR DOORS				834,390
	- SPECIALTIES / MILLWORK	00.00	_		10.050
	6'-0" Laminated Maple Bench	20.00	EA	992.58	19,852
	Base Cabinets (Classrooms)	844.00	LF	266.10	224,592
	Full Height Cabinets (Classrooms)	372.00	LF	306.10	113,871
	Wall Cabinets (Classrooms)	620.00	LF	191.10	118,484
	Full Height Cabinets (Mail Room)	24.00	LF	306.10	7,346
	Restroom Wood Apron at Solid Surface	216.00	LF	159.92	34,543
6400.300	Solid Surface Restroom Counter w/ integral sink	216.00	LF	221.90	47,931
	Countertops-Solid Surface (Classrooms)	844.00	LF	191.10	161,292
6400.308	Wall Mount Solid Surface Counter (Mail/Work Room)	71.00	LF	216.10	15,343
6400.315	Countertops - Epoxy Resin	520.00	LF	161.64	84,051
	Solid Surface Window Sill and Apron (New	2,100.00	LF	64.26	134,941
6401.052	Const Only) Wall Cabinets - Solid Surface (Science Labs)	390.00	LF	161.65	63,042
	. ,				

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

F

ltem Code	Description	Quantity	UM	Total UnitCost	Total Cost
C101 051		200.00	15	055.70	00.704
6401.054	Full Height Cabinets - Solid Surface (Science Labs)	390.00	LF	255.73	99,734
6405 006	Wood Cubbies - Mail Room	24.00	LF	251.10	6,026
	Casework Allowance (Misc)	1.00	LS	231,000.00	231,000
	Closet Shelving	1.00	LS	10,000.00	10,000
	*** DESK MILLWORK***			.,	
6408.080	Admin/Guidance Front Desk	31.00	LF	441.10	13,674
	Library Desk	78.00	LF	491.10	38,306
	FRP Panels 10' ht - Kitchen	3,518.00	SF	7.14	25,133
	FRP Panels 8' ht - at Janitorial sinks only	1,510.22	SF	7.14	10,789
	FRP Panels - Art Rooms	80.00	SF	7.14	572
	Toilet Partitions W/ Door - Phenolic	43.00	EA	430.52	18,512
	Urinal Screen - Phenolic	10.00	EA	305.52	3,055
	Shower Door	18.00	EA LF	277.76	5,000
	Locker Room Bench	120.00	LF	80.28 22.50	9,633
10191.100	Privacy Curtain: Track W/Supports (No	64.00	LF	22.50	1,440
10105 101	Curtain) - Nurse Display & Trophy Case Allowance	1.00	LS	40,000.00	40.000
10410.150		1.00	LS	10,000.00	10,000
10410.150		1.00	LS	78,000.00	78,000
	Staff Lockers - Single Tier (3' X 15" X 15") -	15.00	EA	180.55	2.708
10000.002	Kitchen	10.00	2,1	100.00	2,.00
10500.002	Staff Lockers - Single Tier (3' X 15" X 15") -	100.00	EA	180.55	18,055
	Staff				
10500.004	Lockers - Double Tier (6' X 18" X 18") -	1,500.00	EA	270.55	405,819
	Student				
10500.006	Lockers - Double Tier - Locker Rooms (100 per	200.00	EA	270.55	54,109
	Room)				
	Lockers - Double Tier - Student Athletic	50.00	EA	270.55	13,527
	Fire Extinguishers	98.00	EA	125.46	12,295
	Fire Ext Cabinets	98.00	EA	302.76	29,670
	Operable Wall Partition (57' L x 28' HT)	20.00	SF	99.95	2.050
10800.106		36.00	EA EA	101.38	3,650
	Surface Mtd Double Roll Tph	26.00	EA	197.38	5,132
	Surface Mounted SND Surf Mtd Waste Receptacle	20.00 22.00	EA	377.38 282.38	7,548 6,212
	Liquid Soap Dispenser	22.00	EA	177.38	3,902
	Folding Shower Seat	18.00	EA	301.38	5,425
	Electric Hand Dryer	20.00	EA	301.38	6,028
	30"x30" Framed Mirror	32.00	EA	211.38	6,764
	0 - SPECIALTIES / MILLWORK				2,207,007
	INTERIOR CONSTRUCTION				5,803,467
C20 ST	AIRCASES				
	- STAIR CONSTRUCTION		****		
	****Metal Stairs**** Metal Pan Stair - Standard	192.00	TRD	433.27	83,187
	Metal Pan Stair - Standard Metal Pan Stair - Town Center	40.00	TRD	433.27 433.27	17,331
	Metal Pan Stair - Town Center Metal Pan Stair Landing - Standard	236.00	SF	71.60	16,897
	Metal Pan Stair Landing - Town Center	236.00	SF	71.60	16,897
	*** Handrails & Railings ***		****		10,001
	Hand Rail - Standard Metal Picket	270.00	LF	119.42	32,244
	Hand Rail - Town Center	140.00	LF	229.42	32,119
	Steel Wallrail - Standard	270.00	LF	65.93	17,801
	Drywall Partition	12,320.00	SF	9.36	115,315
	0 - STAIR CONSTRUCTION				331,790
** Total C20 - 3	STAIRCASES				331,790
C30 - IN	TERIOR FINISHES				
	- WALL FINISHES				
00010					
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...\15027 Dover HS Schematic Estimate MASTER.est

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

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Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

ltem Code	Description	Quantity	UM	Total UnitCost	Total Cost
0000 0 10	Marcal Marcall Products Accelerations	14 500 00	0.5	05.00	000.000
	Wood Wall Finish - Auditorium	11,520.00	SF	25.00	288,000
	Tile Wainscot - 4' AFF (Corridors)	17,000.00	SF	10.00	170,000
9300.202	Tile Wainscot - 4' AFF (Town Square)	2,800.00	SF	10.00	28,000
9300.204	Tile Wainscot - 4' AFF (Toilet Rooms)	4,550.00	SF	10.00	45,500
9300.204	Tile Wainscot - Premium for 5' AFF	6,088.00	SF	10.00	60,880
	everywhere including stairwells	-,			,
0000 100	Paint Interior Walls (Barn Addition)	2 520 00	SF	0.82	2,893
		3,528.00			
	Paint Walls	383,700.00	SF	0.85	326,145
	Interior Expansion Joint Covers 0 - WALL FINISHES	80.00	LF	107.08	8,566 929,984
					929,904
	- FLOOR FINISHES Tile Base	783.00	LF	10.00	7,830
	Quarry Tile Floors - Culinary	3,900.00	SF	15.00	58,500
9330.000	Quarry Tile Floors - Kitchen	5,030.00	SF	15.00	75,450
9330.005	Quarry Tile Base	682.00	LF	12.00	8,184
9400.005	Mosaic Tile - Bath, Locker Rooms	5,750.00	SF	12.00	69,000
	Wood Floor - Gym	13,710.00	SF	18.00	246,780
	Wood Floor - Stage	2,620.00	SF	16.00	41,920
	Linoleum	192,650.00	SF	6.00	1,155,900
	Rubber Base	38,389.00	LF	1.85	71,020
9650.032	Rubber Treads & Risers	5,820.00	SF	14.00	81,480
9680.000	Carpet - Auditorium	1,722.00	SY	35.00	60,270
9690.000	Carpet Tile	1,260.00	SY	35.00	44,100
	Rubber Sports Flooring	4,620.00	SF	12.45	57,507
	Moisture Mitigation - N/A per HMFH	4,020.00	SF	4.00	01,001
		20,020,00			55.045
	Sealed Concrete	36,830.00	SF	1.50	55,245
9900.400	Sealed Concrete (Barn Addition)	6,100.00	SF	1.50	9,150
9900.506	Paint Gym Floor Logo	1.00	LS	3,000.00	3,000
12671.103	Walk-Off Foot Grilles (Alum Grid W/ Frame &	110.00	SF	72.08	7,929
*** Total C302	Pan) 0 - FLOOR FINISHES				2,053,264
					_,,
C3030	- CEILING FINISHES				
9285.037	Gypsum Ceiling: Suspended drywall grid 5/8" type X GWB (1 layer), taped (IvI 4)	18,890.00	SF	5.31	100,251
9285 039	Misc Drywall Soffits	1.00	LS	110.000.00	110.000
	Misc Drywall Soffits	1.00	LS	40,000.00	40,000
	ACT - Auditorium	15,500.00	SF	5.00	77,500
9500.100	ACT - Auditorium (N/A per HMFH)	-15,500.00	SF	5.00	-77,500
9500.102	ACT	191,000.00	SF	3.00	573,000
	ACT(Cleanable) - Kitchen	8,930.00	SF	8.00	71.440
	24x24x5/8 Lay-In (Barn Addition)	450.00	SF	3.00	1,350
	Acoustical Wood Clouds - Auditorium	1.00	LS	40.000.00	40,000
				-,	
	Tectum Ceilng Panels - 2"	6,870.00	SF	8.00	54,960
	Paint Ceilings	18,890.00	SF	0.85	16,057
9900.120	Paint Exposed Ceiling Structure	63,570.00	SF	1.75	111,248
	Paint exposed ceiling - Gym	13,710.00	SF	2.00	27,420
	Paint exposed ceiling - Auditorium	15,500.00	SF	2.00	31,000
	0 - CEILING FINISHES	10,000.00		2.00	1,176,725
	INTERIOR FINISHES				4,159,973
					.,
	- ELEVATOR				
3300.008	12" Base Slab	128.00	SF	14.42	1,846
3300.025	12" x 5' Foundation Wall	72.00	LF	128.35	9,241
	Elevator Pit Misc Metals	2.00	ĒA	1,813.09	3,626
	Drywall Partition	2,640.00	SF	9.36	24,710
	Hydraulic Passenger Elevator (1 Ea)	4.00	STOP	40,000.00	160,000
	0 - ELEVATOR				199,423
** Total D10 -	CONVEYING SYSTEMS				199,423

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

ltem Code	Description	Quantity	UM	Total UnitCost	Total Cost
D 00 D 1					
	UMBING				
	LUMBING				
15401.320	Domestic Water Heater, Residential Gas-Fired (NG/P) Atmospheric, Foam Lined Tank, Vent Not Included, 100 Gal.	2.00	EA	1,846.55	3,693
15401.338	Not included, 100 Gai. Domestic Water Heater, Commercial Gas- Fired (NG/P) Atmospheric, Std. Controls, Vent Not Included, 250 MBH Input, 245 GPH	2.00	EA	20,161.00	40,322
15401.554	Potable Water Storage Tank, Indoor, Glass- Lined PE, 605 Gal., 48" OD, 87" Long	1.00	EA	14,258.38	14,258
15401.556	Round, Stainless Steel, 26 ga., 8" OD - Water Heater Vent	120.00	LF	28.30	3,396
15402.452	Sump Pump, Wet-Pit Mounted, Vertical, Single Stage, 25 GPM, 1 HP, 1-1/2" Disch.	2.00	EA	4,055.67	8,111
15410.208	Comm. Water Closet, Floor Mounted VC, Flush Valve, Bowl only, incl. Seat, w/Floor Outlet 1.28 gpf ADA	60.00	EA	753.67	45,220
15410.210	Rough-In, Supply, Waste and Vent for Comm. Floor Mounted WC	60.00	EA	562.00	33,720
15410.404	Urinal, Wall Hung VC w/ Hanger and Valve, Water Saving 0.5 gpf	13.00	EA	843.38	10,964
15410.406	Rough-In, Supply, Waste and Vent for Wall Hung Urinal	13.00	EA	705.00	9,165
15410.640	Rough-In, Supply, Waste and Vent for Res. Vanity Top Lavatories	72.00	EA	547.00	39,384
15410.640	Rough-In, Supply, Waste and Vent for Salon Lavatories (no fixture)	10.00	EA	547.00	5,470
15410.698	Sink w/Faucet and Drain, SS Self Rimming, 43"x22" Double Bowl	28.00	EA	1,286.48	36,022
	Rough-In, Supply, Waste and Vent for Sinks Laboratory Sink, Corrosion Resistant, 12"x12"x8" Sink, 14.5"x14.5" OD	28.00 44.00	EA EA	702.00 471.80	19,656 20,759
15410.832	Rough-In, Supply, Waste and Vent for Laboratory Sinks	44.00	EA	461.00	20,284
15410.834	Laboratory Faucet, Gooseneck Spout, Wrist Handles	44.00	EA	235.80	10,375
15410.840	Service Sink, Floor (Corner), PE, 28"x28" w/Rim Guard	14.00	EA	1,233.66	17,271
15410.844	Rough-In, Supply, Waste and Vent for Floor Service Sink	14.00	EA	1,827.00	25,578
	Hose Bibb, Exterior Freeze-Proof, Lockable	24.00	EA	105.40	2,529
	Stall Shower, One-Piece Fiberglass w/Three Walls, Drain Only, 32" Square	18.00	EA	645.94	11,627
	Thermostatic Valve for Shower	18.00	EA	585.00	10,530
	Rough-In, Supply, Waste and Vent for Shower	18.00	EA	818.00	14,724
	Emergency Shower, Single Head, Drench, Ball Valve, Pull Style, Freestanding, No Rough-In	8.00	EA	573.80	4,590
	Emergency Eyewash Fountain, SS Bowl, Pedestal Mount, No Rough-In	8.00	EA	533.80	4,270
	Electric Water Cooler, Wall Mounted, Full Recessed, SS, Bi-Level	21.00	EA	1,871.46	39,301
	Rough-In, Supply, Waste and Vent for Electric Water Cooler	21.00	EA	504.00	10,584
15412.434	Floor Drain, Heavy Ducty, Galvanized w/Sediment Bucket, 12" OD Grate, 2"-6" Pipe Size	24.00	EA	1,131.14	27,147
15412.730	Roof Drain, Integral Expansion Joint, Galvanized, 12" Dome, 4" Pipe Size	87.00	EA	1,074.20	93,455

...\15027 Dover HS Schematic Estimate MASTER.est

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

Page 6



Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
15412.730	Roof Drain, Integral Expansion Joint, Galvanized, 12" Dome, 4" Pipe Size - Emergency	87.00	EA	1,074.20	93,455
15414.104	Water Meter, UL/FM Approved, 4" Main x 2" By-Pass, 700 GPM	2.00	EA	7,535.08	15,070
15414.126	Water Meter, Bronze, Comm./Dom., Flanged, 4" OD. 320 GPM	3.00	EA	5,366.82	16,100
15420.106	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3/4" OD	11,000.00	LF	10.64	116,999
15420.108	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 1" OD	8,500.00	LF	14.02	119,129
15420.114	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 2" OD	4,000.00	LF	31.93	127,706
15420.118	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3" OD	1,000.00	LF	76.22	76,215
15420.122	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 4" OD	250.00	LF	125.23	31,308
15421.104	Fiberglass 1" Insulation With All Service Jacket 3/4" Pipe	11,000.00	LF	3.96	43,588
15421.106	Fiberglass 1" Insulation With All Service Jacket 1" Pipe	8,500.00	LF	4.16	35,367
15421.204	Fiberglass 1-1/2" Insulation With All Service Jacket 2" Pipe	4,000.00	LF	5.87	23,484
15421.208	Fiberglass 1-1/2" Insulation With All Service Jacket 3" Pipe	1,000.00	LF	6.58	6,579
15421.212	Fiberglass 1-1/2" Insulation With All Service Jacket 4" Pipe	250.00	LF	7.78	1,946
15421.500	Valves and Accessories	1.00	LS	25,000.00	25,000
15421.500	Valves and Accessories	1.00	LS	125,000.00	125,000
15440.028	UG Hub & Spigot, CI, No Hangers, 6" Pipe	1,000.00	LF	52.21	52,214
15440.052	Casty Iron SW&V, Hangers 5' OC, 1-1/2" Pipe	11,000.00	LF	18.61	204,732
15440.054	Casty Iron SW&V, Hangers 5' OC, 2" Pipe	6,500.00	LF	22.45	145,925
	Casty Iron SW&V, Hangers 5' OC, 4" Pipe	2,750.00	LF	31.69	87,150
	Corrosion Resistant Pipe, Sch. 40 Polypropylene, No Coupling/Hangers, 2" OD - GW	2,000.00	LF	24.95	49,900
15440.386	Corrosion Resistant Pipe, Sch. 40 Polypropylene, No Coupling/Hangers, 4" OD - GW	1,000.00	LF	45.25	45,248
	Limestone Chip Acid Neutralizer - 200 Gallon	1.00	EA	17,500.00	17,500
	Sch40 PVC W/Couplings and Hangers, 10ft OC, 4" OD	2,000.00	LF	24.48	48,968
	Sch40 PVC W/Couplings and Hangers, 10ft OC, 6" OD	500.00	LF	37.11	18,557
15460.100	Black Steel, Schedule 40, Threaded W/Couplings And Hangers, 10ft OC, 2" OD - NG	5,500.00	LF	21.06	115,844
15460.102	Black Steel, Schedule 40, Threaded W/Couplings And Hangers, 10ft OC, 1-1/4" OD - NG	6,000.00	LF	14.47	86,826
15460.200	Valves and Accessories	1.00	LS	10,000.00	10,000
	Valves and Accessories	1.00	LS	50,000.00	50,000
	Air Compressor, Reciprocating, Air-Cooled, Tank Mounted, Two Stage, 3 Phase, 105 CFM @ 125 PSI, 25 HP, 250 Gal. Tank	2.00	EA	14,100.00	28,200
15470.100	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3/4" OD - CA	1,200.00	LF	10.64	12,764
15470.102	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 1" OD	600.00	LF	14.02	8,409
15470.212	Compressed Air Outlet, Recessed Wall, Single	80.00	EA	123.75	9,900

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

15495.000 Kitchen Rough-In 2.00 15495.004 Commissioning Support 1.00 15495.006 Coordination & Management 1.00 15495.008 Coring & Patching & Firestopping 1.00 15495.008 Coring & Patching & Firestopping 1.00 15495.008 Coring & Patching & Firestopping 1.00 15495.010 Flushing & Sanitizing 1.00 15495.010 Flushing & Sanitizing 1.00 15495.010 Flushing & Sanitizing 1.00 15495.016 Fees & Permits 1.00 15495.016 Fees & Permits 1.00 15495.016 Fees & Permits 1.00 15495.018 Fees & Permits 1.00 15495.018 Fees & Permits 1.00 15495.018 Fees & Permits 1.00 15495.016 Custom, 207 High, Insulated Roof Curb 25.00 15620.022 Outdoor, MAU, Indirect Gas-Fired (NG), 2.00 Gravity Vent, SE Exchanger, 70degF Rise, 550 15620.422 RTU 1.4, Stnd Controls, Curb, Econ., Multi-	LS LS LS LS LS LS LS LS LS LS LS EA EA	15,000.00 8,000.00 8,500.00 65,000.00 2,000.00 1,500.00 1,500.00 3,000.00 25,000.00 1,200.00 3,000.00 25,000.00	30,000 8,000 50,000 8,500 65,000 2,000 1,500 15,000 3,000 2,659,492 2,659,492
15495.004 Commissioning Support 1.00 15495.006 Coordination & Management 1.00 15495.006 Coordination & Management 1.00 15495.008 Coring & Patching & Firestopping 1.00 15495.008 Coring & Patching & Firestopping 1.00 15495.010 Flushing & Sanitizing 1.00 15495.010 Flushing & Sanitizing 1.00 15495.018 Fees & Permits 1.00 15495.018 Custom, 20" High, Insulated Roof Curb 25.00 15620.020 Custom, XD, Indirect Gas-Fired (NG), 2.00 2.00 15620.032 Outdoor, MAU, Indirect Gas-Fired (NG), 2.00 2.00 15620.421 RTU 14, Stnd Controls, Curb, Econ., Multi 1.00 2one, Gas Heat, 20 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12500 CFM 15620.422	LS LS LS LS LS LS LS LS LS EA EA	8,000.00 50,000.00 8,500.00 2,000.00 20,000.00 1,500.00 15,000.00 3,000.00 25,000.00	8,000 50,000 8,500 2,000 20,000 1,500 1,500 3,000 25,000 2,659,492
15495.004 Commissioning Support 1.00 15495.006 Coordination & Management 1.00 15495.008 Coring & Patching & Firestopping 1.00 15495.008 Coring & Patching & Firestopping 1.00 15495.010 Flushing & Sanitizing 1.00 15495.010 Flushing & Sanitizing 1.00 15495.011 Flushing & Sanitizing 1.00 15495.012 Fees & Permits 1.00 15495.013 Fees & Permits 1.00 15495.014 Fees & Permits 1.00 15495.015 Fees & Permits 1.00 15495.016 Custom, 20" High, Insulated Roof Curb 25.00 15620.000 Custom, 20" High, Insulated Roof Curb 25.00 15620.012 Outsor, MAU, Indirect Gas-Fired (NG), 2.00 2.00 15620.020 Outsor, MAU, Indirect Gas-Fired (NG), 2.00 2.00 15620.421 RTU 1.4, Shd Controls, Curb, Econ., Multi- 1.00 2one, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12500 CFM 15620.422 15620.422 RTU 6, Shnd Controls, Curb, Econ.,	LS LS LS LS LS LS LS LS EA EA	50,000.00 8,500.00 65,000.00 2,000.00 1,500.00 15,000.00 3,000.00 25,000.00	50,000 8,500 2,000 1,500 1,500 3,000 25,000 2,659,492
15495.006 Coordination & Management 1.00 15495.006 Coring & Patching & Firestopping 1.00 15495.008 Coring & Patching & Firestopping 1.00 15495.010 Flushing & Sanitizing 1.00 15495.010 Flushing & Sanitizing 1.00 15495.018 Fees & Permits 1.00 *** Total D20 - PLUMBING *** Total D20 - DLUMBING D30 - HVAC 25.00 25.00 15620.000 Custom, 20" High, Insulated Roof Curb 25.00 15620.323 Outdoor, MAU, Indirect Gas-Fired (NG), 2.00 Caravity Vent, SS Exchanger, 70degF Rise, 550 MBH Input 1.00 15620.421 RTU 14, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 27 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12500 CFM 15620.422 RTU 6, Stnd Controls, Curb, Econ., Multi- 1.00	LS LS LS LS LS LS LS LS EA EA	8,500.00 65,000.00 2,000.00 1,500.00 15,000.00 3,000.00 25,000.00	8,500 65,000 2,000 20,000 1,500 15,000 3,000 25,000 2,659,492
15495.006 Coordination & Management 1.00 15495.008 Coring & Patching & Firestopping 1.00 15495.010 Flushing & Sanitizing 1.00 15495.010 Flushing & Sanitizing 1.00 15495.018 Fees & Permits 1.00 15495.016 Cutom, 20' High, Insulated Roof Curb 25.00 15620.021 Outdoor, MAU, Indirect Gas-Fired (NG), 2.00 2.00 Gravity Vent, SS Exchanger, 704egF Rise, 550 MBH Input 4.00 2.00 15620.421 RTU 1.4, Stnd Controls, Curb, Econ., Multi- 1.00 2.00 15620.421 RTU 4, Stnd Controls, Curb, Econ., Multi- 1.00 2.00 15620.422 RTU 5, Stnd Controls, Curb, Econ., Multi- 1.00 2.00 2.00 15620.423 RTU 6, Stnd Controls, Curb, Econ., Multi- 1.00 2.00 2.00 2.00 2.00 2.00 <	LS LS LS LS LS LS EA EA	65,000.00 2,000.00 20,000.00 1,500.00 3,000.00 25,000.00	65,000 2,000 20,000 1,500 15,000 3,000 25,000 2,659,492
15495.008 Coring & Patching & Firestopping 1.00 15495.008 Coring & Patching & Firestopping 1.00 15495.010 Flushing & Sanitizing 1.00 15495.010 Flushing & Sanitizing 1.00 15495.018 Fees & Permits 1.00 ** Total D20 - PLUMBING ** 1.00 ** Total D20 - PLUMBING ** 1.00 ** Total D20 - PLUMBING 25.00 1.5620.000 15620.000 Custom, 20" High, Insulated Roof Curb 25.00 15620.023 Outdoor, MAU, Indirect Gas-Fired (NG), 2.00 2.00 Gravity Vent, SS Exchanger, 70degF Rise, 550 MBH Input 4.00 2.00 15620.421 RTU 14, SInd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 42 Ton DX Cooling, 530 MBH Heating, Heat Wheel, 12500 CFM 1.00 2.00 15620.422 RTU 6, Stnd Controls, Curb, Econ., Multi- 1.00 2.00 2.00 Loce, Gas Heat, 20 Ton DX Cooling, 200 MBH Heating, Heat Wheel, 3500 CFM 1.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 <td>LS LS LS LS LS EA EA</td> <td>2,000.00 20,000.00 1,500.00 3,000.00 25,000.00</td> <td>2,000 20,000 1,500 15,000 3,000 25,000 2,659,492</td>	LS LS LS LS LS EA EA	2,000.00 20,000.00 1,500.00 3,000.00 25,000.00	2,000 20,000 1,500 15,000 3,000 25,000 2,659,492
15495.008 Coring & Patching & Firestopping 1.00 15495.010 Flushing & Sanitizing 1.00 15495.018 Fees & Permits 1.00 15495.018 Fees & Permits 1.00 ** Total D20 - PLUMBING ** ** Total D20 - PLUMBING 25.00 D30 - HVAC 25.00 15620.000 Custom, 20" High, Insulated Roof Curb 25.00 15620.232 Outdoor, MAU, Indirect Gas-Fired (NG), 2.00 2.00 Gravity Vent, SS Exchanger, 70degF Rise, 550 MBH Heating, Heat Wheel, 12000 CFM 1.00 15620.421 RTU 1-4, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12500 CFM 1.00 15620.422 RTU 5, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 5500 CFM 1.00 15620.423 RTU 6, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 27 Ton Dx Cooling, 350 MBH Heating, Heat Wheel, 5500 CFM 1.00 15620.428 RTU 7, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 27 Ton Dx Cooling, 320 MBH Heating, 4500 CFM	LS LS LS LS LS EA EA	20,000.00 1,500.00 3,000.00 25,000.00 1,200.00	20,000 1,500 15,000 3,000 25,000 2,659,492
15495.010 Flushing & Sanitizing 1.00 15495.010 Flushing & Sanitizing 1.00 15495.018 Fees & Permits 1.00 15495.018 Fees & Permits 1.00 D30 - HVAC D30 - HVAC 25.00 D30 - HVAC 15620.000 Custom, 20" High, Insulated Roof Curb 25.00 15620.000 Custom, 20" High, Insulated Roof Curb 25.00 15620.323 0utdoor, MAU, Indirect Gas-Fired (NG), 2.00 Gravity Vent, SS Exchanger, 704egF Rise, 550 MBH Input 4.00 15620.421 RTU 1-4, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12000 CFM 15620.423 15620.423 RTU 6, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 15500 CFM 15620.424 RTU 7, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 7500 CFM 15620.425 1.00 Zone, Gas Heat, 75 Ton Dx Cooling, 100 B15620.426 RTU 1, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 27 Ton Dx Cooling, 130 MBH Heating, 2500 CFM <	LS LS LS EA EA EA	1,500.00 15,000.00 3,000.00 25,000.00	1,500 15,000 3,000 25,000 2,659,492
15495.010 Flushing & Sanitizing 1.00 15495.018 Fees & Permits 1.00 ** Total D20 - PLUMBING 25.00 15620.000 Custom, 20" High, Insulated Roof Curb 25.00 15620.233 Outdoor, MAU, Indirect Gas-Fired (NG), 2.00 2.00 Gravity Vent, SS Exchanger, 70degF Rise, 550 MBH Input 4.00 200 - LTU 14, Nd Controls, Curb, Econ., Multi- 1.00 201 - Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12000 CFM 15620.422 15620.422 RTU 5, Stnd Controls, Curb, Econ., Multi- 1.00 20ne, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 1500 CFM 100 15620.423 RTU 6, Stnd Controls, Curb, Econ., Multi- 1.00 20ne, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 3500 CFM 1.00 15620.424 RTU 7, Stnd Controls, Curb, Econ., Multi- 1.00 20ne, Gas Heat, 75 Ton Dx Cooling, 300 MBH Heating, 2600 CFM 1.00 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- 1.00 20ne, Gas Heat, 75 Ton Dx Cooling, 300 MBH Heating, 2600 CFM <td>LS LS LS EA EA</td> <td>15,000.00 3,000.00 25,000.00 1,200.00</td> <td>15,000 3,000 25,000 2,659,492</td>	LS LS LS EA EA	15,000.00 3,000.00 25,000.00 1,200.00	15,000 3,000 25,000 2,659,492
15495.018 Fees & Permits 1.00 15495.018 Fees & Permits 1.00 ** Total D20 - PLUMBING 1.00 ** Total D20 - PLUMBING 25.00 D30 - HVAC 25.00 15620.000 Custom, 20" High, Insulated Roof Curb 25.00 15620.232 Outdoor, MAU, Indirect Gas-Fired (NG), Gravity Vent, SS Exchanger, 70degF Rise, 550 MBH Input 4.00 15620.421 RTU 1-4, Stnd Controls, Curb, Econ., Multi- Loene, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12000 CFM 1.00 15620.422 RTU 5, Stnd Controls, Curb, Econ., Multi- Loene, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12500 CFM 1.00 15620.423 RTU 6, Stnd Controls, Curb, Econ., Multi- Heating, Heat Wheel, 5500 CFM 1.00 15620.424 RTU 7, Stnd Controls, Curb, Econ., Multi- Heating, Heat Wheel, 5500 CFM 1.00 15620.425 RTU 8, Stnd Controls, Curb, Econ., Multi- Heating, Heat Wheel, 7200 CFM 1.00 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- Loene, Gas Heat, 75 Ton Dx Cooling, 320 MBH Heating, 2500 CFM 1.00 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- Loang, Gas Heat, 75 Ton Dx Cooling, 320 MBH Heating, 2500 CFM 1.00 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- Loang, Gas Heat, 75 Ton Dx Coo	LS LS EA EA	3,000.00 25,000.00 1,200.00	3,000 25,000 2,659,492
15495.018 Fees & Permits 1.00 ** Total D20 - PLUMBING ** Total D20 - PLUMBING 1.00 D30 - HVAC D30 - HVAC 25.00 D302 - HVAC 15620.000 Custom, 20" High, Insulated Roof Curb 25.00 15620.000 Custom, 20" High, Insulated Roof Curb 25.00 15620.323 Outdoor, MAU, Indirect Gas-Fired (NG), curb, Econ., Multi- 2.00 Gravity Vent, SS Exchanger, 704egF Rise, 550 MBH Input 15620.421 RTU 1-4, Stnd Controls, Curb, Econ., Multi- 4.00 Zone, Gas Heat, 21 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12000 CFM 15620.422 RTU 5, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 12500 CFM 15620.423 RTU 7, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 5500 CFM 1.00 15620.426 RTU 7, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 20 Ton Dx Cooling, 300 MBH Heating, Heat Wheel, 7200 CFM 1.00 15620.425 RTU 1, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 27 Ton Dx Cooling, 300 MBH Heating, 2500 CFM 15620.426 RTU 1, Stnd Controls, Curb, Econ., Multi- 1.	LS EA EA EA	25,000.00	25,000 2,659,492
** Total D20 - PLUMBING * Total D20 - PLUMBING D30 - HVAC D30 - HVAC D30 - Uatom, 20" High, Insulated Roof Curb 15620.323 Outdoor, MAU, Indirect Gas-Fired (NG), 2.00 Gravity Vent, SS Exchanger, 70degF Rise, 550 MBH Input 15620.421 RTU 14, Stnd Controls, Curb, Econ., Multi- 2one, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12000 CFM 15620.422 RTU 5, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12000 CFM 15620.423 RTU 6, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12500 CFM 15620.423 RTU 6, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 5500 CFM 15620.424 RTU 7, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 3500 CFM 15620.425 RTU 8, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 71 Ton Dx Cooling, 300 MBH Heating, Heat Wheel, 7200 CFM 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 75 Ton Dx Cooling, 300 MBH Heating, 2500 CFM 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- 200, Gas Heat, 75 Ton Dx Cooling, 300 MBH Heating, 6600 CFM 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- 200, Gas Heat, 55 Ton Dx Cooling, 320 MBH Heating, 2000 CFM 15620.427 RTU 13, Stnd Controls, Curb, Econ., Multi- 200, MBH Heating, 2000 CFM 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- 200, MBH Heating, 2000 CFM 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- 200, Gas Heat, 10 Ton Dx Cooling, 480 MBH Heating, 10000 CFM 15620.428 RTU 13, 44, Stnd Controls, Curb, Econ., Multi- 200, Cas Heat, 10 Ton Dx Cooling, 480 MBH Heating, 4000 CFM 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- 200, Cas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.428 RTU 17, Stnd Controls, Curb, Econ., Multi- 200, Cas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM	EA EA EA	1,200.00	2,659,492
* Total D20 - PLUMBING D30 - HVAC D30 - HVAC D30 - HVAC 15620.000 Custom, 20" High, Insulated Roof Curb 15620.232 Outdoor, MAU, Indirect Gas-Fired (NG), Gravity Vent, SS Exchanger, 70degF Rise, 550 MBH Input 15620.421 RTU 1-4, Stnd Controls, Curb, Econ., Multi- 15620.422 RTU 5, Stnd Controls, Curb, Econ., Multi- 100 Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12000 CFM 15620.422 RTU 5, Stnd Controls, Curb, Econ., Multi- 100 Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12500 CFM 15620.423 RTU 6, Stnd Controls, Curb, Econ., Multi- 100 Zone, Gas Heat, 20 Ton Dx Cooling, 500 MBH Heating, Heat Wheel, 5500 CFM 15620.424 RTU 7, Stnd Controls, Curb, Econ., Multi- 100 Zone, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 3500 CFM 15620.425 RTU 8, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 72 Ton Dx Cooling, 300 MBH Heating, Heat Wheel, 3500 CFM 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 75 Ton Dx Cooling, 300 MBH Heating, Heat Wheel, 3500 CFM 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 7.5 Ton Dx Cooling, 300 MBH Heating, 2500 CFM 15620.427 RTU 19, 10, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 35 Ton Dx Cooling, 320 MBH Heating, 600 CFM 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 10 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 15620.428 RTU 31, 41, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 10 Ton Dx Cooling, 480 MBH Heating, 10000 CFM 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- 2.00 Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.428 RTU 17, Stnd Controls, Curb, Econ., Multi- 2.00 Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.428 RTU 17, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.428 RTU 17, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH	EA EA		
* Total D20 - PLUMBING D30 - HVAC D30 - HVAC D30 - HVAC 15620.000 Custom, 20" High, Insulated Roof Curb 15620.232 Outdoor, MAU, Indirect Gas-Fired (NG), Gravity Vent, SS Exchanger, 70degF Rise, 550 MBH Input 15620.421 RTU 1-4, Stnd Controls, Curb, Econ., Multi- 15620.422 RTU 5, Stnd Controls, Curb, Econ., Multi- 100 Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12000 CFM 15620.422 RTU 5, Stnd Controls, Curb, Econ., Multi- 100 Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12500 CFM 15620.423 RTU 6, Stnd Controls, Curb, Econ., Multi- 100 Zone, Gas Heat, 20 Ton Dx Cooling, 500 MBH Heating, Heat Wheel, 5500 CFM 15620.424 RTU 7, Stnd Controls, Curb, Econ., Multi- 100 Zone, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 3500 CFM 15620.425 RTU 8, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 72 Ton Dx Cooling, 300 MBH Heating, Heat Wheel, 3500 CFM 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 75 Ton Dx Cooling, 300 MBH Heating, Heat Wheel, 3500 CFM 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 7.5 Ton Dx Cooling, 300 MBH Heating, 2500 CFM 15620.427 RTU 19, 10, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 35 Ton Dx Cooling, 320 MBH Heating, 600 CFM 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 10 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 15620.428 RTU 31, 41, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 10 Ton Dx Cooling, 480 MBH Heating, 10000 CFM 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- 2.00 Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.428 RTU 17, Stnd Controls, Curb, Econ., Multi- 2.00 Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.428 RTU 17, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.428 RTU 17, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH	EA EA		
D30 - HVAC 16620.000 Custom, 20" High, Insulated Roof Curb 25.00 15620.023 Outdoor, MAU, Indirect Gas-Fired (NG), Gravity Vent, SS Exchanger, 70degF Rise, 550 MBH Input 2.00 15620.421 RTU 14, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12000 CFM 4.00 15620.422 RTU 5, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12500 CFM 1.00 15620.423 RTU 6, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 42 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 5500 CFM 1.00 15620.424 RTU 7, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 3500 CFM 1.00 15620.425 RTU 8, Stnd Controls, Curb, Econ., Multi- Leating, Heat Wheel, 7200 CFM 1.00 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- Heating, Heat Wheel, 7200 CFM 1.00 15620.426 RTU 9, 10, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 75 Ton Dx Cooling, 320 MBH Heating, 6500 CFM 2.00 15620.427 RTU 9, 10, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 92 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 1.00 15620.427 RTU 9, 10, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 35 Ton Dx Cooling, 120 MBH Heating, 10000 CFM 1.00	EA EA		
15620.000 Custom, 20° High, Insulated Roof Curb 25.00 15620.323 Outdoor, MAU, Indirect Gas-Fired (NG), Gravity Vent, SS Exchanger, 70degF Rise, 550 MBH Input 2.00 15620.421 RTU 1.4, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12000 CFM 4.00 15620.422 RTU 5, Stnd Controls, Curb, Econ., Multi- Loane, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12000 CFM 1.00 15620.423 RTU 6, Stnd Controls, Curb, Econ., Multi- Loane, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 5500 CFM 1.00 15620.423 RTU 7, Stnd Controls, Curb, Econ., Multi- Loane, Gas Heat, 15 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 5500 CFM 1.00 15620.425 RTU 8, Stnd Controls, Curb, Econ., Multi- Loane, Gas Heat, 15 Ton Dx Cooling, 300 MBH Heating, Heat Wheel, 7200 CFM 1.00 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- Loane, Gas Heat, 7.5 Ton Dx Cooling, 130 MBH Heating, 2500 CFM 1.00 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- Loane, Gas Heat, 7.5 Ton Dx Cooling, 120 MBH Heating, 2500 CFM 1.00 15620.427 RTU 19, 10, Stnd Controls, Curb, Econ., Multi- Loane, Gas Heat, 65 Ton Dx Cooling, 320 MBH Heating, 2000 CFM 1.00 15620.427 RTU 13, Stnd Controls, Curb, Econ., Multi- Loane, Gas Heat, 65 Ton Dx Cooling, 480 MBH Heating, 10000 CFM <td>EA EA</td> <td></td> <td>I</td>	EA EA		I
15620.323 Outdoor, MAU, Indirect Gas-Fired (NG), Gravity Vent, SS Exchanger, 704egF Rise, 550 MBH Input 2.00 15620.421 RTU 14, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12000 CFM 4.00 15620.422 RTU 5, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12500 CFM 1.00 15620.423 RTU 6, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 5500 CFM 1.00 15620.424 RTU 7, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 3500 CFM 1.00 15620.425 RTU 8, Stnd Controls, Curb, Econ., Multi- Heating, Heat Wheel, 3500 CFM 1.00 15620.426 RTU 19, Stnd Controls, Curb, Econ., Multi- Loen, Gas Heat, 75 Ton Dx Cooling, 350 MBH Heating, Heat Wheel, 7200 CFM 1.00 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 27 Ton Dx Cooling, 350 MBH Heating, 5500 CFM 1.00 15620.426 RTU 9, 10, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 65 Ton Dx Cooling, 320 MBH Heating, 2000 CFM 1.00 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 35 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 1.00 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- Heating, 10000 CFM 1.00 15620.428 <td< td=""><td>EA EA</td><td></td><td></td></td<>	EA EA		
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Gravity Vent, SS Exchanger, 70degF Rise, 550 MBH Input 15620.421 RTU 1-4, SInd Controls, Curb, Econ., Multi- Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12000 CFM 15620.422 RTU 5, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12500 CFM 15620.423 RTU 6, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 5500 CFM 15620.424 RTU 7, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 15 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 3500 CFM 15620.425 RTU 8, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 15 Ton Dx Cooling, 100 MBH Heating, Heat Wheel, 3500 CFM 15620.426 RTU 8, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 15 Ton Dx Cooling, 300 MBH Heating, Heat Wheel, 7200 CFM 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 7.5 Ton Dx Cooling, 300 MBH Heating, 2500 CFM 15620.426 RTU 9, 10, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 7.5 Ton Dx Cooling, 320 MBH Heating, 2500 CFM 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 35 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 35 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 10 Ton Dx Cooling, 480 MBH Heating, 10000 CFM 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.428 RTU 17, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.428 RTU 17, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.428 RTU 17, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 115 Ton Dx Cooling, 100 MBH			36,174
550 MBH Input 15620.421 RTU 14, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12000 CFM 1.00 15620.422 RTU 5, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 12500 CFM 1.00 15620.423 RTU 6, Stnd Controls, Curb, Econ., Multi- Leating, Heat Wheel, 12500 CFM 1.00 15620.423 RTU 7, Stnd Controls, Curb, Econ., Multi- Leating, Heat Wheel, 5500 CFM 1.00 15620.424 RTU 7, Stnd Controls, Curb, Econ., Multi- Leating, Heat Wheel, 5500 CFM 1.00 15620.425 RTU 8, Stnd Controls, Curb, Econ., Multi- Leating, Heat Wheel, 3500 CFM 1.00 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- Leating, Heat Wheel, 7200 CFM 1.00 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- Leating, Heat Wheel, 7200 CFM 1.00 15620.426 RTU 9, 10, Stnd Controls, Curb, Econ., Multi- Leating, 6500 CFM 1.00 15620.426 RTU 9, 10, Stnd Controls, Curb, Econ., Multi- Leating, 6500 CFM 1.00 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- Leating, 6500 CFM 1.00 15620.427 RTU 13, Stnd Controls, Curb, Econ., Multi- Leating, 6200 CFM 1.00 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- Heating, 1000 CFM 1.00 15620.428 RTU			
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Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12000 CFM 15620.422 RTU 5, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12500 CFM 15620.423 RTU 6, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 5500 CFM 1.00 Zone, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 5500 CFM 1.00 Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 3500 CFM 1.00 Zone, Gas Heat, 15 Ton Dx Cooling, 300 MBH Heating, Heat Wheel, 7200 CFM 1.00 Zone, Gas Heat, 27 Ton Dx Cooling, 300 MBH Heating, Heat Wheel, 7200 CFM 1.00 Zone, Gas Heat, 27 Ton Dx Cooling, 300 MBH Heating, 5200 CFM 1.00 Zone, Gas Heat, 22 Ton Dx Cooling, 320 MBH Heating, 500 CFM 2.00 Zone, Gas Heat, 22 Ton Dx Cooling, 320 MBH Heating, 500 CFM 1.00 Zone, Gas Heat, 35 Ton Dx Cooling, 320 MBH Heating, 2000 CFM 1.00 Zone, Gas Heat, 35 Ton Dx Cooling, 480 MBH Heating, 2000 CFM 1.00 Zone, Gas Heat, 10 Ton Dx Cooling, 480 MBH Heating, 10000 CFM 1.00 Zone, Gas Heat, 10		2,907.71	11,631
Heating, Heat Wheel, 12000 CFM 15620.422 RTU 5, Shnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12500 CFM 1.00 15620.423 RTU 6, Shnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 5500 CFM 1.00 15620.423 RTU 7, Shnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 5500 CFM 1.00 15620.424 RTU 7, Shnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 72 Ton Dx Cooling, 300 MBH Heating, Heat Wheel, 7200 CFM 1.00 Zone, Gas Heat, 72 Ton Dx Cooling, 350 MBH Heating, Heat Wheel, 7200 CFM 1.00 Zone, Gas Heat, 75 Ton Dx Cooling, 320 MBH Heating, 2500 CFM 2.00 Zone, Gas Heat, 22 Ton Dx Cooling, 320 MBH Heating, 6500 CFM 1.00 Zone, Gas Heat, 22 Ton Dx Cooling, 320 MBH Heating, 6500 CFM 1.00 Zone, Gas Heat, 35 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 1.00 Zone, Gas Heat, 10 Ton Dx Cooling, 480 MBH Heating, 1000 CFM 1.00 Zone, Gas Heat, 10 Ton Dx C	E 4		
15620.422 RTU 5, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12500 CFM 15620.423 RTU 6, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 5500 CFM 1.00 15620.423 RTU 7, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 3500 CFM 1.00 15620.426 RTU 7, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 27 Ton Dx Cooling, 350 MBH Heating, Heat Wheel, 7200 CFM 1.00 Zone, Gas Heat, 27 Ton Dx Cooling, 130 MBH Heating, 2500 CFM 1.00 Zone, Gas Heat, 7.5 Ton Dx Cooling, 130 MBH Heating, 5500 CFM 2.00 2602.426 RTU 19, 10, Stnd Controls, Curb, Econ., Multi- 2.00 2.00 Zone, Gas Heat, 7.5 Ton Dx Cooling, 320 MBH Heating, 6500 CFM 1.00 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 6.5 Ton Dx Cooling, 120 MBH 1.00 MBH Heating, 2000 CFM 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 10 Ton Dx Cooling, 480 MBH	EA		
Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12500 CFM 15620.423 RTU 6, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 5500 CFM 1.00 15620.424 RTU 7, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 3500 CFM 1.00 Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 3500 CFM 1.00 Zone, Gas Heat, 71 Ton Dx Cooling, 300 MBH Heating, Heat Wheel, 7200 CFM 1.00 Zone, Gas Heat, 72 Ton Dx Cooling, 300 MBH Heating, Edou Croll, Surb, Econ., Multi- 1.00 Zone, Gas Heat, 72 Ton Dx Cooling, 300 MBH Heating, 2500 CFM 1.00 Zone, Gas Heat, 72 Ton Dx Cooling, 320 MBH Heating, 500 CFM 1.00 Zone, Gas Heat, 52 Ton Dx Cooling, 320 MBH Heating, 500 CFM 1.00 Zone, Gas Heat, 65 Ton Dx Cooling, 320 MBH Heating, 2000 CFM 1.00 Tore, Gas Heat, 65 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 1.00 Zone, Gas Heat, 50 Ton Dx Cooling, 480 MBH Heating, 1000 CFM 1.00 Tore, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3000 CFM 1.00	EA	2,907.71	2,908
Heating, Heat Wheel, 12500 CFM 15620.423 RTU 6, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 5500 CFM 1.00 15620.424 RTU 7, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 3500 CFM 1.00 15620.424 RTU 7, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 15 Ton Dx Cooling, 350 MBH Heating, Heat Wheel, 3500 CFM 1.00 15620.426 RTU 18, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 75 Ton Dx Cooling, 350 MBH Heating, Heat Wheel, 7200 CFM 1.00 Zone, Gas Heat, 75 Ton Dx Cooling, 320 MBH Heating, 2500 CFM 2.00 MBH Heating, 2500 CFM 1.00 Zone, Gas Heat, 22 Ton Dx Cooling, 320 MBH 1.00 Heating, 6500 CFM 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 35 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 1.00 Zone, Gas Heat, 35 Ton Dx Cooling, 480 MBH 1.00 Heating, 10000 CFM 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 10 Ton Dx Cooli		_,,	_,
15620.423 RTU 6, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 5500 CFM 15620.424 RTU 7, Snd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 3500 CFM 15620.425 RTU 8, Snd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 27 Ton Dx Cooling, 350 MBH Heating, Heat Wheel, 7200 CFM 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 7.5 Ton Dx Cooling, 130 MBH Heating, 2500 CFM 15620.426 RTU 9, 10, Stnd Controls, Curb, Econ., Multi- 2.00 Zone, Gas Heat, 7.5 Ton Dx Cooling, 320 MBH Heating, 6500 CFM 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 22 Ton Dx Cooling, 320 MBH Heating, 2000 CFM 1.00 206.427 RTU 12, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 35 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 35 Ton Dx Cooling, 480 MBH Heating, 2000 CFM 1.00 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi			
Zone, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 5500 CFM 15620.424 TU 7, Stnd Controls, Curb, Econ., Multi Local Controls, Curb, Scon, Multi 15620.425 RTU 8, Stnd Controls, Curb, Econ., Multi 15620.426 RTU 8, Stnd Controls, Curb, Econ., Multi- 100 Zone, Gas Heat, 27 Ton Dx Cooling, 350 MBH Heating, Heat Wheel, 7200 CFM 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 75 Ton Dx Cooling, 300 MBH Heating, 2500 CFM 15620.426 RTU 9, 10, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 65 Ton Dx Cooling, 320 MBH Heating, 6500 CFM 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 65 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 15 Ton Dx Cooling, 480 MBH Heating, 10000 CFM 15620.428 RTU 15, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3200 CFM 1562	EA	2,907.71	2,908
Heating, Heat Wheel, 5500 CFM 15620.424 RTU 7, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 3500 CFM 1.00 15620.425 RTU 8, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 27 Ton Dx Cooling, 350 MBH Heating, Heat Wheel, 7200 CFM 1.00 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 75 Ton Dx Cooling, 130 MBH Heating, 2500 CFM 1.00 15620.426 RTU 9, 10, Stnd Controls, Curb, Econ., Multi- 2.00 Zone, Gas Heat, 22 Ton Dx Cooling, 320 MBH Heating, 6500 CFM 1.00 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 000 CFM 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- 1.00 MBH Heating, 2000 CFM 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 10 Ton Dx Cooling, 480 MBH Heating, 10000 CFM 15620.428 1500.026 15620.428 RTU 13, Stnd Controls, Curb, Econ., Multi- 1.00 200 200 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi-	L/(2,001.11	2,000
15620.424 RTU 7, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 3500 CFM 1.00 15620.425 RTU 8, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 27 Ton Dx Cooling, 350 MBH Heating, Heat Wheel, 7200 CFM 1.00 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 7.5 Ton Dx Cooling, 130 MBH Heating, 2500 CFM 2.00 15620.426 RTU 9, 10, Stnd Controls, Curb, Econ., Multi- 2.00 Zone, Gas Heat, 7.5 Ton Dx Cooling, 320 MBH Heating, 6500 CFM 1.00 15620.426 RTU 12, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 6.5 Ton Dx Cooling, 320 MBH Heating, 6500 CFM 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 20 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 1.00 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 10 Ton Dx Cooling, 480 MBH Heating, 10000 CFM 15620.428 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- 2.00 Zone, Gas Heat, 10 Ton Dx Cooling, Heat			
Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 3500 CFM 15620.425 RTU 8, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 27 Ton Dx Cooling, 350 MBH Heating, Heat Wheel, 7200 CFM 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 7.5 Ton Dx Cooling, 130 MBH MBH Heating, 2500 CFM 1.00 Zone, Gas Heat, 7.5 Ton Dx Cooling, 320 MBH 4.00 Heating, 6500 CFM 1.00 Zone, Gas Heat, 22 Ton Dx Cooling, 320 MBH 1.00 Zone, Gas Heat, 55 Ton Dx Cooling, 320 MBH 1.00 Zone, Gas Heat, 55 Ton Dx Cooling, 320 MBH 1.00 Zone, Gas Heat, 55 Ton Dx Cooling, 320 MBH 1.00 Zone, Gas Heat, 55 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 35 Ton Dx Cooling, 480 MBH Heating, 10000 CFM 1.00 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- 2.00 Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3200 CFM 1.00 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 10 Ton Dx Coo	EA	2,907.71	2,908
Heating, Heat Wheel, 3500 CFM 15620.425 RTU 8, Stnd Controls, Curb, Econ., Multi 1.00 Zone, Gas Heat, 27 Ton Dx Cooling, 350 MBH Heating, Heat Wheel, 7200 CFM 1.00 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 7.5 Ton Dx Cooling, 130 MBH Heating, 2500 CFM 15620.426 RTU 9, 10, Stnd Controls, Curb, Econ., Multi- 2.00 Zone, Gas Heat, 25 Ton Dx Cooling, 320 MBH Heating, 5600 CFM 2.00 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 65 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 1.00 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 35 Ton Dx Cooling, 480 MBH Heating, 10000 CFM 15620.428 15620.428 RTU 13, Stnd Controls, Curb, Econ., Multi- 2.00 Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3000 CFM 15620.428 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- 1.00 2.00 Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 1.00 2.00 15620.429 RTU 16	EA	2,907.71	2,900
15620.425 RTU 8, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 27 Ton Dx Cooling, 350 MBH Heating, Heat Wheel, 7200 CFM 1.00 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 7.5 Ton Dx Cooling, 130 MBH Heating, 2500 CFM 1.00 15620.426 RTU 9, 10, Stnd Controls, Curb, Econ., Multi- 2.00 Zone, Gas Heat, 7.5 Ton Dx Cooling, 320 MBH Heating, 6500 CFM 1.00 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 6.5 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 1.00 25620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 6.5 Ton Dx Cooling, 120 MBH Heating, 10000 CFM 1.00 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 10 Ton Dx Cooling, 480 MBH Heating, 10000 CFM 15620.428 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- 2.00 Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3200 CFM 15620.428 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- 1.00 <			
Zone, Gas Heat, 27 Ton Dx Cooling, 350 MBH Heating, Heat Wheel, 7200 CFM 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 7.5 Ton Dx Cooling, 130 MBH Heating, 2500 CFM 15620.426 RTU 9, 10, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 22 Ton Dx Cooling, 320 MBH Heating, 6500 CFM 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 6.5 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- Lone Cas Heat, 6.5 Ton Dx Cooling, 480 MBH Heating, 2000 CFM 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3200 CFM 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- Lone Cas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.428 RTU 17, Stnd Controls, Curb, Econ., Multi- Lone Cas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- Lone Cas Heat, 15 Ton Dx Cooling, 180 MBH Heating, 4000 CFM	F A	0.007.74	0.000
Heating, Heat Wheel, 7200 CFM 15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 7.5 Ton Dx Cooling, 130 MBH Heating, 2500 CFM 2.00 15620.426 RTU 9, 10, Stnd Controls, Curb, Econ., Multi- 2.00 Zone, Gas Heat, 22 Ton Dx Cooling, 320 MBH Heating, 6500 CFM 1.00 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 65 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 1.00 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 63 Ton Dx Cooling, 480 MBH Heating, 10000 CFM 1.00 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- 2.00 Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3000 CFM 15620.428 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- 1.00 2.00 Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.428 1.00 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- 1.00 2.00 2.00 Stdiag, 4000 CFM 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- 1.00<	EA	2,907.71	2,908
15620.426 RTU 11, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 7.5 Ton Dx Cooling, 130 1.00 MBH Heating, 2500 CFM 2.00 15620.426 RTU 9, 10, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 22 Ton Dx Cooling, 320 MBH Heating, 6500 CFM 2.00 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 65 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 1.00 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 35 Ton Dx Cooling, 480 MBH Heating, 10000 CFM 1.00 15620.428 RTU 13, 45 xnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3200 CFM 2.00 15620.428 RTU 13, 45 xnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 1.00 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- Loon, Gas Heat, 10 Ton Dx Cooling, 180 MBH 1.00 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- Loane, Gas Heat, 15 Ton Dx Cooling, 200 MBH 1.00			
Zone, Gas Heat, 7.5 Ton Dx Cooling, 130 MBH Heating, 2500 CFM 15620.426 RTU 9, 10, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 22 Ton Dx Cooling, 320 MBH Heating, 6500 CFM 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 65 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 35 Ton Dx Cooling, 480 MBH Heating, 10000 CFM 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3200 CFM 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 15 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- Long Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH			
MBH Heating, 2500 CFM 2.00 15620.426 RTU 9, 10, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 22 Ton Dx Cooling, 320 MBH Heating, 6500 CFM 1.00 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 6.5 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 1.00 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- Leating, 2000 CFM 1.00 15620.428 RTU 13, Stnd Controls, Curb, Econ., Multi- Heating, 10000 CFM 2.00 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3200 CFM 2.00 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- Leane, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 1.00 15620.428 RTU 17, Stnd Controls, Curb, Econ., Multi- Leane, Gas Heat, 10 Ton Dx Cooling, 180 MBH 1.00 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- Leane, Gas Heat, 15 Ton Dx Cooling, 200 MBH 1.00	EA	2,907.71	2,908
15620.426 RTU 9, 10, Štnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 22 Ton Dx Cooling, 320 MBH 2.00 Heating, 6500 CFM 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 65 Ton Dx Cooling, 120 1.00 MBH Heating, 2000 CFM 1.00 1.00 5620.427 RTU 15, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 35 Ton Dx Cooling, 1480 MBH 1.00 5620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 10 Ton Dx Cooling, Heat 2.00 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 10 Ton Dx Cooling, Heat 1.00 15620.428 RTU 16, OTH Controls, Curb, Econ., Multi-Loone, Gas Heat, 10 Ton Dx Cooling, 180 MBH 1.00 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi-Loone, Gas Heat, 10 Ton Dx Cooling, 180 MBH 1.00 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi-Loone, Gas Heat, 10 Ton Dx Cooling, 180 MBH 1.00 200e, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 1.00			
Zone, Gas Heat, 22 Ton Dx Cooling, 320 MBH Heating, 6500 CFM 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 6.5 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- Leating, 10000 CFM 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3200 CFM 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3200 CFM 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 15 Ton Dx Cooling, 200 MBH			
Heating, 6500 CFM 15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 6.5 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 1.00 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 35 Ton Dx Cooling, 480 MBH Heating, 1000 CFM 1.00 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- 2.00 Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3200 CFM 15620.428 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.428 15620.428 RTU 17, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH 1.00 2.00	EA	54,907.71	109,815
15620.427 RTU 12, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 6.5 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 35 Ton Dx Cooling, 480 MBH Heating, 10000 CFM 1.00 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- 2.00 Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3200 CFM 1.00 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 1.00 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 1.00 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH 1.00 2.00			
Zone, Gas Heat, 6.5 Ton Dx Cooling, 120 MBH Heating, 2000 CFM 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 35 Ton Dx Cooling, 480 MBH Heating, 10000 CFM 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3200 CFM 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 15 Ton Dx Cooling, 200 MBH			
MBH Heating, 2000 CFM 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 35 Ton Dx Cooling, 480 MBH Heating, 10000 CFM 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3200 CFM 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- Loone, Gas Heat, 15 Ton Dx Cooling, 200 MBH	EA	2,907.71	2,908
MBH Heating, 2000 CFM 15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- Lone, Gas Heat, 35 Ton Dx Cooling, 480 MBH Heating, 10000 CFM 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3200 CFM 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- Loone, Gas Heat, 15 Ton Dx Cooling, 200 MBH			
15620.427 RTU 15, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 35 Ton Dx Cooling, 480 MBH Heating, 10000 CFM 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- 2.00 Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3200 CFM 1.00 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 1.00 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH 1.00 1.00			
Zone, Gas Heat, 35 Ton Dx Cooling, 480 MBH Heating, 10000 CFM 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3200 CFM 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH	EA	82,907.71	82,908
Heating, 10000 CFM 15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3200 CFM 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH			,
15620.428 RTU 13, 14, Stnd Controls, Curb, Econ., Multi- 2.00 Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3200 CFM 15620.428 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 1.00 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- 1.00 26620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- 1.00 Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH 1.00			
Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3200 CFM 15620.428 RTU 16, Struch Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.429 RTU 17, Strud Controls, Curb, Econ., Multi- Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH	EA	2.907.71	5,815
Wheel, 200 MBH Heating, 3200 CFM 15620.428 RTU 16, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH		2,001.11	0,010
15620.428 RTU 16, Stnd Controls, Čurb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH			
Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH	EA	34,907.71	34,908
Heating, 4000 CFM 15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH	LA	54,507.71	54,500
15620.429 RTU 17, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH			
Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH	EA	2 007 74	0.000
	EA	2,907.71	2,908
Heating, Heat Wheel, 3500 CFM	_	0.007-74	
15620.430 RTU 18, Stnd Controls, Curb, Econ., Multi-	EA	2,907.71	2,908
Zone, Gas Heat, 32 Ton Dx Cooling, 450 MBH			
Heating, Heat Wheel, 10500 CFM			

