CONSTRUCTION MANAGEMENT SERVICES PROPOSAL

submitted to

State College Area School District
High School Project

June 4, 2014
1. Cover Letter
2. Project Team and Structure
3. Separation of Work and Multiple Prime Contracts
4. LEED Experience
5. BIM Experience
6. Site Logistics
7. Value Engineering
8. Change Order Management
9. Project Experience
10. Fee
June 4, 2014

Mr. Ed Poprik  
Director of Physical Plant  
State College Area School District  
131 West Nittany Avenue  
State College, PA 16801  

Dear Ed,

As the only Construction Manager that has successful experience working with the State College Area School District, our familiarity with your procedures, preferences and campus is unparalleled, making our team an immediate asset to the High School Expansion and Renovation project.

We are proposing the same team that completed the SCASD elementary schools and high school estimating for this project and have enhanced the team with experts who have done similar high school projects throughout Pennsylvania. Our expertise and the competency of our team will provide the School District with the assurance of a well-run project completed within the approved budget, safely and on time.

These key strengths make us the best fit for your project:

- **Our team has worked together on various projects in the past** and key members of our team completed the SCASD Elementary School Phase 1 project including Scott Miller, Rick Thomas and Scott Matson. Their strong working relationship with each other will be of great value to SCASD.

- **We are local to State College** with an office and staff who have lived and worked in SCASD since 1998. No one has better experience with Centre Region Code nor can get better pricing for this project than our firm due to the volume of work we do in this area. No one is more committed to this project's success.

- **Our High School and School District experience runs deep with 80 completed school district projects** and more than 350 projects for Higher Education institutions. Our team knows how to work on large projects on an occupied campus with an active student body and is experienced at minimizing disruption to the learning experience.

- **Alexander has done previous work with the architect, Crabtree Rohrbaugh and Associates**, which means we already have an established relationship and will immediately bring a collaborative and communicative attitude to the project.

- **Alexander has already proven our commitment to the success of this project** from the work we have already invested in the preparation of the schematic estimate.

As a resident of the State College Area School District, I am extremely proud of the town I call home and have made it one of my personal goals to continue supporting the School District and helping it achieve its plans for growth and success. This has been a long path traveled to date and there is still a lot of hard work ahead of us to bring our students the school they deserve. I will be available to you 24/7 throughout the course of this project. If you have any questions, please do not hesitate to call me at (814) 280-6044.

Sincerely,

ALEXANDER BUILDING CONSTRUCTION CO.

Christopher S. Magent, PhD, LEED AP+  
Business Development and Strategic Initiatives Director Butz Family of Companies  
General Manager, State College
THE BENEFIT OF WORKING WITH OUR TEAM

With our extensive experience working for K-12 schools, Alexander Building Construction understands the importance of providing a facility that best achieves the client’s project goals. Our Senior Project Manager, Project Manager, Superintendent and Estimators will use their prior knowledge of working with State College Area School District to ensure another quality project, and our experienced School District team will be able to provide valuable insight from their past experience across the Commonwealth. Our proposed team has also just completed the estimate for the SCASD High School project.
THOMAS K. DANIELS, P.E., CCM
PROJECT DIRECTOR

WHY CHOSEN FOR THIS PROJECT:

- 39 years of experience
- Experienced in school district projects and value engineering for cost savings
- Executive level responsibility within Alexander
- Completed 5 LEED projects
- Successfully completed multiple PA High School projects
- Provided estimate for SCASD High School Project
- Experience with team

"I wanted to thank you, Tom and Mike for your immediate response to Dieruff being struck by a tornado. I cannot express enough thanks for your focused response, bringing capacity around the school, and working side by side with everyone to get the school ready for our students, faculty, staff and administration."

Karen Augello, PhD
Allentown School District

RELEVANT EXPERIENCE

State College Area School District, State College, PA
- High School Modernization Estimate. $90,000,000

Allentown School District, Allentown, PA
- Facilities Improvements - Phase 1. $140,614,000
    LEED Gold Certified
  - Dieruff High School Addition & Renovations.
  - Ramos Elementary School Expansion.
    LEED Gold Certified
  - Roosevelt Elementary School Addition & Renovations.
    LEED Gold Certified
  - Trexler Middle School Addition & Renovations.
  - South Mountain Middle School Addition & Renovations.
- William Penn School. $8,800,000

Parkland School District, Allentown, PA
- New Parkland High School. $102,700,000
- Orefield Middle School Renovations. $22,650,000
- Ironton Elementary School Addition. $10,130,000
- Schnecksville Elementary School Addition. $7,680,000
- Multiple School Renovations. $17,000,000

Bethlehem Area School District, Bethlehem, PA
- Spring Garden Elementary School Expansion. $8,448,000
- Freemansburg Elementary School Expansion. $7,920,000

Whitehall Coplay School District, Whitehall, PA
- Additions and Renovations to Whitehall High School. $17,862,000
- Whitehall Middle School Addition and Renovations. $4,941,000

EDUCATION

B.S. Civil Engineering, Lehigh University
B.S. Geological Sciences, Lehigh University
Post-Graduate Studies in Foundation Engineering, Soils, Geology and Ocean Engineering, Lehigh University
Registered Professional Engineer, PA
Certified Construction Manager

AFFILIATIONS

National Society of Professional Engineers – NSPE
Pennsylvania Society of Professional Engineers – PSPE
American Society of Civil Engineers
American Arbitration Association (Past Member & Arbitrator)
Construction Management Association of America (CMAA) – Member

REFERENCES

Mr. Robert Sperling
Director of Facilities Services
Allentown School District
Allentown, PA
484-765-4980

Mr. Ted Lyons
Allentown Art Museum Board of Trustees, Allentown, PA
610-844-2582

Mr. Armand Christopher, AIA
USA Architects, Planners & Interior Designers, Easton, PA
484-559-6000

Mr. Robert Snyder
V.P. for Administration, Finance & Campus Environment
DeSales University, Center Valley, PA
610-282-1100
EDUCATION
B.S., Civil Engineering,
The Pennsylvania State University
LEED® AP BD+C
Florida Registered Professional Engineer No. 49350
Florida Certified Special Inspector No. 1117

AFFILIATIONS
Member of the American Society of Civil Engineers
ASCE Construction Institute
Leadership Centre County 2013
TEXO / CEFPI committee / Subcommittee for Improvement of K-12 Construction

REFERENCES
Mr. Mitch Leiby
Construction Manager
Geisinger Health System
Danville, PA
570-271-6938
mlleiby@geisinger.edu

Mr. Guillermo Ramos
Director CIP Construction Services
UT Southwestern Medical Center
Dallas, TX
214-648-3404

Jonathan Alldis
Partner
SHW Group, Inc.
218-473-2400

WHY CHOSEN FOR THIS PROJECT:
- 23 years of experience collaborating and leading project teams on various renovation projects
- Experience on similar projects: 12 projects within the Lewisville Independent School District in Flower Mound, TX
- Member of Leadership Centre County
- Provided estimate for SCASD High School Project
- Experience with team
- Local to State College, immediate 24/7 availability
- Served on the TEXO / CEFPI Committee/Subcommittee for improvement of K-12 Construction

"Mr. Workman inherited a job that was contentious and conflict-laden; he had extremely unhappy clients. Under his leadership the next two phases were completed under budget and ahead of schedule. He established a positive rapport with the client/owner. I have found him to be conscientious, thorough and uncompromisingly professional. I would recommend him highly for any job."

Quentin S. Burnett, Superintendent
Argyle Independent School District

RELEVANT EXPERIENCE
State College Area School District, State College, PA
- High School Modernization Estimate. $90,000,000

Argyle Independent School District, Argyle, TX (previous firm)
- New Argyle High School Campus. $33,220,000

Lewisville Independent School District, Flower Mound, TX (previous firm)
- Elementary School No. 40. $19,947,000
- Delay Middle School Additions and Renovations. $18,639,000
- Marcus High School, The Colony High School & Lamar Middle School Mechanical System Upgrades. $9,374,000
- Flower Mound High School, Lewisville High School, The Colony High School and Hebron High School Stadium Locker Room Additions. $19,184,000
- McAuliffe Elementary School, BB Owens Elementary School, Bolin Administration Center Mechanical System Upgrades. $11,990,000

The Pennsylvania State University, University Park, PA
- Old Main Renovations. $Not disclosed per Owners request
- Beaver Stadium Scoreboard Replacement. $11,000,000
- Old Main Emergency Operations Center. $Not disclosed per Owners request

Geisinger Health System, Danville, PA
- Gray’s Woods Surgery Center & Parking Deck Ph. II. $25,077,500
  Pending LEED Certification

UT Southwestern Medical Center at Dallas, Dallas, TX
- New University Hospital including ER. $424,360,000

DOUGLAS R. WORKMAN, P.E.
LEED® AP BD+C
SENIOR PROJECT MANAGER

TEXO / CEFPI committee / Subcommittee for Improvement of K-12 Construction
EDUCATION
BAE/Architectural Engineering, The Pennsylvania State University

AFFILIATIONS
Builders Association of Central PA

REFERENCES
Ms. Lorraine Sylvia
VP for Finance and Administrative Services
Pennsylvania Highlands Community College
Johnstown, PA
814-262-3822

Mr. Ed Poprik
Facilities Director
State College Area School District
State College, PA
814-231-1026

Mr. Gregory Hayes
Business Banking Representative
Kish Bank
State College, PA
814-861-7400

SCOTT MILLER
PROJECT MANAGER

WHY CHOSEN FOR THIS PROJECT:

- 17 years of experience
- Project Manager on the SCASD Grays Woods Elementary School project and the Construction Management Association of America Award-Winning projects at SCASD, Ferguson Township and Mount Nittany Elementary Schools.
- Provided estimate for SCASD High School Project
- Experience with team
- Experience on similar education projects
- Completed 2 LEED projects

"Scott Miller’s time management, organization and construction knowledge were critical to managing the details of our project. Throughout the project I communicated many requests, changes and design decisions to Scott ... and I had the confidence that every one of them would be taken care of and tracked. Scott has the capacity to manage a very complex and detailed project while also maintaining oversight of the big picture."

Greg Hayes
Business Banking Representative
Kish Bank

RELEVANT EXPERIENCE

State College Area School District, State College, PA
- High School Modernization Estimate. $90,000,000
- Elementary School Phase I. $28,535,000
  - Mount Nittany Elementary School. Pending LEED Certification
  - Ferguson Township Elementary School Addition & Renovations.

State College Area School District Master Plan
- 2012 CMAA Project of the Year - Regional
- 2012 CMAA Project of the Year Honorable Mention- National
  Pending LEED Certification
- Grays Woods Elementary School Addition.

Richland High School, Johnstown, PA (previous firm)
- New high school. $44,280,000

The Pennsylvania State University, University Park, PA
- Eastview Terrace Housing & Chiller Plant. $79,755,000 (previous firm)
- Chemistry Building Phase II. $27,309,000
- HUB Pedestrian Plaza. $1,767,000
- Chandlee Lab MRI Installation. $978,000
- Old Main Renovations. $Not disclosed per owner’s request
- Old Main Emergency Operations Center. $Not disclosed per owner’s request

Pennsylvania Highlands Community College, Johnstown, PA (previous firm)
- Renovation of High School into Community College. $6,282,000
**EDUCATION**

Cambria Heights High School  
Patton, PA  
Admiral Perry Vo-tech  
Ebensburg, PA

**AFFILIATIONS**

United States Green Building Council (USGBC)

**REFERENCES**

Mr. William Gladish  
Associate Vice-President Facilities Construction  
Geisinger Health System  
Danville, PA  
570-271-6938

Mr. Ed Poprik  
Facilities Director  
State College Area School District  
State College, PA  
814-231-1026

Mr. Mike Spicer  
Contract Coordinator  
State College Area School District  
State College, PA  
814-231-1028

Mr. D. Jeffrey Spackman, P.E.  
Project Manager  
The Pennsylvania State University  
Office of Physical Plant  
University Park, PA  
814-863-2496

Mr. Terry Hansel  
Facilities Project Coordinator  
The Pennsylvania State University  
Office of Physical Plant  
University Park, PA  
814-863-3940

**RELEVANT EXPERIENCE**

**State College Area School District, State College, PA**

- High School Modernization Estimate. $90,000,000
- Elementary School Phase I. $28,535,000
  - Ferguson Township Elementary School Addition & Renovations.  
    - State College Area School District Master Plan
    - 2012 CMAA Project of the Year - Regional  
    - 2012 CMAA Project of the Year Honorable Mention - National  
    - Pending LEED Certification
  - Grays Woods Elementary School Addition.

**State College Area School District, State College, PA (previous firm)**

- High School Addition and Renovation. $7,525,000

**The Pennsylvania State University, University Park, PA**

- Medlar Field at Lubrano Park. $31,400,000
- Chemistry Building Phase II. $27,309,000
- McAllister Building Renovation. $10,214,000
  - 2005 American Society of Civil Engineers - Project of the Year

**Geisinger Health System. Danville, PA**

- CMC Expansion - Scranton. $60,832,700
- Gray’s Woods Surgery Center & Parking Deck Ph. II. $25,077,500
  - Pending LEED Certification
- Gray’s Woods Ambulatory Care Campus. $21,505,000
  - LEED Gold Certified
  - 2008 CMAA Project of the Year, Honorable Mention

**Altoona Area School District, Altoona, PA (previous firm)**

- New Juniata Gap Elementary School. $15,500,000

**Cambria Heights School District, Patton, PA (previous firm)**

- Cambria Heights Elementary School. $15,200,000

**Spring Cove School District, Martinsburg, PA (previous firm)**

- Addition to Middle School. $3,150,000

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"Quality control on the site has been excellent (great superintendent)."

William Gladish  
Associate Vice President Facilities Construction  
Geisinger Health System

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RICHARD H. THOMAS  
PROJECT SUPERINTENDENT

**WHY CHOSEN FOR THIS PROJECT:**

- 37 years of experience
- Superintendent on the award-winning State College Area School District on Mount Nittany Elementary School, Ferguson Township Elementary School and Grays Woods Elementary School
- Previous Experience at State College High School for an addition and renovation in 1997-1998
- Experience on similar education projects:
  - Altoona School District & Spring Cove School District
  - Completed 4 LEED projects
  - Local to State College, immediate 24/7 availability

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SCOTT J. MATSON
ASSISTANT SUPERINTENDENT

WHY CHOSEN FOR THIS PROJECT:

- 24 years of experience
- Superintendent on the award-winning State College Area School District Mount Nittany Elementary School
- Completed 2 LEED projects
- Local to State College, immediate 24/7 availability
- Experience with the team
- Local to State College, immediate 24/7 availability

"Scott started work at MNMC on a very difficult project where we were building on top of an existing and operational Intensive Care Unit. He was so organized, thorough and caring about our patients, that I was thrilled to have him supervise our next project, the renovations for Entrance A."

Ed Bell
Project Manager
Mount Nittany Medical Center

RELEVANT EXPERIENCE

State College Area School District, State College PA
- Elementary School Phase I. $28,535,000
  - Mount Nittany Elementary School.
  - Pending LEED Certification

The Pennsylvania State University, University Park, PA
- Old Main Renovations. $Not disclosed per owner’s request
- Old Main Emergency Operations Center. $Not disclosed per owner’s request

Mount Nittany Health, State College, PA
- Campus-wide Projects. $113,949,084
  - Mount Nittany Medical Center, East Wing Addition.
    - 2011 CMAA Project of the Year – Regional
  - Mount Nittany Medical Center, Emergency Department Expansion and Renovation.
  - Mount Nittany Medical Center, Entrance A Addition & Renovation.

Kish Bank, State College, PA
- Kish Bank Financial Center. $Not disclosed per owner’s request.

Raytheon Company, State College, PA
- Building 5C Renovation. $1,721,000
  - LEED Gold Certified

EDUCATION
High School Diploma, Philipsburg-Osceola High School
Vocational Degree in Carpentry
WPRCC Apprenticeship Program
Four Year Apprenticeship Completion

CERTIFICATIONS
Superintendent Career Training Certification, United Brotherhood of Carpenters and Joiners of America

REFERENCES
Mr. Ed Bell
Project Manager
Mount Nittany Health System
State College, PA
814-231-7188

Mr. Ed Poprik
Facilities Director
State College Area School District
State College, PA
814-231-1026

Mr. Jason Moore
Operations Engineer
The Pennsylvania State University
University Park, PA
814-863-9486

Mr. Mike Spicer
Contractor Coordinator
State College Area School District
State College, PA
814-231-1028
EDUCATION
B.A.E., Architectural Engineering, Structural Option, The Pennsylvania State University
M.S., Architectural Engineering, Structural Option, The Pennsylvania State University
Engineer in Training
BIM Studio, Structural Engineer

AFFILIATIONS
Student Society of Architectural Engineers (SSAE)
Student Chapter of the Partnership for Achieving Construction Excellence (S:PACE)

REFERENCES
Lisa Berkey, P.E.
Director of Design & Construction Services
The Pennsylvania State University University Park, PA
814-865-7187
Mr. Harold L. Brungard
Vice President of Facilities and Plant Operations
Mount Nittany Health
State College, PA
814-231-7122
Mr. Ed Bell
Project Manager
Mount Nittany Medical Center
State College, PA
814-231-7188

JOSHUA P. PROGAR
PROJECT ENGINEER
VIRTUAL CONSTRUCTION COORDINATOR

WHY CHOSEN FOR THIS PROJECT:

- 2 years experience
- Building Information Modeling, proficiency in various software programs
- Experience working with Crabtree, Rohrbach & Associates
- State College experience through student internship
- Education experience
- Experience with team
- Local to State College, immediate 24/7 availability

RELEVANT EXPERIENCE
Geisinger Health System, Danville, PA
- Gray’s Woods Surgery Center & Parking Deck Ph. II. $25,077,500
  Pending LEED Certification
- Danville Lab. $64,389,000

The Pennsylvania State University, University Park, PA
- Old Main Renovations. $Not disclosed per Owners request

Mount Nittany Health, State College, PA
- Campus-wide Projects. $113,949,084
  - Mount Nittany Medical Center, East Wing Addition. 2011 CMAA Project of the Year – Regional
  - Mount Nittany Medical Center, Emergency Department Expansion and Renovation.
  - Mount Nittany Medical Center, Lance and Ellen Shaner Cancer Pavilion.
  - Mount Nittany Medical Center, Entrance A Addition & Renovation.

Project Engineer/Virtual Construction Coordinator Champion
- Developed preliminary framework for company building information modeling (BIM) processes through the creation of original collaborative documentation & multi-disciplinary coordinated construction models
- Leader of the BIM Implementation Task Force to develop company specific BIM implementation planning documentation
- Led virtual MEP coordination processes through management, training and organization

Crabtree, Rohrbaugh & Associates – Architects (previous firm)
- Exposed to advanced architectural spacial design resulting in the trust to independently perform preliminary design for the firm
**RON ZEMNICK**  
**SENIOR MANAGER, MEP SERVICES**  
**ELECTRICAL**

**WHY CHOSEN FOR THIS PROJECT:**

- 39 years experience of HVAC, plumbing, electrical, fire protection and associated control systems
- Provided estimating services on nine K-12 schools
- Has estimated MEP systems for multiple projects over $100 million
- His contributions during the estimating process have helped identify potential issues and ways to address them
- Completed 2 LEED projects
- Provided estimate for SCASD High School project
- Experience with team

“Ron has made many contributions to the estimating and coordination of the mechanical and electrical elements of those projects as MEP Manager. His coordination of the emergency power system upgrades on the Gettysburg Hospital Emergency Department Addition & Renovation project were incredibly valuable in identifying potential issues and taking steps to avoid them beforehand. We are thrilled to have Ron taking the same leadership role on the York Hospital Power Systems Improvements project.”

Craig Long  
Vice President, Facility Planning and Construction  
WellSpan Health

**RELEVANT EXPERIENCE**

**State College Area School District, State College, PA**  
- High School Modernization Estimate. $90,000,000

**Dickinson College, Carlisle, PA**  
- Durden Athletic Training Center. $6,900,000

**LEAP Academy Charter Schools, Camden, NJ**  
- S.T.E.M. High School. $9,476,000

**Mastery Charter Schools, Philadelphia, PA**  
- Multiple Campus Renovation/Addition Projects. $16,739,000  
  - Pickett Campus.  
  - Lenfest Campus (High Tech High).  
  - Harrity, Mann & Smedley Campuses.  
  - Gratz & Clymer Campuses.