...\15027 Dover HS Schematic Estimate MASTER.est



Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

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Dover High School Schematic Estimate



CONSTRUCTION

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

ltem Code	Description	Quantity	UM	Total UnitCost	Total Cost
15620.431	RTU 19, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 10 Ton Dx Cooling, 150 MBH	1.00	EA	2,907.71	2,908
15620.432	Heating, Heat Wheel, 2500 CFM RTU 20, Sthd Controls, Curb, Econ., Multi- Zone, Gas Heat, 300 MBH Heating, Heat	1.00	EA	2,907.71	2,908
15620.433	Wheel, 6000 CFM RTU 21, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 300 MBH Heating, Heat Wheel, 6000 CFM	1.00	EA	2,907.71	2,908
15620.434	RTU 22, Stord Controls, Curb, Econ., Multi- Zone, Gas Heat, 200 MBH Heating, Heat Wheel, 3500 CFM	1.00	EA	2,907.71	2,908
15620.435	RTU 23, Sthd Controls, Curb, Econ., Multi- Zone, Gas Heat, 400 MBH Heating, Heat Wheel, 8000 CFM	1.00	EA	2,907.71	2,908
15620.436	RTU 24, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 300 MBH Heating, Heat Wheel, 6000 CFM	1.00	EA	2,907.71	2,908
15620.437	RTU 25, Sthd Controls, Curb, Econ., Multi- Zone, Gas Heat, 300 MBH Heating, Heat Wheel, 6200 CFM	1.00	EA	2,907.71	2,908
15620.500	Daikin Rebel / Maverick II RTU's - VFD's, Extended Warranties	1.00	LS	878,500.00	878,500
15624.003	Split System, Ductless, Cooling Only, Wall Mount, Single Zone, 1-1/2 Ton	5.00	EA	6,013.00	30,065
15630.220	Single Bathroom Exhaust Fan, 100 CFM	9.00	EA	403.45	3,631
	Bathroom Exhaust Fan, 1000 CFM	4.00	EA	1,680.56	6,722
	Exhaust Fan, 1500 CFM	2.00	EA	2,180.56	4,361
	Kitchen Exhaust Fan, Centrifugal, 4000 CFM	2.00	EA	4,215.33	8,431
	Hot Water Condensing Boiler, Packaged w/Controls/Circulator/Trim, NG, 330 MBH Output	3.00	EA	10,214.00	30,642
15640.114	Hot Water Condensing Boiler, Packaged w/Controls/Circulator/Trim, NG, 2700 MBH Output	4.00	EA	59,364.00	237,456
15650 002	Glycol Treatment System	1.00	LS	8,000.00	8,000
	Chiller, Air Cooled, High Efficiency, 50 Ton	1.00	ĒĂ	42,927.00	42,927
	Fume Hood, Fan, Ductwork	2.00	EA	5,500.00	11,000
	Vehicle Exhaust System, 2000 CFM	1.00	LS	15,000.00	15,000
		1.00	LS		25,000
	Vehicle Exhaust System, 5000 CFM Paint Booth Exhaust System, 12000 CFM	1.00	LS	25,000.00	
				25,000.00	25,000
	Dust Collection System, 4000 CFM	1.00 1.00	LS LS	65,000.00	65,000
	Duct Collection System, 6000 CFM			87,000.00	87,000
15660.202	Chilled Water Pump, Centrifugal, Base Mounted, End Suction, 105 gpm w/VFD	2.00	EA	4,096.31	8,193
15660.206	Hot Water Pump, Centrifugal, Base Mounted, End Suction, 100 gpm w/VFD	2.00	EA	3,994.33	7,989
	Hot Water Pump, Centrifugal, Base Mounted, End Suction, 720 gpm w/VFD	2.00	EA	18,994.33	37,989
	Displacement Ventilation System (per Classroom)	71.00	EA	1,250.00	88,750
15680.042	Ductwork (per RTU)	25.00	EA	2,500.00	62,500
	Galvanized Ductwork, > 5000 LB	250,000.00	LB	7.50	1,874,975
	Duct Insulation, Blanket Type, Fiberglass, FSK, 1.0Lb Density, 1-1/2" Thick	215,000.00	SF	2.53	544,595
15688.014	Gas Vent, Double Wall, Galvanized Steel, UL Listed, 12" Dia.	700.00	LF	48.66	34,064
15690.102	Fin Tube Radiation, Wall Hung, 14" Slope Top, 1-1/4" Cu Tube, 4-1/4" Aluminum Fin	3,650.00	LF	64.10	233,965

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

	Description	Quantity	LIM	Total	Totol	
Item Code	Description	Quantity	UM	Total UnitCost	Total Cost	
Code				Unicost	Cost	
15691.004	Cabinet Unit Heater, Horizontal, Floor Mount, 60 MBH	26.00	EA	1,617.26	42,049	
15691.312	Unit Heater, Hot Water, Horizontal, 47 MBH	15.00	EA	717.26	10,759	
	Variable Air Volume Box, PI, w/Damper, Actuator, T-Stat, 1000 CFM	100.00	EA	890.00	89,000	
15699.000	Chilled Beam	830.00	LF	100.00	83,000	
	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3/4" OD	20,400.00	LF	10.64	216,981	
15700.112	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 1-1/2" OD	10,200.00	LF	22.40	228,444	
15700.118	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3" OD	2,000.00	LF	62.36	124,713	
15700.316	Black Steel, Schedule 40, Welded W/Couplings And Hangers, 10ft OC, 4" OD	400.00	LF	45.02	18,010	
15704.104	Fiberglass 1" Insulation With All Service Jacket 3/4" Pipe	20,400.00	LF	3.96	80,835	
15704.202	Fiberglass 1-1/2" Insulation With All Service Jacket 1-1/2" Pipe	10,200.00	LF	5.49	55,998	
15704.308	Fiberglass 2" Insulation With All Service Jacket 3" Pipe	2,000.00	LF	8.10	16,190	
15704.312	Fiberglass 2" Insulation With All Service Jacket 4" Pipe	400.00	LF	9.71	3,883	
15705 004	Air Separator w/Strainer, 2-1/2" Dia.	1.00	EA	1.439.16	1.439	
	Air Separator w/Strainer, 4" Dia.	1.00	EA	3,098.60	3,099	
	Expansion Tank, Steel, ASME, Rubber	1.00	EA	3,786.82	3,787	
15706.214	Diaphragm, 61 Gal. Accep. Vol. Expansion Tank, Steel, ASME, Rubber Diaphragm, 211 Gal. Accep. Vol.	1.00	EA	6,573.73	6,574	
15708.106	ARC Tubing, Type L Copper, Hard Tempered, No Couplings/Hangers, 5/8"	1,000.00	LF	7.11	7,110	
15708.112	ARC Tubing, Type L Copper, Hard Tempered, No Couplings/Hangers, 1-1/8"	1,000.00	LF	10.84	10,840	
15708 500	Valves & Accessories	1.00	LS	1,500.00	1,500	
	Valves & Accessories	1.00	LS	200,000.00	200,000	
	DDC Controls	302,324.00	SF	5.50	1,662,782	
	CO2 Sensor	119.00	EA	85.00	10,115	
	Air & Water Balance	302,324.00	SF	0.50	151,162	
	Coordination & Management	1.00	LS	10.000.00	10,000	
		1.00	LS	175,000.00	175,000	
	Coordination & Management	1.00	LS			
	Commissioning Support			2,500.00	2,500	
	Commissioning Support	1.00	LS	50,000.00	50,000	
	Coring, Patching & Firestopping	1.00	LS	2,000.00	2,000	
	Coring, Patching & Firestopping	1.00	LS	25,000.00	25,000	
	Seismic Restraint	1.00	LS	5,000.00	5,000	
	Seismic Restraint	1.00	LS	25,000.00	25,000	
	Fees & Permits	1.00	LS	5,000.00	5,000	
	Fees & Permits	1.00	LS	50,000.00	50,000	
*** Total D30 - ** Total D30 -					8,104,390 8,104,390	
	IRE PROTECTION		. –			
	Fire Service Main - 6" Ductile Iron, Mech. Joint 6" Double Check Backflow Preventer W/OS&Y	75.00 2.00	LF EA	29.06 5,847.73	2,179 11,695	
1000 440	Valves, 4 Test Cocks	0.00	EA	4 5 4 4 10	0.000	
	FDC - Two Way Siamese - 3x3x6 4" Zone Flow Control Valve W/Trim And	2.00 10.00	EA	1,541.40 6,009.14	3,083 60,091	
15500 100	Gauges Tamper Switch	10.00	EA	153.65	1,537	

...\15027 Dover HS Schematic Estimate MASTER.est

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

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Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

Item	Description	Quantity	UM	Total	Total
Code				UnitCost	Cost
15502 202	Sprinkler Main Sch 40 BS - 4", Grooved Joint,	8,800.00	LF	39.75	349.796
10002.202	W/Hangers 10 Ft O.C.	0,000.00	LF	39.75	343,130
15502 222	Sprinkler Branch Sch 40 BS - 1" Threaded W/	17,700.00	LF	12.53	221,777
	Hangers 10 Ft O.C.			12.00	
15502.226	Sprinkler Branch Sch 40 BS - 1-1/2" Threaded	8,750.00	LF	16.39	143,413
	W/ Hangers 10 Ft O.C.				
15502.400	Sprinkler Heads - Standard Pendant, 1/2"	2,650.00	EA	36.43	96,526
	NPT, 1/2" Orifice				
	2" Dry Pipe Valve With Trim And Gauges	1.00	EA	2,507.80	2,508
15505.012	30 Gal., 1 HP Comp Air Sys For Fire	1.00	EA	1,093.23	1,093
15505 000	Protection Sprinkler Main Sch 40 BS 4" Grooved Joint	115.00	LF	20.75	1 571
15505.202	Sprinkler Main Sch 40 BS - 4", Grooved Joint, W/Hangers 10 Ft O.C RR	115.00	LF	39.75	4,571
15505 222	Sprinkler Branch Sch 40 BS - 1" Threaded W/	190.00	LF	12.53	2,381
10000.222	Hangers 10 Ft O.C RR	190.00	LF	12.00	2,001
15505 400	Sprinkler Heads - Standard Upright, 1/2" NPT,	20.00	EA	36.43	729
	1/2" Orifice - RR	20.00		50.40	
15525.004	Sprinkler Main Sch 40 BS - 4", Grooved Joint,	240.00	LF	39.75	9,540
	W/Hangers 10 Ft O.C.				- 4
15525.102	Fd Standpipe Angle Valve, 2-1/2", Brass,	6.00	EA	287.34	1,724
	W/Wheel, Handle Chain And Cap				
	Coordination & Management	1.00	LS	20,000.00	20,000
	Hydraulic Calculations	1.00	LS	12,000.00	12,000
	Coring & Patching & Firestopping	1.00	LS	17,500.00	17,500
	Fees & Permits	1.00	LS	12,000.00	12,000
	FIRE PROTECTION				974,143
** Total D40 -	FIRE PROTECTION				974,143
D50 - EL	ECTRICAL				
	300 kW NG Emergency Generator w/Sound	1.00	EA	154,146.07	154,146
10020.210	Attenuated Enclosure	1.00	LA	134, 140.07	יסדו, דסו
16020.212	Emergency Power Equipment and Distribution	234.400.00	SF	1.50	351,600
	Emergency Generator - Testing	1.00	LS	5,000.00	5,000
	4000 Amp Switchgear, 480/277V	1.00	EA	90,000.00	90,000
	Transformer / Primary / Conduit **	1.00	LS	50,000.00	50,000
	ALLOWANCE **				
16040.006	Panel Feeders	52.00	EA	2,500.00	130,000
	Primary Conduit Only - (1) 4"	800.00	LF	4.40	3,520
	Secondary Feeder - (8) 4" Conduits	800.00	LF	4.40	3,520
	Secondary Feeder - #600 MCM Conductor	3,200.00	LF	34.35	109,920
	Grounding/Bonding	1.00	LS	10,000.00	10,000
	20 KW UPS	2.00	EA	20,000.00	40,000
	Panel 277/480V 100A - Lighting	13.00	EA	1,664.44	21,638
	Panel 277/480V 100A - Mechanical	13.00	EA	1,664.44	21,638
	Panel 277/480V 400A - Distribution	13.00	EA	3,328.57	43,271
	Triple Tub Panel 120/208V 250 Amp	13.00	EA	9,795.00	127,335
	Transformer Dry Type, Three Phase, 30kVA	13.00	EA	4,928.89	64,076
	Transformer Dry Type, Three Phase, 75kVA	13.00	EA	7,194.29	93,526
	Branch Devices	302,324.00	SF SF	1.00	302,324
	Power and Branch Circuitry	67,924.00	SF SF	2.50	169,810
	Power and Branch Circuitry RTU Feeder	234,400.00 25.00	EA	3.50 2,706.00	820,400 67,650
	Boiler Feeder	4.00	EA	2,706.00	5,607
	Pump Feeder	7.00	EA	1,965.75	13,760
	Chiller Feeder	1.00	EA	8,336.00	8,336
	2x4 Flourescent - MER	30.00	EA	340.25	10,208
	Recessed LED's - Classrooms/Offices	1,340.00	EA	290.25	388,935
	Direct LED's - Gymnasium	56.00	EA	1,080.50	60,508
	Linear Indirect LED's - Corridor	445.00	EA	440.25	195,911
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...\15027 Dover HS Schematic Estimate MASTER.est

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4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Item	Description	Quantity	UM	Total	Total	
Code				UnitCost	Cost	
16080.016	Pendant Mount / Indirect Flourescent - Cafeteria	58.00	EA	728.25	42,239	
16080.018	2x2 LED Panels - Kitchen/Servery	50.00	EA	603.25	30,162	
16080.020	Direct Recessed LED's - Library	36.00	EA	290.25	10,449	
	Dimmable Flourescent - Auditorium	60.00	EA	2,090.25	125,415	
	Exterior Wall Mount - LED	42.00	EA	628.25	26,387	
	Exterior Pole Fixture - Custom LED	35.00	EA	4,000.00	140,000	
	Exterior Pendant - LED - RR	15.00	EA	628.25	9,424	
	Lighting Circuitry	67,924.00	SF	1.25	84,905	
	Lighting Circuitry	234,400.00	SF	2.00	468,800	
	Lighting Controls	302,324.00	SF	1.25	377,905	
	Lighting Controls & Panels - Testing	1.00	LS	5,000.00	5,000	
	Lighting Controls & Panels - Testing	1.00	LS	15,000.00	15,000	
	Stage Lights / Sound System / Dimmer Rack ** ALLOWANCE **	1.00	LS	375,000.00	375,000	
	Sound System - Cafeteria	1.00	LS	20,000.00	20,000	
	Sound System - Gymnasium	1.00	LS	20,000.00	20,000	
	Sound System - Music Room	1.00	LS LS	10,000.00	10,000	
	Bi-Directional Antennae	1.00	SF	50,000.00	50,000	
	Tel/ Data/ CATV	302,324.00 1.00	EA	1.75 9.000.00	529,067 9,000	
	Card Reader System - Head End Equipment Card Readers - Swipes/Wires	25.00	EA	9,000.00	9,000 42,500	
	Master Clock	302,324.00	SF	0.35	42,500	
16180.000		302,324.00	SF	0.35	181,394	
	Communications - Testing	1.00	LS	5.000.00	5,000	
	Communications - Testing	1.00	LS	15,000.00	15,000	
	Security System - Head End Equipment	1.00	LS	35,000.00	35,000	
	Fixed Interior CCTV Cameras	25.00	EA	3,000.00	75,000	
	Pan-Tilt-Zoom Exterior CCTV Cameras	10.00	EA	5,000.00	50,000	
	Fire Alarm	302,324.00	SF	1.50	453,486	
	Fire Alarm Testing	1.00	LS	2,000.00	2,000	
	Fire Alarm Testing	1.00	LS	5,000.00	5,000	
	Lightning Protection	1.00	LS	5,000.00	5,000	
	Lightning Protection	1.00	LS	25,000.00	25,000	
	Commissioning	1.00	LS	10,000.00	10,000	
16400.100	Commissioning	1.00	LS	50,000.00	50,000	
16400.102	Firestopping	1.00	LS	5,000.00	5,000	
16400.102	Firestopping	1.00	LS	15,000.00	15,000	
16400.104	Identification	1.00	LS	2,000.00	2,000	
	Identification	1.00	LS	5,000.00	5,000	
	Seismic Restraint	1.00	LS	3,500.00	3,500	
	Seismic Restraint	1.00	LS	10,000.00	10,000	
	Fees & Permits	1.00	LS	15,000.00	15,000	
	Fees & Permits	1.00	LS	40,000.00	40,000	
*** Total D50 - ** Total D50 -	ELECTRICAL				6,867,084 6,867,084	
E10 - EC	UIPMENT					
	QUIPMENT, GENERALLY					
	12" Dock Seal - OH Doors	2.00	EA	1,585.04	3,170	
	Rubber Dock Bumper 4 1/2"x14"x12"	4.00	EA	166.38	666	
	OUTDOOR SCOREBOARDS - NOT INCLUDED		<u></u> ,			
11480 008	Gym Bleachers (One Side Only)	1.00	LS	25.000.00	25.000	
	Gym Divider Curtain	1.00	LS	25,000.00	25,000	
	Basketball Hoop	6.00	EA	5,333.33	32,000	
	Volley Ball Net w/ Floor Inserts	1.00	EA	1,900.00	1,900	
	Score Board - Existing to remain		EA	8,500.00	.,	
	Upgrade Motorized Retraction System for		LS	20,000.00		
	Existing Bleachers					
145007 D 110 0 1						045 00 00 000

...\15027 Dover HS Schematic Estimate MASTER.est



Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

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Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

ltem Code	Description	Quantity	UM	Total UnitCost	Total Cost
11480.062	Plastic Telescoping Stands - Hussey Maxam 26 Motorized Bleachers		EA	110.00	
11480.065	Gym Wall Padding - 6' Ht	470.00	LF	100.00	47,000
	Temporarily Relocate Existing Bleachers for	1.00	LS	2,000.00	2,000
11650.000	Floor Replacement Stage Set Fastening Equipment - In Line set				
	Allowance				
11651.000	Lecture Hall Tables - 18" X 5'		EA	1,085.15	
11653.000	Auditorium Seating - Quattro By Hussey Seating	800.00	EA	250.00	200,000
	Line Sets & Shell Allowance - Auditorium EQUIPMENT, GENERALLY EQUIPMENT	1.00	LS	175,000.00	175,000 511,736 511,736
E20 - EU	RNISHINGS				
	- FIXED FURNISHINGS				
	Smart Boards - N/A per HMFH		EA	2,677.73	
	Marker Board W/ Alum Trim - Classrooms &	2,952.00	SF	2,677.73 15.63	46,147
10100.004	Labs	2,332.00	51	13.00	40, 147
10100.006	Tack Board W/O Trim	2,952.00	SF	8.32	24,550
	Hunter Douglas Roller Shades (50% of	15,960.00	SF	11.00	175,560
*** Total E201	glazing) D - FIXED FURNISHINGS				246,257
** Total E20 - I					246,257
F10 - SP	ECIAL CONSTRUCTION				
F10 - S	PECIAL CONSTRUCTION				
	50' Riding Ring w/ Fence (Roof in B10)	1.00	LS	10,000.00	10,000
	Crushed Stone Under Slab - Kennel	20.00	CY	37.51	750
	4" SOG - Kennel	400.00	SF	7.71	3,084
2720.115	Chain Link Fence - Vinyl Coated 6' H - Kennel (10' x 10')	120.00	LF	22.00	2,640
2760.100	Tennis Court	4.00	EA	40,000.00	160,000
	Baseball Field (Includes new drainage system)	1.00	EA	150,000.00	150,000
	SPECIAL CONSTRUCTION SPECIAL CONSTRUCTION				326,474 326,474
F20 - SE	LECTIVE BUILDING DEMOLITION				
	- BUILDING ELEMENTS DEMOLITI	ON			
2022.100	Mass Demolition - High School	61,802.00	SF	5.00	309,010
	Mass Demolition - High School	116,198.00	SF	6.00	697,188
	Gym Floor Demo	13,027.00	SF	1.21	15,765
2032.000	Interior Demolition - Strip Walls & Clg GWB, Flooring, Casework, MEP	52,027.00	SF	8.00	416,216
	Remove Face Brick at West Wall of 1966 Wing	18,200.00	SF	1.30	23,715
	Demo Entrance Canopy	4,600.00	SF	0.68	3,129
) - BUILDING ELEMENTS DEMO SELECTIVE BUILDING DEMOLIT				1,465,023 1,465,023
					.,,
	- SITE DEMOLITION				
	Remove underdrain system at existing	1.00	LS	10,000.00	10,000
2012.010	baseball field	1.00		10,000.00	10,000
2013.240	Demo Bit Conc Pvmt - Large Area	230,562.00	SF	0.16	37,927
	Demo Bit Conc Pvmt - Large Area (For Animal	6,000.00	SF	0.16	987
	Barn)				
	Demo Conc Walk 0 - SITE DEMOLITION	11,800.00	SF	0.63	7,414 56,328
G1030	- EARTHWORK				
	Misc Erosion Control	1.00	LS	50,000.00	50,000
2				00,000.00	00,000

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

ltem Code	Description	Quantity	UM	Total UnitCost	Total Cost
0140.000		4.00		25.000.00	25.000
	Site Access/Laydown	1.00	LS	35,000.00	35,000
	Site Excavation	15,000.00	CY	12.13	181,913
2200.160	Site Fill From Borrow (Demolished Wing)	25,000.00	CY	3.17	79,228
2200.905	Granular Fill (M) (Demolished Wing)	25,000.00	CY	10.00	250,000
2300.155	Dewatering	1.00	LS	40,000.00	40,000
	0 - EARTHWORK			· ·	636,140
	SITE PREPARATION				692,468
G20 - SI	TE IMPROVEMENTS				
G2010	- SITE PAVING				
2600.050	Compact Road Subgrade	28,875.89	SY	0.23	6,688
	Fine Grade Road Subgrade	28.875.89	SY	1.04	30.089
	Stabilization Fabric-Medium	33,207.27	SY	1.31	43,402
	Install Road Base (L)	20,213.12	CY	3.96	80,070
			CY		
	Base - Crushed Gravel (M)	20,213.12		16.00	323,410
2000.200	Added 2" for Heavy Duty Paving - Lot C (35,052 SF)	432.00	TONS	110.00	47,520
2600.200		6,357.78	TON	95.00	603,989
2600.201	28875.89	1.00	EACH		,
2600.210		28,875.89	SY		
	Grading For Curbs	6.000.00	LF	2.68	16,079
	Concrete Curbs 6" X 18"	6,000.00	LF	12.00	
					72,000
	4" Concrete Sidewalk	11,000.00	SF	3.00	33,000
	CIP Stairs at Retaining Wall	140.00	SF	55.00	7,700
*** Total G201	0 - SITE PAVING				1,263,947
G2050	- LANDSCAPING				
2710.200	Landscaping	1.00	LS	140,000.00	140,000
	Landscaping - Courtyard	1.00	LS	150,000.00	150,000
	Steel Handrail - Site Retaining Wall	328.00	LF	62.21	20,405
10000.010		1.00	ĒA	2,277.73	2,278
	0 - LANDSCAPING	1.00		2,211.10	312.683
	SITE IMPROVEMENTS				1,576,630
G30 - SI	TE UTILITIES				
	- SITE UTILITIES				
		4 200 00	LF	44.00	105 100
	Storm Drainage Line	4,200.00		44.08	185,136
	4' Dia PC Catch Basin	40.00	EA	3,469.33	138,773
	Water Line	300.00	LF	54.08	16,224
	Sanitary Sewer	300.00	LF	52.08	15,624
2540.118	Prim/Sec Electrical/Telcom Trenching	300.00	LF	32.08	9,624
2540.122	Natural Gas Trenching	300.00	LF	32.08	9,624
	Alter Underdrain at existing ball field for new	1.00	LS	10,000.00	10,000
	addition				
2540.130	Alter Underdrain at existing lacrosse field at	1.00	LS	10,000.00	10,000
0500 11-	kitchen laoding dock due to const access	F 100 00			
	Elec Trench-Direct Burial (Site Lighting)	5,400.00	LF	8.04	43,416
2580.120	Elec Trench-Duct Bank (Secondary/Primary	140.00	LF	12.32	1,725
2580 130	Under Roads) Elec Ductbank Forms	560.00	SF	4.42	2,473
	Elec Ductbank Concrete	48.53	CY	121.08	5,876
		1.00	EA	9,962.60	
10440.000	Grease Interceptor, Steel, 50 GPM, 100 LB Fat Capacity	1.00	EA	3,302.00	9,963
15440.502	Grease Interceptor, Steel, 250 GPM, 500 LB	1.00	EA	26,096.32	26,096
	Fat Capacity				
*** Total G301	0 - SITE UTILITIES				484,555
	SITE UTILITIES				484,555
Z10 - GE	NERAL				
	- GENERAL CONDITIONS				

...\15027 Dover HS Schematic Estimate MASTER.est



Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

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Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

ltem Code	Description	Quantity	ИМ	Total UnitCost	Total Cost
0080.100	***DESIGN & ENGINEERING FEES BY CITY				
0000.100	OF DOVER***				
0100 000	Mobilize / Demobilize	1.00	LS	28.000.00	28.000
	Office Supplies	165.00	ŴK	275.00	45,375
	Office Furniture / Systems	1.00	LS	48,000.00	48,000
	Engineer's Furniture / Equipment - N/A	1.00	LS	40,000.00	40,000
	Engineer's Computer / Software - N/A		LS		
	Project Kiosk 30" - Purchase	4.00	EA	E 000 00	20,000
	Janitorial Services	168.00	WK	5,000.00 150.00	20,000 25,200
		1.00			
	Temporary Wiring		LS	3,000.00	3,000
	Electrical Energy Costs	38.00	MO MO	350.00	13,300
	Water Usage Costs	38.00		200.00	7,600
	Telephone / Communication	38.00	MO	1,000.00	38,000
	Sanitary / Facilities	38.00	MO	1,500.00	57,000
	Security / Watchman		WK		
	Photographs		MO	1	
	Documents & Reproductions	1.00	LS	15,000.00	15,000
	Estimating - GMP	1.00	LS	50,000.00	50,000
	Officer in Charge		MW	7,000.00	
	Construction Executive	16.00	MW	5,400.00	86,400
	Senior Project Manager	59.00	MW	4,720.00	278,480
	Project Manager	135.00	MW	3,800.00	513,000
0120.018	Senior Project Engineer		MW	2,880.00	
0120.020	Project Engineer (Full Time)	168.00	MW	2,400.00	403,200
0120.022	Office Engineer	115.00	MW	1,920.00	220,800
0120.024	Senior Superintendent	150.00	MW	4,720.00	708,000
0120.025	Project Superintendent	162.00	MW	3,720.00	602,640
	Construction Coordination - SCP (2	37.00	MW	2.400.00	88.800
	Days/Week)			,	,
0120.050	Scheduling Engineer		MW	2.280.00	
	Safety Manager		MW	3,720.00	
	Safety Engineer (2 Days/Week)	67.00	MW	2.280.00	152,760
	Administration	139.00	MW	1,720.00	239,080
	Living Allowance - Management	336.00	MWK	300.00	100,800
	Living Allowance - Foremen	000.00	MWK	125.00	100,000
	Travel and Expenses	38.00	MO	600.00	22,800
	Scheduling	1.00	WK	2,280.00	2,280
	Permit's & Fee's	1.00	LS	2,200.00	2,200
	Building Permit		LS		
	Design (Means & Methods)		LS		
	Professional Services		LS		
	Equipment Trucking		WK		
	Off - Site Parking		WK	I	
	Personnel Elevator		MO		
	Field Office	38.00	TM	1,200.00	45,600
		30.00	TM	400.00	40,000
	Engineer / Architect Office Storage Trailers (2 Trailers)	76.00	TM	400.00	11 400
	Storage Trailers (2 Trailers) Sub Bonds (Include w/ Subs)	10.00	LS	150.00	11,400
0180.010 0180.020	Gross Receipts Tax		LS LS		
			LS		2 926 545
10tal 21010	- GENERAL CONDITIONS				3,826,515
Z1020 -	GENERAL REQUIREMENTS				
	Materials Testing		LS		
	Snow Removal	1.00	LS	40,000.00	40,000
	Field Engineering	4.00	WK	5,000.00	20,000
	Temporary GWB Partitions	10,000.00	SF	7.80	78,000
	ICRA / ILSM - N/A	.,	LS		
	Scaffolding - In COW		LS		
	OSHA / First Aid	168.00	WK	771.89	129,678
0200.200					120,010

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Item	Description	Quantity	UM	Total	Total
Code	Description	quantity	UNI	UnitCost	Cost
Code				UnitCost	Cost
0200 200	Material Handling	168.00	WK	940.00	157,920
	Cranes - In COW	100.00	CM	940.00	157,920
		400.00		707.04	440 700
	Progress Cleanup (Labor & Dumpster)	168.00	WK	707.04	118,783
	Final Cleanup	302,324.00	SF	0.45	136,046
	Temporary Heat	1.00	LS	175,000.00	175,000
0200.410	Temporary Enclosure	1.00	LS	150,000.00	150,000
0200.970	Support Equipment		LS		
*** Total Z1020 -	- GENERAL REQUIREMENTS				1,005,426
** Total Z10 - GI	ENERAL				4,831,941
					,,.
Z20 - MAJ	JOR CUSTOM PROGRAM ELEM	ENTS			
Z2010 -	MAJOR CUSTOM PROGRAM EI	LEMENTS			
	Precon Services - N/A (Included under		LS	96,000.00	
	separate contract)		20	30,000.00	
	Asbestos Abatement Contract	1.00	LS	1,300,000.00	1,300,000
			LS		
	Asbestos Abatement - 5% Increase per year	1.00		359,166.00	359,166
	Replace existing football field with turf	1.00	LS	750,000.00	750,000
	Kitchen Equipment	2,500.00	SF	150.00	375,000
*** Total Z2010 -	- MAJOR CUSTOM PROGRAM				2,784,166
** Total Z20 - M	AJOR CUSTOM PROGRAM EL				2,784,166
* Total Option 2	2b - Partial Addition & Rehab				60,606,764
Total Gross Cos					60,606,764

...\15027 Dover HS Schematic Estimate MASTER.est

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

5 - PC Construction Cost Estimate - All	Options		
Dover High School - Option #2 - Pa	artial Renovation - Estima	te Comparison	
Labor and Material Escalation	\$0	\$0	\$0
Builders Risk Insurance	\$46,064		-\$46,064
Liability Insurace	\$505,875	\$509,347	\$3,472
Construction Manager's Contingency (PC @ 7%)	\$4,242,473	\$5,855,684	\$1,613,211
P & P Bond	\$404,026	\$325,246	-\$78,780
CM Fee (2.5%)	\$1,645,130	\$1,534,178	-\$110,952
Option #2 Total Indirect Cost	\$6,843,568	\$8,224,455	\$1,380,887
Option #2 Total Gross Cost	\$67,450,331	\$70,408,834	\$2,958,503

	Dover High School - Option #2 - Partial R	enovation - Estima	ate Comparison	
DISTRUCTION		PC	PM&C	Cost Variance
	High School Total	\$67,450,331	\$70,408,834	\$2,958,503
A1010	Standard Foundations	\$1,481,516	\$2,218,107	\$736,591
A1020	Special Foundations	\$1,070,200	\$231,000	-\$839,200
A1030	Lowest Floor Construction	\$1,787,811	\$1,692,284	-\$95,527
B1010	Floor Construction	\$5,496,138	\$2,569,336	-\$2,926,802
B1020	Roof Construction	\$791,890	\$3,623,284	\$2,831,394
B2010	Exterior Walls	\$3,627,680	\$3,636,348	\$8,668
B2020	Windows	\$2,400,000	\$2,372,767	-\$27,233
B2030	Exterior Doors	\$139,342	\$136,963	-\$2,379
3010/302	0 Roof Coverings & Openings	\$1,793,174	\$1,812,366	\$19,192
C1010	Partitions	\$2,762,070	\$2,605,880	-\$156,190
C1020	Interior Doors	\$834,390	\$801,750	-\$32,640
C1030	Specialties / Millwork	\$2,207,007	\$1,945,100	-\$261,907
C2010	Stair Construction	\$331,790	\$200,500	-\$131,290
C3010	Wall Finishes	\$929,984	\$944,263	\$14,279
C3020	Floor Finishes	\$2,053,264	\$2,037,898	-\$15,366
C3030	Ceiling Finishes	\$1,176,725	\$1,205,112	\$28,387
D1010	Elevator	\$199,423	\$157,600	-\$41,823
D2010	Plumbing	\$2,659,492	\$2,665,902	\$6,410
D3010	HVAC	\$8,104,390	\$8,135,150	\$30,760
D4010	Fire Protection	\$974,143	\$1,030,750	\$56,607
D5010	Electrical	\$6,867,084	\$8,086,699	\$1,219,615
E1010	Equipment, Generally	\$511,736	\$950,800	\$439,064
E2010	Fixed Furnishings	\$246,257	\$426,210	\$179,953
F10	Special Construction	\$326,474	\$425,000	\$98,526
F2010	Building Elements Demolition	\$1,465,023	\$457,020	-\$1,008,003
61020/103	0 Site Demolition & Earthwork	\$692,468	\$5,684,349	\$4,991,881
G2010	Site Paving	\$1,263,947		-\$1,263,947
G2050	Landscaping	\$312,683		-\$312,683
G3010	Site Utilities	\$484,555		-\$484,555
Z1010	General Conditions	\$3,826,515	\$3,826,515	\$0
Z1020	General Requirements	\$1,005,426	\$1,005,426	\$0
Z2010	Major Custom Program Elements	\$2,784,166	\$1,300,000	-\$1,484,166
	Option #2 Total Direct Cost	\$60,606,763	\$62,184,379	\$1,577,616

ptions		
tial Renovation - Estimat	te Comparison	
\$0	\$0	\$0
\$46,064		-\$46,064
\$505,875	\$509,347	\$3,472
\$4,242,473	\$5,855,684	\$1,613,211
\$404,026	\$325,246	-\$78,780
\$1,645,130	\$1,534,178	-\$110,952
\$6,843,568	\$8,224,455	\$1,380,887
\$67,450,331	\$70,408,834	\$2,958,503
	\$0 \$46,064 \$505,875 \$4,242,473 \$40,026 \$11,645,130 \$6,843,568	\$0 \$0 \$0 \$0 \$46,064 \$505,875 \$505,875 \$509,347 \$4,242,473 \$5,855,684 \$404,026 \$325,246 \$1,645,130 \$1,534,178 \$6,843,568 \$8,224,455



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Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

OPTION 3 - All New Construction

ESTIMATE SUMMARY

Project #: 15027

Building GSF: 304,514

		Totals
Direct Cost	%	\$ 65,565,715
Material Sales Tax (N/A)	0.00%	\$ -
Labor & Material Escalation	0.00%	\$ -
Gross Cost		\$ 65,565,715
Building Permit - by Owner	0.00%	\$ -
Builder's Risk insurance	0.07%	\$ 48,893
Liability Insurance	0.75%	\$ 536,948
Construction Manager's Contingency	5.00%	\$ 3,278,286
P & P Bond (\$5.83 per \$1,000)		\$ 417,387
Sub Total		\$ 69,847,228
CM Fee	2.50%	\$ 1,746,181
Total		\$ 71,593,000
Total Cost per square foot		\$ 235

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Recap - With Taxes and Insurance

Item Description Code	Quanti
Option 3 - All New Construction	
A10 - FOUNDATIONS	
B10 - SUPERSTRUCTURE	
B20 - EXTERIOR CLOSURE	
B30 - ROOFING	
C10 - INTERIOR CONSTRUCTION	
C20 - STAIRCASES	
C30 - INTERIOR FINISHES	
D10 - CONVEYING SYSTEMS	
D20 - PLUMBING	
D30 - HVAC	
D40 - FIRE PROTECTION	
D50 - ELECTRICAL	
E10 - EQUIPMENT	
E20 - FURNISHINGS	
F10 - SPECIAL CONSTRUCTION	
F20 - SELECTIVE BUILDING DEMOLITION	
G10 - SITE PREPARATION	
G20 - SITE IMPROVEMENTS	
G30 - SITE UTILITIES	
Z10 - GENERAL	
Z20 - MAJOR CUSTOM PROGRAM ELEMEN	
* Total Option 3 - All New Construction Total Gross Cost	
Total Gross Cost	

June 23, 2015 | PC Construction Company

...\15027 Dover HS Schematic Estimate MASTER.est



CONSTRUCTION

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

tity	UM	Total	Total
		UnitCost	Cost
			4,701,798
			8,364,713
			7,774,394
			1,886,518
			5,378,566
			362,660
			4,469,534
			253,253
			2,728,183
			8,281,029
			971,111
			7,230,576
			468,918
			308,132
			606,474
			1,623,129
			687,260
			1,576,859
			474,931
			4,500,611
			2,917,066
			65,565,715
			65,565,715



Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

ltem Description Code	Quantity	UM	Total UnitCost	Total Cost
Option 3 - All New Construction				
A10 - FOUNDATIONS				
A1010 - STANDARD FOUNDATIONS				
	6 500 00	CY	12.13	78.829
2210.205 Structure Excavation	6,500.00			
2210.205 Structure Excavation (Barn Addition)	300.00	CY CY	12.13	3,638
2220.335 BF Foundation Wall w/ Crushed Stone (Site	2,100.00	GT	37.51	78,771
Retaining Wall)	4.300.00	CY	37.51	161.293
2220.335 BF Frost Wall w/ Crushed Stone	,	• ·	•••••	
2220.335 BF Frost Wall w/ Crushed Stone (Barn	180.00	CY	37.51	6,752
Addition)	2 000 00	01/	47.54	c2 020
2220.340 BF Frost Wall w/ On Site Matl	3,600.00	CY CY	17.51	63,036
2220.340 BF Frost Wall w/ On Site Matl (Barn Addition)	180.00		17.51	3,152
2500.110 4" PVC Footing Drains	6,800.00	LF	14.00	95,200
3300.010 8" x 16" Continuous Footing (Barn Addition)	294.00	LF	32.30	9,496
3300.014 1' x 3' Continuous Footing	3,113.00	LF	44.20	137,595
3300.016 1' x 3' Continuous Footing (Auditorium)	450.00	LF	44.20	19,890
3300.016 1' x 5' Continuous Footing (Auditorium)	450.00	LF	55.25	24,862
3300.016 1' x 5' Continuous Footing (Site Retaining Wall)	405.00	LF	55.25	22,376
3300.018 3' x 3' x 1' Isolated Footing	52.00	EA	242.25	12,597
3300.040 8" x 5' Frost Wall (Barn Addition)	294.00	LF	105.40	30,988
3300.045 12" x 5' Frost Wall	1,441.00	LF	128.35	184,952
3300.128 12" x 8' Foundation Wall	1,624.00	LF	191.25	310,590
3300.148 12" x 13' Site Retaining Wall	405.00	LF	350.20	141,831
3300.152 18" x 4' Concrete Pier with 2' x 2' x 1' Footing	14.00	ĒA	273.63	3,831
(50' Dia Riding RIng)	14.00	2/1	210.00	0,001
3300.156 1' x 1' - 5' Pilaster	66.00	EA	178.50	11,781
7110.100 Damproof Frost Wall	20,197.00	SF	1.50	30,295
7110.100 Damproof Frost Wall (Barn Addition)	1,323.00	SF	1.50	1.985
7200.105 Rigid Insulation - 2" Frost Wall	20,197.00	SF	2.08	42,087
7200.105 Rigid Insulation - 2" Frost Wall (Barn Addition)	1,323.00	SF	2.08	2,757
* Total A1010 - STANDARD FOUNDATIONS	1,020.00	01	2.00	1,478,583
A1020 - SPECIAL FOUNDATIONS				
2492.105 Aggregate Piers - 8' Grid: 836 @ 20' Deep	16,720.00	LF	17.01	284,407
		LF		
2492.105 Aggregate Piers - 8' Grid: 836 @ 20' Deep	16,720.00	LF	80.00	1,337,600
** Total A1020 - SPECIAL FOUNDATIONS				1,622,007
A1030 - LOWEST FLOOR CONSTRUCTIO	N			
2220.332 Crushed Stone Under Slab - 8"	5,600.00	CY	37.51	210,056
2220.332 Crushed Stone Under Slab - 8" (Barn Addition)	200.00	CY	37.51	7,502
3250.451 15 Mil Stego Wrap Under Slab Vapor Barrier -	199,167.00	SF	0.71	141,986
Taped Seams				
3250.451 15 Mil Stego Wrap Under Slab Vapor Barrier - Taped Seams (Barn Addition)	6,710.00	SF	0.71	4,784
3300.006 4" SOG (Non pile/pier areas)	122,967.00	SF	6.55	805,901
3300.008 5" SOG - (Agg Pier Areas)	50,222.00	SF	7.40	371,834
3300.008 5" SOG - (Barn Addition)	6,100.00	SF	7.40	45,163
7200.108 Rigid Insulation - 2" Underslab (Barn Addition)	6,710.00	SF	2.08	13,982
* Total A1030 - LOWEST FLOOR CONSTRU				1,601,208
Total A10 - FOUNDATIONS				4,701,798
B10 - SUPERSTRUCTURE				
B1010 - FLOOR CONSTRUCTION				
3000.015 Trowel Finish	124.281.00	SF	0.56	69.237
3000.200 Protect & Cure	124,281.00	SF LB	0.10	12,030
3200.052 Re-Steel @ Slabs On Metal Deck 3200.315 6x6 4/4 Wwf	49,367.18 136,709.10	SF	0.79	39,000
3200.315 6x6 4/4 WWF 3200.350 Wire Mesh Accessories	136,709.10	SF	0.78	106,633
3200.350 Wire Mesh Accessories 3300.033 Slab On Metal Deck Concrete	124,281.00 1,974.69	SF CY	26.57	70 017
	1,974.09		36.57	72,217
		1		

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Item	Description	Quantity	UM	Total	Total
Code				UnitCost	Cost
3300 115	3000 Psi Concrete	1.974.69	CY	98.00	193.519
			CY	8.00	
	Concrete Pumping	1,974.69			15,797
	Structural Steel at Addition - 12 lbs/ sf	1,783.00	TON	3,100.00	5,527,300
	2"X20ga Painted Mtl Deck	136,709.10	SF	1.95	266,583
7850.001	Spray Fireproofing - Roof Deck	172,967.00	SF	1.50	259,451
7850.001	Spray Fireproofing - Structural Steel	316,091.00	SF	2.50	790,228
*** Total B1010	- FLOOR CONSTRUCTION				7,351,995
B1020	- ROOF CONSTRUCTION				
	Steel Joists (2 lbs/ SF)	161.00	TON	1.800.00	289,800
	Steel Joists (2 lbs/ SF) CTC	101.00	TON	1,800.00	209,000
		400 040 00			220.450
	1-1/2"X20ga Galv Mtl Deck	198,912.00	SF	1.70	338,150
	1-1/2"X20ga Galv Mtl Deck CTC		SF	1.70	
5500.000	Miscellaneous Metals (Angle at Roof Curb)	1.00	LS	20,000.00	20,000
6000.000	Roof edge blocking	8,400.00	LF	7.78	65,311
	Roof Trusses w/ sheathing (Barn Addition)	6,100.00	SF	8.00	48,800
	Pavilion Framing (50' Dia Riding Ring)	3,300.00	SF	18.38	60,657
		2.00	EA		
	Entrance Canopy			45,000.00	90,000
	Entrance Canopy	2.00	EA	50,000.00	100,000
	0 - ROOF CONSTRUCTION				1,012,718
** Total B10 - S	SUPERSTRUCTURE				8,364,713
B20 - EX	TERIOR CLOSURE				
	- EXTERIOR WALLS				
	Brick Veneer (70% Envelope)	104,260.00	SF	24.00	2,502,240
6100.612	2x6 Partitions w/ 1/2" OSB Sheathing - 12' Ht	3,880.00	SF	4.60	17,836
	(Barn Addition)				
6200.512	T&G Siding - Red Cedar (6" Exposure) (Barn	3,880.00	SF	8.00	31,036
	Addition)				
	3" Spray Foam Insulation (R-21)	104,260.00	SF	3.00	312,780
7260.120	Air Infiltration Barrier - Fluid Applied	104,260.00	SF	2.50	260,650
9280 051	6" LGS Stud w/ 5/8" GWB and 5/8" Densglass -	104,260.00	SF	12.42	1,294,565
0200.001	Ext Partitions	101,200.00	0.		1,20 1,000
*** Total B2010	D - EXTERIOR WALLS				4,419,107
					.,,
	- WINDOWS		[I
8800.800	Curtainwall (30% Envelope)	42,753.00	SF	5.00	213,765
8800.800	Curtainwall (30% Envelope)	42.753.00	SF	70.00	2.992.710
	Barn Windows (Barn Addition)	10.00	EA	600.00	6,000
*** Total B2020		10.00	LA	000.00	3,212,475
					3,212,413
	- EXTERIOR DOORS				
6200.300	Sliding Barn Door (Barn Addition)	3.00	EA	1,788.76	5,366
	3070 Exterior Door	21.00	EA	1,404.76	29,500
	3070 HM Door (Barn Additon)	8.00	EA	1,104.76	8,838
	6070 Exterior Door	17.00	EA	2,065.16	35,108
	Overhead Door	2.00	EA	8,000.00	16,000
	Overhead Door (AT, AC, BT)	6.00	EA	8,000.00	48,000
	0 - EXTERIOR DOORS				142,812
** Total B20 - E	EXTERIOR CLOSURE				7,774,394
B30 - RO	OFING				
					I
	- ROOF COVERINGS				
	12" Batt Insulation (R38) (Barn Addition)	8,020.00	SF	1.15	9,217
7310.015	Asphalt Single Roof (50' Dia Riding Ring)	3,300.00	SF	5.79	19,119
	Asphalt Single Roof (Barn Addition)	8,020.00	SF	5.79	46,465
	Thermoplastic Membrane Roof	172,967.00	SF	10.00	1,729,670
	Entrance Canopy Roof	2.00	EA	30,000.00	60,000
	D - ROOF COVERINGS	2.00	EA	50,000.00	1,864,470
					1,004,470
B3020 -	- ROOF OPENINGS				
			1		

...\15027 Dover HS Schematic Estimate MASTER.est



Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

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Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

ltem Code	Description	Quantity	UM	Total UnitCost	Total Cost
	4' Sq Hatch Cover - Stainless Steel - ROOF OPENINGS COOFING	3.00	EA	7,349.20	22,048 22,048 1,886,518
C10 - INT	ERIOR CONSTRUCTION				
C1010 -	PARTITIONS				
4020.205	8" CMU Partitions - 14' Ht (Gym)	6,720.00	SF	10.00	67,200
	Miscellaneous Metals (Angle at CMU Partitions)	1.00	LS	18,000.00	18,000
6010.000	In Wall Blocking	1.00	LS	50,000.00	50,000
	In Wall Blocking	1.00	LS	24,437.84	24,438
	Glazed Partitions	2,200.00	SF	60.00	132,000
	Tape Gypsum Walls - Level 4 (String coat, 2 finish coats, sanding)	484,380.00	SF	0.75	363,285
	Classroom Fit Up (Barn Addition) 2 - Classrooms	450.00	SF	30.00	13,500
	LGS Partitions w/ 5/8" GWB, Sound Batt - Interior	160,400.00	SF	8.61	1,381,220
	LGS Furred Partition - Interior	21,100.00	SF	5.09	107,479
	Fire Stopping	1.00	LS	15,000.00	15,000
	Fire Stopping	1.00	LS	60,000.00	60,000
	Misc Drywall Work	1.00	LS	40,000.00	40,000
	Misc Drywall Work	1.00	LS	10,000.00	10,000
	- PARTITIONS				2,282,122
	INTERIOR DOORS	100.00		4 004 70	500.004
	3070 Interior Door	482.00	EA	1,204.76	580,694
	6070 Interior Door Corridor Lock Down Hardware	82.00 1.00	EA LS	1,765.16 50,000.00	144,743 50,000
	Interior Borrowed Lites	57.00	EA	609.52	34,743
	- INTERIOR DOORS	57.00		009.32	810,180
C1030 -	SPECIALTIES / MILLWORK				
6400.000	6'-0" Laminated Maple Bench	20.00	EA	992.58	19,852
6400.004	Base Cabinets (Classrooms)	886.00	LF	266.10	235,768
6400.052	Full Height Cabinets (Classrooms)	391.00	LF	306.10	119,687
	Wall Cabinets (Classrooms)	651.00	LF	191.10	124,409
	Full Height Cabinets (Mail Room)	24.00	LF	306.10	7,346
	Restroom Wood Apron at Solid Surface	288.00	LF	159.92	46,057
	Solid Surface Restroom Counter w/ integral sink	288.00	LF	221.90	63,908
	Countertops-Solid Surface (Classrooms)	886.00	LF	191.10	169,318
	Wall Mount Solid Surface Counter (Mail/Work Room)	71.00	LF	216.10	15,343
	Countertops - Epoxy Resin	546.00	LF	161.64	88,254
	Solid Surface Window Sill and Apron (New Const Only)	2,205.00	LF	64.26	141,688
	Wall Cabinets - Solid Surface (Science Labs)	410.00	LF	161.65	66,275
	Full Height Cabinets - Solid Surface (Science Labs)	410.00	LF	255.73	104,848
	Wood Cubbies - Mail Room	24.00	LF	251.10	6,026
	Casework Allowance (Misc)	1.00	LS	231,000.00	231,000
6408.000	Closet Shelving *** DESK MILLWORK***	1.00	LS	10,000.00	10,000
	Admin/Guidance Front Desk	31.00	LF	441.10	13,674
	Library Desk	78.00	LF	491.10	38,306
	FRP Panels 10' ht - Kitchen	3,518.00	SF	7.14	25,133
	FRP Panels 8' ht - at Janitorial sinks only	1,510.22	SF SF	7.14	10,789
	FRP Panels - Art Rooms Toilet Partitions W/ Door - Phenolic	80.00 42.00	EA	7.14 430.52	572 18.082
	Urinal Screen - Phenolic	42.00	EA	430.52 305.52	3,055
10100.103		10.00	LA	303.3Z	3,000

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
Code				GintoGat	0031
10180.204	Shower Door	18.00	EA	277.76	5,000
10180.206	Locker Room Bench	80.00	LF	80.28	6,422
	Privacy Curtain: Track W/Supports (No	64.00	LF	22.50	1,440
10101.100	Curtain) - Nurse	01.00	2.	22.00	1,440
10195 101	Display & Trophy Case Allowance	1.00	LS	40.000.00	40.000
10410.150		1.00	LS	10,000.00	10,000
		1.00	LS	78,000.00	78,000
10410.150					
10500.002	Staff Lockers - Single Tier (3' X 15" X 15") -	15.00	EA	180.55	2,708
40500.000	Kitchen	400.00	F •	100.55	40.055
10500.002	Staff Lockers - Single Tier (3' X 15" X 15") -	100.00	EA	180.55	18,055
10500.004	Staff	1 500 00		070 FF	405 810
10500.004	Lockers - Double Tier (6' X 18" X 18") -	1,500.00	EA	270.55	405,819
40500.000	Student	000.00	F •	070 55	54.400
10500.006	Lockers - Double Tier - Locker Rooms (100 per	200.00	EA	270.55	54,109
	Room)				10.505
	Lockers - Double Tier - Student Athletic	50.00	EA	270.55	13,527
	Fire Extinguishers	102.00	EA	125.46	12,797
	Fire Ext Cabinets	102.00	EA	302.76	30,882
	Operable Wall Partition (57' L x 28' HT)		SF	99.95	
10800.106	Grab Bar	38.00	EA	101.38	3,852
10800.151	Surface Mtd Double Roll Tph	38.00	EA	197.38	7,500
	Surface Mounted SND	20.00	EA	377.38	7,548
	Surf Mtd Waste Receptacle	23.00	EA	282.38	6,495
	Liquid Soap Dispenser	23.00	EA	177.38	4,080
	Folding Shower Seat	18.00	EA	301.38	5,425
		20.00	EA	301.38	
	Electric Hand Dryer				6,028
	30"x30" Framed Mirror	34.00	EA	211.38	7,187
	0 - SPECIALTIES / MILLWORK INTERIOR CONSTRUCTION				2,286,264 5,378,566
					-,
	AIRCASES				
C2010	- STAIR CONSTRUCTION				
4020.205	8" CMU Partitions - 14' Ht (Stair Shafts)	15,344.00	SF	10.00	153,440
5510.000	****Metal Stairs****		****		
5510.050	Metal Pan Stair - Standard	240.00	TRD	433.27	103,984
5510.052	Metal Pan Stair Landing - Standard	600.00	SF	71.60	42,958
	*** Handrails & Railings ***		****		,
	Hand Rail - Standard Metal Picket	336.00	LF	119.42	40.126
	Steel Wallrail - Standard	336.00	LF	65.93	22,153
	0 - STAIR CONSTRUCTION	000.00	2.	00.00	362.660
** Total C20 - 3					362,660
					302,000
C30 - IN	TERIOR FINISHES				
C3010	- WALL FINISHES				
	Wood Wall Finish - Auditorium	11,200.00	SF	25.00	280,000
	Tile Wainscot - 4' AFF (Corridors)	23.840.00	SF	10.00	238,400
	Tile Wainscot - 4' AFF (Comdors)	23,840.00	SF	10.00	238,400 76,800
	Tile Wainscot - 4' AFF (Toilet Rooms)	5,830.00	SF	10.00	58,300
9300.204	Tile Wainscot - Premium for 5' AFF	9,338.00	SF	10.00	93,380
	everywhere including stairwells				
	Paint Interior Walls (Barn Addition)	3,528.00	SF	0.82	2,893
9900.100	Paint Walls	484,380.00	SF	0.85	411,723
9900.205	Misc Painting - Door Frames, Misc Metals	1.00	LS	10,000.00	10,000
	Misc Painting - Door Frames, Misc Metals	1.00	LS	40,000.00	40,000
	0 - WALL FINISHES				1,211,496
C3020	- FLOOR FINISHES				
		074.00	I	40.00	0.740
	Tile Base	871.00	LF	10.00	8,710
9330.000	Quarry Tile Floors - Culinary	2,000.00	SF	15.00	30,000
					49,500
	Quarry Tile Floors - Kitchen	3,300.00	SF	15.00	49,300

...\15027 Dover HS Schematic Estimate MASTER.est



Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

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Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

ltem Code	Description	Quantity	UM	Total UnitCost	Total Cost
9330.005	Quarry Tile Base	760.00	LF	12.00	9,120
9332.000	Porecelain Tile Floor - Culinary	950.00	SF	15.00	14,250
9400.005	Mosaic Tile - Bath, Locker Rooms	12,230.00	SF	12.00	146,760
	Wood Floor - Gym	13,740.00	SF	18.00	247,320
	Wood Floor - Stage	2,620.00	SF	16.00	41,920
			SF		
	Linoleum	185,040.00		6.00	1,110,240
	Rubber Base	35,167.00	LF	1.85	65,059
	Rubber Treads & Risers	5,760.00	SF	14.00	80,640
9680.000	Carpet - Auditorium	820.00	SY	35.00	28,700
9690.000	Carpet Tile	1,200.00	SY	35.00	42,000
9760.011	Rubber Sports Flooring	4,934.00	SF	12.45	61,415
	Moisture Mitigation	4,934.00	SF	4.00	19,736
	Moisture Mitigation	-4,934.00	SF	8.00	-39,472
	Sealed Concrete	44,180.00	SF	1.50	66,270
	Sealed Concrete (Barn Addition)	12,200.00	SF	1.50	18,300
9900.506	Paint Gym Floor Logo	1.00	LS	3,000.00	3,000
12671.103	Walk-Off Foot Grilles (Alum Grid W/ Frame &	570.00	SF	72.08	41,085
	Pan)				
*** Total C302	0 - FLOOR FINISHES				2,044,553
C3030	- CEILING FINISHES				
	Gypsum Ceiling: Suspended drywall grid 5/8" type X GWB (1 layer), taped (IvI 4)	17,990.00	SF	5.31	95,475
9285 039	Misc Drywall Soffits	1.00	LS	119,999.73	120,000
	Misc Drywall Soffits	1.00	LS	29.999.96	30,000
	ACT - Restaurant	7,380.00	SF		59,040
				8.00	
9500.102		196,410.00	SF	3.00	589,230
	ACT(Cleanable) - Kitchen	5,330.00	SF	8.00	42,640
9500.200	24x24x5/8 Lay-In (Barn Addition)	900.00	SF	3.00	2,700
9500.390	Acoustical Wood Clouds - Auditorium	2.00	LS	40,000.00	80,000
	Tectum Ceilng Panels - 2"	6,870.00	SF	8.00	54,960
	Paint Ceilings	29,190.00	SF	0.85	24,812
	Paint Exposed Ceiling Structure	49,800.00	SF	1.75	87,150
	Paint exposed ceiling - Gym	13,740.00	SF	2.00	27,480
	0 - CEILING FINISHES INTERIOR FINISHES				1,213,486 4,469,534
					.,,
	- ELEVATOR				
3300.008	12" Base Slab	128.00	SF	14.42	1,846
3300.025	12" x 5' Foundation Wall	72.00	LF	128.35	9,241
	Drywall Partitions - 14' Ht (Elevator)	3,854.00	SF	10.00	38,540
	Elevator Pit Misc Metals	2.00	EA	1.813.09	3,626
	Hydraulic Passenger Elevator (1 Ea)	5.00	STOP	40,000.00	
		5.00	510P	40,000.00	200,000
	0 - ELEVATOR				253,253
** Total D10 - 0	CONVEYING SYSTEMS				253,253
D20 - PL	UMBING				
D20 - P	LUMBING				
15401.320	Domestic Water Heater, Residential Gas-Fired	2.00	EA	1.846.55	3.693
	(NG/P) Atmospheric, Foam Lined Tank, Vent			,	-,
	Not Included, 100 Gal.				
16404 330		2.00	EA	20.464.00	40,322
15401.338	Domestic Water Heater, Commercial Gas-	2.00	EA	20,161.00	40,322
	Fired (NG/P) Atmospheric, Std. Controls, Vent				
	Not Included, 250 MBH Input, 245 GPH				
15401.554	Potable Water Storage Tank, Indoor, Glass-	1.00	EA	14,258.38	14,258
	Lined PE, 605 Gal., 48" OD, 87" Long				
15401 556	Round, Stainless Steel, 26 ga., 8" OD - Water	120.00	LF	28.30	3,396
	Heater Vent	0.00	-	20.00	3,000

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4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Item	Description	Quantity	UM	Total	Total
Code				UnitCost	Cost
15402.452	Sump Pump, Wet-Pit Mounted, Vertical, Single Stage, 25 GPM, 1 HP, 1-1/2" Disch.	2.00	EA	4,055.67	8,111
15410.208	Comm. Water Closet, Floor Mounted VC, Flush Valve, Bowl only, incl. Seat, w/Floor	80.00	EA	753.67	60,294
15410.210	Outlet 1.28 gpf ADA Rough-In, Supply, Waste and Vent for Comm. Floor Mounted WC	80.00	EA	562.00	44,960
15410.404	Urinal, Wall Hung VC w/ Hanger and Valve, Water Saving 0.5 gpf	16.00	EA	843.38	13,494
15410.406	Rough-In, Supply, Waste and Vent for Wall Hung Urinal	16.00	EA	705.00	11,280
15410.640	Rough-In, Supply, Waste and Vent for Res. Vanity Top Lavatories	96.00	EA	547.00	52,512
15410.640	Rough-In, Supply, Waste and Vent for Salon Lavatories (no fixture)	10.00	EA	547.00	5,470
15410.698	Sink w/Faucet and Drain, SS Self Rimming, 43"x22" Double Bowl	30.00	EA	1,286.48	38,595
	Rough-In, Supply, Waste and Vent for Sinks Laboratory Sink, Corrosion Resistant,	30.00 44.00	EA EA	702.00 471.80	21,060 20,759
15410.832	12"x12"x8" Sink, 14.5"x14.5" OD Rough-In, Supply, Waste and Vent for Laboratory Sinks	44.00	EA	461.00	20,284
15410.834	Laboratory Faucet, Gooseneck Spout, Wrist Handles	44.00	EA	235.80	10,375
15410.840	Service Sink, Floor (Corner), PE, 28"x28" w/Rim Guard	15.00	EA	1,233.66	18,505
15410.844	Rough-In, Supply, Waste and Vent for Floor Service Sink	15.00	EA	1,827.00	27,405
15411.101	Hose Bibb, Exterior Freeze-Proof, Lockable	29.00	EA	105.40	3,056
	Stall Shower, One-Piece Fiberglass w/Three Walls, Drain Only, 32" Square	18.00	EA	645.94	11,627
	Thermostatic Valve for Shower	18.00	EA	585.00	10,530
15411.328	Rough-In, Supply, Waste and Vent for Shower	18.00	EA	818.00	14,724
	Emergency Shower, Single Head, Drench, Ball Valve, Pull Style, Freestanding, No Rough-In	8.00	EA	573.80	4,590
	Emergency Eyewash Fountain, SS Bowl, Pedestal Mount, No Rough-In	8.00	EA	533.80	4,270
	Electric Water Cooler, Wall Mounted, Full Recessed, SS, Bi-Level	27.00	EA	1,871.46	50,530
	Rough-In, Supply, Waste and Vent for Electric Water Cooler Floor Drain, Heavy Ducty, Galvanized	27.00 22.00	EA EA	504.00 1,131.14	13,608 24,885
10412.404	w/Sediment Bucket, 12" OD Grate, 2"-6" Pipe Size				
	Roof Drain, Integral Expansion Joint, Galvanized, 12" Dome, 4" Pipe Size	87.00	EA	1,074.20	93,455
15412.730	Roof Drain, Integral Expansion Joint, Galvanized, 12" Dome, 4" Pipe Size - Emergency	87.00	EA	1,074.20	93,455
15414.104	Water Meter, UL/FM Approved, 4" Main x 2" By-Pass, 700 GPM	1.00	EA	7,535.08	7,535
15414.126	Water Meter, Bronze, Comm./Dom., Flanged, 4" OD, 320 GPM	2.00	EA	5,366.82	10,734
	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3/4" OD	11,075.00	LF	10.64	117,797
	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 1" OD	8,525.00	LF	14.02	119,480
15420.114	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 2" OD	5,000.00	LF	31.93	159,632