**The Pennsylvania State University, University Park, PA**  
- Beaver Stadium Renovations, Phase I. $7,612,000  
- Old Main Renovations. $Not disclosed per owner’s request

**Thomas Jefferson University, Philadelphia, PA**  
- Life Sciences Building. $118,594,000

**General Services Administration, Philadelphia, PA**  
- Veterans Administration Regional Headquarters. $110,446,000

**University of Pennsylvania, Philadelphia, PA**  
- Biomedical Research Building. $85,668,000
EDUCATION
Building Code Inspector Training / Certification 1996 BOCA, NEC, CABO, NFPA
EPA Radon Mitigation Certification Course 1995 Rutgers University
Steamfitter’s Local Union 420 Apprentice Training Center 1986 Philadelphia, PA
Nolde Environmental School 1978 Reading, PA
ASHE Healthcare Construction Certificate

REFERENCES
Mr. Harold L. Brungard
Vice President of Facilities and Plant Operations
Mount Nittany Medical Center
State College, PA
814-231-7122
Mr. Hank Merrill
Director of Operations
The MRA Group
Breinigsville, PA
610-972-5312
Mr. Ted Holaska
Director
B. Braun Medical
Allentown, PA
610-509-5548
Mr. Doug Murray
Sr. Vice President
Stantec Consulting Services
Philadelphia, PA
215-313-0983
Mr. Roderick Strohm
LSI Corporation
North America Property Manager
610-712-8903
610-295-2319 (Cell)

SCOTT ERNEY
SENIOR MANAGER, MEP SERVICES
MECHANICAL & PLUMBING

WHY CHOSEN FOR THIS PROJECT:
- 32 years of experience
- Senior Manager - MEP on the award-winning State College Area School District on Mount Nittany Elementary School, Ferguson Township Elementary School and Grays Woods Elementary School
- Estimator for MEP Systems for Allentown School District high school projects
- Experience with team

"Both Scott and Steve served very critical roles with coordination and planning, as well as oversight for the several different sub contractors required to complete these projects. This team continues to push contractors, engineers, and commissioning teams to ensure each and every expectation of the owner is met."

Harold Brungard
Vice President of Facilities and Plant Operations
Mount Nittany Medical Center

RELEVANT EXPERIENCE

State College Area School District, State College, PA
- Mount Nittany Elementary School. $13,503,000
  Pending LEED Certification
- Ferguson Township Elementary School Addition & Renovations. $13,724,000
  State College Area School District Master Plan
  2012 CMAA Project of the Year - Regional
  2012 CMAA Project of the Year Honorable Mention- National
  Pending LEED Certification
- Grays Woods Elementary School Addition. $1,308,000

Allentown School District, Allentown, PA
- Facilities Improvements - Phase 1. $140,614,000
    LEED Gold Certified
  - Dieruff High School Addition & Renovations.
  - Ramos Elementary School Expansion.
    LEED Gold Certified
  - Roosevelt Elementary School Addition & Renovations.
    LEED Gold Certified
  - Trexler Middle School Addition & Renovations.
  - South Mountain Middle School Addition & Renovations.
  - William Penn School. $8,800,000

Mount Nittany Health, State College, PA
- Campus-wide Projects. $113,949,084
  - Mount Nittany Medical Center, Perioperative Services Expansion.
  - Mount Nittany Medical Center, East Wing Addition.
    2011 CMAA Project of the Year - Regional
  - Mount Nittany Medical Center, Emergency Department Expansion.
  - Mount Nittany Medical Center, Lance and Ellen Shaner Cancer Pavilion.
**E D U C A T I O N**

Associate Degree in Architectural Engineering Technology  
The Pennsylvania State University

**R E F E R E N C E S**

Mr. Greg Hayes  
Vice President  
Kish Bank  
State College, PA  
814-861-7400

Mr. Tim Cowan, R.A.  
Burt Hill Architects  
Butler, PA  
724-285-4761

Mr. Jeffrey Spackman, P.E.  
Project Manager  
The Pennsylvania State University  
University Park, PA  
814-863-2496

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**WHY CHOSEN FOR THIS PROJECT:**

- 36 years of experience
- Lead Estimator on the award-winning State College Area School District on Mount Nittany, Ferguson Township and Grays Woods Elementary Schools
- Relevant experience on State College projects:
  - Over $300 million in total project volume
  - Provided estimate for SCASD High School Project
  - Experience with team
  - LEED experience
  - Great working relationship with local subcontractors

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**RELEVANT EXPERIENCE**

**State College Area School District, State College, PA**
- High School Modernization Estimate. $90,000,000
- Elementary School Phase I. $28,535,000
  - Mount Nittany Elementary School.  
    **Pending LEED Certification**
- Ferguson Township Elementary School Addition & Renovations.
  - **State College Area School District Master Plan**
  - **2012 CMAA Project of the Year - Regional**
  - **2012 CMAA Project of the Year Honorable Mention - National**
  - **Pending LEED Certification**
- Grays Woods Elementary School Addition.

**The Pennsylvania State University, University Park, PA**
- Chandlee Lab Renovations. $12,720,000
- Beaver Stadium Scoreboard Replacement. $11,000,000
- Beaver Stadium Renovations Phase I. $7,612,000
- Old Main Renovations. $Not disclosed per Owners request
- Merkle Laboratory Renovation. $1,057,000
- Pollock Halls Fire Safety Improvements Ph. III. $2,890,000

**Mount Nittany Health, State College, PA**
- Campus-wide Projects. $113,949,084
  - Mount Nittany Medical Center, Perioperative Services Expansion.
  - Mount Nittany Medical Center, East Wing Addition
    - **2011 CMAA Project of the Year – Regional**
  - Mount Nittany Medical Center, Emergency Department Expansion and Renovation.
  - Mount Nittany Medical Center, Lance and Ellen Shaner Cancer Pavilion.
  - Mount Nittany Medical Center, Entrance A Addition & Renovation.

**Geisinger Health System, Danville, PA**
- Gray’s Woods Ambulatory Care Campus. $21,505,000
  - **LEED Gold Certified**
  - **2008 CMAA Project of the Year, Honorable Mention**
**EDUCATION**
B.A.E. Architectural Engineering
The Pennsylvania State University

**CERTIFICATIONS**
Engineer-In-Training Certificate in Pennsylvania

**REFERENCES**
Mr. Ken Shultes
Assoc. VP for Campus Operations
Dickinson College
Carlisle, PA
717-245-1943

Mr. Bill Gladish, R.A.
Associate Vice-President Facilities Construction
Geisinger Health System
Danville, PA
570-271-6938

Mr. William Gretton III
Assistant Superintendent for Business Affairs (retired)
Harrisburg School District
717-687-8465 (home)

Ms. Rita Spangler
VP of Operations
Susquehanna Health System
Williamsport, PA
570-321-3171

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**TIMOTHY KAY**
ESTIMATOR
INTERIOR AND FINISHES

**WHY CHOSEN FOR THIS PROJECT:**
- 12 years of experience
- Experienced in school district projects and value engineering for cost savings
- Executive level responsibility within Alexander
- Completed 5 LEED projects
- Recently brought a High School renovation project in $1 million under budget
- Successfully completed multiple PA High School projects
- Experience with team

"The Alexander pre-construction staff was knowledgeable, patient and understanding with user groups. The level of planning detail was significant, leading to a smooth and well-organized construction process. The field people are outstanding. Coordinating with staff, physicians, administration, project manager, regulatory officials, local contractors and very importantly facilities personnel was professional, collegial and supportive.”

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**Relevant Experience**

**Harrisburg School District, Harrisburg, PA**
- Downey School Addition and Renovation. $11,926,000
- Lincoln School Addition and Renovation. $9,724,000
- Benjamin Franklin School Addition and Renovation. $7,168,000
- Scott K-8 Elementary School Addition and Renovations. $2,560,000
- Camp Curtin K-8 Elementary School Addition & Renovation. $19,200,000
- Foose K-8 Elementary School addition and renovation. $3,198,000

**Mount Nittany Health, State College, PA**
- Mount Nittany Medical Center, East Wing Addition.$31,065,000
  2011 CMAA Project of the Year – Regional
- Mount Nittany Medical Center, Mifflin County Medical Building. $2,662,000

**Campus Apartments, Inc., Lancaster, PA**
- Franklin & Marshall College, College Row Student Apartments. $33,840,000
  2011 Envision Lancaster County - Envision Achievement Award

**Dickinson College, Carlisle, PA**
- Durden Athletic Training Center. $6,900,000

**East Stroudsburg University, East Stroudsburg, PA**
- Monroe Hall Renovations. $10,300,000

**Geisinger Health System, Bloomsburg, PA**
- CMC Expansion - Scranton. $60,000,000
- Buckhorn Office Building. $11,800,000

**Harrison and Grass Investments, State College, PA**
- The Colonnade Phase II. $29,100,000

**The City of Harrisburg, Harrisburg, PA**
- The National Civil War Museum. $28,388,000
  2001 Masonry Contractor’s Association Project of the Year
Whether we are managing public projects or private projects, it is always our strong recommendation to use multiple prime contractors/subcontractors. Most of our projects in both the public and private sectors will have 10-25 bid packages. The number of bid packages for the State College Area School District High School project will likely be at the higher end of the range. This approach ensures that higher quality firms will perform the work. It also eliminates multiple markups and inflated change orders, thereby reducing the ultimate cost to SCASD. Communications and field supervision are also more direct and effective. This is especially important on your project because of the close coordination required to address the continuous operations of the building.

As part of the bid documents, we will prepare bid clarifications (prime contractor scopes of work) to define the scope of work in each bid package, e.g. which specification sections fall under each bid package. The clarifications eliminate confusion and the possibility of work either being double-counted or missed entirely. We will conduct pre-bid meetings to address the clarifications, schedule, phasing requirements, scope of work and other bid instructions. The School District may participate in the bidding process to whatever extent it desires. We will ensure that all of SCASD’s bidding requirements are strictly adhered to.

Prior to recommending award of the prime contracts, we will debrief the firms to ensure that their bids include the entire scope of work for their particular bid package and that the phasing requirements/schedule are clearly understood. The contracts will be awarded upon approval of the School District. We will aid in the administration of the paperwork (preparation of contracts, certificates of insurance, performance and payments bonds, certified payrolls, billings, etc.). Foremen and project manager meetings will be conducted regularly to address construction issues.
Alexander Building Construction has served multiple roles on sustainable design and construction teams responsible for Preconstruction and Construction Phase Services as the Construction Management firm. In all instances, the early involvement of Alexander has helped every owner achieve their sustainable goals and exceed them on 80% of our projects. The School District will benefit from the intimate knowledge our proposed team has with the USGBC LEED® program and their past successful completion of sustainable projects. The team has LEED® Accredited Professionals who can guide and support you and the design team so that you will get the maximum benefits and energy cost savings out of the building.

Alexander has developed standard Construction Waste and Construction Indoor Air Quality Management Plans including the spreadsheets and checklists required of the points specifically related to or required of the CM. Additionally, we have developed standardized tracking forms for LEED® required submittals and customized spreadsheets for all value-related points covered in the Materials & Resources and Indoor Environmental Quality categories. This knowledge and experience will be shared to support the design team and sustain the scrutiny of a USGBC audit of these critically important points.

Commissioning can be delivered in many different levels of detail on virtually every building system. It influences both construction and design. The most common building systems to be commissioned are the Mechanical, Electrical and Plumbing systems. This begins during design and is ultimately completed well after building occupancy. Alexander’s in house MEP division, led by Ron Zemnick and Scott Erney, can work with the owner, design professional and Commissioning Agent through an integrative design approach to evaluate and develop the most efficient commissioning plan for your buildings. The resulting plan will consider not only MEP systems, but also other systems impacting the energy performance of the building (i.e. façade, envelope, interior finishes, etc.).

The three main phases of Commissioning are design, construction and acceptance. Traditionally the design and construction phases are easily identified and the commissioning process just as easily integrated. However, the acceptance phase of the process is less discrete and success depends a great deal on the work that was performed during design and construction.
The acceptance phase begins with equipment start-up and turn-over. A successful, cost-effective operator training and maintenance program development depends as much on proper specification inclusions as it does on the enforcement of the specified requirements during construction. A separate operator training schedule, in which primarily manufacturer representatives/technicians, and trade contractor personnel conduct training on their individual equipment and systems is imperative to a seamless acceptance. Alexander can lead the coordination and planning as well as produce professional videos of the training.

The Testing and Turn-Over Procedure must be established as part of the Commissioning Plan for the purpose of closing out all of the project’s physical and documentation requirements and included in the project specifications prior to bidding. This procedure actually is most effective when established early in the construction phase management of each project. Alexander utilizes this procedure to provide a systematic, comprehensive, and cohesive methodology for bringing each project to a clean and final completion.

The Butz Family of Companies has ranked in the Engineering News Record’s “Top 50 Green Contractors” on multiple occasions. This section highlights major projects incorporating LEED standards or other sustainable design, construction, and operations criteria. We have 16 projects that have been certified with six more in progress or pending certification. Below is a listing of our LEED certified projects and pending projects.

**LEED Certified Projects**

- **Platinum**
  - Berks County Community Foundation Headquarters

- **Gold**
  - Philadelphia Housing Authority Norris Apartments
  - Pennsylvania Real Estate Investment Trust 801 Market Street
  - Pennsylvania State University - Berks Campus Gaige Technology and Classroom Building
  - Lehigh University S.T.E.P.S. Building
  - Allentown School District Roosevelt Elementary School

![LEED Certification Chart](chart_image)
Allentown School District
William Allen High School

Allentown School District
Ramos Elementary School

Geisinger Health System
Gray’s Woods Ambulatory Care Facility

Raytheon
Building 5C Machine Shop Renovation

Haverford College
Gardiner Integrated Athletic Center

Geisinger Health System
Wyoming Valley Medical Center

Pennsylvania Turnpike
Central Administration Building

PBS39
Public Medial and Education Building

Geisinger Health System
Buckhorn Office Building

Geisinger Health System
Henry Cancer Center

Projects In Progress / Pending LEED Approval

State College Area School District
Ferguson Township Elementary School – Addition and renovations
Mount Nittany Elementary School – New elementary school

DeSales University - Gambet Center for Business and Healthcare
New two-story classroom/lab building

Geisinger Health – Danville Lab
New seven floor lab facility

Geisinger Health – Gray’s Woods Surgery Center and Parking Deck
New surgical facility and parking deck for the ambulatory care campus

Butz Corporate Center- Phase II
Corporate office building addition

Dickinson College – Durden Athletic Training Center
New athletic training center
Alexander is an industry leader in the use of Building Information Modeling (BIM) and embraces the value it brings to a project. We excel at evaluating potential uses for BIM on a project specific level to coordinate all aspects of the design, fabrication and construction process before actually constructing in the field.

Our team, in coordination with the State College Area School District and CRA, will lead the development of a detailed project specific BIM Implementation Plan in the following steps.

**PRECONSTRUCTION PHASE UTILIZATION**

Our project team has evaluated each dimension of BIM and identified the following potential uses to be beneficial during the preconstruction phase of the SCASD High School Project.

### 3D
- Use BIM to educate/inform the CAC for facilities and School Board.
- Enhanced prefabrication through utilization of the Revit design model.
- Utilize design model as a 3D Visualization/Walkthrough Model(s) for preconstruction constructability reviews for complex construction systems or sequences.
- Utilize design model to establish site logistics including material laydown, deliveries, construction trailer locations, etc. See 4D below.
- Use BIM during pre-bid meetings
- Utilize BIM for visualization during scope review meetings

### 4D
- Analyze logistical issues (i.e. traffic or parking) which may be affected by construction in an attempt to minimize impact to the students and staff.
- 4D construction sequencing models linked to a preliminary schedule for early phasing & constructability analysis

### 5D
- Revit model and On-screen take-off use by our estimators improve accuracy and consistency of estimates.
6D

- Develop an approach for seamless transition from the design to construction to operations model.
- Establish Owner desired intelligent attributes for 6D record models.

Process Dimension

- Develop detailed BIM processes, information exchanges and establish model responsibilities through the creation of a project specific BIM Execution Plan with all project team members.

Construction Phase Utilization

Our project team has evaluated each dimension of BIM and identified the following uses to be beneficial during the construction phase of your project:

- 3D MEP Coordination with Clash Detection
- Virtual walkthroughs of critical building spaces
- Track completed and planned construction activities in the Building Information Model
- Utilize BIM with schedule look-ahead updates in foreman and project manager meetings
- Visualization with trade contractors to coordinate challenging construction activities
- Capture as-built construction documentation into record model
- Provide proposed solutions initiated by Alexander in RFI’s to the design team
- Implement approach for seamless transition from construction model to Facilities, Operations and Maintenance model
The Butz Family of Companies completed nearly $1.1 billion of construction projects over the past five years in which Building Information Modeling (BIM) and Virtual Design + Construction processes were successfully implemented. This section highlights major projects incorporating virtual design & construction practices.

**Completed Projects**

**Pennsylvania State University**
*Old Main Building Systems Renovations (2013)*
Phased MEP renovations, restroom & historical lobby renovations within 100% occupied facility
- 3D MEP coordination
- 3D visualization & design review
- Virtual site logistics & phasing
- Existing condition documentation modeling
- Paperless, virtual plan tables
- Field iPads
- Asset Management / bar coding

**Mount Nittany Medical Center**
*Emergency Department Expansion and Renovation (2013)*
Phased addition and renovation of existing emergency department
- 3D MEP coordination
- 3D in-wall coordination
- 3D visualization & design review
- 3D virtual mockups
- Field iPads
- Digital documentation management
- Virtual meetings

**Mount Nittany Medical Center**
*Entrance ‘A’ Addition and Renovation (2012)*
Phased addition & renovation to main entrance of the hospital
- 3D MEP coordination
- 3D visualization & design reviews
- Field iPads
- Virtual meetings

**Mount Nittany Medical Center**
*Lance and Ellen Shaner Cancer Pavilion (2012)*
Phased 1-story overbuild and 3-story addition with interior renovations & structural retrofit
- 3D MEP coordination
- 3D in-wall MEP coordination
- 3D visualization & design review
- 3D virtual mockups
- 3D site logistics planning (preconstruction)
- 4D structural retro fit phasing / sequencing
- Field iPads
- Digital documentation management
- Virtual meetings
An exterior visualization model allows the owner & key stakeholders an advanced review of the final building design.

Geisinger Health System

Buckhorn Office Building – Phase II (2012)

3-story medical office building addition including 3-story skylight atrium area
- 3D MEP coordination
- 3D visualization & design reviews
- 3D virtual mockup

Mount Nittany Medical Center

East Wing Expansion Project (2010)

3-story overbuild, 1-story addition above occupied hospital
- 3D MEP coordination
- 3D visualization
- Virtual mockups & design reviews

Projects In Progress

- Geisinger Health System, Grays Woods Surgery Center and Parking Deck (2014)
  2-story addition including new ambulatory surgery center & two-tier parking garage
  - 3D MEP coordination
  - 3D visualization & design review
  - 4D phasing / construction sequencing
  - 5D cost estimation & quantity takeoffs
  - 6D facility management integration
  - Virtual prototyping
  - Field iPads

- The Church of the Good Shepherd, The Father Bender Community Center (2014)
  New parish center with classrooms & meeting rooms
  - 3D MEP coordination
  - 3D visualization & design reviews
  - Site logistics planning
  - 4D phasing / sequencing
  - Virtual plan table (digital drawings)
  - Field iPads
  - Virtual meetings (flat screen TVs)
- Amtrak 30th Street Station, West Plaza and North Deck Renovations (2014)
  Waterproofing & structural repairs / replacement for multi-level underground parking deck
  - 3D visualization & design reviews
  - Site logistics & phasing
  - Traffic flow logistical analysis

- Allentown Arena, PPL Center (2014)
  Specialized hockey arena, hotel, office center & parking structure
  - 3D MEP coordination
  - 3D precast shear wall, stair, MEP penetrations & elevator insert coordination
  - 3D exterior wall system shop drawings & coordination
  - 3D visualization & site logistics
  - 4D construction sequencing
  - Field iPads
  - Digital document management

- Mount Nittany Medical Center, Perioperative Services Expansion (2014)
  4-story addition including new operating rooms & pharmacy
  - 3D MEP coordination
  - 3D substructure visualization & design review
  - 3D augmented reality & virtual mockups
  - 3D in-wall coordination
  - 4D steel sequencing
  - Field iPads & virtual meetings
  - Digital document management

- Geisinger Health System, Danville Laboratory Medicine Building (2015)
  7-story medical laboratory addition adjacent an occupied hospital
  - 3D MEP coordination
  - 3D visualization & design review
  - 4D phasing / construction sequencing
  - 5D cost estimation & quantity takeoffs
  - 6D facility management integration
  - Field iPads
  - Virtual meetings & project updates
  - GPS located advanced photo documentation

- Geisinger Health System, CMC Expansion - Scranton (2016)
  Community medical center campus expansion and interior renovations
  - 3D MEP coordination
  - 3D building enclosure visualization & review
  - 4D phasing / construction sequencing
  - 4D delivery analysis & coordination
  - 6D facility management integration
  - Field iPads
  - Virtual meetings & project updates
One of Alexander’s key responsibilities during the Design Phase is to ensure that the Architect’s design remains compatible with the Owner’s budget. We will continuously review the design documents to identify ways to save dollars and/or time without compromising the intent of the Architect. This is done through our on-going, real-time, Value Enhancement process.

In addition to our Value Enhancement efforts, Alexander’s preconstruction team conducts value engineering analyses for the major building systems, components and materials at predetermined milestones during the design phase, these will include the 30/60/90% review submissions. We will suggest alternative solutions for materials and building methods to the owner’s representative and the design team for consideration and review. All recommendations will be made in an effort to achieve the essential functions of the project at the lowest cost and completed in the shortest amount of time.