...\15027 Dover HS Schematic Estimate MASTER.est

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

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Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
15420.118	Copper Type L, Solder Joint W/Couplings And	1,200.00	LF	76.22	91,458
15420.122	Hangers 10ft OC, 3" OD Copper Type L, Solder Joint W/Couplings And	300.00	LF	125.23	37,570
15421.104	Hangers 10ft OC, 4" OD Fiberglass 1" Insulation With All Service Jacket	11,075.00	LF	3.96	43,885
15421.106	3/4" Pipe Fiberglass 1" Insulation With All Service Jacket	8,525.00	LF	4.16	35,471
	1" Pipe Fiberglass 1-1/2" Insulation With All Service	5,000.00	LF	5.87	29,355
	Jacket 2" Pipe	·	LF		
	Fiberglass 1-1/2" Insulation With All Service Jacket 3" Pipe	1,200.00		6.58	7,894
15421.212	Fiberglass 1-1/2" Insulation With All Service Jacket 4" Pipe	300.00	LF	7.78	2,335
15421.500	Valves and Accessories	1.00	LS	500.00	500
	Valves and Accessories	1.00	LS	145,000.00	145,000
	UG Hub & Spigot, CI, No Hangers, 6" Pipe	1,500.00	LF	52.21	78,321
	Casty Iron SW&V, Hangers 5' OC, 1-1/2" Pipe	8,075.00	LF	18.61	150,292
	Casty Iron SW&V, Hangers 5' OC, 2" Pipe	5,050.00	LF	22.45	113,373
	Casty Iron SW&V, Hangers 5' OC, 2' Fipe	2,040.00		31.69	64,650
15440.382	Corrosion Resistant Pipe, Sch. 40 Polypropylene, No Coupling/Hangers, 2" OD - GW	2,000.00	LF	24.95	49,900
15440.386	Corrosion Resistant Pipe, Sch. 40 Polypropylene, No Coupling/Hangers, 4" OD - GW	1,000.00	LF	45.25	45,248
15440.500	Limestone Chip Acid Neutralizer - 200 Gallon	2.00	EA	17,500.00	35,000
	Sch40 PVC W/Couplings and Hangers, 10ft OC, 4" OD	2,000.00	LF	24.48	48,968
15450.412	Sch40 PVC W/Couplings and Hangers, 10ft OC, 6" OD	500.00	LF	37.11	18,557
15460.100	Black Steel, Schedule 40, Threaded W/Couplings And Hangers, 10ft OC, 2" OD - NG	6,000.00	LF	21.06	126,375
15460.102	Black Steel, Schedule 40, Threaded W/Couplings And Hangers, 10ft OC, 1-1/4" OD - NG	6,000.00	LF	14.47	86,826
15460.200	Valves and Accessories	1.00	LS	55,000.00	55,000
	Air Compressor, Reciprocating, Air-Cooled, Tank Mounted, Two Stage, 3 Phase, 105 CFM @ 125 PSI, 25 HP, 250 Gal. Tank	2.00	EA	14,100.00	28,200
15470.100	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3/4" OD - CA	1,200.00	LF	10.64	12,764
15470.102	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 1" OD	600.00	LF	14.02	8,409
15470.212	Compressed Air Outlet, Recessed Wall, Single	80.00	EA	123.75	9,900
	Kitchen Rough-In	2.00	LS	15,000.00	30,000
	Commissioning Support	1.00	LS	1,000.00	1,000
	Commissioning Support	1.00	LS	60,000.00	60,000
	Coordination & Management	1.00	LS	1,000.00	1,000
	Coordination & Management	1.00	LS	75,000.00	75,000
	Coring & Patching & Firestopping	1.00	LS	500.00	500
	Coring & Patching & Firestopping	1.00	LS	30,000.00	30,000
	Flushing & Sanitizing	1.00	LS	250.00	250
	Flushing & Sanitizing	1.00	LS	20,000.00	20,000
	Fees & Permits	1.00	LS	500.00	500
	Fees & Permits	1.00	LS	30,000.00	30,000
** Total D20 -				00,000.00	2,728,183
* Total D20 -					2,728,183
1 Utai D20 -	LONDING				2,120,103

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...\15027 Dover HS Schematic Estimate MASTER.est

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

ltem Code	Description	Quantity	UM	Total UnitCost	Total Cost	
				Cintooot		
D30 - H						
	Custom, 20" High, Insulated Roof Curb	24.00	EA	1,200.00	28,800	
15620.323	Outdoor, MAU, Indirect Gas-Fired (NG),	2.00	EA	18,086.92	36,174	
	Gravity Vent, SS Exchanger, 70degF Rise,					
45000 404	550 MBH Input	6.00	EA	0.007.74	47.440	
15620.421	RTU 1-6, Stnd Controls, Curb, Econ., Multi-	6.00	EA	2,907.71	17,446	
	Zone, Gas Heat, 42.5 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12000 CFM					
15620 422	RTU 7, Stnd Controls, Curb, Econ., Multi-	1.00	EA	2,907.71	2,908	
15020.422	Zone, Gas Heat, 17.5 Ton Dx Cooling, 200	1.00	LA	2,507.71	2,500	
	MBH Heating, Heat Wheel, 4500 CFM					
15620.423	RTU 8, Stnd Controls, Curb, Econ., Multi-	1.00	EA	2,907.71	2,908	
100201120	Zone, Gas Heat, 30 Ton Dx Cooling, 350 MBH			2,001.11	2,000	
	Heating, Heat Wheel, 8000 CFM					
15620.424	RTU 9, 10, Stnd Controls, Curb, Econ., Multi-	2.00	EA	2,907.71	5,815	
	Zone, Gas Heat, 22 Ton Dx Cooling, 320 MBH					
	Heating, 6500 CFM					
15620.425	RTU 11, Stnd Controls, Curb, Econ., Multi-	1.00	EA	2,907.71	2,908	
	Zone, Gas Heat, 7.5 Ton Dx Cooling, 130					
	MBH Heating, 2500 CFM					
15620.426	RTU 12, Stnd Controls, Curb, Econ., Multi-	1.00	EA	2,907.71	2,908	
	Zone, Gas Heat, 6.5 Ton Dx Cooling, 120 MBH Heating, 2000 CFM					
15620 427	RTU 13, 14, Stnd Controls, Curb, Econ., Multi-	2.00	EA	2.907.71	5.815	
15020.427	Zone, Gas Heat, 10 Ton Dx Cooling, 200 MBH	2.00		2,507.71	5,015	
	Heating, 3200 CFM					
15620,428	RTU 15, Stnd Controls, Curb, Econ., Multi-	1.00	EA	2,907.71	2.908	
	Zone, Gas Heat, 35 Ton Dx Cooling, 480 MBH			_,	_,	
	Heating, 10000 CFM					
15620.429	RTU 16, Stnd Controls, Curb, Econ., Multi-	1.00	EA	2,907.71	2,908	
	Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH					
	Heating, 4000 CFM					
15620.430	RTU 17, Stnd Controls, Curb, Econ., Multi-	1.00	EA	2,907.71	2,908	
	Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH					
15600 404	Heating, 3500 CFM RTU 18, Stnd Controls, Curb, Econ., Multi-	1.00	EA	0.007.71	2,908	
10020.431	Zone, Gas Heat, 35 Ton Dx Cooling, 550 MBH	1.00	EA	2,907.71	2,900	
	Heating, Heat Wheel, 12500 CFM					
15620 432	RTU 19, Stnd Controls, Curb, Econ., Multi-	1.00	EA	2,907.71	2,908	
10020.102	Zone, Gas Heat, 300 MBH Heating, Heat			2,001.11	2,000	
	Wheel, 6000 CFM					
15620.433	RTU 20, Stnd Controls, Curb, Econ., Multi-	1.00	EA	2,907.71	2,908	
	Zone, Gas Heat, 300 MBH Heating, Heat					
	Wheel, 6000 CFM					
15620.434	RTU 21, Stnd Controls, Curb, Econ., Multi-	1.00	EA	2,907.71	2,908	
	Zone, Gas Heat, 200 MBH Heating, Heat					
45000 405	Wheel, 3500 CFM	4.00	E 4	0.007.74	0.000	
15020.455	RTU 22, Stnd Controls, Curb, Econ., Multi- Zone, Gas Heat, 400 MBH Heating, Heat	1.00	EA	2,907.71	2,908	
	Wheel, 8000 CFM					
15620 436	RTU 23, Stnd Controls, Curb, Econ., Multi-	1.00	EA	2,907.71	2.908	
10020.400	Zone, Gas Heat, 300 MBH Heating, Heat	1.00	L/(2,001.11	2,000	
	Wheel, 6000 CFM					
15620.437	RTU 24, Stnd Controls, Curb, Econ., Multi-	1.00	EA	2,907.71	2,908	
	Zone, Gas Heat, 300 MBH Heating, Heat					
	Wheel, 6200 CFM					
15620.500	Daikin Rebel / Maverick II RTU's - VFD's,	1.00	LS	1,100,000.00	1,100,000	
	Extended Warranties					
				1		

Dover High School & Career Technical Center Feasibility Study

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

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Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
15624.003	Split System, Ductless, Cooling Only, Wall Mount, Single Zone, 1-1/2 Ton	5.00	EA	6,013.00	30,065
15630.220	Single Bathroom Exhaust Fan, 100 CFM	7.00	EA	403.45	2,824
	Bathroom Exhaust Fan, 1000 CFM	10.00	EA	1,680.56	16,806
	Exhaust Fan, 1500 CFM	3.00	EA	2,180.56	6,542
	Kitchen Exhaust Fan, Centrifugal, 4000 CFM	2.00	EA	4,215.33	8,431
15040.112	Hot Water Condensing Boiler, Packaged w/Controls/Circulator/Trim, NG, 330 MBH	3.00	EA	10,214.00	30,642
45040 444	Output	4.00	F 4	17 011 00	404.050
15640.114	Hot Water Condensing Boiler, Packaged w/Controls/Circulator/Trim, NG, 2500 MBH Output	4.00	EA	47,814.00	191,256
45050.000		4.00	10	0.000.00	0.000
	Glycol Treatment System	1.00	LS	8,000.00	8,000
	Chiller, Air Cooled, High Efficiency, 50 Ton	1.00	EA	42,927.00	42,927
15660.000	Fume Hood, Fan, Ductwork	2.00	EA	5,500.00	11,000
15660.002	Vehicle Exhaust System, 2000 CFM	1.00	LS	15,000.00	15,000
	Vehicle Exhaust System, 5000 CFM	1.00	LS	25,000.00	25,000
	Paint Booth Exhaust System, 12000 CFM	1.00	LS	25,000.00	25,000
	Dust Collection System, 4000 CFM	1.00	LS	65,000.00	65,000
		1.00	LS		
	Duct Collection System, 6000 CFM			87,000.00	87,000
	Chilled Water Pump, Centrifugal, Base Mounted, End Suction, 105 gpm w/VFD	2.00	EA	4,096.31	8,193
	Hot Water Pump, Centrifugal, Base Mounted, End Suction, 100 gpm w/VFD	2.00	EA	3,994.33	7,989
	Hot Water Pump, Centrifugal, Base Mounted, End Suction, 680 gpm w/VFD	2.00	EA	17,994.33	35,989
	Displacement Ventilation System (per Classroom)	95.00	EA	1,250.00	118,750
	Sound Attenuator Device / Double Wall Ductwork (per RTU)	24.00	EA	2,500.00	60,000
15680.112	Galvanized Ductwork, > 5000 LB	252,000.00	LB	7.50	1,889,975
15684.102	Duct Insulation, Blanket Type, Fiberglass, FSK, 1.0Lb Density, 1-1/2" Thick	217,000.00	SF	2.53	549,661
15688.014	Gas Vent, Double Wall, Galvanized Steel, UL Listed, 12" Dia.	700.00	LF	48.66	34,064
	Fin Tube Radiation, Wall Hung, 14" Slope Top, 1-1/4" Cu Tube, 4-1/4" Aluminum Fin	3,630.00	LF	64.10	232,683
	Cabinet Unit Heater, Horizontal, Floor Mount, 60 MBH	32.00	EA	1,617.26	51,752
	Unit Heater, Hot Water, Horizontal, 47 MBH	17.00	EA	717.26	12,193
15692.210	Variable Air Volume Box, PI, w/Damper, Actuator, T-Stat, 1000 CFM	125.00	EA	890.00	111,250
15699.000	Chilled Beam	640.00	LF	100.00	64,000
15700.106	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3/4" OD	22,000.00	LF	10.64	233,999
15700.112	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 1-1/2" OD	11,000.00	LF	22.40	246,362
15700.118	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3" OD	2,400.00	LF	62.36	149,656
15700.316	Black Steel, Schedule 40, Welded W/Couplings And Hangers, 10ft OC, 4" OD	400.00	LF	45.02	18,010
15704.104	Fiberglass 1" Insulation With All Service Jacket 3/4" Pipe	22,000.00	LF	3.96	87,175
15704.202	Fiberglass 1-1/2" Insulation With All Service Jacket 1-1/2" Pipe	11,000.00	LF	5.49	60,390
15704.308	Fiberglass 2" Insulation With All Service Jacket 3" Pipe	2,400.00	LF	8.10	19,428
15704.312	Fiberglass 2" Insulation With All Service Jacket 4" Pipe	400.00	LF	9.71	3,883
15705.004	Air Separator w/Strainer, 2-1/2" Dia.	1.00	EA	1,439.16	1,439

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
15705.008	Air Separator w/Strainer, 4" Dia.	1.00	EA	3,098.60	3,099
	Expansion Tank, Steel, ASME, Rubber	1.00	EA	3,786.82	3,787
	Diaphragm, 61 Gal. Accep. Vol.			-,	-,
15706 214	Expansion Tank, Steel, ASME, Rubber	1.00	EA	6,573.73	6,574
10100.214	Diaphragm, 211 Gal. Accep. Vol.	1.00	2/1	0,010.10	0,014
15708 106	ARC Tubing, Type L Copper, Hard Tempered,	1,000.00	LF	7.11	7,110
13700.100	No Couplings/Hangers, 5/8"	1,000.00		/.11	7,110
15700 110		1,000.00	LF	10.84	10,840
15/00.112	ARC Tubing, Type L Copper, Hard Tempered,	1,000.00	LF	10.04	10,040
45700 500	No Couplings/Hangers, 1-1/8"	4.00	1.0	000.000.00	000.000
	Valves & Accessories	1.00	LS	200,000.00	200,000
	DDC Controls	302,514.00	SF	5.50	1,663,827
	DDC Controls	2,000.00	SF	7.50	15,000
	CO2 Sensor	167.00	EA	85.00	14,195
15792.001	Air & Water Balance	304,514.00	SF	0.50	152,257
15801.501	Coordination & Management	1.00	LS	1,000.00	1,000
15801.501	Coordination & Management	1.00	LS	200,000.00	200,000
15801.502	Commissioning Support	1.00	LS	500.00	500
	Commissioning Support	1.00	LS	65,000.00	65,000
	Coring, Patching & Firestopping	1.00	LS	250.00	250
	Coring, Patching & Firestopping	1.00	LS	40,000.00	40,000
	Seismic Restraint	1.00	LS	500.00	500
	Seismic Restraint	1.00	LS	25,000.00	25,000
	Fees & Permits	1.00	LS	75,000.00	75,000
*** Total D30 -		1.00		10,000.00	8,281,029
** Total D30 - H			1		8,281,029
					0,201,020
D40 - FIF	RE PROTECTION				
D40 - F	IRE PROTECTION				
15502.002	Fire Service Main - 6" Ductile Iron, Mech. Joint	150.00	LF	29.06	4.358
	6" Double Check Backflow Preventer W/OS&Y	2.00	EA	5,847.73	11,695
10002.024	Valves, 4 Test Cocks	2.00	2/1	0,041.10	11,000
15502 110	FDC - Two Way Siamese - 3x3x6	2.00	EA	1.541.40	3,083
	4" Zone Flow Control Valve W/Trim And	8.00	EA	6,009.14	48,073
15502.110	Gauges	0.00		0,005.14	40,075
15500 100		0.00	EA	152.65	1 220
	Tamper Switch	8.00	LF	153.65	1,229
15502.202	Sprinkler Main Sch 40 BS - 4", Grooved Joint,	8,860.00	LF	39.75	352,181
	W/Hangers 10 Ft O.C.			10.00	
15502.222	Sprinkler Branch Sch 40 BS - 1" Threaded W/	17,770.00	LF	12.53	222,655
	Hangers 10 Ft O.C.				I
15502.226	Sprinkler Branch Sch 40 BS - 1-1/2" Threaded	8,760.00	LF	16.39	143,576
	W/ Hangers 10 Ft O.C.				1
15502.400	Sprinkler Heads - Standard Pendant, 1/2"	2,670.00	EA	36.43	97,255
	NPT, 1/2" Orifice				1
15505.006	2" Dry Pipe Valve With Trim And Gauges	1.00	EA	2,507.80	2,508
	30 Gal., 1 HP Comp Air Sys For Fire	1.00	EA	1,093.23	1,093
	Protection			.,	.,
15505 202	Sprinkler Main Sch 40 BS - 4", Grooved Joint,	115.00	LF	39.75	4,571
10000.202	W/Hangers 10 Ft O.C RR	113.00	L'	55.15	4,571
15505 222	Sprinkler Branch Sch 40 BS - 1" Threaded W/	190.00	LE	12.53	2,381
10000.222		190.00	LF	12.00	2,301
15505 400	Hangers 10 Ft O.C RR	00.00	F A	20.42	700
15505.400	Sprinkler Heads - Standard Upright, 1/2" NPT,	20.00	EA	36.43	729
	1/2" Orifice - RR		. –		
15525.004	Sprinkler Main Sch 40 BS - 4", Grooved Joint,	300.00	LF	39.75	11,925
	W/Hangers 10 Ft O.C.				1
15525.102	Fd Standpipe Angle Valve, 2-1/2", Brass,	8.00	EA	287.34	2,299
	W/Wheel, Handle Chain And Cap		1		
15535.002	Coordination & Management	1.00	LS	20,000.00	20,000
	Hydraulic Calculations	1.00	LS	12,000.00	12,000
	Coring & Patching & Firestopping	1.00	LS	17,500.00	17,500
	Fees & Permits	1.00	LS	12,000.00	12,000
		1.00	LO	12,000.00	
	FIRE PROTECTION			I	971,111

...\15027 Dover HS Schematic Estimate MASTER.est

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

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Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
** Total D40 - F	FIRE PROTECTION				971,111
D50 - EI	ECTRICAL				
	350 kW NG Emergency Generator w/Sound	1.00	EA	169,146.07	169,146
10020.210	Attenuated Enclosure	1.00	LA	103, 140.07	103,140
16020.212	Emergency Power Equipment and Distribution	302.514.00	SF	1.50	453.771
	Emergency Generator - Testing	1.00	LS	5,000.00	5,000
	4000 Amp Switchgear, 480/277V	1.00	EA	90,000.00	90,000
16030.004	Transformer / Primary / Conduit **	1.00	LS	50,000.00	50,000
	ALLOWANCE **				
	Panel Feeders	64.00	EA	2,500.00	160,000
	Primary Conduit Only - (1) 4"	800.00	LF	4.40	3,520
	Secondary Feeder - (8) 4" Conduits	800.00	LF	4.40	3,520
	Secondary Feeder - #600 MCM Conductor	3,200.00	LF	34.35	109,920
	Grounding/Bonding	1.00	LS	10,000.00	10,000
	20 KW UPS	2.00	EA	20,000.00	40,000
	Panel 277/480V 100A - Lighting	16.00	EA	1,664.44	26,631
	Panel 277/480V 100A - Mechanical Panel 277/480V 400A - Distribution	16.00 16.00	EA EA	1,664.44 3,328.57	26,631 53,257
	Triple Tub Panel 120/208V 250 Amp	16.00	EA	3,328.57 9,795.00	53,257
	Transformer Dry Type, Three Phase, 30kVA	16.00	EA	4,928.89	78,862
	Transformer Dry Type, Three Phase, 75kVA	16.00	EA	7,194.29	115,109
	Branch Devices	304,514.00	SF	1.00	304,514
	Power and Branch Circuitry	302,514.00	SF	3.50	1,058,799
	RTU Feeder	24.00	EA	2,706.00	64,944
16060.416	Boiler Feeder	7.00	EA	1,401.75	9,812
16060.418	Pump Feeder	7.00	EA	1,965.75	13,760
	Chiller Feeder	1.00	EA	8,336.00	8,336
	2x4 Flourescent - MER	30.00	EA	340.25	10,208
	Recessed LED's - Classrooms/Offices	1,316.00	EA	290.25	381,969
	Direct LED's - Gymnasium	20.00	EA	1,080.50	21,610
	Linear Indirect LED's - Corridor	500.00	EA	440.25	220,125
16080.016	Pendant Mount / Indirect Flourescent -	58.00	EA	728.25	42,239
10000 010	Cafeteria	36.00	EA	603.25	04 747
	2x2 LED Panels - Kitchen/Servery Direct Recessed LED's - Library	36.00	EA	290.25	21,717 10,449
	Dimmable Flourescent - Auditorium	70.00	EA	2,090.25	146,317
	Exterior Wall Mount - LED	42.00	EA	628.25	26,387
	Exterior Pole Fixture - Custom LED	35.00	EA	4,000.00	140,000
	Exterior Pendant - LED - RR	15.00	EA	628.25	9,424
	Lighting Circuitry	2,000.00	SF	1.25	2,500
	Lighting Circuitry	302,514.00	SF	2.00	605,028
16081.102	Lighting Controls	304,514.00	SF	1.25	380,642
	Lighting Controls & Panels - Testing	1.00	LS	1,000.00	1,000
	Lighting Controls & Panels - Testing	1.00	LS	25,000.00	25,000
16081.150	Stage Lights / Sound System / Dimmer Rack ** ALLOWANCE **	1.00	LS	375,000.00	375,000
	Sound System - Cafeteria	1.00	LS	20,000.00	20,000
	Sound System - Gymnasium	1.00	LS	20,000.00	20,000
	Sound System - Music Room	1.00	LS	10,000.00	10,000
	Bi-Directional Antennae	1.00	LS	50,000.00	50,000
	Tel/ Data/ CATV	304,514.00	SF	1.75	532,899
	Card Reader System - Head End Equipment	1.00	EA	9,000.00	9,000
	Card Readers - Swipes/Wires	25.00	EA	1,700.00	42,500
	Master Clock	304,514.00	SF SF	0.35	106,580
16180.001	Communications - Testing	304,514.00 1.00	LS	0.60 20.000.00	182,708 20.000
	Security System - Head End Equipment	1.00	LS	20,000.00 35,000.00	20,000 35,000
	Fixed Interior CCTV Cameras	25.00	EA	3,000.00	75,000
10200.002		20.00	LA	0,000.00	73,000
	nematic Estimate MASTER.est		Page 11		6/22/2015 08:2

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Item	Description	Quantity	UM	Total	Total	
Code				UnitCost	Cost	
16000.004	Pan-Tilt-Zoom Exterior CCTV Cameras	10.00	EA	5.000.00	50.000	
	Fire Alarm	304,514.00	SF	5,000.00	456,771	
	Fire Alarm Testing	1.00	LS	750.00	750	
	Fire Alarm Testing	1.00	LS	7,500.00	7,500	
	Lightning Protection	1.00	LS	30,000.00	30,000	
16400.100	Commissioning	1.00	LS	60,000.00	60,000	
16400.102	Firestopping	1.00	LS	20,000.00	20,000	
16400.104	Identification	1.00	LS	7,500.00	7,500	
16400.106	Seismic Restraint	1.00	LS	12,500.00	12,500	
	Fees & Permits	1.00	LS	50,000.00	50,000	
	ELECTRICAL				7,230,576	
** Total D50 -					7,230,576	
					1,200,010	
	UIPMENT					
E10 - E	QUIPMENT, GENERALLY					
11160.034	12" Dock Seal - OH Doors	1.00	EA	1,585.04	1,585	
11160.043	Rubber Dock Bumper 4 1/2"x14"x12"	2.00	EA	166.38	333	
	OUTDOOR SCOREBOARDS - NOT					
	INCLUDED					
11/180 008	Gym Bleachers (One Side Only)	1.00	LS	25,000.00	25,000	
	Gym Divider Curtain - Existing to remain	1.00	LE	160.00	20,000	
	Basketball Hoop - Existing to remain		EA	5,333,33		
	Volley Ball Net w/ Floor Inserts		EA	1,900.00		
	Score Board - Existing to remain		EA	8,500.00		
11480.060	Upgrade Motorized Retraction System for		LS	20,000.00		
	Existing Bleachers					
11480.062	Plastic Telescoping Stands - Hussey Maxam		EA	110.00		
	26 Motorized Bleachers					
11480.065	Gym Wall Padding - 6' Ht	470.00	LF	100.00	47.000	
	Temporarily Relocate Existing Bleachers for	1.00	LS	20,000.00	20,000	
	Floor Replacement					
11650.000	Stage Set Fastening Equipment - In Line set					
11050.000	Allowance					
11651 000	Lecture Hall Tables - 18" X 5'		EA	1,085.15		
		000.00			000.000	
11653.000	Auditorium Seating - Quattro By Hussey	800.00	EA	250.00	200,000	
	Seating			/== 000.00	(== 000	
	Line Sets & Shell Allowance - Auditorium	1.00	LS	175,000.00	175,000	
	EQUIPMENT, GENERALLY				468,918	
** Total E10 - I	EQUIPMENT				468,918	
E20 - EU	RNISHINGS					
	- FIXED FURNISHINGS					
	Smart Boards - N/A per HMFH		EA	2,677.73		
10100.004	Marker Board W/ Alum Trim - Classrooms &	3,048.00	SF	15.63	47,648	
	Labs					
10100.006	Tack Board W/O Trim	3,048.00	SF	8.32	25,348	
12500.010	Hunter Douglas Roller Shades (50% of	21,376.00	SF	11.00	235,136	
	glazing)					
*** Total E201	0 - FIXED FURNISHINGS				308,132	
** Total E20 - I	FURNISHINGS				308,132	
=						
	ECIAL CONSTRUCTION					
F10 - S	PECIAL CONSTRUCTION					
2100.022	50' Riding Ring w/ Fence (Roof in B10)	1.00	LS	10,000.00	10,000	
	Crushed Stone Under Slab - Kennel	20.00	CY	37.51	750	
	4" SOG - Kennel	400.00	SF	7.71	3,084	
	Chain Link Fence - Vinyl Coated 6' H - Kennel	120.00	LF	22.00	2,640	
2120.110	(10' x 10')	120.00		22.00	2,040	
2760 100	Tennis Court	6.00	EA	40,000.00	240,000	
2/62.110	Baseball Field (Includes new drainage system)	1.00	EA	150,000.00	150,000	
				L		

...\15027 Dover HS Schematic Estimate MASTER.est



Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

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Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

(In *** Total F10 - SPE	erer Field Operlegging Deschall Fight				Cost
*** Total F10 - SPI	ccer Field Operlapping Baseball Field	1.00	EA	200,000.00	200,000
	cludes new drainage system)				
** Total F10 - SDE	ECIAL CONSTRUCTION				606,474
	CIAL CONSTRUCTION				606,474
	CTIVE BUILDING DEMOLITION UILDING ELEMENTS DEMOLIT				
		270,000.00	SF	6.00	1,620,000
	ass Demolition - High School emo Entrance Canopy	4.600.00	SF	0.68	3,129
	BUILDING ELEMENTS DEMO	4,000.00	ЪГ	0.00	1,623,129
	ECTIVE BUILDING DEMOLIT				1,623,129
G10 - SITE	PREPARATION				
G1020 - S	ITE DEMOLITION				
2013.240 De	emo Bit Conc Pvmt - Large Area	230,562.00	SF	0.16	37,927
2013.240 De	emo Bit Conc Pvmt - Large Area (For Animal	6,000.00	SF	0.16	987
Ba					
	mo Conc Walk	11,800.00	SF	0.63	7,414
*** Total G1020 - S	SITE DEMOLITION				46,328
	ARTHWORK				
	sc Erosion Control	1.00	LS	60,000.00	60,000
	e Access/Laydown	1.00	LS CY	35,000.00	35,000
2200.130 Sit		20,000.00		12.13	242,550
	e Fill From Borrow (Demolished Wing) -	20,000.00	CY	3.17	63,382
	E to be lowered to further balance site anular Fill (M) (Demolished Wing)	20,000.00	CY	10.00	200,000
2300.155 De		20,000.00	LS	40.000.00	40,000
*** Total G1030 - E		1.00	10	40,000.00	640,932
** Total G10 - SITE					687,260
G20 - SITE	IMPROVEMENTS				
2600.050 Co	mpact Road Subgrade	29,319.22	SY	0.23	6,790
2600.060 Fin	ne Grade Road Subgrade	29,319.22	SY	1.04	30,551
2600.075 Sta	abilization Fabric-Medium	33,717.11	SY	1.31	44,068
	stall Road Base (L)	20,523.46	CY	3.96	81,300
	se - Crushed Gravel (M)	20,523.46	CY	16.00	328,375
	Ided 2" for Heavy Duty Paving - Lot C	418.00	TONS	110.00	45,980
	3,891 SF)	6 455 20	TON	05.00	612.000
2600.200 Bit 2600.201	uminous Concrete P3.96g (4") 29319.22	6,455.39 1.00	TON EACH	95.00	613,262
	29319.22 *Paved Area**	58,195.11	SY		
	ading For Curbs	4,500.00	LF	2.68	12,060
	oncrete Curbs 6" X 18"	4,500.00	LF	12.00	54,000
	Concrete Sidewalk	11,000.00	SF	3.00	33,000
*** Total G2010 - S		,			1,249,386
G2050 - L	ANDSCAPING				
2710.200 La		1.00	LS	150,000.00	150,000
	ndscaping - Courtyard	1.00	LS	150,000.00	150,000
	eel Handrail - Site Retaining Wall	405.00	LF	62.21	25,195
10000.010 Fla		1.00	EA	2,277.73	2,278
*** Total G2050 - L ** Total G20 - SITE	LANDSCAPING E IMPROVEMENTS				327,473 1,576,859
G30 - SITE					1,010,000
		4.000.00	LF	44.08	176 200
	orm Drainage Line Dia PC Catch Basin	4,000.00 40.00	EA	44.08 3,469.33	176,320 138,773
2540.110 Wa		300.00	LF	5,469.55	16,224
2040.110 Wa		500.00		54.00	10,224

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

	Description	0			T .(1)
Item	Description	Quantity	UM	Total	Total
Code				UnitCost	Cost
0540.000	0. 11. 0	000.00			45.004
	Sanitary Sewer	300.00	LF	52.08	15,624
	Prim/Sec Electrical/Telcom Trenching	300.00	LF	32.08	9,624
	Natural Gas Trenching	350.00	LF	32.08	11,228
2540.128	Alter Underdrain at existing ball field for new	1.00	LS	10,000.00	10,000
	addition				
2540.130	Alter Underdrain at existing lacrosse field at	1.00	LS	10,000.00	10,000
	north side of building due to const access				
	Elec Trench-Direct Burial (Site Lighting)	5,100.00	LF	8.04	41,004
2580.120	Elec Trench-Duct Bank (Secondary/Primary	140.00	LF	12.32	1,725
	Under Roads)				
	Elec Ductbank Forms	560.00	SF	4.42	2,473
	Elec Ductbank Concrete	48.53	CY	121.08	5,876
15412.614	Grease Interceptor, Steel, 50 GPM, 100 LB Fat	1.00	EA	9,962.60	9,963
	Capacity				
15412.624	Grease Interceptor, Steel, 250 GPM, 500 LB	1.00	EA	26,096.32	26,096
	Fat Capacity				
*** Total G301	0 - SITE UTILITIES				474,931
** Total G30 - 9	SITE UTILITIES				474,931
740 05					
Z10 - GE					
	GENERAL CONDITIONS				
0080.100	***DESIGN & ENGINEERING FEES BY CITY				
	OF DOVER***				
0100.000	Mobilize / Demobilize	1.00	LS	28,000.00	28,000
0100.020	Office Supplies	155.00	WK	275.00	42,625
	Office Furniture / Systems	1.00	LS	48,000.00	48,000
	Engineer's Furniture / Equipment - N/A		LS		
	Engineer's Computer / Software - N/A		LS		
	Project Kiosk 30" - Purchase	4.00	EA	5,000.00	20,000
0100.060	Janitorial Services	155.00	WK	150.00	23,250
0100.064	Temporary Wiring	1.00	LS	3,000.00	3,000
0100.065	Electrical Energy Costs	35.00	MO	350.00	12,250
0100.066	Water Usage Costs	35.00	MO	200.00	7,000
0100.100	Telephone / Communication	35.00	MO	1,000.00	35,000
0100.110	Sanitary / Facilities	35.00	MO	1,500.00	52,500
0110.080	Security / Watchman		WK		
0110.120	Photographs		MO		
	Documents & Reproductions	1.00	LS	15,000.00	15,000
	Estimating - GMP	1.00	LS	50,000.00	50,000
	Officer in Charge		MW	7,000.00	
	Construction Executive	15.00	MW	5,400.00	81,000
	Senior Project Manager	56.00	MW	4,720.00	264,320
	Project Manager	128.00	MW	3,800.00	486,400
	Senior Project Engineer		MW	2,880.00	
	Project Engineer	155.00	MW	2,400.00	372,000
	Office Engineer	115.00	MW	1,920.00	220.800
	Senior Superintendent	137.00	MW	4,720.00	646,640
	Project Superintendent	149.00	MW	3,720.00	554,280
	Construction Coordination - SCP	37.00	MW	2,400.00	88,800
	Scheduling Engineer	01.00	MW	2,280.00	00,000
	Safety Manager		MW	3,720.00	
	Safety Engineer (2 Days/Week)	62.00	MW	2,280.00	141,360
	Administration	132.00	MW	1,720.00	227,040
	Living Allowance - Management	310.00	MWK	300.00	93,000
	Living Allowance - Foremen	010.00	MWK	125.00	30,000
	Travel and Expenses	35.00	MO	600.00	21,000
	Scheduling	1.00	WK	2,280.00	2,280
	Permit's & Fee's	1.00	LS	2,200.00	2,200
	Building Permit		LS		
	Design (Means & Methods)		LS		
0140.300	Design (Medits & Methods)		LO		
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...\15027 Dover HS Schematic Estimate MASTER.est

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

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Job #: 15027 Project Size: 0 SF Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP Group 1: School Options Group 2: Uniformat 1

Item Description Code	Quantity	UM	Total UnitCost	Total Cost
0140.800 Professional Services		LS		
0150.200 Equipment Trucking		WK		
0150.250 Off - Site Parking		WK		
0150.500 Personnel Elevator		мо		
0150.520 Field Office	35.00	ТМ	1,200.00	42,000
0150.540 Engineer / Architect Office	00.00	тм	400.00	42,000
0150.560 Storage Trailers (2 Trailers)	70.00	TM	150.00	10.500
0160.300 Sub Bonds (Include w/ Subs)	10.00	LS	100.00	10,000
0180.010 Gross Receipts Tax		LS		
0180.020 Sales Tax		LS		
*** Total Z1010 - GENERAL CONDITIONS		1.5		3,588,045
Total 21010 - GENERAL CONDITIONS				5,500,045
Z1020 - GENERAL REQUIREMENTS				
0200.010 Materials Testing		LS		
0200.040 Snow Removal	1.00	LS	40,000.00	40,000
0200.110 Field Engineering	4.00	WK	5,000.00	20,000
0200.140 Temporary GWB Partitions	2,000.00	SF	7.80	15,600
0200.160 ICRA / ILSM - N/A		LS		
0200.180 Scaffolding - In COW		LS		
0200.200 OSHA / First Aid	155.00	WK	771.89	119,643
0200.300 Material Handling	155.00	WK	940.00	145,700
0200.310 Cranes - In COW		CM		
0200.320 Progress Cleanup (Labor & Dumpster)	155.00	WK	707.04	109,591
0200.360 Final Cleanup	304,514.00	SF	0.45	137,031
0200.400 Temporary Heat	1.00	LS	175,000.00	175,000
0200.410 Temporary Enclosure	1.00	LS	150,000.00	150,000
0200.970 Support Equipment		LS		
*** Total Z1020 - GENERAL REQUIREMENTS				912,566
** Total Z10 - GENERAL				4,500,611
Z20 - MAJOR CUSTOM PROGRAM ELEM	ENTS			
Z2010 - MAJOR CUSTOM PROGRAM EL	EMENTS			
0060.002 Precon Services - N/A (Included under	-	LS	96.000.00	
separate contract)			00,000.00	
2032.500 Asbestos Abatement Contract	1.00	LS	1,300,000.00	1,300,000
2032.505 Asbestos Abatement - 5% Increase per year	1.00	LS	359.166.00	359,166
2762.100 Replace existing football field with turf	1.00	LS	750,000.00	750,000
11400.001 Kitchen Equipment	3,386.00	SF	150.00	507,900
*** Total Z2010 - MAJOR CUSTOM PROGRAM	0,000.00		150.00	2,917,066
** Total Z20 - MAJOR CUSTOM PROGRAM EL				2,917,066
* Total Option 3 - All New Construction				65.565.715
Total Gross Cost				65,565,715

4.5 - PC	Construction Cost Estimate - All Optic			
-	Dover High School - Option #3 - New Cor	nstruction - Estimat	e Comparison	
CONSTRUCTION		PC	PM&C	Cost Variance
Hi	igh School Total	\$71,593,411	\$75,210,418	\$3,617,007
A1010 Sta	andard Foundations	\$1,478,583	\$2,798,096	\$1,319,513
A1020 Sp	pecial Foundations	\$1,622,007		-\$1,622,007
A1030 Lo	owest Floor Construction	\$1,601,208	\$1,264,280	-\$336,928
B1010 Flo	oor Construction	\$7,351,995	\$3,796,200	-\$3,555,795
B1020 Ro	pof Construction	\$1,012,718	\$4,197,862	\$3,185,144
B2010 Ex	xterior Walls	\$4,419,107	\$3,457,843	-\$961,264
B2020 Wi	indows	\$3,212,475	\$2,469,971	-\$742,504
B2030 Ex	xterior Doors	\$142,812	\$149,383	\$6,571
B3010/3020 Ro	poof Coverings & Openings	\$1,886,518	\$2,047,146	\$160,628
C1010 Pa	artitions	\$2,282,122	\$3,503,210	\$1,221,088
C1020 Int	terior Doors	\$810,180	\$867,922	\$57,742
C1030 Sp	pecialties / Millwork	\$2,286,264	\$2,177,814	-\$108,450
C2010 Sta	air Construction	\$362,660	\$192,500	-\$170,160
C3010 Wa	all Finishes	\$1,211,496	\$1,035,248	-\$176,248
C3020 Flo	oor Finishes	\$2,044,553	\$2,133,640	\$89,087
C3030 Ce	eiling Finishes	\$1,213,486	\$1,319,365	\$105,879
D1010 Ele	evator	\$253,253	\$192,800	-\$60,453
D2010 Plu	umbing	\$2,728,183	\$2,812,133	\$83,950
D3010 HV	VAC	\$8,281,029	\$8,024,600	-\$256,429
D4010 Fir	re Protection	\$971,111	\$1,036,049	\$64,938
D5010 Ele	ectrical	\$7,230,576	\$8,082,036	\$851,460
E1010 Eq	quipment, Generally	\$468,918	\$960,800	\$491,882
E2010 Fix	xed Furnishings	\$308,132	\$202,770	-\$105,362
F10 Sp	pecial Construction	\$606,474	\$425,000	-\$181,474
F2010 Bu	uilding Elements Demolition	\$1,623,129		-\$1,623,129
G1020/1030 Sit	te Demolition & Earthwork	\$687,260	\$6,778,594	\$6,091,334
G2010 Sit	te Paving	\$1,249,386		-\$1,249,386
G2050 La	andscaping	\$327,473		-\$327,473
	te Utilities	\$474,931		-\$474,931
	eneral Conditions	\$3,588,045	\$3,240,000	-\$348,045
	eneral Requirements	\$912,566	\$1,965,331	\$1,052,765
	ajor Custom Program Elements	\$2,917,066	\$1,300,000	-\$1,617,066
	ption #3 Total Direct Cost	\$65,565,716	\$66,430,593	\$864,877
	איז	403,303,7 IO	<i>400,430,393</i>	\$004,077

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Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

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	-	-	
Labor and Material Escalation	\$0	\$0	\$
Builders Risk Insurance	\$48,893		-\$48,89
Liability Insurace	\$536,948	\$543,742	\$6,79
Construction Manager's Contingency (PC @ 5%)	\$3,278,286	\$6,251,099	\$2,972,81
P & P Bond	\$417,387	\$347,208	-\$70,17
CM Fee (2.5%)	\$1,746,181	\$1,637,776	-\$108,40
Option #3 Total Indirect Cost	\$6,027,695	\$8,779,825	\$2,752,13
Option #3 Total Gross Cost	\$71,593,411	\$75,210,418	\$3,617,00

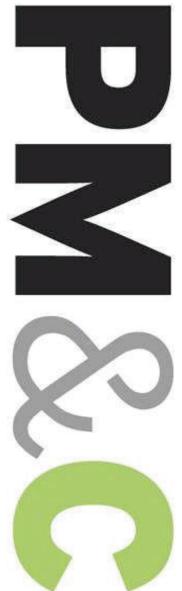


Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

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Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

Conceptual Options

Dover Regional High School and Career Technical Center

Dover, NH

Prepared for:

HMFH Architects, Inc

June 22, 2015



Dover Regional High School and Career Technical Center Dover, NH

Conceptual Options

MAIN CONSTRUCTION COST SUMMARY

	Construction Start	Gross Floor Area	\$/sf	Estimated Construction Cost
Option 1 - BASE RENOVATION				
PHASE 1; NEW CTC BUILDING; AUTOMOTIVE REPAIR, COLL ELECTRONICS	ISION AND	20,000	\$213.62	\$4,272,425
PHASE 1; ANIMAL BARN; 2000 GSF RENOVATION, 6,500 GSF	ADDITION	8,500	\$130.00	\$1,105,000
PHASE 1; SWING SPACE - TEMPORARY MODULAR CLASSE	ROOMS	16 #	n/a	\$1,800,000
PHASE 2-7; RENOVATE EXISTING SCHOOL		244,750	\$140.71	\$34,439,570
REMOVE HAZARDOUS MATERIALS allowance per Universal Consultants dated February 10, 2015 ¹	Environmental			\$1,300,000
SITEWORK				\$2,793,500
SUB-TOTAL	May-16	273,250	\$167.28	\$45,710,495
ESCALATION PH1				INCL
ESCALATION PH2 - 7	6.00%			\$2,311,984
DESIGN AND PRICING CONTINGENCY	12%			\$5,485,259
SUB-TOTAL WITH CONTINGENCY & ESCALATION	May-16	273,250	\$195.82	\$53,507,738
GENERAL CONDITIONS ²				\$5,202,580
GENERAL REQUIREMENTS ²				\$1,690,412
PHASING PREMIUM	2.00%			\$1,070,155
BONDS	0.53%			\$283,591
INSURANCE	0.83%			\$444,114
PERMIT				NIC
GMP CONTINGENCY	3.00%			\$1,605,232
OVERHEAD AND FEE	2.5%			\$1,337,693
TOTAL OF CONSTRUCTION - BASE RENOVATION OPTION	May-16	273,250	\$238.40	\$65,141,515

++ With this option 1# ball field is eliminated

Dover High School Feasibility estimate June 22 2015

Page 2

PMC - Project Management Cost

Dover High School Feasibility estimate June 22 2015

22-Jun-15

4.6 - PM&C Cost Estimate - All Options PM&C

Dover Regional High School and Career Technical Cent Dover, NH

Conceptual Options

Option 2 - RENOVATION/ ADDITION

RENOVATION AND ADDITION TO EXISTING BUILDING

ANIMAL BARN; 2000 GSF RENOVATION, 6,500 GSF ADDITION

DEMOLISH PORTION OF EXISTING BUILDING

REMOVE HAZARDOUS MATERIALS allowance per Universal Consultants dated February 10, 2015¹

SITEWORK

SUB-TOTAL

ESCALATION

DESIGN AND PRICING CONTINGENCY

SUB-TOTAL WITH CONTINGENCY & ESCALATION

GENERAL CONDITIONS² GENERAL REQUIREMENTS² BONDS INSURANCE PERMIT GMP CONTINGENCY

OVERHEAD AND FEE

TOTAL OF ALL CONSTRUCTION ADDITION/RENOVATION OPTION

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

22-Jun-15

I			
	294,500	\$171.03	\$50,368,089
	8,500		INCL
	178,826	\$6.00	\$1,072,956
Environmental			\$1,300,000
			\$4,611,393
May-16	303,000	\$189.28	\$57,352,438
0.00%			Incl
7%			\$4,014,671
May-16	303,000	\$202.53	\$61,367,109
38	mths		\$3,826,515
3.00%			\$1,005,426
0.53%			\$325,246
0.83%			\$509,347
			NIC
3.00%			\$1,841,013
2.5%			\$1,534,178
May-16	303,000	\$232.37	\$70,408,834

Dover Regional High School and Career Technical Center Dover, NH

Conceptual Options

OPTION 3 - NEW BUILDING

TOTAL OF ALL CONSTRUCTION NEW BUILDING OPTION	May-16	304,514	\$246.99	\$75,210,418
OVERHEAD AND FEE	2.5%			\$1,637,776
GMP CONTINGENCY	3.00%			\$1,965,331
PERMIT				NIC
INSURANCE	0.83%			\$543,742
BONDS	0.53%			\$347,208
GENERAL CONDITIONS ² GENERAL REQUIREMENTS ²	36 3.00%	mths	\$90,000	\$3,240,000 \$1,965,331
		a	<u> </u>	<u> </u>
SUB-TOTAL WITH CONTINGENCY & ESCALATION	May-16	304,514	\$215.13	\$65,511,030
DESIGN AND PRICING CONTINGENCY	7%			\$4,285,768
ESCALATION	0.00%			INCL
SUB-TOTAL	May-16	304,514	\$201.06	\$61,225,262
SITEWORK	-			\$4,821,394
REMOVE HAZARDOUS MATERIALS allowance per Universal Consultants dated February 10, 2015 ¹	Environmental			\$1,300,000
DEMOLISH EXISTING SCHOOL		244,650	\$8.00	\$1,957,200
ANIMAL BARN; 2000 GSF RENOVATION, 6,500 GSF ADDITION	ſ	8,500		INCL
NEW SCHOOL BUILDING		296,014	\$179.54	\$53,146,668
or mon 5 men benefind				

4.6 - PM&C Cost Estimate - All Options PM&C

Dover Regional High School and Career Technical Center Dover, NH

Conceptual Options

¹ HazMat removal costs include design, construction monitoring and air sampling services. ² Priced as CM at Risk project.

This Feasibility cost estimate was produced from preliminary drawings, narratives and other documentation prepared by HMFH Architects Inc. and their design team dated April 21, 2015. Design and engineering changes occurring subsequent to the issue of these documents have not been incorporated in this estimate.

This estimate includes all direct construction costs, general contractor's overhead and profit and design contingency. Cost escalation assumes start dates indicated above.

We have assumed procurement will utilize a public bid to pre-qualified subcontractors, open specifications for materials and manufactures.

The estimate is based on prevailing wage rates for construction in this market and represents a reasonable opinion of cost. It is not a prediction of the successful bid from a contractor as bids will vary due to fluctuating market conditions, errors and omissions, proprietary specifications, lack or surplus of bidders, perception of risk, etc. Consequently the estimate is expected to fall within the range of bids from a number of competitive contractors or subcontractors, however we do not warrant that bids or negotiated prices will not vary from the final construction cost estimate.

ITEMS NOT CONSIDERED IN THIS ESTIMATE

Items not included in this estimate are:

Land acquisition, feasibility, and financing costs All professional fees and insurance Site or existing conditions surveys investigations costs, including to determine subsoil conditions All Furnishings, Fixtures and Equipment Items identified in the design as Not In Contract (NIC) Items identified in the design as by others Owner supplied and/or installed items as indicated in the estimate Utility company back charges, including work required off-site Work to City streets and sidewalks, (except as noted in this estimate) Construction contingency

Dover High School Feasibility estimate June 22 2015

PMC - Project Management Cost



22-Jun-15

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

22-Jun-15

NH otual Optic						GFA	20	000
otuai Optio	JIIS			UNIT	EST'D	SUB	ZU, TOTAL	000
n 1 DAG	DESCRIPTION E RENOVATION	QTY	UNIT	COST	COST	TOTAL	COST	
NEW CI	IC BUILDING							
GROSS	FLOOR AREA CALCULATION							
	First Fl	oor		20,000				
	TOTAL GROSS FLOOR AREA (GFA)				20,000 ş	f		
						, 		
A10	FOUNDATIONS							
A1010	STANDARD FOUNDATIONS							
111010	Pile foundations							
	Excavation	681	cy	10.00	6,810			
	Remove off site	681	cy	12.00	8,172			
	Backfill with gravel	227	cy	28.00	6,356			
	Grade beams - allow 24" x 48"	311	cy	500.00	155,500			
	Pile caps - allowance (assume 25' grid)	143	cy	650.00	92,950			
	Dampproofing & insulation at grade beams	2,400	sf	5.00	12,000			
	SUBTOTAL					281,788		
A1020	SPECIAL FOUNDATIONS							
	Mobilize/ Demobilize	1	ls	30,000.00	30,000			
	HP Steel piles, assume 30' deep	1,200	lf	80.00	96,000			
	SUBTOTAL					126,000		
A1030	LOWEST FLOOR CONSTRUCTION							
	Gravel fill, 8"	494	cy	35.00	17,290			
	Rigid insulation, 4' perimeter	2,400	sf	1.87	4,488			
	Vapor barrier	20,000	sf	0.55	11,000			
	Structural Slab, 10" thick	20,000	sf	12.00	240,000			
	SUBTOTAL					272,778		
	TOTAL - FOUNDATIONS						\$680,5	66
A20	BASEMENT CONSTRUCTION							
A 2010	BASEMENT EXCAVATION							
112010	No Work in this section							
	SUBTOTAL							
A2020	BASEMENT WALLS							
112020	No Work in this section							
	SUBTOTAL							
	TOTAL - BASEMENT CONSTRUCTION							
B10	SUPERSTRUCTURE	_						
210								
B1010	FLOOR CONSTRUCTION							
	No Work in this section							
	SUBTOTAL							

	ligh School and Career Technical Center						22-J
Dover, NH							
Conceptual Optio	ins	[UNIT	EST'D	GFA SUB	20 TOTAL
CODE	DESCRIPTION E RENOVATION	QTY	UNIT	COST	COST	TOTAL	COST
	ROOF CONSTRUCTION						
51020	Roof Structure - Steel:						
	Steel Joists; allowance 11 lbs per SF	110	tns	3,100.00	341,000		
	Roof Deck						
	1-1/2" Cold formed steel deck	20,000	sf	2.50	50,000		
	Miscellaneous Elizabeth			Notes and a			
	Fire proofing Fire stopping	1	ls	Not required 2,000.00	2,000		
	Misc. angles	1	ls	2,000.00	2,000		
	SUBTOTAL	1	15	20,000.00	20,000	413,000	
	TOTAL - SUPERSTRUCTURE						\$413,0
B20	EXTERIOR CLOSURE						
B2010	EXTERIOR WALLS - 70% solid/30% Glazed	12,000	sf				
	Interior skin						
	10" CMU walls Insulation	8,400	sf	16.00 2.25	134,400		
	Air barrier	8,400 8,400	sf sf	4.00	18,900 33,600		
	Air barrier/flashing at windows	1,188	lf	6.50	7,722		
	Gypsum Sheathing	8,400	sf	2.50	21,000		
	Exterior skin						
	Brick veneer	8,400	sf	26.00	218,400		
	Miscellaneous						
	Staging to exterior wall	12,000	sf	2.00	24,000	450.000	
	SUBTOTAL					458,022	
B2020	WINDOWS	3,600	sf				
	Windows/Curtainwall/Storefront	3,500	sf	75.00	262,500		
	Louvers (allowance)	100	sf	50.00	5,000		
	Backer rod & double sealant	1,188	lf	4.00	4,752		
	Wood blocking at openings	1,188	lf	2.50	2,970		
	SUBTOTAL	,				275,222	
B2030	EXTERIOR DOORS						
	Glazed entrance doors including frame and hardware; double door	3	\mathbf{pr}	7,000.00	21,000		
	HM doors, frames and hardware	4	ea	2.000.00	8,000		
	Overhead doors at Workshops	3	ea	5,000.00	15,000		
	Backer rod & double sealant	140	lf	4.00	560		
	Wood blocking at openings SUBTOTAL	140	lf	3.00	420	44,980	
						,	
	TOTAL - EXTERIOR CLOSURE						\$778,2
B30	ROOFING	l					
B3010	ROOF COVERINGS Flat roofing						
	White TPO roofing	20,000	sf	5.00	100,000		
	Insulation	20,000	sf	4.50	90,000		
	Reinforced vapor barrier	20,000	sf	0.45	9,000		
	Rough blocking	2,400	lf	5.00	12,000		
	Roof coping/ fascia	600	lf	30.00	18,000		



Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

4.6 - PM&C Cost Estimate - All Options

80							
r Regional H r, NH	ligh School and Career Technical Center						22-Jun-15
eptual Optic	ons					GFA	20,000
	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	E RENOVATION	Ų11	cmi	0051	031	IOIAL	0001
	SUBTOTAL					229,000	
B3020	ROOF OPENINGS Roof hatch	1	loc	2,000.00	2,000		
	SUBTOTAL			_,	_,	2,000	
	TOTAL - ROOFING						\$231,000
С10	INTERIOR CONSTRUCTION]					
C1010	PARTITIONS						
	New Interior partitions; abuse resistant GWB SUBTOTAL	20,000	gsf	10.00	200,000	200,000	
C1020	INTERIOR DOORS Interior doors, frames and hardware		ach	2.00	60.000		
	SUBTOTAL	20,000	gsf	3.00	60,000	60,000	
C1030	SPECIALTIES / MILLWORK						
	Toilet Partitions and accessories	20,000	gsf	0.80	16,000		
	Backer panels in electrical closets	1	ls	500.00	500		
	Marker boards/tackboards	20,000	sf	0.50	10,000		
	Signage & Directories	20,000	gsf	0.30	6,000		
	Fire extinguisher cabinets	6	ea	350.00	2,100		
	Lockers	20,000	sf	1.50	30,000		
	Miscellaneous metals throughout building	20,000	sf	0.50	10,000		
	Miscellaneous sealants throughout building	20,000	sf	0.50	10,000		
	SUBTOTAL					84,600	
	TOTAL - INTERIOR CONSTRUCTION						¢244622
	IOTAL - INTERIOR CONSTRUCTION						\$344,600
C20	STAIRCASES]					
C2010	STAIR CONSTRUCTION						
02010	No items in this section SUBTOTAL						
Caoao	STAIR FINISHES						
02020	No items in this section SUBTOTAL						
	TOTAL - STAIRCASES						
L							
Сзо	INTERIOR FINISHES]					
C3010	WALL FINISHES						
	Wall finishes allowance for all finishes; CT tile in bathrooms; CT wainscot in corridors; paint to walls	20,000	sf	4.00	80,000		
	SUBTOTAL					80,000	
C3020	FLOOR FINISHES						
	Concrete sealer in Collision, Auto body and Electronics workshops	14,000	sf	2.00	28,000		
	Flooring at corridors/lobby/ admin areas; linoleum Flooring in toilet rooms	5,580 420	sf sf	6.50 14.00	36,270 5,880		

Dover High School Feasibility estimate June 22 2015

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PMC - Project Management Cost

Dover		High School and Career Technical Center						22
	tual Optic	ons					GFA	2
SI		DESCRIPTION	OTV	UNIT	UNIT	EST'D	SUB	TOTAL
CODE Optio	n 1 - BAS	E RENOVATION	QTY	UNIT	COST	COST	TOTAL	COST
		Allowance for bases and miscellaneous floor finishes	20,000	sf	0.50	10,000		
		Allowance for moisture mitigation	5,580	sf	2.00	11,160		
		SUBTOTAL					91,310	
	C3030	CEILING FINISHES						
	0.0	ACT ceilings	6,000	sf	4.00	24,000		
		Paint exposed decking in workshops	14,000	sf	2.00	28,000	** ***	
		SUBTOTAL					52,000	
		TOTAL - INTERIOR FINISHES						\$223
ĺ	D10	CONVEYING SYSTEMS						
	D1010	ELEVATOR	1					
	21010	No items in this section						
		SUBTOTAL						
i		TOTAL - CONVEYING SYSTEMS						
ļ								
ļ	D20	PLUMBING						
	D20	PLUMBING, GENERALLY						
		Plumbing	20,000	gsf	8.00	160,000		
		SUBTOTAL					160,000	
		TOTAL - PLUMBING						\$160
ļ	D30	HVAC						
	D30	HVAC, GENERALLY						
		HVAC system	20,000	gsf	32.00	640,000		
		SUBTOTAL					640,000	
		TOTAL - HVAC						\$640
i								
	D40	FIRE PROTECTION						
	D40	FIRE PROTECTION, GENERALLY						
		Fire protection system	20,000	gsf	3.50	70,000	70.000	
		SUBTOTAL					70,000	
		TOTAL - FIRE PROTECTION						\$70
	D50	ELECTRICAL						
		Electrical system, complete	20,000	gsf	28.00	560,000		
		SUBTOTAL		-			560,000	
ļ		TOTAL - ELECTRICAL						\$560
l								
	E10	EQUIPMENT	1					

Dover High School Feasibility estimate June 22 2015

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

PMC - Project Management Cost

PM&C Dover Regional High School and Career Technical Center Dover, NH 22-Jun-15 **Conceptual Options** GFA 20,000 CSI CODE UNIT COST EST'D COST SUB TOTAL TOTAL Option 1 - BASE RENOVATION оту UNIT COST Electrically operated projection screens, smart boards, break room appliances 222 **1** loc 20,000.00 20,000 223 Collision, Auto body and Electronics workshops FF+E equipment 224 SUBTOTAL 20,000 225 226 TOTAL - EQUIPMENT \$20,000 227 228 229 E20 FURNISHINGS 230 231 E2010 FIXED FURNISHINGS 232 Entry mats & frames 45.00 10,125 225 sf 233 Window blinds 3,600 6.00 21,600 sf 234 40.000 Admin/Back of house casework- allowance 80 lf 500.00 235 Counters, base cabinets, tall storage in Workshops 4.00 80,000 20,000 gsf 236 151,725 SUBTOTAL 237 238 E2020 MOVABLE FURNISHINGS 239 All movable furnishings to be provided and installed by owner 240 SUBTOTAL NIC 241 TOTAL - FURNISHINGS 242 \$151,725 243 244 F10 SPECIAL CONSTRUCTION 245 246 247 F10 SPECIAL CONSTRUCTION 248 No items in this section 249 SUBTOTAL 250 TOTAL - SPECIAL CONSTRUCTION 251 252 253 254 F20 SELECTIVE BUILDING DEMOLITION 255 256 F2010 BUILDING ELEMENTS DEMOLITION 257 No items in this section 258 SUBTOTAL 259 260 F2020 HAZARDOUS COMPONENTS ABATEMENT 261 No items in this section 262 SUBTOTAL 263 264 TOTAL - SELECTIVE BUILDING DEMOLITION 265 266 TOTAL OPTION 1 NEW CTC BUILDING \$4,272,425

4.6 - PM&C Cost Estimate - All Options PM&C

Dover Regional High School and Career Technical Center Dover, NH

Conceptual Options

		CONSTRUCT
Option 1	BUILDING	RENOVATION
A10		DATIONS
1110	A1010	Standard Foundations
	A1020	Special Foundations
	A1030	Standard Foundations Special Foundations Lowest Floor Construction
B10	SUPER	STRUCTURE
	B1010	Upper Floor Construction
	B1020	Roof Construction
B20	EXTER	IOR CLOSURE
	B2010	Exterior Walls
	B2020	Windows/Curtainwall
	B2030	Windows/Curtainwall Exterior Doors
B30	ROOFI	NG
	B3010	Roof Coverings
	B3020	Roof Openings
C10	INTER	IOR CONSTRUCTION
	C1010	Partitions
	C1020	Interior Doors
	C1030	Specialties/Millwork
C20	STAIR	CASES
	C2010	Stair Construction
	C2020	Stair Finishes
C30	INTER	IOR FINISHES
	C3010	Wall Finishes
	C3020	Floor Finishes
	C3030	Ceiling Finishes
D10	CONVE	EVING SYSTEMS
	D1010	Elevator
D20	PLUME	BING
	D20	Plumbing
D30	HVAC	
	D30	HVAC
D40		ROTECTION
	D40	Fire Protection

Dover High School Feasibility estimate June 22 2015

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PMC - Project Management Cost

ΗM

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

			22-Jun-15	
		GFA	244,750	
TION COST SUMM SUB-TOTAL	TOTAL	\$/SF	%	
\$0				
\$440,000				
\$387,000	\$827,000	\$3.38	2.4%	
,	1 - 77			
\$820,825				
\$35,000	\$855,825	\$3.50	2.5%	
\$460,856				
\$1,776,840				
\$137,510	\$2,375,206	\$9.70	6.9%	
\$230,000				
\$20,000	\$250,000	\$1.02	0.7%	
\$1,223,750				
\$734,250				
\$2,079,148	\$4,037,148	\$16.49	11.7%	
\$57,000				
\$20,000	\$77,000	\$0.31	0.2%	
\$979,000				
\$1,989,224				
\$1,278,822	\$4,247,046	\$17.35	12.3%	
\$122,500	\$122,500	\$0.50	0.4%	
\$2,325,125	\$9 00F 10F	\$9.50	6.8%	
\$2,323,123	\$2,325,125	39.00	0.070	
\$7,945,251	\$7,945,251	\$32.46	23.1%	
\$856,625	\$856,625	\$3.50	2.5%	
	-			

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eptua	al Options				GFA	244,750
		CONSTRUCTION	N COST SUMMA	ARY		
	BUILDING		SUB-TOTAL	TOTAL	\$/SF	%
otion 1	- BASE H	RENOVATION				
D50	ELECT	RICAL				
	D5010	Electrical Systems	\$6,873,138	\$6,873,138	\$28.08	20.0%
E10	EQUIP	MENT				
	E10	Equipment	\$960,800	\$960,800	\$3.93	2.8%
E20	FURNI	SHINGS				
	E2010	Fixed Furnishings	\$136,674			
	E2020	Movable Furnishings	NIC	\$136,674	\$0.56	0.4%
F10	SPECIA	AL CONSTRUCTION				
	F10	Special Construction	\$425,000	\$425,000	\$1.74	1.2%
F20	SELEC	FIVE BUILDING DEMOLITION				
	F2010	Building Elements Demolition	\$2,125,232			
	F2020	Hazardous Components Abatement	\$0	\$2,125,232	\$8.68	6.2%
TOT	AL DIRE	CT COST (Trade Costs)		\$34,439,570	\$140.71	100.0%

4.6 - PM&C Cost Estimate - All Options
PM&C
Dover Regional High School and Career Technical Center
Dover, NH

Conceptual Options

24 25

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	DESCRIPTION
1 - BAS	SE RENOVATION
GROSS	FLOOR AREA CALCULATION
	Lower Floor First Floor Second Floor Corridors - Lower, Main and 2nd floor
	TOTAL GROSS FLOOR AREA (GFA)
440	FOUNDATIONS
A10	FOUNDATIONS
A1010	STANDARD FOUNDATIONS
	No items in this section
	SUBTOTAL
A1020	SPECIAL FOUNDATIONS
111020	Phase 2 Structural work
	Allowance to upgrade existing foundations at
	columns Allowance for temporary shoring
	New grade beams
	Demo and removal of existing pile caps and grade
	beams
	Allowance for new Helical augured piles or drilled mini-piles at existing columns including premium for restricted working conditions
	SUBTOTAL
A1030	LOWEST FLOOR CONSTRUCTION All phases
	Remove and replace slabs for new plumbing and
	service lines etc.
	Allowance to patch existing slab @ structural work
	Alter slope at auditorium to meet ADA requirements
	New equipment pads
	Phase 7; New elevator pits
	Animal barn foundations
	SUBTOTAL
	TOTAL - FOUNDATIONS
B10	SUPERSTRUCTURE
DIO	SOLEKSIKOCIOKE
B1010	FLOOR CONSTRUCTION
	Phase 2 Structural work
	Existing HSS columns -
	Allowance to expose existing columns for upgrades - remove gypsum fireproofing enclosure and sheet metal outer shell; 12 columns per floor, 3 floors
	Allowance for supplemental reinforcement at existing columns for new bracing and augmentation of existing base plates and an'or bolts - new full height plates or channels welded to the existing column

Dover High School Feasibility estimate June 22 2015



Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

					22-Jun-15
				GFA	244,750
		UNIT	EST'D	SUB	TOTAL
QTY	UNIT	COST	COST	TOTAL	COST
Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7
17,000		11,000	36,000	Phase o	rnase /
14,000	12,000	9,000	36,000	34,000	
				34,000	00.000
17,000	12,000	9,000	8,000	13,750	22,000 13,000
			8,000	15,750	13,000
48,000	41,000	29,000	44,000	47,750	22,000
-					

12	loc	10,000.00	120,000		
1	ls	140,000.00	140,000		
12	loc	5,000.00	60,000		
12	loc	10,000.00	120,000		
				440,000	
4,050	sf	10.00	40,500		
2,400	sf	10.00	24,000		
6,300	sf	25.00	157,500		
1	ls	10,000.00	10,000		
1	ea	25,000.00	25,000		
1	ls	130,000.00	130,000		
				387,000	
					\$827,000

36	loc	2,000.00	72,000
36	loc	3,500.00	126,000

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Dover Regional High School and Career Technical Center Dover, NH

	ons					GFA	:
		0.577		UNIT	EST'D	SUB	TOTA
tion 1 PA	DESCRIPTION SE RENOVATION	QTY	UNIT	COST	COST	TOTAL	COST
uon 1 - BA	3-Story Vertical HSS bracing bays attached to existing columns including minor structural reinforcement of existing floor and roof framing member	8	loc	25,000.00	200,000		
	Auditorium and Gymnasium wing		No additio	onal lateral suppor	ts necessary		
	All phases Allowance to patch existing upper floors at new MEP penetrations - All Phases	163,750	sf	1.50	245,625		
	Allowance for ADA upgrades - new ramps to allow HC access	500	sf	70.00	35,000		
	Fire stopping floors	1	ls	15,000.00	15,000		
	Phase 7; Create new openings in structure for elevator	288	sf	25.00	7,200		
	New penetrations to existing structure	1	ls	20,000.00	20,000		
	Fire proofing to new steel	1	ls	100,000.00	100,000		
	SUBTOTAL					820,825	
B1020	ROOF CONSTRUCTION						
	All phases						
	Structural upgrades at roof				Not required		
	Allowance for penetrations and dunnage at existing roof structure for new MEP systems	1	ls	25,000.00	25,000		
	Phase 7; New openings in structure for elevator SUBTOTAL	1	loc	10,000.00	10,000	35,000	
						,	
	TOTAL - SUPERSTRUCTURE						\$85
B20	EXTERIOR CLOSURE						
Paara		60.000	-£				
B2010	EXTERIOR WALLS Allowance for minor patching/ repair at existing closure	62,800 41,896	<i>sf</i> sf	7.00	293,272		
B2010	Allowance for minor patching/ repair at existing closure	41,896	sf				
B2010	Allowance for minor patching/ repair at existing closure Insulate existing walls			7.00	293,272 167,584	460 856	
B2010	Allowance for minor patching/ repair at existing closure	41,896	sf			460,856	
	Allowance for minor patching/ repair at existing closure Insulate existing walls	41,896	sf			460,856	
	Allowance for minor patching/ repair at existing closure Insulate existing walls SUBTOTAL WINDOWS/CURTAINWALL	41,896 41,896	sf sf			460,856	
	Allowance for minor patching/ repair at existing closure Insulate existing walls SUBTOTAL WINDOWS/CURTAINWALL New Kalwal window system at 3 story Classroom wing	41,896 41,896 20,904	sf sf sf	4.00	167,584	460,856	
	Allowance for minor patching/ repair at existing closure Insulate existing walls SUBTOTAL WINDOWS/CURTAINWALL New Kalwal window system at 3 story Classroom wing Phase 3	41,896 41,896 20,904 12,384	sf sf sf	4.00 85.00	167,584	460,856	
B2020	Allowance for minor patching/ repair at existing closure Insulate existing walls SUBTOTAL WINDOWS/CURTAINWALL New Kalwal window system at 3 story Classroom wing Phase 3 Phase 4	41,896 41,896 20,904 12,384	sf sf sf	4.00 85.00	167,584		
B2020	Allowance for minor patching/ repair at existing closure Insulate existing walls SUBTOTAL WINDOWS/CURTAINWALL New Kalwal window system at 3 story Classroom wing Phase 3 Phase 4 SUBTOTAL	41,896 41,896 20,904 12,384	sf sf sf	4.00 85.00	167,584		
B2020	Allowance for minor patching/ repair at existing closure Insulate existing walls SUBTOTAL WINDOWS/CURTAINWALL New Kalwal window system at 3 story Classroom wing Phase 3 Phase 4 SUBTOTAL EXTERIOR DOORS Allowance to replace all existing exterior doors Glazed entrance doors including frame and hardware; per leaf	41,896 41,896 20,904 12,384	sf sf sf	4.00 85.00 85.00 7,000.00	167,584 1,052,640 724,200 42,000		
B2020	Allowance for minor patching/ repair at existing closure Insulate existing walls SUBTOTAL WINDOWS/CURTAINWALL New Kalwal window system at 3 story Classroom wing Phase 3 Phase 4 SUBTOTAL EXTERIOR DOORS Allowance to replace all existing exterior doors Glazed entrance doors including frame and hardware; per leaf HM doors, HM frames and hardware (leafs)	41,896 41,896 20,904 12,384 8,520	sf sf sf sf sf	4.00 85.00 85.00 7,000.00 1,300.00	167,584 1,052,640 724,200 42,000 39,000		
B2020	Allowance for minor patching/ repair at existing closure Insulate existing walls SUBTOTAL WINDOWS/CURTAINWALL New Kalwal window system at 3 story Classroom wing Phase 3 Phase 4 SUBTOTAL EXTERIOR DOORS Allowance to replace all existing exterior doors Glazed entrance doors including frame and hardware; per leaf HM doors, HM frames and hardware (leafs) Overhead doors @ Loading and Workshops	41,896 41,896 20,904 12,384 8,520 6 30 10	sf sf sf sf sf pr lvs ea	4.00 85.00 85.00 7,000.00 1,300.00 5,000.00	167,584 1,052,640 724,200 42,000 39,000 50,000		
B2020	Allowance for minor patching/ repair at existing closure Insulate existing walls SUBTOTAL WINDOWS/CURTAINWALL New Kalwal window system at 3 story Classroom wing Phase 3 Phase 4 SUBTOTAL EXTERIOR DOORS Allowance to replace all existing exterior doors Gazed entrance doors including frame and hardware; per leaf HM doors, HM frames and hardware (leafs) Overhead doors @ Loading and Workshops Backer rod & double sealant	41,896 41,896 20,904 12,384 8,520 6 30 10 930	sf sf sf sf sf pr lvs ea lf	4.00 85.00 85.00 7,000.00 1,300.00 5,000.00 4.00	167,584 1,052,640 724,200 42,000 39,000 50,000 3,720		
B2020	Allowance for minor patching/ repair at existing closure Insulate existing walls SUBTOTAL WINDOWS/CURTAINWALL New Kalwal window system at 3 story Classroom wing Phase 3 Phase 4 SUBTOTAL EXTERIOR DOORS Allowance to replace all existing exterior doors Glazed entrance doors including frame and hardware; per leaf HM doors, HM frames and hardware (leafs) Overhead doors @ Loading and Workshops	41,896 41,896 20,904 12,384 8,520 6 30 10	sf sf sf sf sf pr lvs ea	4.00 85.00 85.00 7,000.00 1,300.00 5,000.00	167,584 1,052,640 724,200 42,000 39,000 50,000		
B2020	Allowance for minor patching/ repair at existing closure Insulate existing walls SUBTOTAL WINDOWS/CURTAINWALL New Kalwal window system at 3 story Classroom wing Phase 3 Phase 4 SUBTOTAL EXTERIOR DOORS Allowance to replace all existing exterior doors. Glazed entrance doors including frame and hardware; per leaf HM doors, HM frames and hardware (leafs) Overhead doors @ Loading and Workshops Backer rod & double sealant Wood blocking at openings	41,896 41,896 20,904 12,384 8,520 6 30 10 930	sf sf sf sf sf pr lvs ea lf	4.00 85.00 85.00 7,000.00 1,300.00 5,000.00 4.00	167,584 1,052,640 724,200 42,000 39,000 50,000 3,720	1,776,840	\$2,37

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4.6 - PM&C Cost Estimate - All Options PM&C

Dover Regional High School and Career Technical Center Dover, NH

			1		UNIT	EST'D	SUB	тота
		DESCRIPTION	QTY	UNIT	COST	COST	TOTAL	COST
Optio	n 1 - BAS	E RENOVATION	1				1	
	B3010	ROOF COVERINGS						
		Flat roofing	81.000	of	9.95	ETR		
		Remove existing membrane roofing TPO roof membrane fully adhered	81,000 81,000	sf sf		ETR		
		Insulation		sf		ETR		
		1/2" protection board	81,000 81,000	sf		ETR		
		Reinforced vapor barrier	81,000	sf		ETR		
		Miscellaneous Roofing	01,000	51	0.40	LIII		
		Roof edge detail - fascia	2,000	lf	80.00	ETR		
		Rough blocking	12,000	lf	4.00	ETR		
		Allowance for additional roof drains and scuppers	1	ls	15,000.00	15,000		
		Allowance for new gutters and downspouts	1	ls	10,000.00	10,000		
		New drop-off canopy allowance	1	ls	200,000.00	200,000		
		Walk pads	1	ls	5,000.00	5,000		
		SUBTOTAL					230,000	
	Deces	BOOFOBENINGS						
	B3020	ROOF OPENINGS Allowance for elevator vent, roof hatches, ladders etc	1	ls	20,000.00	20,000		
		The walles for elevator veril, roor nateries, haders etc	-	15	20,000.00	20,000		
		SUBTOTAL					20,000	
		TOTAL - ROOFING						\$250
	C10	INTERIOR CONSTRUCTION	1					
	С10	INTERIOR CONSTRUCTION]					
		PARTITIONS]					
			244,750	sf	2.00	489,500		
		PARTITIONS Minimal patch, repair of existing partitions ; allowance Phases 2 - 7						
		PARTITIONS Minimal patch, repair of existing partitions ;	244,750 244,750	sf sf	2.00 3.00	489,500 734,250		
		PARTITIONS Minimal patch, repair of existing partitions ; allowance Phases 2 - 7 Allowance for MEP chases, new partitions for ADA					1,223,750	
		PARTITIONS Minimal patch, repair of existing partitions ; allowance Phases 2 - 7 Allowance for MEP chases, new partitions for ADA requirements; allowance Phases 2 - 7					1,223,750	
	C1010	PARTITIONS Minimal patch, repair of existing partitions ; allowance Phases 2 - 7 Allowance for MEP chases, new partitions for ADA requirements; allowance Phases 2 - 7 SUBTOTAL INTERIOR DOORS			3.00	734,250	1,223,750	
	C1010	PARTITIONS Minimal patch, repair of existing partitions ; allowance Phases 2 - 7 Allowance for MEP chases, new partitions for ADA requirements; allowance Phases 2 - 7 SUBTOTAL INTERIOR DOORS New interior doors, frames and hardware in existing					1,223,750	
	C1010	PARTITIONS Minimal patch, repair of existing partitions ; allowance Phases 2 - 7 Allowance for MEP chases, new partitions for ADA requirements; allowance Phases 2 - 7 SUBTOTAL INTERIOR DOORS New interior doors, frames and hardware in existing openings; allowance Phases 2 - 7	244,750	sf	3.00	734,250		
	C1010	PARTITIONS Minimal patch, repair of existing partitions ; allowance Phases 2 - 7 Allowance for MEP chases, new partitions for ADA requirements; allowance Phases 2 - 7 SUBTOTAL INTERIOR DOORS New interior doors, frames and hardware in existing	244,750	sf	3.00	734,250	1,223,750 734,250	
	C1010 C1020	PARTITIONS Minimal patch, repair of existing partitions ; allowance Phases 2 - 7 Allowance for MEP chases, new partitions for ADA requirements; allowance Phases 2 - 7 SUBTOTAL INTERIOR DOORS New interior doors, frames and hardware in existing openings; allowance Phases 2 - 7 SUBTOTAL	244,750	sf	3.00	734,250		
	C1010 C1020	PARTITIONS Minimal patch, repair of existing partitions ; allowance Phases 2 - 7 Allowance for MEP chases, new partitions for ADA requirements; allowance Phases 2 - 7 SUBTOTAL INTERIOR DOORS New interior doors, frames and hardware in existing openings; allowance Phases 2 - 7	244,750 244,750	sf	3.00	734,250		
	C1010 C1020	PARTITIONS Minimal patch, repair of existing partitions ; allowance Phases 2 - 7 Allowance for MEP chases, new partitions for ADA requirements; allowance Phases 2 - 7 SUBTOTAL INTERIOR DOORS New interior doors, frames and hardware in existing openings; allowance Phases 2 - 7 SUBTOTAL SPECIALTIES / MILLWORK Toilet Partitions and accessories	244,750 244,750 244,750	sf sf	3.00 3.00 0.50	734,250 734,250 122,375		
	C1010 C1020	PARTITIONS Minimal patch, repair of existing partitions ; allowance Phases 2 - 7 Allowance for MEP chases, new partitions for ADA requirements; allowance Phases 2 - 7 SUBTOTAL INTERIOR DOORS New interior doors, frames and hardware in existing openings; allowance Phases 2 - 7 SUBTOTAL SPECIALTIES / MILLWORK	244,750 244,750 244,750 1	sf	3.00	734,250 734,250		
	C1010 C1020	PARTITIONS Minimal patch, repair of existing partitions ; allowance Phases 2 - 7 Allowance for MEP chases, new partitions for ADA requirements; allowance Phases 2 - 7 SUBTOTAL INTERIOR DOORS New interior doors, frames and hardware in existing openings; allowance Phases 2 - 7 SUBTOTAL SPECIALTIES / MILLWORK Toilet Partitions and accessories Backer panels in electrical closets	244,750 244,750 244,750	sf sf ls	3.00 3.00 0.50 2,000.00	734,250 734,250 122,375 2,000		
	C1010 C1020	PARTITIONS Minimal patch, repair of existing partitions ; allowance Phases 2 - 7 Allowance for MEP chases, new partitions for ADA requirements; allowance Phases 2 - 7 SUBTOTAL INTERIOR DOORS New interior doors, frames and hardware in existing openings; allowance Phases 2 - 7 SUBTOTAL SPECIALTIES / MILLWORK Toilet Partitions and accessories Backer panels in electrical closets Marker boards/tack boards in classrooms, offices, conference rooms, library and MP rooms (Smart	244,750 244,750 244,750 1	sf sf ls sf	3.00 3.00 0.50 2,000.00	734,250 734,250 122,375 2,000		
	C1010 C1020	PARTITIONS Minimal patch, repair of existing partitions ; allowance Phases 2 - 7 Allowance for MEP chases, new partitions for ADA requirements; allowance Phases 2 - 7 SUBTOTAL INTERIOR DOORS New interior doors, frames and hardware in existing openings; allowance Phases 2 - 7 SUBTOTAL SPECIAL/TIES / MILLWORK Toilet Partitions and accessories Backer panels in electrical closets Marker boards/tack boards in classrooms, offices, conference rooms, library and MP rooms (Smart boards in Equipment section)	244,750 244,750 244,750 1 244,750	sf sf ls sf	3.00 3.00 0.50 2,000.00 0.50	734,250 734,250 122,375 2,000 122,375		
	C1010 C1020	PARTITIONS Minimal patch, repair of existing partitions ; allowance Phases 2 - 7 Allowance for MEP chases, new partitions for ADA requirements; allowance Phases 2 - 7 SUBTOTAL INTERIOR DOORS New interior doors, frames and hardware in existing openings; allowance Phases 2 - 7 SUBTOTAL SPECIALTIES / MILLWORK Tollet Partitions and accessories Backer panels in electrical closets Marker boards/tack boards in classrooms, offices, conference rooms, library and MP rooms (Smart boards in Equipment section) Shelving in storage rooms	244,750 244,750 244,750 1 244,750 1	sf sf ls sf ls	3.00 3.00 2,000.00 0.50 10,000.00	734,250 734,250 122,375 2,000 122,375 10,000		
	C1010 C1020	PARTITIONS Minimal patch, repair of existing partitions ; allowance Phases 2 - 7 Allowance for MEP chases, new partitions for ADA requirements; allowance Phases 2 - 7 SUBTOTAL INTERIOR DOORS New interior doors, frames and hardware in existing openings; allowance Phases 2 - 7 SUBTOTAL SPECIALTIES / MILLWORK Tollet Partitions and accessories Backer panels in electrical closets Marker boards/tack boards in classrooms, offices, conference rooms, library and MP rooms (Smart boards in Equipment section) Shelving in storage rooms Staff mailboxes/casework	244,750 244,750 244,750 1 244,750 1 1	sf sf ls sf ls sf ls	3.00 3.00 2,000.00 0.50 10,000.00 10,000.00	734,250 734,250 122,375 2,000 122,375 10,000 10,000		
	C1010 C1020	PARTITIONS Minimal patch, repair of existing partitions ; allowance Phases 2 - 7 Allowance for MEP chases, new partitions for ADA requirements; allowance Phases 2 - 7 SUBTOTAL INTERIOR DOORS New interior doors, frames and hardware in existing openings; allowance Phases 2 - 7 SUBTOTAL SPECIALTIES / MILLWORK Tollet Partitions and accessories Backer panels in electrical closets Marker boards/tack boards in classrooms, offices, conference rooms, library and MP rooms (Smart boards in Equipment section) Shelving in storage rooms Staff mailboxes/casework Signage & Directories	244,750 244,750 244,750 1 244,750 1 1 244,750	sf sf ls sf ls sf ls gsf	3.00 3.00 2,000.00 0.50 10,000.00 10,000.00 0.30	734,250 734,250 122,375 2,000 122,375 10,000 10,000 73,425		
	C1010 C1020	PARTITIONS Minimal patch, repair of existing partitions ; allowance Phases 2 - 7 Allowance for MEP chases, new partitions for ADA requirements; allowance Phases 2 - 7 SUBTOTAL INTERIOR DOORS New interior doors, frames and hardware in existing openings; allowance Phases 2 - 7 SUBTOTAL SPECIALTIES / MILLWORK Toilet Partitions and accessories Backer panels in electrical closets Marker boards/tack boards in classrooms, offices, conference rooms, library and MP rooms (Smart boards in Equipment section) Shelving in storage rooms Staff mailboxes/casework Signage & Directories Fire extinguisher cabinets	244,750 244,750 244,750 1 244,750 1 1 244,750 70	sf sf ls sf ls sf ls gsf ea	3.00 0.50 2,000.00 0.50 10,000.00 10,000.00 0.30 350.00	734,250 734,250 122,375 2,000 122,375 10,000 10,000 73,425 24,500		
	C1010 C1020	PARTITIONS Minimal patch, repair of existing partitions ; allowance Phases 2 - 7 Allowance for MEP chases, new partitions for ADA requirements; allowance Phases 2 - 7 SUBTOTAL INTERIOR DOORS New interior doors, frames and hardware in existing openings; allowance Phases 2 - 7 SUBTOTAL SPECIALTIES / MILLWORK Toilet Partitions and accessories Backer panels in electrical closets Marker boards/tack boards in classrooms, offices, conference rooms, library and MP rooms (Smart boards in Equipment section) Shelving in storage rooms Staff mailboxes/casework Signage & Directories Fire extinguisher cabinets Lockers; corridors	244,750 244,750 1 244,750 1 244,750 1 244,750 70 1,500	sf sf ls sf ls gsf ea opng	3.00 0.50 2,000.00 0.50 10,000.00 10,000.00 0.30 350.00 190.00	734,250 734,250 122,375 2,000 122,375 10,000 10,000 73,425 24,500 285,000		