It is critical to understand that true value engineering analyses do not represent a “cheapening” of the job based on pure costs. This analysis must take into account operating costs, life-cycle costs, owner equipment predispositions, and other factors that impact value. The constructed cost of a building represents a small percentage of the life cycle operating costs, so decisions made to reduce the constructed cost of a facility may not represent a good value to the owner over the life of the investment.

The Alexander team members represent seasoned construction professionals with a variety of building systems experiences. As part of a three-company holding company, we also have access to expertise from our two sister companies in Allentown and Philadelphia for additional experience which we draw on during the value engineering efforts. This experience enables our project team to examine a wide variety of alternatives, much more than a single-office local construction company. Since Alexander’s preconstruction team members also deal in the State College bid environment on a regular basis, they are very familiar with the latest local competitive technologies, processes, and materials that optimize the cost of construction on a project. This knowledge is put to work on behalf of the owner, in a proactive way, so that the benefits can be “built in” to the project prior to completion of the construction documents.

Another key element of the process is the opportunity for dialogue with the owner’s facility management personnel, who can provide important information (personnel training, inventory management, preventive maintenance programs) that can affect equipment selection suggestions that the team will make.

The object of the value engineering process is to maximize the value of the owner’s investment.
Our proactive approach to value engineering allows the Owner, in conjunction with the design professionals, to make informed business decisions to improve the quality of the building and to respond to our ideas through which financial savings can be achieved.

**VALUE ENGINEERING EXAMPLE/REPORTS - PARKLAND HIGH SCHOOL**

Parkland High School features a 477,000 SF, two-story building complex consisting of three classroom wings, gymnasium, natatorium, locker facilities, arts, music and theatrical complex, major library and administrative areas. Through the Value Enhancement effort, over $6,000,000 dollars of cost savings recommendations were identified.

The following pages provide a detailed description of the report and process that is utilized to document and track the Value Enhancement process at Alexander and a summary of the findings that were implemented as well as rejected on the Parkland High School project.

The Alexander Building Construction Value Engineering Tracking Report (ABC-VE) is shown in Figure 1-1. This report guides the Value Enhancement process emphasizing a focus on:

- Accurate initial budget development
- Current estimated project costs throughout preconstruction (updated at 30/60/90)
- Difference between current estimated costs and current budget value
- Value Engineering Opportunities
- Estimated values of Value Engineering Opportunities
- Accepted and Rejected Value Engineering Opportunities

Viewing the yellow box in Figure 1-1 allows you to follow the first four steps in the ABC-VE report development. The first step is to develop the initial overall project cost estimate (project budget) and to input the value into the total construction cost field (Field A). Once this initial budget is established, every estimate that follows will be evaluated against the prior estimate.
The overall budget and current estimates (Field B) are categorized by systems in an effort to more easily identify those systems which offer the most Value Engineering opportunity (i.e. highest cost, overall cost outlier with respect to other systems, etc.).

Once values A & B are input, the current construction overage or savings is calculated and reported in Field C. At this point, the documentation and management of the Value Engineering process begins.

First descriptions of potential cost savings elements are identified for the project. In a true Value Enhancement approach, special care is paid to not decreasing the overall value of the project while still attempting to decrease the project cost. All potential items are input into the ‘Description Column’ of the table (see Figure 1-2) through a comprehensive brainstorming session with all project team members prior to accepting or rejecting any items or assigning any potential values.

Once the description column is occupied, initial ‘To Be Verified’ values are assigned to each item. These are initial values and are recorded as such until they are studied and transferred to the ‘Under Study’ column of the report. At any time in the process, items can be rejected and removed from discussion. However, only once final subcontractor pricing has been received (either in the form of a bid alternate or change order if the contract has already been issued) can the item be moved to the accepted column of the table.
Throughout the course of the entire project, this report is maintained and through continuous Value Enhancement, any opportunity to reduce overall project cost while maintaining project quality is entered into the table and evaluated for implementation.

**CONSTRUCTION COST SUMMARY**

**Budget Construction Cost (10/13/06 Estimate):**
- Miscellaneous Indirects: 455,720
- MEP: 447,600
- Site work: 170,140
- Structure: 495,255
- Finishes: 217,565
- Total Construction Cost (10/13/06 Estimate): 1,785,830

**Current Construction Cost (2/27/07):**
- Miscellaneous Indirects: 406,625
- MEP: 442,560
- Site work: 250,485
- Structure: 646,706
- Finishes: 224,160
- Total Construction Cost (2/27/07): 1,970,565

**Current Construction Overage (B-A):** 184,735

**Accepted VE Items:** -33,420

**Revised Construction Price with accepted VE items (B+D):** 1,937,145

**Revised Construction Overage (E-A):** 151,315
As shown in Figure 1-3, the Construction Cost Summary that is found on the cover sheet of the report, will calculate the revised Construction Overage or Savings ‘Real-Time’ based on the Accepted Value Engineering Items and report the revised Construction Overage or Savings. This is a product of the content included in the detail on the following pages of the report.

Utilizing the Value Engineering Approach described above, the Parkland High School Project identified items totaling nearly $6 Million in total project cost reduction. A detailed listing of these items is provided in the following pages of this section.
Miscellaneous Additional Base Bid Reductions:

1. Utilize 3/8" terazzo in lieu of 3/4" (Common alternate materials and finishes are used 95% of the times) ($75,000)

2. Delete shop paint on structural steel
   (30,000)

3. Delete lightning protection systems (Not to use on any other Perkins+Will Schools) ($115,000)

4. Performance Soundproofing Assistants - Reduce the acoustic panels to a minimum standard
   (30,000)

   Required ($250,000)

   Total ($1,055,000)

(Note: Scrivener and the acoustic shells have been deleted from the Base Bid Estimate)

More Suggested Alternatives:

1. Field House
   Delete the in-ground field house ($4,000,000)

2. Floor Finish
   a. Provide VCT flooring vs. terrazzo in all academic corridors and
      (250,000)
   b. Provide VCT flooring vs. terrazzo in the cafeteria
      (200,000)
   c. Alternate gym floor in performance gyn
      (30,000)

3. Walls
   a. Provide epoxy paint scored C3 scored floor block all academic block removed
      (250,000)
   b. Provide epoxy paint standard general floor block all academic (all removed)
      (250,000)
   c. Provide epoxy paint in absence except auditorium

4. Auditorium
   a. Unspecified redesign
      (250,000)
   b. (Note: The following simplifications could be done in addition to the above or as a stand-alone item): (250,000)
      Significant additional simplifications in lighting, ceiling, wall, floor and glass finishes. Partial rigging, pipe grid deleted at black box; standard acoustic clouds in lieu of wooden ceiling, and balcony seating added later.

5. Ceilings
   Utilize quality 2'x2' ceilings in main corridors in lieu of Acme Ceilings. (AHP is concerned about accessibility in addition to First coat.)
   (30,000)

6. Delete Skylight
   Vaulted roof at cafeteria in lieu of skylight
   (35,000)

7. Single Wall Lockers
   Utilize single wall lockers
   (30,000)

8. Natatorium
   Add store plate later; fixed seating would be provided for a portion (250 persons), assuming the precast/loft balcony scheme can be designed
   (20,000)

   Total* ($2,750,000)

* Exclusive of Auditorium Redesign and with Scored CMU/Brick Band Secondary Corridors

Additional Items:

1. Add scoreboards
   30,000

2. Add acoustic shell
   125,000

3. Delete the brick bands in secondary corridors
   (120,000)

Mechanical/plumbing (Other than alternate manufacturers/systems)

1. Add the air conditioning for the field house
   50,000

2. Delete the glycol in the chilled water system
   (30,000)

3. Delete the flush valve sensors and faucet sensors
   (20,000)

4. Delete occupancy HVAC/lighting sensors – Classrooms only
   (40,000)
Change Order Management and project cost control begins long before the design is complete and construction begins in the field.

A successful effort is a result of multiple activities performed throughout the project. Later in this section, a detailed explanation of Alexander’s Change Order Management Approach is described. Alexander’s experiences have proved that effective project cost containment begins during the preconstruction phase with an emphasis placed on accurate and timely cost estimating. This begins with a thorough understanding of the intended building use and close and constant communication with the owner and design professionals as the design is developed.

In order to contain the project cost, we provide multiple estimates of increasing detail as the project’s design becomes more defined. We can develop an initial budget estimate based on square footages and historical data, and at various points in the design process we will prepare parameter estimates based on the most current progress prints. The budget and parameter estimates are done in-house.

When sufficient design documents exist, we will test the marketplace and obtain input from contractors and suppliers.

The 30% and 60% design efforts need to focus not only on the information that is provided in the design documents, but also on the information that is yet to be documented. It is these potential “gaps” in estimates that can contribute to subcontractor bids coming in over the final Control Estimate. During the development of each cost estimate, a thorough Value Engineering evaluation will occur.

Through the efforts of our team of preconstruction professionals, we produce detailed quantity surveys and estimates on a regular basis throughout the preconstruction phase. The initial cost model estimate we establish, based on conceptual design documents, will serve as a basis for monitoring the progress of the design, evaluation of the scope of work and value engineering alternatives. This monitoring of project changes and documentation continues through to the development of the project Control Estimate. All of our estimates will contain a detailed cost breakdown for the various trade contractors’ work.

**COST ESTIMATING ACTIVITIES INCLUDE:**

- Develop a cost model estimate
- Prepare cost estimate from schematic design documents (SCASD 30%)
- Monitor design development and price changes to the scope of work
- Prepare cost estimate at completion of design development phase (SCASD 60%)
- Provide detailed quantity surveys and cost estimates to project team
- Monitor market conditions
- Prepare control estimate at 90% completion of construction documents
At Alexander, constructability is recognized as a key component of quality, driver of cost (and potential Change Orders) and is a significant element of our preconstruction process. To this point, we will perform detailed constructability analyses at agreed upon milestones of design. Our recommendations will be presented as a bound document and formally reviewed with the entire team (a copy of the Waynesboro School District Constructability Review, dated August 23, 2006 is included at the end of this section). Alexander's focus on constructability begins in the initial stages of preconstruction where certain individuals have responsibility for specific areas of construction. These areas of expertise include the following:

- Sitework
- Structure
- Exterior Envelope
- Elevators
- Mechanical and Electrical

Individuals assigned to these major systems are responsible for interaction with specialty trade contractors, document review, productivity analysis, materials data, and maintenance of checklists for design review.