Dover High School Feasibility estimate June 22 2015



PMC - Project Management Cost

22-Jun-15

Dover High School Feasibility estimate June 22 2015

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

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Dover Regional High School and Career Technical Center Dover, NH

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
Option 1 - BA	SE RENOVATION	QII	UNII	031	031	IOIAL	031
	Janitors Closet Accessories	12	rms	300.00	3,600		
	Reception/Library/Circulation desks	1	ls	50,000	50.000		
	Science classroom casework	14	rm	50,000.00	700,000		
	Counters, base cabinets, tall storage in	50	rms	2,600.00	130,000		
	classrooms/Cart storage	30	1115	2,000.00	100,000		
	New/repair casework in Specialty classrooms; Home Economics, Kitchen, Cosmetology etc	58,920	sf	3.00	176,760		
	Library shelving				F,F & E		
	Display cases	1	ls	30,000	30,000		
	Miscellaneous metals throughout building	244,750	sf	0.60	146,850		
	Miscellaneous sealants throughout building	244,750	sf	0.35	85,663		
	SUBTOTAL					2,079,148	
	TOTAL - INTERIOR CONSTRUCTION						\$4,037,
C20	STAIRCASES	1					
		1					
C2010	STAIR CONSTRUCTION						
	Add new handrails extensions to existing stairs	10	flt	5,700.00	57,000		
	Existing stairs	10	flt		ETR		
	SUBTOTAL					57,000	
Caoac	STAIR FINISHES						
02020	New finishes to stairs	10	flts	2,000.00	20,000		
	SUBTOTAL	10	1105	2,000100	20,000	20,000	
						-,	
	TOTAL - STAIRCASES						\$77,
C30	INTERIOR FINISHES]					
C3010	WALL FINISHES						
0	Wall finishes; painting; wall tile etc all Phases	244,750	gsf	4.00	979,000		
	SUBTOTAL					979,000	
C3020	FLOOR FINISHES						
	Prepare existing floors	232,513	sf	2.00	465,026		
	Flooring at corridors/lobby/classrooms; linoleum	174,093	sf	6.00	1,044,558		
	Carpet in Library, assoc. areas	7,880	sf	5.00	39,400		
	Repair/ refinish wood floor in Gymnasium	13,690	sf	8.00	109,520		
	New stage floor, stairs including repairs to existing substrate	2,150	sf	20.00	43,000		
	Sealed concrete in Workshops and back of house spaces	16,480	sf	1.50	24,720		
	Kitchen/ Culinary flooring; tile	9,750	sf	17.00	165,750		
	Locker room/Weight room floor finish	5,960	sf	10.00	59,600		
	New tile floors to toilet rooms	2,510	sf	15.00	37,650	1.000.007	
	SUBTOTAL					1,989,224	
C3030	CEILING FINISHES						
С3030	CEILING FINISHES Ceiling finishes; allowance for all ceiling finishes/soffite.etc _ all Phases	232,513	sf	5.50	1,278,822		
Сзозо		232,513	sf	5.50	1,278,822	1,278,822	

4.6 - PM&C Cost Estimate - All Options



Dover Regional High School and Career Technical Center Dover, NH

Conceptual Options

183 184 185

	DESCRIPTION					
1 - BAS	E RENOVATION					
	TOTAL - INTERIOR FINISHES					
D10 CONVEYING SYSTEMS						
D10 CONVEYING SYSTEMS						
D1010	ELEVATORS					
	Phase 7; New passenger elevator, 3 stop					
	New lift at Stage					
	Pit ladder, elevator rails etc					
	SUBTOTAL					
	TOTAL - CONVEYING SYSTEMS					
D20	PLUMBING					
D20	PLUMBING, GENERALLY					
D20	Plumbing; replace fixtures and piping					
SUBTOTAL TOTAL - PLUMBING						
D30	HVAC					
D30	HVAC, GENERALLY					
	Heating equipment					
	Hot water heating plant					
	Hot water heating plant, Auto Technology					
	Hot water heating plant, Animal Science					
	Perimeter heating devices					
	Cooling Equipment					
	<u>Cooling Equipment</u> Air-cooled chilled water plant					
	Air-cooled chilled water plant					
	Air-cooled chilled water plant Terminal cooling equipment					
	Air-cooled chilled water plant Terminal cooling equipment Chilled beams					
	Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> Packaged rooftop AC units					
	Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> Packaged rooftop AC units Packaged rooftop AC units, modular classrooms					
	Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> Packaged rooftop AC units Packaged rooftop AC units, modular classrooms Air handling units, heating only					
	Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> Packaged rooftop AC units Packaged rooftop AC units, modular classrooms Air handling units, heating only Make-up air unit					
	Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> Packaged rooftop AC units Packaged rooftop AC units, modular classrooms Air handling units, heating only Make-up air unit Miscellaneous air distribution equipment					
	Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> Packaged rooftop AC units Packaged rooftop AC units, modular classrooms Air handling units, heating only Make-up air unit Miscellaneous air distribution equipment <u>Exhaust fan s</u>					
	Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> Packaged rooftop AC units Packaged rooftop AC units, modular classrooms Air handling units, heating only Make-up air unit Miscellaneous air distribution equipment <u>Exhaust fan s</u> Dishwasher exhaust fan					
	Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> Packaged rooftop AC units Packaged rooftop AC units, modular classrooms Air handling units, heating only Make-up air unit Miscellaneous air distribution equipment <u>Exhaust fan s</u> Dishwasher exhaust fan Kitchen exhaust fan					
	Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> Packaged rooftop AC units Packaged rooftop AC units, modular classrooms Air handling units, heating only Make-up air unit Miscellaneous air distribution equipment <u>Exhaust fan s</u> Dishwasher exhaust fan Kitchen exhaust fan					
	Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> Packaged rooftop AC units Packaged rooftop AC units, modular classrooms Air handling units, heating only Make-up air unit Miscellaneous air distribution equipment <u>Exhaust fan s</u> Dishwasher exhaust fan Kitchen exhaust fan Paint booth exhaust fan Dust collection system					
	Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> Packaged rooftop AC units Packaged rooftop AC units, modular classrooms Air handling units, heating only Make-up air unit Miscellaneous air distribution equipment <u>Exhaust fan s</u> Dishwasher exhaust fan Kitchen exhaust fan Paint booth exhaust fan Dust collection system Exhaust fans					
	Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> Packaged rooftop AC units Packaged rooftop AC units, modular classrooms Air handling units, heating only Make-up air unit Miscellaneous air distribution equipment <u>Exhaust fan s</u> Dishwasher exhaust fan Kitchen exhaust fan Paint booth exhaust fan Dust collection system Exhaust fans Vehicle exhaust system					
	Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> Packaged rooftop AC units Packaged rooftop AC units, modular classrooms Air handling units, heating only Make-up air unit Miscellaneous air distribution equipment <u>Exhaust fan s</u> Dishwasher exhaust fan Paint booth exhaust fan Paint booth exhaust fan Dust collection system Exhaust fans Vehicle exhaust system					
	Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> Packaged rooftop AC units Packaged rooftop AC units, modular classrooms Air handling units, heating only Make-up air unit Miscellaneous air distribution equipment <u>Exhaust fan s</u> Dishwasher exhaust fan Paint booth exhaust fan Paint booth exhaust fan Dust collection system Exhaust fans Vehicle exhaust system <u>Sheet metal & Accessories</u>					
	Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> Air distribution Air Handling Unit Packaged rooftop AC units Packaged rooftop AC units, modular classrooms Air handling units, heating only Make-up air unit Miscellaneous air distribution equipment <u>Exhaust fan s</u> Dishwasher exhaust fan Nutchon exhaust fan Dust collection system Exhaust fans Vehicle exhaust system Sheet metal & Accessories Ductwork, insulation and accessories Piping					
	Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> Packaged rooftop AC units Packaged rooftop AC units, modular classrooms Air handling units, heating only Make-up air unit Miscellaneous air distribution equipment <u>Exhaust fan s</u> Dishwasher exhaust fan Paint booth exhaust fan Paint booth exhaust fan Dust collection system Exhaust fans Vehicle exhaust system <u>Sheet metal & Accessories</u>					

Dover High School Feasibility estimate June 22 2015



22-Jun-15

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

					22-Jun-15
				GFA	244,750
		UNIT	EST'D	SUB	TOTAL
QTY	UNIT	COST	COST	TOTAL	COST
			·		
					\$4,247,046
1	ea	105,000.00	105,000		
1	ls	15,000.00	15,000		
1	ls	2,500.00	2,500		
				122,500	
					A
					\$122,500
244,750	gsf	9.50	2,325,125		
				2,325,125	
					¢0.00=10-
					\$2,325,125

12,000	mbh	20.00	240,000
990	mbh	35.00	34,650
990	mbh	35.00	34,650
264,750	sf	1.00	264,750
100	ton	1,500.00	150,000
1	ls	50,000.00	50,000
1	ls	100,000.00	100,000
372	ton	3,750.00	1,395,000
40	ton	3,750.00	150,000
37,500	cfm	7.00	262,500
2	ea	6,000.00	12,000
264,750	sf	1.25	330,938
2	ea	3,500.00	7,000
2	ea	7,500.00	15,000
1	ea	25,000.00	25,000
2	ea	75,000.00	150,000
1	ls	25,000.00	25,000
1	ls	25,000.00	25,000
215,000	lbs	8.00	1,720,000
264,750	sf	7.00	1,853,250

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Dover Regional High School and Career Technical Center Dover, NH

	ons					GFA	244,
	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
ption 1 - BAS	SE RENOVATION						
	Automatic temperature controls	264,750	sf	4.50	1.191.375		
	Balancing	_ 0 , /	51	1.00	1,101,010		
	System testing & balancing	264,750	sf	0.45	119,138		
	Miscellaneous	204,/30	51	0.45	110,100		
	Phasing allowance	1	ls	100,000.00	100,000		
	Demolition	1	ls	75,000.00	75,000		
	Coordination & management	1	ls	50,000.00	50,000		
	Commissioning support	1	ls	40,000.00	40,000		
	Coring, sleeves & fire stopping	1	ls	20,000.00	20,000		
	Equipment start-up and inspection	1	ls	15,000.00	15,000		
	Rigging & equipment rental	1	ls	50,000.00	50,000		
	Deduct for CTC building	(20,000)	sf	28.00	(560,000)		
	SUBTOTAL	(20,000)	51	28.00	(300,000)	7 0 45 951	
	SUBIOIAL					7,945,251	
	TOTAL - HVAC						\$7,945,
							.,,,, 10,
D40	FIRE PROTECTION						
D40	FIRE PROTECTION, GENERALLY			0.50	050.005		
	Fire protection system	244,750	gsf	3.50	856,625	050.005	
	SUBTOTAL					856,625	
	TOTAL - FIRE PROTECTION						\$856,6
							φ030,0
D50	ELECTRICAL						
D30							
	SERVICE & DISTRIBUTION						
	SERVICE & DISTRIBUTION Gear & Distribution						
	SERVICE & DISTRIBUTION Gear & Distribution <u>Normal Power</u>		of	2.00	704 250		
	SERVICE & DISTRIBUTION Gear & Distribution <u>Normal Power</u> 3000A Gear and distribution allowance	264,750	sf	3.00	794,250		
	SERVICE & DISTRIBUTION Gear & Distribution <u>Normal Power</u> 3000A Gear and distribution allowance <u>Emergency power</u>						
	SERVICE & DISTRIBUTION Gear & Distribution <u>Normal Power</u> 3000A Gear and distribution allowance <u>Emergency power</u> 300kW natural gas genset	1	ea	175,000.00	175,000		
	SERVICE & DISTRIBUTION Gear & Distribution Normal Power 3000A Gear and distribution allowance <u>Emergency power</u> 300kW natural gas genset Gear and distribution allowance	1 264,750	ea sf	175,000.00 1.35	175,000 357,413		
	SERVICE & DISTRIBUTION Gear & Distribution Normal Power 3000A Gear and distribution allowance <u>Emergency power</u> 300kW natural gas genset Gear and distribution allowance 30kW UPS system	1	ea	175,000.00	175,000		
	SERVICE & DISTRIBUTION Gear & Distribution Normal Power 3000A Gear and distribution allowance Emergency power 300kW natural gas genset Gear and distribution allowance 30kW UPS system Equipment Wiring	1 264,750 2	ea sf ea	175,000.00 1.35 25,000.00	175,000 357,413 50,000		
	SERVICE & DISTRIBUTION Gear & Distribution <u>Normal Power</u> 3000A Gear and distribution allowance <u>Emergency power</u> 300kW natural gas genset Gear and distribution allowance 30kW UPS system <u>Equipment Wiring</u> Equipment wiring allowance	1 264,750 2 264,750	ea sf ea sf	175,000.00 1.35 25,000.00 2.00	175,000 357,413 50,000 529,500		
	SERVICE & DISTRIBUTION Gear & Distribution Normal Power 3000A Gear and distribution allowance <u>Emergency power</u> 300kW natural gas genset Gear and distribution allowance 30kW UPS system <u>Equipment Wiring</u> Equipment wiring allowance Kitchen equipment allowance	1 264,750 2	ea sf ea	175,000.00 1.35 25,000.00	175,000 357,413 50,000	1 926 163	
	SERVICE & DISTRIBUTION Gear & Distribution <u>Normal Power</u> 3000A Gear and distribution allowance <u>Emergency power</u> 300kW natural gas genset Gear and distribution allowance 30kW UPS system <u>Equipment Wiring</u> Equipment wiring allowance	1 264,750 2 264,750	ea sf ea sf	175,000.00 1.35 25,000.00 2.00	175,000 357,413 50,000 529,500	1,926,163	
D5010	SERVICE & DISTRIBUTION Gear & Distribution <u>Normal Power</u> 3000A Gear and distribution allowance <u>Emergency power</u> 300kW natural gas genset Gear and distribution allowance 30kW UPS system <u>Equipment Wiring</u> Equipment wiring allowance Kitchen equipment allowance SUBTOTAL	1 264,750 2 264,750	ea sf ea sf	175,000.00 1.35 25,000.00 2.00	175,000 357,413 50,000 529,500	1,926,163	
D5010	SERVICE & DISTRIBUTION Gear & Distribution Normal Power 3000A Gear and distribution allowance Emergency power 300kW natural gas genset Gear and distribution allowance 30kW UPS system Equipment Wiring Equipment wiring allowance Kitchen equipment allowance SUBTOTAL LIGHTING & POWER	1 264,750 2 264,750	ea sf ea sf	175,000.00 1.35 25,000.00 2.00	175,000 357,413 50,000 529,500	1,926,163	
D5010	SERVICE & DISTRIBUTION Gear & Distribution Normal Power 3000A Gear and distribution allowance Emergency power 300kW natural gas genset Gear and distribution allowance 30kW UPS system Equipment Wiring Equipment Wiring Equipment wiring allowance Kitchen equipment allowance SUBTOTAL LIGHTING & POWER Lighting & Branch Power	1 264,750 2 264,750 1	ea sf ea sf ls	175,000.00 1.35 25,000.00 2.00 20,000.00	175,000 357,413 50,000 529,500 20,000	1,926,163	
D5010	SERVICE & DISTRIBUTION Gear & Distribution Normal Power 3000A Gear and distribution allowance Emergency power 300kW natural gas genset Gear and distribution allowance 30kW UPS system Equipment Wiring Equipment wiring allowance Kitchen equipment allowance SUBTOTAL LIGHTING & POWER Lighting & Branch Power Lighting allowance (LED)	1 264,750 2 264,750	ea sf ea sf	175,000.00 1.35 25,000.00 2.00	175,000 357,413 50,000 529,500	1,926,163	
D5010	SERVICE & DISTRIBUTION Gear & Distribution Normal Power 3000A Gear and distribution allowance Emergency power 300kW natural gas genset Gear and distribution allowance 30kW UPS system Equipment Wiring Equipment wiring allowance Kitchen equipment allowance SUBTOTAL LIGHTING & POWER Lighting & Branch Power Lighting allowance (LED) Lighting controls	1 264,750 2 264,750 1 264,750	ea sf ea sf ls	175,000.00 1.35 25,000.00 2.00 20,000.00	175,000 357,413 50,000 529,500 20,000	1,926,163	
D5010	SERVICE & DISTRIBUTION Gear & Distribution Normal Power 3000A Gear and distribution allowance Emergency power 300kW natural gas genset Gear and distribution allowance 30kW UPS system Equipment Wiring Equipment wiring allowance Kitchen equipment allowance SUBTOTAL LIGHTING & POWER Lighting & Branch Power Lighting allowance (LED)	1 264,750 2 264,750 1	ea sf ea sf ls	175,000.00 1.35 25,000.00 2.00 20,000.00	175,000 357,413 50,000 529,500 20,000	1,926,163	
D5010	SERVICE & DISTRIBUTION Gear & Distribution Normal Power 3000A Gear and distribution allowance Emergency power 300kW natural gas genset Gear and distribution allowance 30kW UPS system Equipment Wiring Equipment wiring allowance Kitchen equipment allowance SUBTOTAL LIGHTING & POWER Lighting & Branch Power Lighting allowance (LED) Lighting controls, local, daylight sensing and dimming	1 264,750 2 264,750 1 264,750	ea sf ea sf ls	175,000.00 1.35 25,000.00 2.00 20,000.00	175,000 357,413 50,000 529,500 20,000	1,926,163	
D5010	SERVICE & DISTRIBUTION Gear & Distribution Normal Power 3000A Gear and distribution allowance Emergency power 300kW natural gas genset Gear and distribution allowance 30kW UPS system Equipment Wiring Equipment wiring allowance Kitchen equipment allowance SUBTOTAL LIGHTING & POWER Lighting & Branch Power Lighting allowance (LED) Lighting controls Lighting controls, local, daylight sensing and dimming Branch devices	1 264,750 2 264,750 1 264,750 264,750	ea sf ea sf ls sf	175,000.00 1.35 25,000.00 20,000.00 5.00 1.00	175,000 357,413 50,000 529,500 20,000 1,323,750 264,750	1,926,163	
D5010	SERVICE & DISTRIBUTION Gear & Distribution Normal Power 3000A Gear and distribution allowance Emergency power 300kW natural gas genset Gear and distribution allowance 30kW UPS system Equipment Wiring Equipment wiring allowance Kitchen equipment allowance SUBTOTAL LIGHTING & POWER Lighting & Branch Power Lighting controls Lighting controls, local, daylight sensing and dimming Branch devices Branch devices	1 264,750 2 264,750 1 264,750	ea sf ea sf ls	175,000.00 1.35 25,000.00 2.00 20,000.00	175,000 357,413 50,000 529,500 20,000	1,926,163	
D5010	SERVICE & DISTRIBUTION Gear & Distribution Normal Power 3000A Gear and distribution allowance Emergency power 300kW natural gas genset Gear and distribution allowance 30kW UPS system Equipment Wiring Equipment Wiring Equipment wiring allowance Kitchen equipment allowance SUBTOTAL LIGHTING & POWER Lighting & Branch Power Lighting allowance (LED) Lighting controls Lighting controls Lighting controls Branch devices Branch devices Lighting and branch circuitry	1 264,750 2 264,750 1 264,750 264,750	ea sf ea sf ls sf sf	175,000.00 1.35 25,000.00 20,000.00 5.00 1.00 0.40	175,000 357,413 50,000 529,500 20,000 1,323,750 264,750 105,900	1,926,163	
D5010	SERVICE & DISTRIBUTION Gear & Distribution Normal Power 3000A Gear and distribution allowance Emergency power 300kW natural gas genset Gear and distribution allowance 30kW UPS system Equipment Wiring Equipment Wiring Equipment Wiring allowance Kitchen equipment allowance SUBTOTAL LIGHTING & POWER Lighting & Branch Power Lighting allowance (LED) Lighting controls Lighting controls, local, daylight sensing and dimming Branch devices Lighting and branch circuitry Branch & lighting circuitry	1 264,750 2 264,750 1 264,750 264,750	ea sf ea sf ls sf	175,000.00 1.35 25,000.00 20,000.00 5.00 1.00	175,000 357,413 50,000 529,500 20,000 1,323,750 264,750		
D5010	SERVICE & DISTRIBUTION Gear & Distribution Normal Power 3000A Gear and distribution allowance Emergency power 300kW natural gas genset Gear and distribution allowance 30kW UPS system Equipment Wiring Equipment Wiring Equipment wiring allowance Kitchen equipment allowance SUBTOTAL LIGHTING & POWER Lighting & Branch Power Lighting allowance (LED) Lighting controls Lighting controls Lighting controls Branch devices Branch devices Lighting and branch circuitry	1 264,750 2 264,750 1 264,750 264,750	ea sf ea sf ls sf sf	175,000.00 1.35 25,000.00 20,000.00 5.00 1.00 0.40	175,000 357,413 50,000 529,500 20,000 1,323,750 264,750 105,900	1,926,163	

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4.6 - PM&C Cost Estimate - All Options



Dover Regional High School and Career Technical Center Dover, NH

Conceptual Options

	DESCRIPTION	QT
Option 1 - BAS	SE RENOVATION	
	Fire Alarm	
	Fire alarm system	264,
	Security System	
	Security System	264,
	Telephone/Data/CATV	
	Telecommunications rough in & devices and cabling	264,
	Sound Systems	
	Gymnasium sound system	
	Cafeteria sound system	
	Music room sound system	
	Bi-Directional Amplification System	
	BDA system	
	Master Clock & PA System	
	Master clock and PA system	264,
	Speech Amplification System	
	Speech amplification system	NIC
	Audio/Visual	
	AV rough-in and power (devices and cabling by other)	264,
	Theatrical	
	Stage lighting, dimming and controls	
	A/V rough-in and power only	
	Gymnasium	
	Gym equipment feed and connection (scoreboard	
	carried by other)	
	SUBTOTAL	
D5040	OTHER ELECTRICAL SYSTEMS	
	Miscellaneous	
	Temp power and lights	
	Coordination study and testing	
	Coordination study and testing	
	Demo & make safe	264,
		264,
	Demo & make safe	264,
	Demo & make safe Lightning Protection	264,
	Demo & make safe Lightning Protection Phasing	264,
	Demo & make safe Lightning Protection Phasing Fees & Permits	264,
	Demo & make safe Lightning Protection Phasing Fees & Permits	264, (20,
	Demo & make safe Lightning Protection Phasing Fees & Permits SUBTOTAL	
	Demo & make safe Lightning Protection Phasing Fees & Permits SUBTOTAL Deduct for CTC building	
	Demo & make safe Lightning Protection Phasing Fees & Permits SUBTOTAL Deduct for CTC building	
	Demo & make safe Lightning Protection Phasing Fees & Permits SUBTOTAL Deduct for CTC building SUBTOTAL	
	Demo & make safe Lightning Protection Phasing Fees & Permits SUBTOTAL Deduct for CTC building SUBTOTAL TOTAL - ELECTRICAL	
	Demo & make safe Lightning Protection Phasing Fees & Permits SUBTOTAL Deduct for CTC building SUBTOTAL	
	Demo & make safe Lightning Protection Phasing Fees & Permits SUBTOTAL Deduct for CTC building SUBTOTAL TOTAL - ELECTRICAL	
<i>E10</i>	Demo & make safe Lightning Protection Phasing Fees & Permits SUBTOTAL Deduct for CTC building SUBTOTAL TOTAL - ELECTRICAL EQUIPMENT EQUIPMENT, GENERALLY	
	Demo & make safe Lightning Protection Phasing Fees & Permits SUBTOTAL Deduct for CTC building SUBTOTAL TOTAL - ELECTRICAL EQUIPMENT EQUIPMENT, GENERALLY Gymnasium	
	Demo & make safe Lightning Protection Phasing Fees & Permits SUBTOTAL Deduct for CTC building SUBTOTAL TOTAL - ELECTRICAL EQUIPMENT EQUIPMENT, GENERALLY Gymnasium Gym wall pads	
	Demo & make safe Lightning Protection Phasing Fees & Permits SUBTOTAL Deduct for CTC building SUBTOTAL TOTAL - ELECTRICAL EQUIPMENT EQUIPMENT, GENERALLY <u>Gymnasium</u> Gym wall pads Basketball backstops; swing up; electric operated	
	Demo & make safe Lightning Protection Phasing Fees & Permits SUBTOTAL Deduct for CTC building SUBTOTAL TOTAL - ELECTRICAL EQUIPMENT EQUIPMENT, GENERALLY Gymnasium Gym wall pads	

Dover High School Feasibility estimate June 22 2015



PMC - Project Management Cost

22-Jun-15

Dover High School Feasibility estimate June 22 2015

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

22-Jun-15

	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	QII	UNII	cosi	cosi	IOTAL	COSI
	264,750	sf	1.50	397,125		
	264,750	sf	1.00	264,750		
	264,750	sf	2.50	661,875		
	1,70			,		
				00.005		
	1	ls	20,000.00	20,000		
	1	ls	20,000.00	20,000		
	1	ls	10,000.00	10,000		
	1	ls	50,000.00	50,000		
	264,750	sf	0.80	211,800		
	NIC					
r)	264,750	sf	0.40	105,900		
	1	ls	200,000.00	200,000		
	1	ls	100,000.00	100,000		
	1	ls	10,000.00	10,000		
					2,051,450	
					2,031,430	
	1	ls	100,000.00	100,000		
	1	ls	20,000.00	20,000		
	264,750	sf	0.50	132,375		
	1	ls	75,000.00	75,000		
	1	ls	30,000.00	30,000		
	1	ls	80,000.00	80,000		
					437,375	
	(20,000)	sf	28.00	(560,000)		
					(560,000)	
						\$6,873,13

20,000.00 20,000 ls ea 9,800.00 58,800 6 25,000.00 25,000 **1** loc 2,000 2,000.00 1 ea 1 ls 30,000.00 30,000

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Option 1 - BASE RENOVATION 340 Auditorium 341 Theatrical Equipment Stage curtains, rigging and ls 150,000 175,000 1 controls - allowance 342 New seating - assume 250.00 200,000 800 ea 343 <u>Cafeteria</u> 344 Food Service equipment - allowance ls 450,000.00 450,000 1 345 Classrooms, Science rooms, Specialty Classrooms 346 FF+E Smart boards 70 loc 3,800.00 #REF! FF+E Science room Equipment #REF! SUBTOTAL #REF! #REF! TOTAL - EQUIPMENT #REF! #REF! #REF! E20 FURNISHINGS #REF! #REF! E2010 FIXED FURNISHINGS #REF! 45.00 11,250 Entry mats & frames 250 sf #REF! 125,424 Window blinds @ replaced windows sf 6.00 20,904 #REF! SUBTOTAL #REF! #REF! E2020 MOVABLE FURNISHINGS #REF! All movable furnishings to be provided and installed by owner #REF! SUBTOTAL #REF! #REF! TOTAL - FURNISHINGS #REF! #REF! #REF! F10 SPECIAL CONSTRUCTION #REF! #REF! F10 SPECIAL CONSTRUCTION #REF! Animal barn prefabricated building; complete sf 50.00 425,000 8,500 #REF! Temporary Modular Classrooms See Main Summary #REF! SUBTOTAL #REF! #REF! TOTAL - SPECIAL CONSTRUCTION #REF! #REF!

QTY

UNIT

COST

F20 SELECTIVE BUILDING DEMOLITION F2010 BUILDING ELEMENTS DEMOLITION Phase 2-7 Demo and remove interior finishes; floor finish, 1,713,250 244,750 sf 7.00 ceilings, wall finishes (majority of partitions to remain), doors, millwork/casework and specialties Remove existing interior partitions for 244,750 sf 0.50 122,375 reconfiguration of existing spaces, majority ADA reconfigurations MEP systems - removal of cut and capped systems 122.375 0.50 244,750 sf Demo and remove existing façade at Classroom wing 20,904 sf 8.00 167,232 Demo and remove existing flat roofing 81,000 sf included with roofing SUBTOTAL 2,125,232 F2020 HAZARDOUS COMPONENTS ABATEMENT Page 20

Dover High School Feasibility estimate June 22 2015

PM&C

Conceptual Options

Dover, NH

Dover Regional High School and Career Technical Center

DESCRIPTION

PMC - Project Management Cost

22-Jun-15

244.750

FOTAL

COST

\$960,800

\$136,674

\$425,000

GFA

SUE

TOTAL

960,800

136,674

NIC

425.000

EST'D

COST

4.6 - PM&C Cost Estimate - All Options



Dover Regional High School and Career Technical Center Dover, NH

Conceptual Options

	DESCRIPTION
	Option 1 - BASE RENOVATION
#REF!	See summary
#REF!	SUBTOTAL
#REF!	
#REF!	TOTAL - SELECTIVE BUILDING DEMOLITION
#REF!	

Dover High School Feasibility estimate June 22 2015

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Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

					22-Jun-15
				GFA	244,750
QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	11	·			

\$2,125,232

	ual Optio							
CSI CODE		DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTIO	N 1 BAS	E RENOVATION SITEWORK						
Г	G	SITEWORK						
L	0	SILWORK						
	G10	SITE PREPARATION & DEMOLITION Site Demolitions and Relocations						
		Allowance for contractor laydown area/ wheel wash	1	ls	20,000.00	20,000		
		etc						
		Site construction fence/barricades/gates	1,500	lf	8.00	12,000		
		Miscellaneous demolition including removal of existing ball field and associated components, parking lot at Animal Science building, existing parking areas being replaced	180,200	sf	0.75	135,150		
		Allowance for temporary walkways for access to Modular Classrooms	1	ls	10,000.00	10,000		
		<u>Site Earthwork</u> Minor regrading/ fine grading at new CTC and Animal Science buildings	1	ls	25,000.00	25,000		
		Silt fence/erosion control allowance	1	ls	10,000.00	10,000		
		SUBTOTAL					212,150	
	G20	SITE IMPROVEMENTS						
		Allowance to replace 21 spaces disturbed by Animal Science building work	4,200	sf	3.00	12,600		
		Full depth pavement reconstruction at Lot A,B,C and 1989 Addition	170,000	sf	4.00	680,000		
		Bituminous concrete curb replacement - replace/ install	5,000	lf	12.00	60,000		
		Grind and place 1" pavement overlay at Senior lot	59,000	sf	1.50	88,500		
		Replace asphalt sidewalk along Alumni Drive	6,000	sf	3.00	18,000		
		Allowance for accessible ramps, stairs, handrails, landings at doorways etc to comply with ADA requirements	1	ls	30,000.00	30,000		
		Allowance for new walkways at CTC building and Animal Science building	5,000	sf	6.00	30,000		
		Allowance to minor reconfiguration, patch and repair Alumni Drive roadway	20,000	sf	1.25	25,000		
		<u>Football Field</u>		la	750,000.00	750.000		
		Turf football field; complete Landscaping	1	ls	750,000.00	750,000		
		Allowance to repair landscaped areas disturbed by new work	1	ls	50,000.00	50,000		
		Irrigation				NIC		
		SUBTOTAL					1,744,100	
	G30	CIVIL MECHANICAL UTILITIES						
	. 0	Stormwater						
		Allowance to remove underdrain at existing ball field	1	ls	20,000.00	20,000		
		Allowance for storm water reconfiguration/ extension at new building, site areas	1	ls	500,000.00	500,000		
		Water supply						
		Allowance to extend water supply to CTC building	1	ls	30,000.00	30,000		

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Dover Regional High School and Career Technical Center Dover, NH

Conceptual Options

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57 58 59

Е	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
FION 1 BAS	SE RENOVATION SITEWORK						
	Allowance to extend sanitary line to new CTC building	1	ls	20,000.00	20,000		
	Gas						
	Allowance to extend gas line to new CTC building	1	ls	5,000.00	5,000		
	Modular Classrooms				-		
	Allowance for temporary connections to Modular Classrooms	1	ls	75,000.00	75,000		
	SUBTOTAL					650,000	
G40	ELECTRICAL UTILITIES Power						
	Riser pole, connection at existing	1	ea	2,000.00	2,000		
	Primary ductbank	100	lf	55.00	5,500		
	Primary cabling			ι	Jtility company		
	Pad mounted transformer	1	ea	50,000.00	50,000		
	Transformer pad	1	ea	2,000.00	2,000		
	Secondary ductbank						
	3000A Secondary ductbank cabling	50	lf	750.00	37,500		
	Generator ductbank						
	Generator ductbank	50	lf	250.00	12,500		
	Communications						
	Communications ductbank	150	lf	85.00	12,750		
	Site Lighting						
	Site lighting allowance	1	ls	40,000.00	40,000		
	Modular Classrooms				-	75,000 650,000 2,000 5,500 11ity company 50,000 2,000 37,500 12,500 12,750	
	Allowance for temporary connections to Modular Classrooms	1	ls	25,000.00	25,000		
	SUBTOTAL					197 250	



Project Management and Cost

Dover High School Feasibility estimate June 22 2015

Dover High School Feasibility estimate June 22 2015

Final Evaluation of Options and Cost Estimates

22-Jun-15

PM	8.C

ceptual	Options				GFA	294,500
		CONSTRUCT	ION COST SUMM	IARY		
tion 9	BUILDING	SYSTEM VATION/ ADDITION	SUB-TOTAL	TOTAL	\$/SF	%
A10		DATIONS				
AIU	A1010	Standard Foundations	\$2,218,107			
	A1010	Special Foundations	\$231,000			
	A1020	Lowest Floor Construction	\$1,692,284	\$4,141,391	\$14.06	8.2%
	11000	Lowest 1 foor construction	01,008,201	Ψ 4 ,- 1 -,39-	Q11.00	0.270
A20	BASEM	IENT CONSTRUCTION				
	A2010	Basement Excavation	\$0			
	A2020	Basement Walls	\$0	\$0	\$0.00	0.0%
B10	SUPER	STRUCTURE				
	B1010	Upper Floor Construction	\$2,569,336			
	B1020	Roof Construction	\$3,623,284	\$6,192,620	\$21.03	12.3%
B20		IOR CLOSURE			\$14.06 \$0.00	
	B2010	Exterior Walls	\$3,636,348			
	B2020	Windows	\$2,372,767			
	B2030	Exterior Doors	\$136,963	\$6,146,078	\$20.87	12.2%
B30	ROOFI	NG				
	B3010	Roof Coverings	\$1,792,366			
	B3020	Roof Openings	\$20,000	\$1,812,366	\$6.15	3.6%
C10	INTER	IOR CONSTRUCTION				
	C1010	Partitions	\$2,605,880			
	C1020	Interior Doors	\$801,750			
	C1030	Specialties/Millwork	\$1,945,100	\$5,352,730	\$18.18	10.6%
C20	STAIR	CASES				
	C2010	Stair Construction	\$162,000			
	C2020	Stair Finishes	\$38,500	\$200,500	\$0.68	0.4%
C30	INTER	IOR FINISHES				
-	C3010	Wall Finishes	\$944,263			
	C3020	Floor Finishes	\$2,037,898			
	C3030	Ceiling Finishes	\$1,205,112	\$4,187,273	\$14.22	8.3%
D10	CONVE	YING SYSTEMS				
	D1010	Elevator	\$157,600	\$157,600	\$0.54	0.3%
D20	PLUME	BING				

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Dover High School Feasibility estimate June 22 2015