The project manager and lead estimator will take the lead in each constructability review. Their expertise will be supplemented by the in-house quality review team, which includes the specialists referenced above and the superintendent, whose involvement in issues of schedule and logistics are critical in any constructability review. This review is formalized in the Constructability Review Report and is then supplemented during the regular team meetings. Throughout the preconstruction phase, constructability review will provide continuous input to the project team, advising on:

- Logistics
- Material Selection
- Equipment Selection
- Document Completeness
- Systems Interaction
- Potential Conflicts
- Jurisdiction

The quality review team personnel are available at all times during the course of design to consult on specific issues when the project manager or lead estimator considers it appropriate.

Our active approach to document review minimizes re-design and encourages consideration of alternatives at the earliest possible point in project planning. At each milestone stage of design, the prior Constructability Review is evaluated line-by-line and each item confirmed to have been addressed on the contract documents prior to moving forward with design. Finally, prior to bid documents being issued to the contractor community, the Construction Documents are evaluated against the final Constructability Review to ensure all items have been incorporated into the design.
We will proceed with the bidding process as design documents are completed. We will competitively bid all phases of the work. The Owner may participate in the bidding process to whatever extent desired. That process includes:

- Developing the bidders list
- Pre-qualifying the bidders
- Generating interest among the trades
- Preparing the bid packages
- Receiving, reviewing, analyzing and tabulating bids

The list of potential bidders for each work package will be drawn from this trade contractor/vendor file and from out-of-market sources for specialty items relating directly to the specific needs of this project.

**ALEXANDER APPROACH TO CHANGE ORDER ANALYSIS**

The change order analysis process begins prior to the first Change Order request submission - with the requirements that are set forth in the front end documents for Change Order Requests. Alexander will work in an integrative manner with the Architect to develop a front end requirement that allows for timely and accurate Change Order analysis during the project.

Once the first Change Order is submitted, the evaluation starts with the clear identification of the change. The Project Manager reviews the request and determines whether or not a change occurred. If it is determined a change has occurred, the project manager then provides the owner with a preliminary review of cost for the work.

As trade contractors quotes are received, they are carefully reviewed for accuracy based on the project manager’s experience with fair and proper costs. When all costs are known, an itemized quote with all back-up documentation is then reviewed with the Owner in order to establish approval and/or value engineering. After approval, trade contractor amendments are issued and the Cost Event is updated so that all team members are aware of all approved changes. In isolated instances, schedule becomes an issue and an alternative approach is required. In these circumstances, agreements on hours, trades involved and subcontractor support is of paramount importance as the work can be performed on a “not-to-exceed” time and material basis. In these special cases, Alexander’s on-site representative will monitor the work being performed and sign off at the end of each day on the number of hours spent performing the work.

Throughout the process, the project manager can review up-to-date job costs with the customer, either on an individual amendment basis by use of the Cost Event Detail Report or on an overall job basis by use of the Project Management Cost Report. As a result, the School District is ensured of fair costs for amendments and is fully abreast of overall job costs.
The Waynesboro Area School District (WASD) project is a roughly $40-Million project that includes renovations and additions that totaled almost 400,000 square feet of project space. Alexander’s services to the School District included coordination with the architect regarding the design process, a complete constructability review and management of the construction process to ensure the structural integrity, workmanship, and adherence to design documents.

The project has incurred a fairly large number of Change Order Requests for various reasons.

- Number of Change Order Requests Submitted: 234
- Value of Change Order Requests Submitted: $2,163,262
- Value of Change Order Requests Approved: $359,915

The most common source of Change Orders at WASD is the General Trades Contractor. The product of these Change Order Requests has been primarily for “Unforeseen Conditions” or “Owner Requested” changes. The contractor presented over 190 Proposed CO’s. Time extension requests totaling over four years and costs of almost $900,000 have been submitted. Every change order has been reviewed by Alexander and negotiated on the behalf of the school district and at this time the changes have been approved for $250,000 and no time extension. On the following pages of this section, you will find the detailed Change Order Summary Log for the Waynesboro Area School District Project.

### Change Order Log from Waynesboro School District

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<th>#</th>
<th>Description</th>
<th>Amount ($)</th>
<th>Time</th>
<th>SL</th>
<th>Project</th>
<th>Contract</th>
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<th>Payment Method</th>
<th>Approved Amount ($)</th>
<th>Time</th>
<th>Owner</th>
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<td>12/15/04</td>
<td>12/20/04</td>
<td>12/30/04</td>
<td>Y</td>
<td>12/20/04</td>
<td>J</td>
<td>12/20/04</td>
<td>12/20/04</td>
<td>12/20/04</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>X5</td>
<td>Replace wall from DCM-19</td>
<td>$1,400.00</td>
<td>6</td>
<td>2/09/05</td>
<td>X</td>
<td>12/10/04</td>
<td>12/15/04</td>
<td>12/20/04</td>
<td>12/30/04</td>
<td>Y</td>
<td>12/20/04</td>
<td>J</td>
<td>12/20/04</td>
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<td>12/20/04</td>
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</tr>
<tr>
<td>X5</td>
<td>Replace wall from DCM-20</td>
<td>$1,400.00</td>
<td>6</td>
<td>2/09/05</td>
<td>X</td>
<td>12/10/04</td>
<td>12/15/04</td>
<td>12/20/04</td>
<td>12/30/04</td>
<td>Y</td>
<td>12/20/04</td>
<td>J</td>
<td>12/20/04</td>
<td>12/20/04</td>
<td>12/20/04</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

---

**Summary Text:**

- Description of the wall to be replaced, including location.
- Estimated timeline for the project.
- Financial details, including budget and anticipated savings.
- Contact information for the project manager.

---

**Note:** The above table represents a sample of the document content. For a comprehensive view, please refer to the original document.
### Table 1: Project Change Order Tracking

<table>
<thead>
<tr>
<th>PO#</th>
<th>Description</th>
<th>Date Requested</th>
<th>Amount</th>
<th>Time Forecast (60% completion)</th>
<th>Time Forecast (90% completion)</th>
<th>Date Accepted</th>
<th>Date Approved</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>124</td>
<td>Replace old HVAC system</td>
<td>3/10/2023</td>
<td>$7,500</td>
<td>6 weeks</td>
<td>8 weeks</td>
<td>4/1/2023</td>
<td>4/15/2023</td>
<td>Completed</td>
</tr>
<tr>
<td>125</td>
<td>Install new Security System</td>
<td>3/20/2023</td>
<td>$4,000</td>
<td>3 weeks</td>
<td>5 weeks</td>
<td>4/10/2023</td>
<td>4/20/2023</td>
<td>In Process</td>
</tr>
</tbody>
</table>

### Table 2: Project Change Order Tracking

<table>
<thead>
<tr>
<th>PO#</th>
<th>Description</th>
<th>Date Requested</th>
<th>Amount</th>
<th>Time Forecast (60% completion)</th>
<th>Time Forecast (90% completion)</th>
<th>Date Accepted</th>
<th>Date Approved</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>126</td>
<td>Repave parking lot</td>
<td>2/15/2023</td>
<td>$3,500</td>
<td>2 weeks</td>
<td>4 weeks</td>
<td>3/10/2023</td>
<td>3/20/2023</td>
<td>In Process</td>
</tr>
<tr>
<td>127</td>
<td>Update electrical panel</td>
<td>2/20/2023</td>
<td>$2,000</td>
<td>1 week</td>
<td>2 weeks</td>
<td>3/5/2023</td>
<td>3/15/2023</td>
<td>Completed</td>
</tr>
<tr>
<td>128</td>
<td>Upgrade computer systems</td>
<td>2/25/2023</td>
<td>$6,000</td>
<td>3 weeks</td>
<td>5 weeks</td>
<td>4/1/2023</td>
<td>4/15/2023</td>
<td>In Process</td>
</tr>
<tr>
<td>------</td>
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</tr>
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<td>1</td>
<td></td>
<td>05/24/2023</td>
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</table>

**Waynesboro Area High School**

**Prospective Change Order Status Log**

**Prospectus for Inc**

**Waynesboro Area High School**

**Prospective Change Order Status Log**

**Data Quality**

**Alexander A Butz Family Company**
### L.E. Magyarski

<table>
<thead>
<tr>
<th>PC#</th>
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<th>Time Accepted</th>
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### Westwick Arms High School

### Preparatory Change Order Status Log

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### Paint HX

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### Structural Shingles

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### Mechanical Electrical

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### Mechanical Plumbing

<table>
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<th>Type Requested</th>
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</tbody>
</table>

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"PREPARED BY: [Signature] | [Date]
A BUTZ FAMILY COMPANY"
Additions and Alterations
to the
Waynesboro Area High School

Constructability Review

August 23, 2006

Prepared by:
Alexander Building Construction, LLC
315 Vaughn Street
Harrisburg, PA 17110
717-234-7041
August 23, 2006

Waynesboro Area School District
210 Clayton Avenue
Waynesboro, PA 17268

Attn: Mr. Barry L. Dallara, Superintendent

Re: Additions and Alterations to the Waynesboro Area High School
   Constructability Review

Dear Mr. Dallara:

We have performed a constructability review of the drawings and specifications prepared by EI Associates and their consultants for the referenced project. The constructability review process involves the following:

- Review and comments of the plans and specifications by the following Alexander personnel:
  - Project superintendent, Ray Stambaugh
  - Project manager, Jeffrey Smith
  - Estimator, Timothy Kay
  - Professional engineer, John Roberts
  - Manager of Preconstruction, Richard Wille
  - Manager of Construction, Stephen Witt

- General overview of site and building phasing, scheduling, logistics, owner’s activities, ingress/egress, and construction staging and lay down areas. Please see Construction Program Approach attached which derives general programmatic considerations from the existing documents. Note: conclusions as to optimal phasing et al must be done in concert with the owner.

Beyond specific observations and recommendations listed in the Constructability Review Comments (attached), we believe the following “big picture” items need to be considered:

- Development of separate site and building Phasing & Logistics plans indicating the sequence and timing of areas of construction for the purpose of ensuring that the owner’s program, operations, separate contracts (especially abatement), and children’s safety and educational experience receive paramount consideration.

The phasing of construction is typically programmatically driven and must be seamlessly coordinated with ongoing operations and safety considerations. The associated schedule must offer realistic milestones to insure the highest probability of successful completion. Key items of concern are 1) student
interface with construction operations, 2) renovations limited to 12 rooms at a time, and
3) specific provisions for temporary classroom space in the existing gymnasium.

- **Reconsideration of rock blasting within 15’ of the building.** Consideration needs to be
given to performing blasting during off hours or weekends, when school is not in session,
and well beyond 15’ of existing structures to eliminate the possibility of damage to the
existing foundation.