PMC - Project Management Cost

Dover High School Feasibility estimate June 22 2015



4.6 - PM&C Cost Estimate - All Options



	_			5 4 D T 7		
	BUILDING	CONSTRUCTIO	N COST SUMN SUB-TOTAL	TOTAL	\$/SF	%
Option 2		VATION/ ADDITION	SUB-TOTAL	TOTAL	<i>\$</i> /51	70
	D20	Plumbing	\$2,665,902	\$2,665,902	\$9.05	5.39
D30	HVAC					
	D30	HVAC	\$8,135,150	\$8,135,150	\$27.62	16.2
D40	FIRE P	ROTECTION				
	D40	Fire Protection	\$1,030,750	\$1,030,750	\$3.50	2.0
D50	ELECT	RICAL				
	D5010	Electrical	\$8,086,699	\$8,086,699	\$27.46	16.1
E10	EQUIP	MENT				
	E10	Equipment	\$950,800	\$950,800	\$3.23	1.9
E20	FURNI	SHINGS				
	E2010	Fixed Furnishings	\$426,210			
	E2020	Movable Furnishings	NIC	\$426,210	\$1.45	0.8
F10	SPECIA	AL CONSTRUCTION				
	F10	Special Construction	\$425,000	\$425,000	\$1.44	0.8
F20		AT REMOVALS				
	F2010	Building Elements Demolition	\$457,020			
	F2020	Hazardous Components Abatement	\$0	\$457,020	\$1.55	0.99
TOTA	L DIRE	CT COST (Trade Costs)		\$50,368,089	\$171.03	100.00

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

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8. C						
NOVATION/ ADDITION						22-Jun-15
tual Options					GFA	294,500
DESCRIPTION	QTY	UNIT	UNIT	EST'D	SUB	TOTAL
ENOVATION/ ADDITION	QIY	UNIT	COST	COST	TOTAL	COST
DSS FLOOR AREA CALCULATION						
			New	Reno		
	round Floor First Floor		150,288	12,810 45,524		
	Third Floor		<u>78,288</u>	7,590		
	Total GSF		228,576	65,924		
TOTAL GROSS FLOOR AREA (GF.)				294,500 s	ſ
o FOUNDATIONS						
0 STANDARD FOUNDATIONS						
Pile foundations			10.00	10.550		
Excavation Remove off site	1,355		10.00	13,550 16,260		
Backfill with gravel	1,355 452		12.00 28.00	12,656		
Grade beams - allow 24" x 48"	43- 684		500.00	342,000		
Pile caps - allowance (assume 25' grid)	219	-	500.00	109,500		
Dampproofing & insulation at grade bea	s 2,400	sf sf	5.00	12,000		
Auger cast pier foundations						
Strip footings to new exterior walls						
Excavation	3,106	о су	10.00	31,060		
Remove off site	3,106	-	12.00	37,272		
Backfill with gravel	2,866	5	28.00	80,248		
Formwork	5,300		8.00	42,400		
Re-bar	26,500		1.00	26,500		
Concrete material; 3,000 psi Placing concrete	240 240	-	100.00 45.00	24,000 10,800		
Foundation walls at exterior	240	о су	45.00	10,800		
Formwork	21,200	sf	9.00	190,800		
Re-bar	53,000		1.00	53,000		
Concrete material; 4,000 psi	549		100.00	54,900		
Placing concrete	549) су	45.00	24,705		
Dampproofing foundation wall and footi	g 15,900	sf sf	1.00	15,900		
Insulation to foundation walls; 2" thick	10,600	sf	1.50	15,900		
Isolated column footings						
Excavation	1,852	5	10.00	18,520		
Remove off site	1,852	-	12.00	22,224		
Backfill with gravel	1,074		28.00 8.00	30,072 64,000		
Formwork Re-bar	8,000 18.024	lbs	1.00	18,024		
Concrete material; 3,000 psi	778		100.00	77,800		
Placing concrete	778		45.00	35,010		
Aggregate pier system	//-	- 3				
Aggregate piers, assume 18" diameter, 2 8' grid	deep, 8' x 67,288	sf	12.00	807,456		
Elevator Pits; 2 locations						
Excavation	168	в су	15.00	2,520		
Remove off site	168	в су	12.00	2,016		
Backfill with gravel	8	cy	28.00	224		
Elevator pit walls						
formwork	800	sf	10.00	8,000		

Dover High School Feasibility estimate June 22 2015

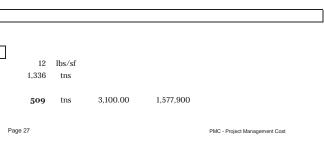
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PMC - Project Management Cost



Dover High School Feasibility estimate June 22 2015

Final Evaluation of Options and Cost Estimates



4.6 - PM&C Cost Estimate - All Options PM&C

Op Do

Cor

nceptual Opti	ons					GFA	294,50
				UNIT	EST'D	SUB	TOTAL
tion 2 - RE	DESCRIPTION NOVATION/ ADDITION	QTY	UNIT	COST	COST	TOTAL	COST
	SUBTOTAL					2,372,767	
	Sobionie					2,012,101	
B2030	EXTERIOR DOORS						
	Glazed entrance doors including frame and hardware; double door	12	pr	7,000.00	84,000		
	HM doors, frames and hardware- double HM doors, frames and hardware- single	5	pr	2,500.00 1,600.00	12,500		
	Allowance for overhead doors at Workshops & Loading dock	7 5	ea ea	5,000.00	11,200 25,000		
	Backer rod & double sealant	609	lf	4.00	2,436		
	Wood blocking at openings	609	lf	3.00	1,827		
	SUBTOTAL					136,963	
	TOTAL - EXTERIOR CLOSURE						\$6,146,07
B30	ROOFING						
L	ROOF COVERINGS						
23010	Flat roofing White TPO roofing	150,288	sf	5.00	751,440		
	Insulation	150,288	sf	4.50	676,296		
	Reinforced vapor barrier	150,288	sf	0.45	67,630		
	Rough blocking	21,000	lf	4.00	84,000		
	Miscellaneous Roofing	21,000	п	4.00	01,000		
	Allowance for entrance canopy roofing, soffit	2,000	sf	50.00	100,000		
	Roof coping/ fascia	3,500	lf	30.00	105,000		
	Roof ladders	3,300	ls	3,000.00	3,000		
	Walk pads	1	ls	5,000.00	5,000		
	SUBTOTAL			.,	-,	1,792,366	
B3020	ROOF OPENINGS Allowance for elevator vents, roof hatches, smoke hatch etc SUBTOTAL	1	loc	20,000.00	20,000	20,000	
	TOTAL - ROOFING						\$1,812,36
С10	INTERIOR CONSTRUCTION						
C1010	PARTITIONS	60 900	cf.	10.00	630 000		
	Corridor partitions; abuse resistant drywall Typical interior partitions	62,800 67,100	sf sf	10.00 8.00	628,000 536,800		
	Premium for elevator and stair shafts	9,880	si	5.00	49,400		
	Interior glazing - allowance	2,200	sf	60.00	132,000		
	Allowance for interior partitions not yet shown in Addition	228,576	sf	5.00	1,142,880		
	Allowance for infills/repair/ furring at existing closure now interior	14,600	sf	8.00	116,800		
	SUBTOTAL					2,605,880	
C1020	INTERIOR DOORS						
	Interior doors, frames and hardware; single leaf	220	ea	1,300.00	286,000		
	Interior doors, frames and hardware; double leaf	30	pr	1,800.00	54,000		

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PMC - Project Management Cost

Conceptual Op	tions					GFA	294,5
CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	ENOVATION/ ADDITION	ų ųn	CIIII	cosi	051	TOTAL	0001
	Shear studs	19,572	ea	2.50	48,930		
	Floor Structure	,,,,,,					
	2" Metal floor deck	78,288	sf	3.00	234,864		
	WWF reinforcement	90,031	sf	0.60	54,019		
	Concrete Fill to metal deck; 5 1/2" thick; normal weight	1,522	cy	100.00	152,200		
	Place and finish concrete	-0.00	-6	9.00	150 570		
	Misc. angles	78,288 6,400	sf lf	2.00 20.00	156,576		
	5	0,400	11	20.00	128,000		
	Miscellaneous	-0.00	-6	1.00	140.019		
	Fire proofing to columns and beams	78,288	sf	1.80	140,918		
	Fire stopping floors	78,288	sf	0.10	7,829		
	Allowance for expansion joints/ tie existing structure into new	908	lf	75.00	68,100		
	SUBTOTAL					2,569,336	
B102	B ROOF CONSTRUCTION						
	Roof Structure - Steel:						
	Steel joist system; allowance 11 lbs per SF	827	tns	3,100.00	2,563,700		
	Roof Structure						
	1-1/2" Metal Roof Deck	150,288	sf	2.50	375,720		
	Miscellaneous		0		150.001		
	Fire proofing to columns, beams and deck	150,288	sf	3.00	450,864		
	Entrance canopy framing	1	ls	100,000.00	100,000		
	Allowance for dunnage/ curbs	1	ls	25,000.00	25,000		
	Animal barn adjustment	1	ls	108,000.00	108,000		
	SUBTOTAL					3,623,284	
	TOTAL - SUPERSTRUCTURE						\$6,192,6
		_					
B20	EXTERIOR CLOSURE]					
		102,200	sf				
	D EXTERIOR WALLS - 70% masonry, 30% glazin	g					
B201							
B201	Interior skin						
B201	6" metal stud backup	71,540	sf	5.50	393,470		
B201	6" metal stud backup Insulation	71,540 71,540	sf	2.25	160,965		
B201	6" metal stud backup Insulation Air barrier	71,540 71,540	sf sf	2.25 4.00	160,965 286,160		
B201	6" metal stud backup Insulation Air barrier Air barrier/flashing at windows	71,540 71,540 10,118	sf sf lf	2.25 4.00 6.50	160,965 286,160 65,767		
B201	6" metal stud backup Insulation Air barrier Air barrier/flashing at windows Gypsum Sheathing	71,540 71,540 10,118 71,540	sf sf lf sf	2.25 4.00 6.50 2.50	160,965 286,160 65,767 178,850		
B201	6" metal stud backup Insulation Air barrier Air barrier/flashing at windows Gypsum Sheathing Drywall lining to interior face of stud backup	71,540 71,540 10,118	sf sf lf	2.25 4.00 6.50	160,965 286,160 65,767		
B201	6" metal stud backup Insulation Air barrier Air barrier/flashing at windows Gypsum Sheathing Drywall lining to interior face of stud backup <u>Exterior skin</u>	71,540 71,540 10,118 71,540 71,540	sf sf lf sf sf	2.25 4.00 6.50 2.50 2.40	160,965 286,160 65,767 178,850 171,696		
B201	6" metal stud backup Insulation Air barrier Air barrier/flashing at windows Gypsum Sheathing Drywall lining to interior face of stud backup	71,540 71,540 10,118 71,540	sf sf lf sf	2.25 4.00 6.50 2.50	160,965 286,160 65,767 178,850		
B201	6" metal stud backup Insulation Air barrier Air barrier/flashing at windows Gypsum Sheathing Drywall lining to interior face of stud backup <u>Exterior skin</u>	71,540 71,540 10,118 71,540 71,540	sf sf lf sf sf	2.25 4.00 6.50 2.50 2.40	160,965 286,160 65,767 178,850 171,696		
B201	6" metal stud backup Insulation Air barrier Air barrier/flashing at windows Gypsum Sheathing Drywall lining to interior face of stud backup <u>Exterior skin</u> Brick veneer Repoint existing exterior wall Infill existing wall and insulate	71,540 71,540 10,118 71,540 71,540 71,540	sf sf lf sf sf	2.25 4.00 6.50 2.50 2.40 26.00	160,965 286,160 65,767 178,850 171,696 1,860,040		
B201	6" metal stud backup Insulation Air barrier Air barrier/flashing at windows Gypsum Sheathing Drywall lining to interior face of stud backup <u>Exterior skin</u> Brick veneer Repoint existing exterior wall Infill existing wall and insulate <u>Miscellaneous</u>	71,540 71,540 10,118 71,540 71,540 71,540 1 1	sf sf lf sf sf sf ls ls	$2.25 \\ 4.00 \\ 6.50 \\ 2.50 \\ 2.40 \\ 26.00 \\ 90,000.00 \\ 225,000.00 \\ $	160,965 286,160 65,767 178,850 171,696 1,860,040 90,000 225,000		
B201	6" metal stud backup Insulation Air barrier Air barrier/flashing at windows Gypsum Sheathing Drywall lining to interior face of stud backup <u>Exterior skin</u> Brick veneer Repoint existing exterior wall Infill existing wall and insulate <u>Miscellaneous</u> Staging to exterior wall	71,540 71,540 10,118 71,540 71,540 71,540	sf lf sf sf sf ls	2.25 4.00 6.50 2.50 2.40 26.00 90,000.00	160,965 286,160 65,767 178,850 171,696 1,860,040 90,000	2 620 749	
B201	6" metal stud backup Insulation Air barrier Air barrier/flashing at windows Gypsum Sheathing Drywall lining to interior face of stud backup <u>Exterior skin</u> Brick veneer Repoint existing exterior wall Infill existing wall and insulate <u>Miscellaneous</u>	71,540 71,540 10,118 71,540 71,540 71,540 1 1	sf sf lf sf sf sf ls ls	$2.25 \\ 4.00 \\ 6.50 \\ 2.50 \\ 2.40 \\ 26.00 \\ 90,000.00 \\ 225,000.00 \\ $	160,965 286,160 65,767 178,850 171,696 1,860,040 90,000 225,000	3,636,348	
	6" metal stud backup Insulation Air barrier Air barrier Air barrier/flashing at windows Gypsum Sheathing Drywall lining to interior face of stud backup <u>Exterior skin</u> Brick veneer Repoint existing exterior wall Infill existing wall and insulate <u>Miscellaneous</u> Staging to exterior wall SUBTOTAL	71,540 71,540 10,118 71,540 71,540 71,540 1 1 102,200	sf sf lf sf sf ls ls sf	$2.25 \\ 4.00 \\ 6.50 \\ 2.50 \\ 2.40 \\ 26.00 \\ 90,000.00 \\ 225,000.00 \\ $	160,965 286,160 65,767 178,850 171,696 1,860,040 90,000 225,000	3,636,348	
	6" metal stud backup Insulation Air barrier Air barrier/flashing at windows Gypsum Sheathing Drywall lining to interior face of stud backup <u>Exterior skin</u> Brick veneer Repoint existing exterior wall Infill existing wall and insulate <u>Miscellaneous</u> Staging to exterior wall SUBTOTAL	71,540 71,540 10,118 71,540 71,540 71,540 1 1 102,200 30,660	sf sf lf sf sf ls ls sf sf	2.25 4.00 6.50 2.50 2.40 26.00 90,000.00 225,000.00 2.00	160,965 286,160 65,767 178,850 171,696 1,860,040 90,000 225,000 204,400	3,636,348	
	6" metal stud backupInsulationAir barrierAir barrier/flashing at windowsGypsum SheathingDrywall lining to interior face of stud backupExterior skinBrick veneerRepoint existing exterior wallInfill existing wall and insulateMiscellaneousStaging to exterior wallSUBTOTALVINDOWSWindows/Curtainwall/Storefront	71,540 71,540 10,118 71,540 71,540 71,540 1 1 102,200 30,660 30,660	sf sf lf sf sf ls ls sf sf	2.25 4.00 6.50 2.50 2.40 26.00 90,000.00 225,000.00 2.00 75.00	160,965 286,160 65,767 178,850 171,696 1,860,040 90,000 225,000 204,400	3,636,348	
	6" metal stud backup Insulation Air barrier Air barrier/flashing at windows Gypsum Sheathing Drywall lining to interior face of stud backup <u>Exterior skin</u> Brick veneer Repoint existing exterior wall Infill existing wall and insulate <u>Miscellaneous</u> Staging to exterior wall SUBTOTAL	71,540 71,540 10,118 71,540 71,540 71,540 1 1 102,200 30,660	sf sf lf sf sf ls ls sf sf	2.25 4.00 6.50 2.50 2.40 26.00 90,000.00 225,000.00 2.00	160,965 286,160 65,767 178,850 171,696 1,860,040 90,000 225,000 204,400	3,636,348	
	6" metal stud backupInsulationAir barrierAir barrier/flashing at windowsGypsum SheathingDrywall lining to interior face of stud backupExterior skinBrick veneerRepoint existing exterior wallInfill existing wall and insulateMiscellaneousStaging to exterior wallSUBTOTALVINDOWSWindows/Curtainwall/Storefront	71,540 71,540 10,118 71,540 71,540 71,540 1 1 102,200 30,660 30,660	sf sf lf sf sf ls ls sf sf	2.25 4.00 6.50 2.50 2.40 26.00 90,000.00 225,000.00 2.00 75.00	160,965 286,160 65,767 178,850 171,696 1,860,040 90,000 225,000 204,400	3,636,348	

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Dover High School Feasibility estimate June 22 2015

PM&C

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Final Evaluation of Options and Cost Estimates

4.6 - PM&C Cost Estimate - All Options PM&C

Option 2 - RENOVATION/ ADDITION
Dover, NH

<u> </u>	L	DESCRIPTION
Optio	on 2 - REI	NOVATION/ ADDITION
		Allowance for paint to existing walls to remain
		CT wains cot to walls in corridors, stairwells and Town hall square; $5^{\scriptscriptstyle \prime}$ high
		CT tile in bathrooms
		New acoustic & wood wall panels in Auditorium
		SUBTOTAL
	C3020	FLOOR FINISHES
		Linoleum tile to classrooms and general spaces
		Flooring at corridors/lobby; linoleum tile with pattern
		Repair/ refinish wood floor in Gymnasium
		New stage floor, stairs including repairs to existing substrate
		Sports flooring in Weight, Alt PE area
		Carpet in Auditorium aisles, Admin areas
		Kitchen, Culinary Kitchen & Restaurant flooring; quarry tile or similar
		Locker room floor finish
		New tile floors to toilet rooms
		Sealed concrete floors in Workshops, storage, equipment areas
		Allowance for bases and miscellaneous floor finishes
		Lower level areas
		SUBTOTAL
	C3030	CEILING FINISHES
	0,0,0	Exposed ceilings in CTC workshops & Town Square
		Add reflective wood/ acoustic clouds in Auditorium - allowance
		Ceiling finishes; allowance for all ceiling finishes/soffits etc.
		Gymnasium & Auditorium ceilings
		Lower level areas
		SUBTOTAL
		TOTAL - INTERIOR FINISHES
		TOTAL - INTERIOR PHUISILES
		TOTAL - INTERIOR FINISIES
	D10	CONVEYING SYSTEMS
		CONVEYING SYSTEMS
	<i>D10</i> D1010	CONVEYING SYSTEMS ELEVATOR
		CONVEYING SYSTEMS ELEVATOR New elevator; 2 stop
		CONVEYING SYSTEMS ELEVATOR
		CONVEYING SYSTEMS ELEVATOR New elevator; 2 stop New lift at Stage
		CONVEYING SYSTEMS ELEVATOR New elevator; 2 stop New lift at Stage Pit ladders
		CONVEYING SYSTEMS ELEVATOR New elevator; 2 stop New lift at Stage Pit ladders Sill angles SUBTOTAL
		CONVEYING SYSTEMS ELEVATOR New elevator; 2 stop New lift at Stage Pit ladders Sill angles
	D1010	CONVEYING SYSTEMS ELEVATOR New elevator; 2 stop New lift at Stage Pit ladders Sill angles SUBTOTAL TOTAL - CONVEYING SYSTEMS
		CONVEYING SYSTEMS ELEVATOR New elevator; 2 stop New lift at Stage Pit ladders Sill angles SUBTOTAL
	D1010	CONVEYING SYSTEMS ELEVATOR New elevator; 2 stop New lift at Stage Pit ladders Sill angles SUBTOTAL TOTAL - CONVEYING SYSTEMS
	D1010	CONVEYING SYSTEMS ELEVATOR New elevator; 2 stop New lift at Stage Pit ladders Sill angles SUBTOTAL TOTAL - CONVEYING SYSTEMS PLUMBING
	D1010	CONVEYING SYSTEMS ELEVATOR New elevator; 2 stop New lift at Stage Pit ladders Sill angles SUBTOTAL TOTAL - CONVEYING SYSTEMS PLUMBING PLUMBING, GENERALLY
	D1010	CONVEYING SYSTEMS ELEVATOR New elevator; 2 stop New lift at Stage Pit ladders Sill angles SUBTOTAL TOTAL - CONVEYING SYSTEMS PLUMBING PLUMBING, GENERALLY Allow for Plumbing - New Construction

Dover High School Feasibility estimate June 22 2015

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Conceptual Opti	ons					GFA	29
CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
Option 2 - RE	NOVATION/ ADDITION						
	Allowance for borrowed lites, vision panels & specialty hardware	294,500	sf	0.25	73,625		
	Allowance for interior doors not yet shown SUBTOTAL	294,500	sf	1.25	368,125	801,750	
						,	
C1030	SPECIALTIES / MILLWORK						
	Toilet Partitions and accessories	294,500	sf	0.50	147,250		
	Backer panels in electrical closets	1	ls	3,000.00	3,000		
	Marker boards/tack boards in classrooms, offices, conference rooms, library and MP rooms (Smart boards in Equipment section)	294,500	sf	0.50	147,250		
	Shelving in storage rooms	1	ls	10,000.00	10,000		
	Staff mailboxes/casework	1	ls	10,000.00	10,000		
	Signage & Directories	294,500	gsf	0.30	88,350		
	Fire extinguisher cabinets	294,300	ea	350.00	29,400		
	Lockers; corridors			190.00	29,400		
		1,500	opng				
	Lockers; athletic	100	opng	210.00	21,000		
	Lockers; team	200	opng	290.00	58,000		
	Lockers; staff	115	opng	240.00	27,600		
	Janitors Closet Accessories	12	rms	300.00	3,600		
	Rail at open to below areas	440	lf	250.00	110,000		
	Reception/ Library/ Circulation desks	1	ls	50,000	50,000		
	Library shelving				F,F & E		
	Display cases	1	ls	30,000.00	30,000		
	Science classroom casework	13	rm	50,000.00	650,000		
	Counters, base cabinets, tall storage/Cart storage in classrooms	49	rms	2,600.00	127,400		
	Miscellaneous metals throughout building	294,500	sf	0.25	73,625		
	Miscellaneous sealants throughout building	294,500	sf	0.25	73,625		
	SUBTOTAL	294,300	31	0.23	13,023	1,945,100	
	TOTAL - INTERIOR CONSTRUCTION						\$5,352,
		1					
C20	STAIRCASES]					
C2010	STAIR CONSTRUCTION		<i>a</i> .		100.000		
	Metal pan stair	6	flt	20,000.00	120,000		
	Concrete fill to stairs	6	flt flt	2,000.00 30,000.00	12,000		
	Communicating stairs in Town square area, complete	1	ш	30,000.00	30,000		
	SUBTOTAL					162,000	
C2020	STAIR FINISHES		~				
	Paint to stairs including all railings etc.	7	flt	2,500.00	17,500		
	Rubber tile at stairs	7	lft	3,000.00	21,000		
	SUBTOTAL					38,500	
	TOTAL - STAIRCASES						\$200,
С30	INTERIOR FINISHES	l					
C3010	WALL FINISHES Paint to interior walls	331,340	sf	0.85	281,639		

PM&C

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

						22-Jun-15
					GFA	294,500
	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	65,924	gsf	1.00	65,924		
vn	05,924 27,500	sf	12.00	330,000		
v11	2/,300	31	12.00	330,000		
	5,350	sf	12.00	64,200		
	4,500	sf	45.00	202,500		
	170			- ,	944,263	
		c		075 000		
	145,881	sf	6.00 7.00	875,286		
rn	51,335 13,310	sf sf	18.00	359,345 239,580		
	2,150	sf	20.00	43,000		
	5,460	sf	11.00	60,060		
	10,000	sf	5.00	50,000		
	7,994	sf	17.00	135,898		
	6,319	sf	10.00	63,190		
	3,437	sf	15.00	51,555		
	22,385	sf	1.50	33,578		
s	252,811	sf	0.50	126,406		
	12,810	sf	ETR		2,037,898	
					2,037,030	
	41,241	sf	2.00	82,482		
-	1,880	sf	50.00	94,000		
	205,726	sf	5.00	1,028,630		
	0,7			, ,		
	21,725	sf	ETR			
	12,810	sf	ETR			
					1,205,112	
						\$4,187,273
_						
		,	70,000,00	140.000		
	2	loc	70,000.00	140,000		
	1	ls	15,000.00	15,000		
	2	ea	900.00	1,800		
	32	lf	25.00	800	157.000	
					157,600	
						\$157,600
	228,576	sf	9.50	2,171,472		
	65,924	sf	7.50	494,430		
					2,665,902	
						\$2,665,902

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PM&C Option 2 - RENOVATION/ ADDITION			22-Jun-15	PM	RENOVATION/ ADDITION						22-Jun			
Option 2 - RENOVATION/ ADDITION Dover, NH	Dover, NH													
Conceptual Options					GFA	294,500	Conceptua	al Options					GF	A 294,50
CSI CODE DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST	CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
Option 2 - RENOVATION/ ADDITION							•	- RENOVATION/ ADDITION						
							360 361							
D30 HVAC							362	D50 ELECTRICAL]					
D30 HVAC, GENERALLY								5010 SERVICE & DISTRIBUTION						
<u>Heating equipment</u> Hot water heating plant	10,800	mbh	20.00	216,000			365	Gear & Distribution						
Perimeter heating devices	294,500	sf	1.00	294,500			366	Normal Power						
Cooling Equipment	71,0			,			367 368	4000A Gear and distribution allowance	294,500	sf	3.00	883,500		
Air-cooled chilled water plant	50	ton	1,500.00	75,000			369	Emergency power 300kW natural gas genset	1		175,000.00	175,000		
Terminal cooling equipment	1	ls	50,000.00	50,000			370	Gear and distribution allowance	1 294,500	ea sf	175,000.00	397,575		
Chilled beams	1	ls	100,000.00	100,000			371	30kW UPS system	294,500	ea	25,000.00	50,000		
<u>Air distribution</u>							372	PV System infrastructure	-		,500.00	00,000		
<u>Air Handling Unit</u>							373	PV System infrastructure	1	LS	7,500.00	7,500		
Packaged rooftop AC units	448	ton	3,500.00	1,568,000			374	Equipment Wiring						
Air handling units, heating only	37,500	cfm	8.50	318,750			375	Equipment wiring allowance	294,500	sf	2.00	589,000		
Make-up air unit	2	ea	6,000.00	12,000			376	Kitchen equipment allowance	1	ls	20,000.00	20,000		
Miscellaneous air distribution equipment	294,500	sf	1.00	294,500			377	SUBTOTAL					2,122,575	
Exhaust fan s	_		0.500.00	7.000			378							
Dishwasher exhaust fan	2	ea	3,500.00	7,000			³⁷⁹ D	5020 LIGHTING & POWER						
Kitchen exhaust fan	2	ea	7,500.00	15,000			380	Lighting & Branch Power		c	r 00	1 470 500		
Paint booth exhaust fan	1	ea	25,000.00	25,000			381	Lighting allowance (LED)	294,500	sf	5.00	1,472,500		
Dust collection system Exhaust fans	2		25,000.00 25,000.00	50,000 25,000			383	<u>Lighting controls</u> Lighting controls, local, daylight sensing and	294,500	sf	1.00	294,500		
Vehicle exhaust fans	1		25,000.00	25,000				dimming	294,500	51	1.00	294,300		
Sheet metal & Accessories	1	15	23,000.00	25,000			384	Branch devices						
Ductwork, insulation and accessories	250,000	lbs	8.00	2,000,000			385	Branch devices	294,500	sf	0.40	117,800		
Piping	250,000	105	8.00	2,000,000			386	Lighting and branch circuitry	21/01					
Piping, valves and insulation	294,500	sf	4.25	1,251,625			387	Branch & lighting circuitry	294,500	sf	5.00	1,472,500		
Controls (DDC)	-94,300	51	1.50	1,201,020			388	SUBTOTAL					3,357,300	
Automatic temperature controls	294,500	sf	4.50	1,325,250			389							
Balancing	-74,000			-,				5030 COMMUNICATION & SECURITY SYSTEMS						
System testing & balancing	294,500	sf	0.45	132,525			391	Fire Alarm						
Miscellaneous	71,0						392	Fire alarm system	294,500	sf	1.50	441,750		
Phasing allowance	1	ls	50,000.00	50,000			393	Security System						
Demolition	1	ls	75,000.00	75,000			394	Security System	294,500	sf	1.00	294,500		
Coordination & management	1	ls	100,000.00	100,000			395 396	<u>Telephone/Data/CATV</u>		6	0.50	700.070		
Commissioning support	1	ls	40,000.00	40,000			340	Telecommunications rough in & devices and cabling	294,500	sf	2.50	736,250		
Coring, sleeves & fire stopping	1	ls	20,000.00	20,000			397	Sound Systems						
Equipment start-up and inspection	1	ls	15,000.00	15,000			398	Gymnasium sound system	1	ls	20,000.00	20,000		
Rigging & equipment rental	1	ls	50,000.00	50,000			399	Cafeteria sound system	1	ls	20,000.00	20,000		
SUBTOTAL					8,135,150		400	Music room sound system	1	ls	10,000.00	10,000		
							401	Bi-Directional Amplification System						
TOTAL - HVAC						\$8,135,150	402	BDA system	1	ls	50,000.00	50,000		
							403	Master Clock & PA System						
D40 FIRE PROTECTION							404	Master clock and PA system	294,500	sf	0.80	235,600		
D40 FIRE PROTECTION, GENERALLY							405	Speech Amplification System						
Fire pump - not included		NIC					406		NIC					
Automatic sprinkler system - Additions	228,576	sf	3.50	800,016			407	Audio/Visual						
Automatic sprinkler system - Automation	65,924		3.50	230,734			408	AV rough-in and power (devices and cabling by other)	294,500	sf	0.40	117,800		
SUBTOTAL	~J,7=4		0.00		1,030,750									
					-,,		409 410	Theatrical		,				
TOTAL - FIRE PROTECTION						\$1,030,750	410	Stage lighting, dimming and controls	1	ls	200,000.00	200,000		

ΗM

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Final Evaluation of Options and Cost Estimates

otion 2 - RENO over, NH	VATION/ ADDITION						22-Jun-15
nceptual Optic	ons					GFA	294,500
I				UNIT	EST'D	SUB	TOTAL
DE	DESCRIPTION NOVATION/ ADDITION	QTY	UNIT	COST	COST	TOTAL	COST
ption 2 - KE	A/V rough-in and power only	1	ls	100,000.00	100,000		
	<u>Gymnasium</u>	1	15	100,000.00	100,000		
	Gym equipment feed and connection (scoreboard carried by other)	1	ls	10,000.00	10,000		
	SUBTOTAL					2,235,900	
D5040	OTHER ELECTRICAL SYSTEMS						
-0-4-	<u>Miscellaneous</u>						
	Temp power and lights	1	ls	100,000.00	100,000		
	Coordination study and testing	1	ls	20,000.00	20,000		
	Demo & make safe	65,924	sf	1.00	65,924		
	Lightning Protection	1	ls	75,000.00	75,000		
	Phasing	1	ls	30,000.00	30,000		
	Fees & Permits	1	ls	80,000.00	80,000		
	SUBTOTAL					370,924	
	TOTAL - ELECTRICAL						\$8,086,699
E10	EQUIPMENT]					
E10	EQUIPMENT, GENERALLY						
	<u>Gymnasium</u>						
	Gym wall pads	1	ls	20,000.00	20,000		
	Basketball backstops; swing up; electric operated	6	ea	9,800.00	58,800		
	Gymnasium dividing net; electrically operated	1	loc	25,000.00	25,000		
	Volleyball net and standards	1	ea	2,000.00	2,000		
	Telescoping bleachers - allowance	1	ls	20,000.00	20,000		
	Auditorium_	-			,		
	Theatrical Equipment Stage curtains, rigging and controls	1	ls	175,000	175,000		
	New seating - allow	800	ea	250.00	200,000		
	<u>Cafeteria</u>		,	450 000 00			
	Food Service equipment - allowance	1	ls	450,000.00	450,000		
	Classrooms, Science rooms, Specialty Classrooms						
	Smart boards	86	loc	3,800.00	FF+E		
	CTE/ Workshop Equipment				FF+E		
	SUBTOTAL					950,800	
	TOTAL - EQUIPMENT						\$950,800
		-					
E20	FURNISHINGS						
E2010	FIXED FURNISHINGS						
	Entry mats & frames	250	sf	45.00	11,250		
	New casework in Specialty classrooms; Band etc	77,000	sf	3.00	231,000		
	Window blinds	30,660	sf	6.00	183,960		
	SUBTOTAL					426,210	

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Dover High School Feasibility estimate June 22 2015

PMC - Project Management Cost

ΗM

4.6 - PM&C Cost Estimate - All Options PM&C

Option 2 - RENOVATION/ ADDITION Dover, NH

•	Conceptu	al Op	tions

460

461

462 463

464 465

466 467 468

54

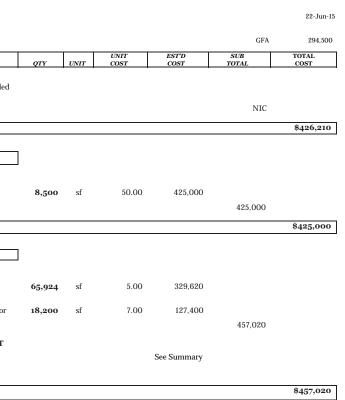
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CSI CODE		DESCRIPTION
	n 2 - REI	NOVATION/ ADDITION
		All movable furnishings to be provided and installed by owner
		SUBTOTAL
		TOTAL - FURNISHINGS
	F10	SPECIAL CONSTRUCTION
	F10	SPECIAL CONSTRUCTION
		Animal barn prefabricated building; complete
		SUBTOTAL
		TOTAL - SPECIAL CONSTRUCTION
	F20	SELECTIVE BUILDING DEMOLITION
	F2010	BUILDING ELEMENTS DEMOLITION
		Allowance for demo of existing conditions at renovated spaces
		Allowance for demo at existing closure now interior
		SUBTOTAL
	F2020	HAZARDOUS COMPONENTS ABATEMENT
		See main summary for HazMat allowance
		SUBTOTAL
	тот	TAL - SELECTIVE BUILDING DEMOLITION

Dover High School Feasibility estimate June 22 2015

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Dover Regional High School and Career Technical Center
Dover, NH

Conce	eptual Optic	ons						
CSI CODE		DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
		D/RENOVATION OPTION	Q11	0.011	0001	cosi	IUIAL	0051
1								
2	G	SITEWORK]					
3	G10	SITE PREPARATION & DEMOLITION	Affected area	- 18 acro	1C			
5	010	Site Demolitions and Relocations	Antected area	1 = 10 dere				
6		Allowance for contractor laydown area/ wheel wash	1	ls	20,000.00	20,000		
		etc						
7		Site construction fence/barricades/gates	3,000	lf	8.00	24,000		
8		Demolition of existing roadways, parking lots and associated curbs	200,000	sf	0.75	150,000		
9		Miscellaneous demolition including existing tennis courts, ball field, utilities, site furnishings, walls etc	18	acres	5,000.00	90,000		
10		Site Earthwork						
11		Minor regrading including striping topsoil - allowance	22,222	cy	5.00	111,110		
12		Fine grading	63,346	sy	1.00	63,346		
13		Excavation to reduce levels; use on site	22,000	cy	12.00	264,000		
15		Backfill at demolished wing Silt fence/erosion control allowance	25,000 1	cy ls	10.00 40,000.00	250,000 40,000		
16		Hazardous Waste Remediation	1	15	40,000.00	40,000		
17		No work in this section						
18		SUBTOTAL					1,012,456	
19		SUBTOTAL					1,012,430	
20 21	G20	SITE IMPROVEMENTS		- 6				
22		Roadways and Parking Lots	203,800	sf				
23		Bituminous concrete paving	0		28.00	911 944		
24		gravel base; 12" thick bituminous concrete: 4" thick	7,548 22,644	cy	28.00 22.00	211,344 498,168		
25		Bituminous concrete curb	9,860	sy lf	12.00	498,108 118,320		
26		Single solid lines	9,800 455	space	25.00	118,320		
27		Wheelchair Parking	455	space	75.00	675		
28		HC curb cuts - allowance	10	loc	350.00	3,500		
29		Other road markings; crosswalks etc	1	ls	10,000.00	10,000		
30		Allowance to reconfigure, patch and repair existing parking lot to remain at Animal Science barn	36,000	sf	1.50	54,000		
31		Allowance to minor reconfiguration, patch and repair Alumni Drive roadway	20,000	sf	1.50	30,000		
32		Pedestrian paving - allowance						
33		Concrete paving						
34		gravel base; 8" thick	298	cy	28.00	8,344		
35		concrete paving; 4" thick	12,000	sf	6.00	72,000		
36		Allowance for accessible ramps, stairs, handrails, landings at doorways etc	1	ls	50,000.00	50,000		
37		Retaining walls w/guardrail (guardrail taken separately)	315	lf	445.00	140,175		
38		Guardrail at retaining wall	315	lf	200.00	63,000		
39		New site signage allowance	1	ls	20,000.00	20,000		
40		Misc. site furnishings, bollards etc	1	ls	30,000.00	30,000		
41		Allowance for paving/ landscape components/ furnishings in new Performing Arts/ Outdoor Classroom Courtyard	1	ls	150,000.00	150,000		
42		Baseball Field						
43		Gravel base - assumed 12" thick	1,593	cy	28.00	44,604		
44		Soil mix; reuse amended soil from on-site spoils (taken	1,593	cy	15.00	23,895		
45		Sports turf mix	35,000	sf	0.25	8,750		
46		Infield mix	8,000	sf	0.30	2,400		

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Dover High School Feasibility estimate June 22 2015

Project Management and Cost

Dover High School Feasibility estimate June 22 2015

22-Jun-15

4.6 - PM&C Cost Estimate - All Options



Dover Regional High School and Career Technical Center Dover, NH

Con otual Optio

	Conceptual Optio		. <u> </u>	· · · ·	· · · · · · · · · · · · · · · · · · ·		· · ·	
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Allowance to extend sanitary line to new buildingiis20,000, 020,000Cas Cas Stornwater			1	15	30,000.00	30,000		
Gas Allowance to extend gas line to new building 1 is 15,000.00 15,000 Stormwater Remove underdrain at existing ball field 1 is 10,000.00 10,000 New underdrain system at relocated ball field 1 is 50,000.00 50,000 Allowance for work to underdrain system at existing 1 is 10,000.00 10,000 Iacrosse field disturbed by new work 203,800 sf 3.00 611,400 Closed drainage system at new parking lots including 203,800 20,000.00 20,000 Allowance for additional storm water reconfiguration at new building 1 is 2,000.00 20,000 SUBTOTAL TETERICAL UTILITIES Teteriment and detention of stormwater 1 is 2,000.00 2,000 Primary ductbank 10 ea 50,000.00 5,500 1000 1000 Primary ductbank 1 ea 50,000.00 5,000 2,000.00 2,000.00 2,000.00 Primary ductbank 1 ea 50,000.00 5,500 1000 5,500 1000 5,500 1000 5,000 1			1	ls	20.000.00	20.000		
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Power Riser pole, connection at existing 1 ea 2,000.00 2,000 Primary ductbank 100 If 55.00 5,500 Primary cabling Utility company Pad mounted transformer 1 ea 50,000.00 50,000 Transformer pad 1 ea 2,000.00 2,000 Secondary ductbank 1 ea 2,000.00 50,000 Generator ductbank 50 If 1,000.00 50,000 Generator ductbank 50 If 250.00 2,000 Generator ductbank 50 If 250.00 12,500 Communications 150 If 85.00 12,750 Site Lighting 1 Is 40,000.00 40,000		SUBTOTAL					766,400	
Riser pole, connection at existing 1 ea 2,000.00 2,000 Primary ductbank 100 lf 55.00 5,500 Primary cabling	G40	ELECTRICAL UTILITIES						
Primary ductbank 100 lf 55.00 5,500 Primary cabling Utility company Pad mounted transformer 1 ea 50,000.00 Transformer pad 1 ea 2,000.00 Secondary ductbank 1 ea 2,000.00 Secondary ductbank 50 lf 1,000.00 Generator ductbank 50 lf 250.00 Generator ductbank 50 lf 250.00 Communications 50 lf 250.00 Communications ductbank 50 lf 250.00 Site Lighting 150 lf 85.00 12,750		Power						
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Generator ductbank50lf250.0012,500CommunicationsCommunications ductbank150lf85.0012,750Site LightingSite lighting allowance1ls40,000.0040,000			50	lf	1,000.00	50,000		
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Site LightingSite lighting allowance1ls40,00040,000				16	0r 00	10 750		
Site lighting allowance 1 ls 40,000.00 40,000			150	11	85.00	12,750		
				le.	40.000.00	40.000		
505101AL 1/4,/30		0 0	1	15	40,000.00	40,000	174 750	
		SOBIOTAL					114,130	

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

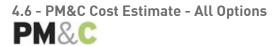
22-Jun-15

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Project Management and Cost

PM	& C									
	Dover Regional High School and Career Technical Center 22-Jun-15 Dover, NH									
Concep	tual Options									
CSI CODE	DESCRIPTION DN 2 ADD/RENOVATION OPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST			
100	TOTAL - SITE DEVELOPMENT NEW BUILDING						\$4,611,393			

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Dover Regional High School and Career Technical Center Dover, NH

Conceptual Options

		CONSTRUCTI						
PTION	BUILDING	BUILDING						
A10	FOUNDATIONS							
	A1010	Standard Foundations						
	A1020	Special Foundations						
	A1030	Lowest Floor Construction						
A20	BASEM	IENT CONSTRUCTION						
	A2010	Basement Excavation						
	A2020	Basement Walls						
B10	SUPER	STRUCTURE						
	B1010	Upper Floor Construction						
	B1020	Roof Construction						
B20	EXTER	IOR CLOSURE						
	B2010	Exterior Walls						
	B2020	Windows						
	B2030	Exterior Doors						
B30	ROOFI	NG						
	B3010	Roof Coverings						
	B3020	Roof Openings						
C10	INTER	IOR CONSTRUCTION						
	C1010	Partitions						
	C1020	Interior Doors						
	C1030	Specialties/Millwork						
C20	STAIR	CASES						
		Stair Construction						
	C2020	Stair Finishes						
C30		IOR FINISHES						
	C3010	Wall Finishes						
		Floor Finishes						
	C3030	Ceiling Finishes						
D10	CONVE	VINC SVSTEMS						

D10 CONVEYING SYSTEMS D1010 Elevator

Dover High School Feasibility estimate June 22 2015

ΗM

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

			22-Jun-15	
		GFA	296,014	
TION COST SUMM				
SUB-TOTAL	TOTAL	\$/SF	%	
\$2,798,096				
\$0				
\$1,264,280	\$4,062,376	\$13.72	7.6%	
\$0				
\$0	\$0	\$0.00	0.0%	
00 700 000				
\$3,796,200	#=	\$27.01	15.0%	
\$4,197,862	\$7,994,062	\$27.01	15.0%	
\$3,457,843				
\$2,469,971				
\$149,383	\$6,077,197	\$20.53	11.4%	
\$2,027,146				
\$20,000	\$2,047,146	\$6.92	3.9%	
69 509 910				
\$3,503,210 \$867,922				
\$2,177,814	\$6,548,946	\$22.12	12.3%	
\$2,177,014	#0,540,940	922.12	12.370	
\$154,000				
\$38,500	\$192,500	\$0.65	0.4%	
\$1,035,248				
\$2,133,640				
\$1,319,365	\$4,488,253	\$15.16	8.4%	
\$192,800	¢100.900	\$0.65	0.4%	
\$192,000	\$192,800	90.03	0.470	

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ver, NH 1ceptual	Options				GFA	296,014	
Ŷ		CONSTRUCTION	I COST SUMM				
	BUILDING		SUB-TOTAL	TOTAL	\$/SF	%	
PTION	3 - NEW	BUILDING					
D20	PLUME	BING					
210	D20	Plumbing	\$2,812,133	\$2,812,133	\$9.50	5.3%	
Dee	INAG						
	HVAC D30	HVAC	\$8,024,600	\$8,024,600	\$27.11	15.1%	
D40		ROTECTION					
	D40	Fire Protection	\$1,036,049	\$1,036,049	\$3.50	1.9%	
D50	ELECT	RICAL					
	D5010	Electrical	\$8,082,036	\$8,082,036	\$27.30	15.2%	
E10	EQUIP	MENT					
	E10	Equipment	\$960,800	\$960,800	\$3.25	1.8%	
E20	FURNI	SHINGS					
	E2010	Fixed Furnishings	\$202,770				
	E2020	Movable Furnishings	NIC	\$202,770	\$0.69	0.4%	
F10	SPECIA	AL CONSTRUCTION					
110	F10	Special Construction	\$425,000	\$425,000	\$1.44	0.8%	
Fac	TT & 77 M	AT REMOVALS					
F20	HAZM F2010		\$0				
		Building Elements Demolition	\$0 \$0	¢ ~	\$0.00	0.0%	
	F2020	Hazardous Components Abatement	\$0	\$0	\$0.00	0.0%	
TOTA	AL DIRE	CT COST (Trade Costs)		\$53,146,668	\$179.54	100.0%	

4.6 - PM&C Cost Estimate - All Options M&C r Regional High School and Career Technical Center r, NH

nceptual	Options
	- P

EW BUILDING FLOOR AREA CALCULATION First F
First F
C J E
Second F Third F
Third F
TOTAL GROSS FLOOR AREA (GFA)
FOUNDATIONS
STANDARD FOUNDATIONS
Strip footings to new exterior walls
Excavation
Remove off site
Backfill with gravel
Formwork
Re-bar
Concrete material; 3,000 psi
Placing concrete
Foundation walls at exterior
Formwork
Re-bar
Concrete material; 4,000 psi
Placing concrete
Dampproofing foundation wall and footing
Insulation to foundation walls; 2" thick
<u>Isolated column footings</u> Excavation
Remove off site
Backfill with gravel
Re-bar
Concrete material; 3,000 psi
Placing concrete
Aggregate pier system
Aggregate piers, assume 18" diameter, 20' deep, 8' 8' grid
Elevator Pits
Excavation
Remove off site
Backfill with gravel
Elevator pit walls
formwork
reinforcement
concrete material
placing concrete Slab
formwork
reinforcement
concrete material in slab
placing concrete
Bentonite waterstops

Dover High School Feasibility estimate June 22 2015

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Dover High School Feasibility estimate June 22 2015

PMC - Project Management Cost



Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

						22-Jun-15
					GFA	296,014
	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	ų	0.111	0001	0001	Tonin	0001
Floor			173,884			
loor			78,945			
Floor			43,185			
				296,014	sf	
					0	
	3,751	су	10.00	37,510		
	3,751	cy	12.00	45,012		
	3,461	cy	28.00	96,908		
	6,400	sf	8.00	51,200		
	32,000	lbs	1.00	32,000		
	290	cy	100.00	29,000		
	290	cy	45.00	13,050		
	25,600	sf	9.00	230,400		
	64,000	lbs	1.00	64,000		
	664	cy	100.00	66,400		
	664	cy	45.00	29,880		
	19,200	sf	1.00	19,200		
	12,800	sf	1.50	19,200		
	2,453	cy	10.00	24,530		
	2,453	cy	12.00	29,436		
	2,453	cy	28.00	68,684		
	29,848	lbs	1.20	35,818		
	1,030	cy	100.00	103,000		
	1,030	cy	45.00	46,350		
'x	143,884	sf	12.00	1,726,608		
	168	су	10.00	1,680		
	168	cy	12.00	2,016		
	8	cy	28.00	224		
	800	sf	9.00	7,200		
	1,600	lbs	1.00	1,600		
	10	cy	100.00	1,000		
	10	cy	45.00	450		
	300	sf	10.00	3,000		
	1,500	lbs	1.00	1,500		
	12	cy	100.00	1,200		
	12	cy	45.00	540		
	1	ls	500.00	500		
	600	sf	15.00	9,000		

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Dover Region Dover, NH	al High School and Career Technical Center						22-Jun-15
Conceptual O	ptions					GFA	296,014
CSI CODE DESCRIPTION		QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING	1 4					
	SUBTOTAL					2,798,096	
A10	20 SPECIAL FOUNDATIONS						
	No items in this section						
	SUBTOTAL						
A10	30 LOWEST FLOOR CONSTRUCTION						
	Gravel fill, 8"	4,296	су	28.00	120,288		
	Rigid insulation, 4' perimeter	12,800	sf	1.87	23,936		
	Vapor barrier	173,884	sf	0.55	95,636		
	Slab on grade, 4" thick	173,884	sf	5.00	869,420		
	Equipment pads	1	ls	25,000.00	25,000		
	Animal barn foundations	1	ls	130,000.00	130,000	1 004 000	
	SUBTOTAL					1,264,280	
	TOTAL - FOUNDATIONS						\$4,062,376
		_					
A2	D BASEMENT CONSTRUCTION						
A20	10 BASEMENT EXCAVATION						
	No Work in this section						
	SUBTOTAL						
A20	20 BASEMENT WALLS No Work in this section						
	SUBTOTAL						
	Sobrome						
	TOTAL - BASEMENT CONSTRUCTION						
B1	D SUPERSTRUCTURE						
		12	lbs/sf				
B10	10 FLOOR CONSTRUCTION	1,713	tns				
	Floor Structure - Steel:						
	Steel beams and columns; allow 13 lbs per SF Shear studs	794	tns	3,100.00 2.50	2,461,400		
	Floor Structure	30,533	ea	2.30	76,333		
	2" Metal floor deck	122,130	sf	3.00	366,390		
	WWF reinforcement	140,450	sf	0.60	84,270		
	Concrete Fill to metal deck; 5 1/2" thick; normal	2,375	cy	100.00	237,500		
	weight						
	Place and finish concrete	122,130	sf	2.00	244,260		
	Misc. angles	4,700	lf	20.00	94,000		
	<u>Miscellaneous</u> Fire proofing to columns and beams	122,130	sf	1.80	219,834		
	Fire stopping floors	122,130	sf	0.10	12,213		
	SUBTOTAL	,00		0.10	10,010	3,796,200	
B10	20 ROOF CONSTRUCTION						
	Roof Structure - Steel:						
	Steel joist system; allowance 11 lbs per SF	814	tns	3,100.00	2,523,400		
	Steel truss system w/ W10 infills in Auditorium	77	tns	3,500.00	269,500		
Nover High Scho	bl Feasibility estimate June 22 2015	Page 42				PMC - Project Manage	ment Cost

4.6 - PM&C Cost Estimate - All Options

ptual Optic	nns					GFA	296,
		r		UNIT	EST'D	SUB	TOTAL
0N 2 - NI	DESCRIPTION EW BUILDING	QTY	UNIT	COST	COST	TOTAL	COST
0113 11	Long span joist system at Gym	105	tns	3,100.00	325,500		
	Roof Structure 1 1/2" Acoustic deck at gym	14,000	sf	7.00	98,000		
	1-1/2" Metal Roof Deck	148,084	sí	2.50	370,210		
	Miscellaneous	140,004	51	2.50	570,210		
	Fire proofing to columns, beams and deck	162,084	sf	3.00	486,252		
	Entrance canopy framing	2,000	sf	50.00	100,000		
	Allowance for dunnage/ curbs SUBTOTAL	1	ls	25,000.00	25,000	4,197,862	
	TOTAL - SUPERSTRUCTURE						\$7,994,0
B20	EXTERIOR CLOSURE]					
B2010	EXTERIOR WALLS - 70% brick/30% Glazed	106,400	sf				
	Interior skin						
	6" metal stud backup	74,480	sf	5.50	409,640		
	Insulation	74,480	sf	2.25	167,580		
	Air barrier	74,480	sf	4.00	297,920		
	Air barrier/flashing at windows Gypsum Sheathing	10,534	lf sf	6.50 2.50	68,471 186,200		
	Drywall lining to interior face of stud backup Exterior skin	74,480 74,480	sf	2.40	178,752		
	Brick veneer	74,480	sf	26.00	1,936,480		
	<u>Miscellaneous</u> Staging to exterior wall SUBTOTAL	106,400	sf	2.00	212,800	3,457,843	
B2020	WINDOWS	31,920	sf		-		
	Windows/Curtainwall/Storefront	31,920	sf	75.00	2,394,000		
	Louvers (allowance)	150	sf	50.00	7,500		
	Backer rod & double sealant	10,534	lf	4.00	42,136		
	Wood blocking at openings	10,534	lf	2.50	26,335		
	SUBTOTAL	-*,004				2,469,971	
B2030	EXTERIOR DOORS						
	Glazed entrance doors including frame and hardware; double door	13	\mathbf{pr}	7,000.00	91,000		
	HM doors, frames and hardware- double	7	\mathbf{pr}	2,500.00	17,500		
	HM doors, frames and hardware- single	7	ea	1,600.00	11,200		
	Allowance for overhead doors at Workshops & Loading dock	5	ea	5,000.00	25,000		
	Backer rod & double sealant	669	lf	4.00	2,676		
	Wood blocking at openings SUBTOTAL	669	lf	3.00	2,007	149,383	
	TOTAL - EXTERIOR CLOSURE						\$6,077,1
		, <u> </u>					
B30	ROOFING	l					
B3010	ROOF COVERINGS Flat roofing						
	White TPO roofing	173,884	sf	5.00	869,420		
gh School Fe	asibility estimate June 22 2015	Page 43				PMC - Project Manager	ment Cost



Final Evaluation of Options and Cost Estimates

4.6 - PM&C Cost Estimate - All Options PM&C

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ver, NH							
nceptual Opti	ons					GFA	296,0
DE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
'TION 3 - N	EW BUILDING						
	Janitors Closet Accessories	12	rms	300.00	3,600		
	Rail at open to below areas	580	lf	250.00	145,000		
	Reception/ Library/ Circulation desks	1	ls	50,000	50,000		
	Science classroom casework	13	rm	50,000.00	650,000		
	Counters, base cabinets, tall storage/Cart storage in classrooms	48	rms	2,600.00	124,800		
	Casework in Specialty classrooms; Band etc	65,746	sf	3.00	197,238		
	Library shelving				F,F & E		
	Display cases	1	ls	30,000.00	30,000		
	Miscellaneous metals throughout building	296,014	sf	0.25	74,004		
	Miscellaneous sealants throughout building	296,014	sf	0.25	74,004		
	SUBTOTAL					2,177,814	
	TOTAL - INTERIOR CONSTRUCTION						\$6,548,94
C20	STAIRCASES						
C2010	STAIR CONSTRUCTION						
	Metal pan stair; egress stair	7	flt	20,000.00	140,000		
	Concrete fill to stairs	7	flt	2,000.00	14,000		
	SUBTOTAL					154,000	
C2020	STAIR FINISHES						
	Paint to stairs including all railings etc.	7	flt	2,500.00	17,500		
	Rubber tile at stairs	7	lft	3,000.00	21,000		
	SUBTOTAL					38,500	
	TOTAL - STAIRCASES						\$192,50
Сзо	INTERIOR FINISHES						
C3010	WALL FINISHES						
	Paint to interior walls	460,880	sf	0.85	391,748		
	CT wains cot to walls in corridors, stair wells and Town hall square; 5' high	32,000	sf	12.00	384,000		
	CT tile in bathrooms	4,750	sf	12.00	57,000		
	Acoustic & wood wall panels in Auditorium	4,500	sf	45.00	202,500		
	SUBTOTAL					1,035,248	
C3020	FLOOR FINISHES						
	Linoleum tile to classrooms and general spaces	143,568	sf	6.00	861,408		
	Flooring at corridors/lobby; linoleum tile with pattern		sf	7.00	380,121		
	Wood floor in Gymnasium	14,000	sf	18.00	252,000		
	New stage floor	2,625	sf	25.00	65,625		
	Sports flooring in Weight, Alt PE area Carpet in Auditorium aisles, Admin areas	6,000 10,000	sf sf	11.00 5.00	66,000 50,000		
	Kitchen, Culinary Kitchen & Restaurant flooring; quarry tile or similar	6,237	sf	17.00	106,029		
	Locker room floor finish	4,800	sf	10.00	48,000		
	New tile floors to toilet rooms	4,800 7,180	sf	15.00	107,700		
	Sealed concrete floors in Workshops, storage,		sf	1.50	48,750		

Dover High School Feasibility estimate June 22 2015

		SUBTOTAL					3,503,210
	C1020	INTERIOR DOORS					
		Interior doors, frames and hardware; single leaf	265	ea	1,300.00	344,500	
		Interior doors, frames and hardware; double leaf	33	pr	1,800.00	59,400	
		Coiling doors at CTE workshops, Cafeteria etc	1	ls	20,000.00	20,000	
		Allowance for borrowed lites, vision panels & specialty hardware	296,014	sf	0.25	74,004	
		Allowance for doors not yet shown	296,014	sf	1.25	370,018	
		SUBTOTAL					867,922
	C1030	SPECIALTIES / MILLWORK					
		Toilet Partitions and accessories	296,014	sf	0.50	148,007	
		Backer panels in electrical closets	1	ls	3,000.00	3,000	
		Marker boards/tack boards in classrooms, offices, conference rooms, library and MP rooms (Smart boards in Equipment section)	296,014	sf	0.50	148,007	
		Shelving in storage rooms	1	ls	10,000.00	10,000	
)		Staff mailboxes/casework	1	ls	10,000.00	10,000	
		Signage & Directories	296,014	gsf	0.30	88,804	
1		Fire extinguisher cabinets	85	ea	350.00	29,750	
		Lockers; corridors	1,500	opng	190.00	285,000	
ł		Lockers; athletic	100	opng	210.00	21,000	
		Lockers; team	200	opng	290.00	58,000	
;		Lockers; staff	115	opng	240.00	27,600	
	Dover High School Fe	asibility estimate June 22 2015	Page 44				PMC - Project Management Cost

UNIT

COST

4.50

0.45

4.00

50.00

30.00

3,000.00

5,000.00

20,000.00

18.00

15.00

10.00

8.00

5.00

60.00

5.00

QTY

173,884

173,884

21,000

2,000

3,500

9,600

6,300

76,120

101,180

10,640

2,200

296.014

UNIT

sf

sf

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sf

EST'D

COST

782,478

78,248

84,000

100,000

105.000

3,000

5,000

20,000

172,800

94,500

761,200

809.440

53,200

132,000

1,480,070

22-Jun-15

296,014

TOTAL

\$2,047,146

COST

GFA

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2,027,146

20,000

PM&C

Conceptual Options

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Dover Regional High School and Career Technical Center Dover, NH

Reinforced vapor barrier

Miscellaneous Roofing

Roof coping/ fascia

Roof ladders

Walk pads

SUBTOTAL

B3020 ROOF OPENINGS

hatch etc

C1010 PARTITIONS

SUBTOTAL

SUBTOTAL

C10 INTERIOR CONSTRUCTION

Auditorium partition

Typical interior partitions

Interior glazing - allowance

CMU partitions in Gymnasium

Allowance for entrance canopy roofing, soffit

Allowance for elevator vents, roof hatches, smoke

TOTAL - ROOFING

Corridor partitions; abuse resistant drywall

Premium for elevator and stair shafts

Allowance for walls not yet shown

CODE DESCRIPTION
OPTION 3 - NEW BUILDING

Insulation

Rough blocking

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

Page 45

4.6 - PM&C Cost Estimate - All Options PM&C

Dover Regional High School and Career Technical Center Dover, NH

CSI CODE		DESCRIPTION
OPTI	ON 3 - NI	EW BUILDING
		Paint booth exhaust fan
		Dust collection system
		Exhaust fans
		Vehicle exhaust
		Sheet metal & Accessories
		Ductwork, insulation and accessories
		Piping
		Piping, valves and insulation
		Controls (DDC)
		Automatic temperature controls
		Balancing
		System testing & balancing
		<u>Miscellaneous</u>
		Demolition
		Coordination & management
		Commissioning support
		Coring, sleeves & fire stopping
		Equipment start-up and inspection
		Rigging & equipment rental
		Vibration & seismic restraints
		SUBTOTAL
		JUDIOTAL
		TOTAL - HVAC
	D40	FIRE PROTECTION
	Die	FIRE BROTEOFION GENERALLY
	D40	FIRE PROTECTION, GENERALLY Fire protection system
		SUBTOTAL
		JUDIOTAL
		TOTAL - FIRE PROTECTION
	D50	ELECTRICAL
	250	
	D5010	SERVICE & DISTRIBUTION
		Gear & Distribution
		Normal Power
		4000A Gear and distribution allowance
		Emergency power
		350kW natural gas genset
		Gear and distribution allowance
		30kW UPS system
		<u>PV System infrastructure</u>
		PV System infrastructure
		Equipment Wiring
		Equipment wiring allowance
		Kitchen equipment allowance
	D5020	Kitchen equipment allowance SUBTOTAL
	D5020	Kitchen equipment allowance SUBTOTAL LIGHTING & POWER
	D5020	Kitchen equipment allowance SUBTOTAL LIGHTING & POWER Lighting & Branch Power
	D5020	Kitchen equipment allowance SUBTOTAL LIGHTING & POWER
	D5020	Kitchen equipment allowance SUBTOTAL LIGHTING & POWER Lighting & Branch Power Lighting allowance (LED)

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Dover, NH	al High School and Career Technical Center						22-Jun-
Conceptual O	otions					GFA	296,01
CSI				UNIT	EST'D	SUB	TOTAL
CODE OPTION 3	DESCRIPTION NEW BUILDING	QTY	UNIT	COST	COST	TOTAL	COST
	Allowance for bases and miscellaneous floor finishe	es 296,014	sf	0.50	148,007		
						0.400.040	
	SUBTOTAL					2,133,640	
C30	o CEILING FINISHES Exposed ceilings in CTE workshops, Town Square, Gymnasium & Auditorium	68,300	sf	2.00	136,600		
	Reflective wood/ acoustic clouds in Auditorium - allowance	2,364	sf	50.00	118,200		
	Ceiling finishes; allowance for all ceiling finishes/soffits etc. SUBTOTAL	212,913	sf	5.00	1,064,565	1,319,365	
	SUBTOTAL					1,319,305	
	TOTAL - INTERIOR FINISHES						\$4,488,253
Dı	CONVEYING SYSTEMS						
D10	O ELEVATOR						
	New elevator; 3 stop	1	loc	105,000.00	105,000		
	New elevator; 2 stop	1	loc	70,000.00	70,000		
	New lift at Stage	1	ls	15,000.00	15,000		
	Pit ladders	2	ea	900.00	1,800		
	Sill angles	40	lf	25.00	1,000		
	SUBTOTAL					192,800	
	TOTAL - CONVEYING SYSTEMS						\$192,800
D2	PLUMBING						
D2	PLUMBING, GENERALLY						
	Plumbing	296,014	gsf	9.50	2,812,133		
	SUBTOTAL					2,812,133	
	TOTAL - PLUMBING						\$2,812,133
							φ=,01=,13,
D3) HVAC						
D3							
L	HVAC, GENERALLY Heating equipment						
L	 HVAC, GENERALLY <u>Heating equipment</u> Hot water heating plant 	10,000	mbh	20.00	200,000		
L	 HVAC, GENERALLY <u>Heating equipment</u> Hot water heating plant Perimeter heating devices 	10,000 296,014	mbh sf	20.00 1.00	200,000 296,014		
L	 HVAC, GENERALLY <u>Heating equipment</u> Hot water heating plant Perimeter heating devices <u>Cooling Equipment</u> 	296,014	sf	1.00	296,014		
L	 HVAC, GENERALLY <u>Heating equipment</u> Hot water heating plant Perimeter heating devices <u>Cooling Equipment</u> Air-cooled chilled water plant 	296,014 50	sf ton	1.00 1,500.00	296,014 75,000		
L	 HVAC, GENERALLY <u>Heating equipment</u> Hot water heating plant Perimeter heating devices <u>Cooling Equipment</u> Air-cooled chilled water plant Terminal cooling equipment 	296,014 50 1	sf ton ls	1.00 1,500.00 50,000.00	296,014 75,000 50,000		
L	 HVAC, GENERALLY <u>Heating equipment</u> Hot water heating plant Perimeter heating devices <u>Cooling Equipment</u> Air-cooled chilled water plant Terminal cooling equipment Chilled beams 	296,014 50	sf ton	1.00 1,500.00	296,014 75,000		
L	 HVAC, GENERALLY <u>Heating equipment</u> Hot water heating plant Perimeter heating devices <u>Cooling Equipment</u> Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> 	296,014 50 1	sf ton ls	1.00 1,500.00 50,000.00	296,014 75,000 50,000		
L	 HVAC, GENERALLY Heating equipment Hot water heating plant Perimeter heating devices <u>Cooling Equipment</u> Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> 	296,014 50 1	sf ton ls ls	1.00 1,500.00 50,000.00 100,000.00	296,014 75,000 50,000 100,000		
L	 HVAC, GENERALLY Heating equipment Hot water heating plant Perimeter heating devices <u>Cooling Equipment</u> Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> Packaged rooftop AC units 	296,014 50 1 471	sf ton ls ls ton	1.00 1,500.00 50,000.00 100,000.00 3,500.00	296,014 75,000 50,000 100,000 1,648,500		
L	 HVAC, GENERALLY Heating equipment Hot water heating plant Perimeter heating devices <u>Cooling Equipment</u> Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> Packaged rooftop AC units Air handling units, heating only 	296,014 50 1 1 471 37,500	sf ton ls ls ton cfm	1.00 1,500.00 50,000.00 100,000.00 3,500.00 8.50	296,014 75,000 50,000 100,000 1,648,500 318,750		
L	 HVAC, GENERALLY Heating equipment Hot water heating plant Perimeter heating devices <u>Cooling Equipment</u> Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> Packaged rooftop AC units Air handling units, heating only Make-up air unit 	296,014 50 1 1 471 37,500 2	sf ton ls ls ton cfm ea	1.00 1,500.00 50,000.00 100,000.00 3,500.00 8.50 6,000.00	296,014 75,000 50,000 100,000 1,648,500 318,750 12,000		
L	 HVAC, GENERALLY <u>Heating equipment</u> Hot water heating plant Perimeter heating devices <u>Cooling Equipment</u> Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> Packaged rooftop AC units Air handling units, heating only Make-up air unit Miscellaneous air distribution equipment 	296,014 50 1 1 471 37,500	sf ton ls ls ton cfm	1.00 1,500.00 50,000.00 100,000.00 3,500.00 8.50	296,014 75,000 50,000 100,000 1,648,500 318,750		
L	 HVAC, GENERALLY Heating equipment Hot water heating plant Perimeter heating devices <u>Cooling Equipment</u> Air-cooled chilled water plant Terminal cooling equipment Chilled beams <u>Air distribution</u> <u>Air Handling Unit</u> Packaged rooftop AC units Air handling units, heating only Make-up air unit 	296,014 50 1 1 471 37,500 2	sf ton ls ls ton cfm ea	1.00 1,500.00 50,000.00 100,000.00 3,500.00 8.50 6,000.00	296,014 75,000 50,000 100,000 1,648,500 318,750 12,000		

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Final Evaluation of Options and Cost Estimates

					22-Jun-15
				GFA	296,014
QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
1	ea	25,000.00	25,000		
2	ea	75,000.00	150,000		
1	ls	25,000.00	25,000		
1	ls	25,000.00	25,000		
250,000	sf	8.00	2,000,000		
296,014	sf	4.25	1,258,060		
296,014	sf	4.50	1,332,063		
296,014	sf	0.45	133,206		
1	ls	25,000.00	25,000		
1	ls	50,000.00	50,000		
1	ls	40,000.00	40,000		
1	ls	20,000.00	20,000		
1	ls	15,000.00	15,000		
1	ls	50,000.00	50,000		
1	ls	6,000.00	6,000		
				8,024,600	
					\$8,024,600
					.,
1					
296,014	gsf	3.50	1,036,049		
				1,036,049	
					\$1,036,049
296,014	sf	3.00	888,042		
1	ea	200,000.00	200,000		
296,014	sf	1.35	399,619		
2	ea	25,000.00	50,000		
1	ls	7,500.00	7,500		
296,014	sf	2.00	592,028		
1	ls	20,000.00	20,000		
				2,157,189	
296,014	sf	5.00	1,480,070		
2 · / · T					
D					
Page 47				PMC - Project Manager	nent Cost

4.6 - PM&C Cost Estimate - All Options PM&C

Dover Regional High School and Career Technical Center Dover, NH

Concep	tual	OI	otions

oncep	Juai Optic	JIIS
SI ODE		DESCRIPTION
OPTIC	ON 3 - NI	EW BUILDING
		Auditorium
		Theatrical Equipment Stage curtains, rigging and controls
		New seating - allow
		<u>Cafeteria</u>
		Food Service equipment - allowance
		Classrooms, Science rooms, Specialty Classrooms
		Smart boards
		CTE/ Workshop Equipment
		SUBTOTAL
		TOTAL - EQUIPMENT
	E20	FURNISHINGS
	E2010	FIXED FURNISHINGS
		Entry mats & frames
		Window blinds
		SUBTOTAL
	E2020	MOVABLE FURNISHINGS
		All movable furnishings to be provided and installe
		by owner
		SUBTOTAL
		TOTAL - FURNISHINGS
1	F10	SPECIAL CONSTRUCTION
	F10	SPECIAL CONSTRUCTION Animal barn prefabricated building; complete
		SUBTOTAL
		TOTAL - SPECIAL CONSTRUCTION
	F20	SELECTIVE BUILDING DEMOLITION
	F2010	BUILDING ELEMENTS DEMOLITION
		See main summary for demolition of existing buildi SUBTOTAL
	D	
	F2020	HAZARDOUS COMPONENTS ABATEMENT See main summary for HazMat allowance
		SUBTOTAL
I	TOT	TAL - SELECTIVE BUILDING DEMOLITION
	1.01	

Dover, NH	
Conceptual	Options
CSI CODE	DESCH
OPTION 3	- NEW BUILDING
	Lighting controls, loc
	Branch devices

Dover Regional High School and Career Technical Center

PM&C

	ons					GFA	296,
CSI CODE	DESCRIPTION EW BUILDING	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OF HON 3 - N			c	1.00	000.014		
	Lighting controls, local, daylight sensing and	296,014	sf	1.00	296,014		
	Branch devices						
	Branch devices	296,014	sf	0.40	118,406		
	Lighting and branch circuitry		0	7 00	4 400 070		
	Branch & lighting circuitry	296,014	sf	5.00	1,480,070		
	SUBTOTAL					3,374,560	
D5030	COMMUNICATION & SECURITY SYSTEMS						
	<u>Fire Alarm</u>						
	Fire alarm system	296,014	sf	1.50	444,021		
	Security System						
	Security System	296,014	sf	1.00	296,014		
	Telephone/Data/CATV						
	Telecommunications rough in & devices and cabling	296,014	sf	2.50	740,035		
	Sound Systems						
	Gymnasium sound system	1	ls	20,000.00	20,000		
	Cafeteria sound system	1	ls	20,000.00	20,000		
	Music room sound system	1	ls	10,000.00	10,000		
	Bi-Directional Amplification System						
	BDA system	1	ls	50,000.00	50,000		
	Master Clock & PA System						
	Master clock and PA system	296,014	sf	0.80	236,811		
	Speech Amplification System	, ., T			,		
	Speech amplification system	NIC					
	Audio/Visual	-					
	AV rough-in and power (devices and cabling by other)	296,014	sf	0.40	118,406		
	Theatrical	-90,014	51	0.10	110,400		
	Stage lighting, dimming and controls	1	ls	200,000.00	200,000		
	A/V rough-in and power only	1	ls	200,000.00	100,000		
	0 1 0	1	15	100,000.00	100,000		
	<u>Gymnasium</u>	1	10	10,000,00	10.000		
	Gym equipment feed and connection (scoreboard carried by other)	1	ls	10,000.00	10,000		
	SUBTOTAL					2,245,287	
D5040	OTHER ELECTRICAL SYSTEMS						
	Miscellaneous						
	Temp power and lights	1	ls	100,000.00	100,000		
	Coordination study and testing	1	ls	20,000.00	20,000		
	Lightning Protection	1	ls	75,000.00	75,000		
	Phasing	1	ls	30,000.00	30,000		
	Fees & Permits	1	ls	80,000.00	80,000		
	SUBTOTAL					305,000	
_							
	TOTAL - ELECTRICAL						\$8,082,0
E10	EQUIPMENT						
	-]					
<i>E10</i> E10	EQUIPMENT, GENERALLY						
	EQUIPMENT, GENERALLY Gymnasium_]					
	EQUIPMENT, GENERALLY Gymnasium Gym wall pads	1	ls	20,000.00	20,000		
	EQUIPMENT, GENERALLY <u>Gymnasium</u> Gym wall pads Basketball backstops; swing up; electric operated	1 6	ea	9,800.00	58,800		
	EQUIPMENT, GENERALLY Gymnasium Gym wall pads						
	EQUIPMENT, GENERALLY <u>Gymnasium</u> Gym wall pads Basketball backstops; swing up; electric operated	6	ea	9,800.00	58,800		

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Dover High School Feasibility estimate June 22 2015

PMC - Project Management Cost



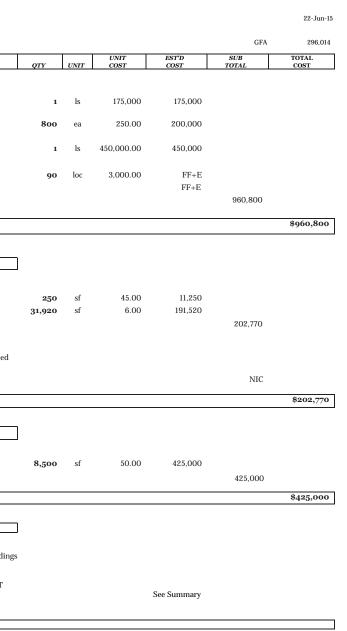
22-Jun-15

296,014

GFA

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center



Concept	ual Optio	ns						
CSI CODE		DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	N 3 NEV	V OPTION	QII	CIIII	0001	0051	TOTAL	0051
L	G	SITEWORK						
	G10	Site Demolitions and Relocations	Affected area					
		Allowance for contractor laydown area/ wheel wash etc	1	ls	20,000.00	20,000		
		Site construction fence/barricades w one entrance gate	3,000	lf	8.00	24,000		
		Demolition of existing roadways, parking lots and associated curbs	200,000	sf	0.75	150,000		
		Miscellaneous demolition including existing tennis courts, ball field, utilities, site furnishings, walls etc	18	acres	5,000.00	90,000		
		Site Earthwork						
		Minor regrading including striping topsoil - allowance	22,222	cy	5.00	111,110		
		Fine grading	63,346	sy	1.00	63,346		
		Excavation to reduce levels; use on site	22,000	cy	12.00	264,000		
		Backfill at demolished wing	25,000	cy	10.00	250,000		
		Silt fence/erosion control allowance	1	ls	40,000.00	40,000		
		Hazardous Waste Remediation No work in this section						
	G = 1	SUBTOTAL					1,012,456	
	G20	SITE IMPROVEMENTS Roadways and Parking Lots Bituminous concrete paving	211,500	sf				
		gravel base; 12" thick	7,833	cy	28.00	219,324		
		bituminous concrete; 4" thick	23,500	sy	22.00	517,000		
		Bituminous concrete curb	7,700	lf	12.00	92,400		
		Single solid lines	455	space	25.00	11,375		
		Wheelchair Parking	9	space	75.00	675		
		HC curb cuts - allowance	10	loc	350.00	3,500		
		Other road markings; crosswalks etc	1	ls	10,000.00	10,000		
		Allowance to reconfigure, patch and repair existing parking lot to remain at Animal Science barn	36,000	sf	1.50	54,000		
		Allowance to minor reconfiguration, patch and repair Alumni Drive roadway	20,000	sf	1.50	30,000		
		Pedestrian paving - allowance						
		Concrete paving						
		gravel base; 8" thick	372	cy	28.00	10,416		
		concrete paving; 4" thick	15,000	sf	6.00	90,000		
		Allowance for accessible ramps, stairs, handrails, landings at doorways etc	1	ls	50,000.00	50,000		
		Retaining walls w/guardrail (guardrail taken separately)	405	lf	400.00	162,000		
		Guardrail at retaining wall	405	lf	200.00	81,000		
		New site signage allowance	1	ls	20,000.00	20,000		
		Misc. site furnishings, bollards etc	1	ls	30,000.00	30,000		
		Football Field						
		Turf football field; complete	1	ls	750,000.00	750,000		
		Baseball Field and Soccer Field						
		Gravel base - assumed 12" thick	3,037	су	28.00	85,036		
		Soil mix; reuse amended soil from on-site spoils (taken	3,037	cy	15.00	45,555		
		Sports turf mix	74,000	sf	0.25	18,500		
		Infield mix	8,000	sf	0.30	2,400		
		Pitching mound; home plate	1	loc	2,750.00	2,750		

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Dover Regional High School and Career Technical Center Dover, NH

Conceptual Options

CODE		DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION	3 NEV	V OPTION						
		3 bases	1	loc	700.00	700		
		Line markings w/ marking pins below grade	1	ls	3,000.00	3,000		
		Foul poles	2	ea	1,500.00	3,000		
		Baseball backstops 70 lf of straight backstop	2	ea	10,000.00	20,000		
		Players benches	2	ea	2,200.00	4,400		
		Portable bleachers	4	loc	10,000.00	40,000		
		Scoreboard	1	ea	15,000.00	15,000		
		Soccer goals (movable)	2	loc	3,500.00	7,000		
		Tennis Courts	6	ea				
		Tennis court surface, complete system	18,000	sf	8.00	144,000		
		Net & post system	6	ea	1,000.00	6,000		
		Perimeter fencing	600	lf	50.00	30,000		
		Landscaping						
		Allowance for paving/ landscape components/	1	ls	150,000.00	150,000		
		furnishings in new Performing Arts/ Outdoor Classroom Courtyard	-	10	100,000.00	100,000		
		Allowance to spread existing amended topsoil @ seeded areas disturbed by new work	4,141	cy	15.00	62,115		
		New seeded areas	223,616	sf	0.15	33,542		
		Planting allowance	1	ls	50,000.00	50,000		
		Irrigation				NIC		
		SUBTOTAL					2,854,688	
	G30	CIVIL MECHANICAL UTILITIES Water supply						
		Allowance to extend water supply to building	1	ls	30,000.00	30,000		
		<u>Sanitary / Sewer</u>						
		Allowance to extend sanitary line to new building	1	ls	20,000.00	20,000		
		Gas						
		Allowance to extend gas line to new building	1	ls	5,000.00	5,000		
		Stormwater						
		Remove underdrain at existing ball field	1	ls	10,000.00	10,000		
		New underdrain system at relocated ball field	1	ls	50,000.00	50,000		
		Allowance for work to underdrain system at existing	1	ls	10,000.00	10,000		
		lacrosse field disturbed by new work						
		Closed drainage system at new parking lots including treatment and detention of stormwater	211,500	sf	3.00	634,500		
		Allowance for additional storm water reconfiguration at new building	1	ls	20,000.00	20,000		
		SUBTOTAL					779,500	
	G40	ELECTRICAL UTILITIES						
		Power Biser role composition at avisiting		0.7	9,000,00	0.000		
		Riser pole, connection at existing	1	ea 1f	2,000.00	2,000		
		Primary ductbank	100	lf	55.00	5,500		
		Primary cabling Pad mounted transformer		02	50,000.00	Utility company 50,000		
		Transformer pad	1	ea ea	2,000.00	2,000		

Dover High School Feasibility estimate June 22 2015

Dover High School Feasibility estimate June 22 2015



Project Management and Cost

Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

22-Jun-15

4.6	5 - Pl	M&C Cost Estimate - All Options	
		& C	
	Dover R Dover, 1	tegional High School and Career Technical Center NH	
	Concept	tual Options	
	CSI CODE	DESCRIPTION	Γ
	OPTIO	N 3 NEW OPTION	
91		Secondary ductbank	
92		4000A Secondary ductbank cabling	
93		Generator ductbank	
94		Generator ductbank	
95		Communications	
96		Communications ductbank	
97		Site Lighting	
98		Site lighting allowance	
99		SUBTOTAL	
100			
101		TOTAL - SITE DEVELOPMENT NEW BUILDING	Ì
		1	







Final Evaluation of Options and Cost Estimates

Dover High School & Career Technical Center

22-Jun-15

QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
50	lf	1,000.00	50,000		
50) lf	250.00	12,500		
50	, 11	230.00	12,500		
150	lf	85.00	12,750		
1	ls	40,000.00	40,000		
				174,750	
					\$4,821,394