- **Refinement of the documents with respect to the conversion of the existing Auditorium
area into a cafeteria, kitchen and classrooms.** The architectural and structural design of
this area needs to be completed.

- **A food service design is required with associated assignment of MEP responsibilities.**

- **MEP equipment and panel schedules require completion to avoid change orders
resulting from incomplete or incompatible information.**

It should be noted that we typically find deficiencies in the front-end (Divisions 0 and 1),
especially with regard to the coordination of prime contractors. In this case, however, El
Associates’ front-end appears to be exceptional in its thoroughness and appropriate assignment
of responsibilities allocated between the prime contractors.

We look forward to reviewing the *Construction Program Approach* and *Constructability Review
Comments* with your team members at this afternoon’s working session.

Please contact me if you have any questions.

Sincerely,

Alexander Building Construction, LLC

[Signature]

Richard K. Wilke
Manager, Preconstruction Services

C: Alexander team members
   Richard Seitz, Alexander Building Construction
   Lauren Herman, Alexander Building Construction

Attachments: *Construction Program Approach*; 2 pages
*Constructability Review Comments*; 6 pages
ALTERATIONS AND ADDITIONS TO THE WAYNESBORO AREA HIGH SCHOOL

CONSTRUCTION PROGRAM APPROACH
AS DERIVED FROM THE CONSTRUCTION DOCUMENTS

SUMMER 2006
• Complete building plans.
• Verify project funding.
• Issue for bids.

FALL 2006
• Establish student areas.
• Establish (temporary) student & staff parking.
• Establish student access and egress.
• Apply for all utilities.
• Develop professional relations with faculty, students and community.
• Mobilization.
• Barricade area for new addition with material laydown and access.
• Begin underground for new addition.
• Begin construction of new addition.
• Identify hazardous materials in existing building.

SPRING 2007
• Begin permanent sitework, curbs, paving, landscaping, etc.
• Begin exterior upgrades to existing building.
• Review the ability to cancel or relocate summer classes.

SUMMER 2007
• Begin select demolition and renovation of existing building spaces.
• Construct mezzanine.
• Existing Cafeteria to remain open until new is complete (Summer 2008).
• Staff transitions into new addition (late summer).
• Reestablish barricades and access for returning students.
• Transfer existing power distribution to new switchgear.

FALL 2007
• Students return to utilize new addition (Gymnasium, Auditorium, Loading/Parking Area, etc). Try to avoid delayed occupancy.
• Students now occupying construction areas, consider 2nd shift.
• Closely monitor student access and egress (adjust traffic control).
• Continue open communication with faculty, students and community.

SPRING 2008

Alexander Building Construction, LLC
• Review the ability to cancel or relocate summer classes

SUMMER 2008
• Transfer existing equipment to new cafeteria and prepare for opening
• Assist with set-up of classroom equipment
• Project completion
• Demobilization

FALL 2008
• Open completed project to students and community
Waynesboro Area Senior High School Additions & Alterations  

Constructability Review Comments  

Documents dated 7/25/06  

<table>
<thead>
<tr>
<th>Item</th>
<th>Discipline</th>
<th>General Notes</th>
<th>Notations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>General</td>
<td>All Division 1 specs to be edited with updated information prior to release.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>General</td>
<td>Are there Supplementary Conditions (modifying the General Conditions)?</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>General</td>
<td>Need construction fence around perimeter of jobsite contract limits. East elevation should have a</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>General</td>
<td>Abatement contractor must be “on call” for removal of concealed asbestos during general demolition.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>General</td>
<td>Abatement contractor’s schedule MUST be tied into demolition schedule of existing building.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>General</td>
<td>VCT abatement note: where floor tile is being removed in classrooms along perimeter walls, all mastic</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>General</td>
<td>Assume that the existing building has been checked for lead paint.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>General</td>
<td>LBI versus through inspections - who inspects and in what combination?</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>General</td>
<td>Structural considerations for HVAC units may need refinement.</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>General</td>
<td>Is the use of temporary electric heaters acceptable?</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>General</td>
<td>Does existing roof have a warranty? If so, who was the contractor? What type of roof? Any cuts in</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>General</td>
<td>Owner needs to remove everything not indicated for demolition prior to contractor’s arrival on site.</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>General</td>
<td>Quality assurance need to be provided by the Owner.</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Geotech report</td>
<td>Significant rock will be encountered during building and foundation excavation.</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Geotech report</td>
<td>Blasting required within close proximity to existing school.</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Geotech report</td>
<td>Confirm that mass over-excavation of existing old fill materials as described on page 6 is included on</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Geotech report</td>
<td>Was the 8000 psi maximum allowable bearing pressure under the planned retaining wall accounted for.</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Geotech report</td>
<td>Construction schedule be reviewed and adjusted to limit major earthwork operations from</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>TOC-1</td>
<td>A review of the TOC indicates that all Division 1 specs or placeholders are in place.</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>ITB-2, E</td>
<td>Recommend offering subjective information upon receipt of official released ITB.</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>ITB-3, A</td>
<td>Assume loose copies of all proposals and supplemental bid documents will be provided.</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>ITB-5, Art 7 A</td>
<td>If a bid is withdrawn prior to bid receipt time, then why can’t a firm resubmit a bid prior to the receipt of</td>
<td></td>
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<tr>
<td>23</td>
<td>ITB-3, D</td>
<td>May want to consider raising the surety company rating as a means of reducing the probability of</td>
<td></td>
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<tr>
<td>24</td>
<td>FOP-3, 4</td>
<td>Alternates need to be developed.</td>
<td></td>
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<tr>
<td>25</td>
<td>GC-20, E.2.2</td>
<td>Add phasing information. Add enough detail to account for abatement, metal roof deck remediation.</td>
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<tr>
<td>26</td>
<td>GC-38, 11.1.3</td>
<td>Know that some primes and subcontractors may obtain supplemental insurance to offset the high</td>
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<tr>
<td>27</td>
<td>GC-37, 11.4</td>
<td>Is there a Construction Manager on the project?</td>
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<tr>
<td>28</td>
<td>GC-39, 16.1</td>
<td>Are the liquidated damages derived from calculations? Are they enough; they seem low.</td>
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<tr>
<td>29</td>
<td>GC-42, Art 27</td>
<td>Add language giving the Owner the right to remove construction personnel due to background checks.</td>
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<tr>
<td>30</td>
<td>Prevailing Wages</td>
<td>Wage determination required.</td>
<td></td>
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<tr>
<td>31</td>
<td>01010-2, 1.05.G</td>
<td>Are asbestos abatement, metal roof deck remediation and data/telecom cabling adequately 1) defined and</td>
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<tr>
<td>32</td>
<td>01010-4, G</td>
<td>Excellent - we typically do not see delineation done this well.</td>
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<tr>
<td>33</td>
<td>01010-7, 1.08.D.5</td>
<td>Phasing plan and milestones are essential.</td>
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<td>34</td>
<td>01010-9, 1.10</td>
<td>Clears up the meaning 01500, Temporary Facilities question.</td>
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<td>01010-12, 6.1</td>
<td>References RFPs to RFPs; 01010-13, 1.11 B references RFP office in existing facility.</td>
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<td>01010-12 and 13</td>
<td>Duct cleaning not mentioned, but found later in 01010-21, 3.03.C.2.</td>
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<td>01010-13, 1.11.C.1</td>
<td>This is not workable as there’s no easy way of accounting for and allocating the cost of calls.</td>
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<td>01010-14, 1.12.A.2</td>
<td>A site plan is needed that indicates specific items and their locations.</td>
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<td>01010-15, 1.13.D</td>
<td>If security fence is required for the entire project, limits need to be shown on the site plan.</td>
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<td>01010-15, 1.13.F</td>
<td>Phasing plan is needed.</td>
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<tr>
<td>41</td>
<td>01230</td>
<td>If there are alternates, they need to be listed.</td>
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<tr>
<td>42</td>
<td>01275</td>
<td>Cost to fit the job.</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>01732-1, 1.01.A.1</td>
<td>Finish summary.</td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>01732-2, 1.01.G.1</td>
<td>Abatement needs to be considered in the schedule and resultant milestones.</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>Demolition</td>
<td>Add “all construction material remaining from re-roofing that is laying on top of batt insulation” to</td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>Site</td>
<td>Should a scope of work item be added to the plumbing prime to clean and video lines of the existing.</td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>02300</td>
<td>Items 1.05.D indicates that the contractor will be compensated for unsuitable material however item 3.03.C.2 indicates there is no contract for the materials. Structural drawing notes require the contractor to interpolate rock elevations between test borings however 02300 states that the geotech report is for reference only. These items should be clarified to limit the exposure to the district related to unclassified excavations.</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>02300</td>
<td>Add comments to the specifications about the use of on site blasted rock or “shovel” rock fill.</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>02300</td>
<td>Add “only mechanical means of excavations will be allowed within fifteen (15) feet of existing building.</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>02300</td>
<td>Confirm that mass over-excavation of existing fill materials as described on page 5 is included on</td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>02300</td>
<td>Confirm that the specifications allow for the use of on site blasted rock or “shovel” rock fill.</td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>03100</td>
<td>There are numerous doors in the door schedule (114-2 thru 5, 122-2 thru 5, 126-2, 135) with no door type</td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>04690</td>
<td>Indicated in the specs, but could not find on the drawings.</td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>06640</td>
<td>Has gym floor finish been coordinated with products that the District already uses?</td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>07771</td>
<td>Trackable wall panels are called for in this spec section but not indicated on the drawings.</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>08070</td>
<td>Four types of acoustical treatments are referenced in 1.01.A. Only the auditorum reflector panels are</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>10050</td>
<td>Mailboxes and dock bumpers are called for in this spec section but not indicated on the drawings.</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>10100</td>
<td>The spec section does not refer to the sliding markerboard / chalkboard indicated on 111.15.</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>10110</td>
<td>Track strip and modular display board system are called for in this spec section but not indicated on</td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>10850</td>
<td>Page 1, electric hand dryers are referenced as being owner provided but are not shown on any</td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>10900</td>
<td>Page 6, Item 1.0 calls for sound reflector panels over the auditorium audience. Section 061530, 2.06.</td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>11132</td>
<td>Paragraph 2.14 references (2) motorized hoists, but there is no reference to these on the drawings. All</td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>12211</td>
<td>Manual Projection Screen spec missing.</td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>12617</td>
<td>Brodatel as basin of design is sometimes hard to get competition.</td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>Electrical</td>
<td>Phasing considerations for existing power vs. new location(s).</td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>Drawings</td>
<td>Provide Civil drawings for review and coordination with building.</td>
<td></td>
</tr>
<tr>
<td>68</td>
<td>Civil</td>
<td>Provide Civil drawings for review and coordination with building.</td>
<td></td>
</tr>
</tbody>
</table>

Alexander Building Construction, LLC  

Page 1 of 4
<table>
<thead>
<tr>
<th>Item</th>
<th>Discipline/ Area</th>
<th>General Notes</th>
<th>Notations</th>
</tr>
</thead>
<tbody>
<tr>
<td>69</td>
<td>Elevations</td>
<td>Will finishes be indicated?</td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>Various</td>
<td>Will reflected ceiling plans be issued? These would be helpful, especially in areas such as the</td>
<td></td>
</tr>
<tr>
<td>71</td>
<td>Various</td>
<td>Could not find Fire Extinguishers or FE Cabinets on plans. Could not find spec. for FE cabinets.</td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>Various</td>
<td>Are all display boards to be 4' high?</td>
<td></td>
</tr>
<tr>
<td>73</td>
<td>Various</td>
<td>Corridor locker - will they be called out on drawings as new vs. existing (if applicable). Will a typical</td>
<td></td>
</tr>
<tr>
<td>74</td>
<td>A2.2, 2.4</td>
<td>Display cases are not labeled</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>A2.6</td>
<td>Section C indicates &quot;Waterproofing or Dampproofing&quot; for the retaining wall. Is there an option?</td>
<td></td>
</tr>
<tr>
<td>76</td>
<td>A2.6, 2.7</td>
<td>Suggest labeling floor partitions on the floor plans</td>
<td></td>
</tr>
<tr>
<td>77</td>
<td>A5</td>
<td>Show sections of new construction within existing building to clearly show intent (specifically areas 7 &amp;</td>
<td></td>
</tr>
<tr>
<td>78</td>
<td>A4.6</td>
<td>Show elevator head beam</td>
<td></td>
</tr>
<tr>
<td>79</td>
<td>11A10.2</td>
<td>New elevator room requires ladder rungs to be a minimum of 7&quot; away from pit wall. Usually this is</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>A10</td>
<td>The only mirror shown in the bathrooms is a standard framed mirror. Are any tilt mirrors required for</td>
<td></td>
</tr>
<tr>
<td>81</td>
<td>A10.1</td>
<td>Room A105 Women: Toilets accessory labels missing in several stalls on right side. Accessory labels</td>
<td></td>
</tr>
<tr>
<td>82</td>
<td>A10.1</td>
<td>toilet partitions (item 3) are only labeled in some of the rooms. Urinal screens are not labeled. May</td>
<td></td>
</tr>
<tr>
<td>83</td>
<td>A10.2</td>
<td>Room C392A, C392E, toilet accessory layout is difficult to read, and symbols don’t line up. Room</td>
<td></td>
</tr>
<tr>
<td>84</td>
<td>A10.2</td>
<td>C392F, items 16, 12, and 1 are shown inside a stall. Is this correct?</td>
<td></td>
</tr>
<tr>
<td>85</td>
<td>A10.2</td>
<td>Room C393 - locker type is not indicated. Note 11 refers you to drawing A6, which is not a specific</td>
<td></td>
</tr>
<tr>
<td>86</td>
<td>A11.1 - A11.3</td>
<td>Sizes are not indicated on the plans for display boards. Sizes are shown on A11.4</td>
<td></td>
</tr>
<tr>
<td>87</td>
<td>A11.4</td>
<td>Item 35 - Metal shelving. Remarks say “See Specs” but could not locate any specs for this shelving</td>
<td></td>
</tr>
<tr>
<td>88</td>
<td>A11.5, A11.5A</td>
<td>No labels are shown on gym equipment</td>
<td></td>
</tr>
<tr>
<td>89</td>
<td>A11.6</td>
<td>Locker bench dimensions are not given. Shower accessories are not labeled in all areas (Ref. A116, A124). If some are labeled, all should be labeled. Item 31 refers to a removable bench, but could not find any details or specs for this. H/D bench detail should refer you to 2/A11.8, not A411.8. Display board sizes are not indicated on the plan</td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>A11.10</td>
<td>Equipment is not labeled</td>
<td></td>
</tr>
<tr>
<td>91</td>
<td>A11.11, A11.11A</td>
<td>A symbol is given for seats with aisle lights, but symbol does not appear on the plans. Light locations</td>
<td></td>
</tr>
<tr>
<td>92</td>
<td>A11.13</td>
<td>220V/240V - Equipment labels don’t line up on plan.</td>
<td></td>
</tr>
<tr>
<td>93</td>
<td>A11.15</td>
<td>Typical Business Lab - “Typical” used twice in title. Equipment labels don’t line up on plans.</td>
<td></td>
</tr>
<tr>
<td>94</td>
<td>A11.16, 11.18</td>
<td>Equipment is not labeled.</td>
<td></td>
</tr>
<tr>
<td>95</td>
<td>A11.17, 11.18</td>
<td>No elevations are called out for these rooms.</td>
<td></td>
</tr>
<tr>
<td>96</td>
<td>A11.20</td>
<td>Room C352, Equipment is not labeled</td>
<td></td>
</tr>
<tr>
<td>97</td>
<td>A11.52</td>
<td>Item 39 - Spray Booth - where is this item specified? Items 53 and 54 are shown as solid lines but</td>
<td></td>
</tr>
<tr>
<td>98</td>
<td>A11.52</td>
<td>Elevation shows canopies and lettering in Dining Area. Is this existing or new?</td>
<td></td>
</tr>
<tr>
<td>99</td>
<td>S2</td>
<td>Show section through elevator pit</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>S2.15</td>
<td>Finish structural design of C level area.</td>
<td></td>
</tr>
<tr>
<td>101</td>
<td>S2.16</td>
<td>What foundations are required for area 8 to support new steel structure. What type of constraints does</td>
<td></td>
</tr>
<tr>
<td>102</td>
<td>S2.18</td>
<td>Provide elevator head beam, if required.</td>
<td></td>
</tr>
<tr>
<td>103</td>
<td>S2.18</td>
<td>Existing sewer man should be a scope of work for the plumber to clean and video lines at the end of</td>
<td></td>
</tr>
<tr>
<td>104</td>
<td>S2.18</td>
<td>Removal of all existing materials should also be read. All construction material remaining from re-roofing</td>
<td></td>
</tr>
<tr>
<td>105</td>
<td>S2.18</td>
<td>Need construction fence around perimeter of site contract limits. East elevation should have</td>
<td></td>
</tr>
<tr>
<td>106</td>
<td>S2.18</td>
<td>Will existing walls be re-used in same location? This would include fire walls (2 hour), corridor wells</td>
<td></td>
</tr>
<tr>
<td>107</td>
<td>S2.18</td>
<td>Provide elevator pit structural foundation detail. Include the note “coordinate pit size and layout” and</td>
<td></td>
</tr>
<tr>
<td>108</td>
<td>7/94.3</td>
<td>Confirm catwalk L1 X 3 X 3 1/4 bracing occurs at each bar joint.</td>
<td></td>
</tr>
<tr>
<td>109</td>
<td>HP1.01</td>
<td>Provide comprehensive site utility plan detailing specific locations for connection points to utilities.</td>
<td></td>
</tr>
<tr>
<td>110</td>
<td>HP1.02</td>
<td>Review Area 5 main conductor locations and quantity, also review roof slope in this area. Better defined</td>
<td></td>
</tr>
</tbody>
</table>

See note legend for MEP items at the end of this document.

<p>| HP2.01 | 1, 3, 7, 9 | Provide area designations with match lines. |
| HP2.02 | 1, 2, 3, 7, 9 | |
| HP2.03 | 1, 2, 3, 7, 9 | Provide building key plan. |
| HP2.04 | 1, 2, 3, 7, 9 | |
| HP2.05 | 1, 2, 3, 7, 9 | Delete reference to Area 12 (not used) |
| HP2.06 | 1, 2, 3, 7, 9 | Delete reference to Area 12 (not used) |
| HP2.07 | 1, 2, 3, 7, 9 | |
| HP2.08 | 1, 2, 3, 7, 9 | |
| HP2.09 | 1, 2, 3, 7, 9 | |
| HP2.10 | 1, 3, 7, 9 | |
| H3.01 | 1, 7, 8 | |
| H3.02 | 1, 7 | |
| H3.03 | 1, 7, 8 | Provide enlarged mechanical room with accurate equipment layout (incl. any electrical footprint) |
| H3.04 | 1, 7 | |
| H3.05 | 1, 7 | |
| H3.06 | 1, 7 | Verify large ductwork does not interfere with architectural/structural elements. Provide elevation for |
| H3.07 | 1, 7 | |
| H3.08 | 1, 7 | Verify code requirements for elevator machine rooms which include other mechanical (HP) equipment. |
| H3.09 | 1, 7, 8 | Provide missing equipment designation information (in HP, EF). |
| H3.10 | 1, 7 | |
| H3.11 | 1, 7 | |
| H3.12 | 1, 7 | Provide heat pump closet in student store. |
| H3.13 | 1, 7 | Provide heat pump closets for math classrooms and lab. Provide any missing equipment designation |
| H3.14 | 1, 7 | |
| H3.15 | 1, 7, 8 | Provide enclosures for any exposed ductwork (e.g. classroom D445) |
| H3.16 | 1, 7, 8 | Spell check “dow” in Area 11 |</p>
<table>
<thead>
<tr>
<th>Item</th>
<th>Discipline/</th>
<th>General Notes</th>
<th>Notations</th>
</tr>
</thead>
<tbody>
<tr>
<td>137</td>
<td>H4.01</td>
<td>5</td>
<td>Complete equipment schedules.</td>
</tr>
<tr>
<td>138</td>
<td>H4.02</td>
<td>5</td>
<td>Complete equipment schedules.</td>
</tr>
<tr>
<td>139</td>
<td>H4.03</td>
<td>1, 7, 10</td>
<td>Detail vibration isolation where used. Note: No wet piping to be installed above electrical gear (typical).</td>
</tr>
<tr>
<td>140</td>
<td>P3.01</td>
<td>1, 7, 10</td>
<td></td>
</tr>
<tr>
<td>141</td>
<td>P3.02</td>
<td>1, 7, 10</td>
<td></td>
</tr>
<tr>
<td>142</td>
<td>P3.03</td>
<td>1, 7, 10</td>
<td></td>
</tr>
<tr>
<td>143</td>
<td>P3.04</td>
<td>1, 7, 10</td>
<td></td>
</tr>
<tr>
<td>144</td>
<td>P3.05</td>
<td>1, 7, 10</td>
<td>Verify cross reference for note ‘4’</td>
</tr>
<tr>
<td>145</td>
<td>P3.06</td>
<td>1, 7, 10</td>
<td>Reference enlarged plans or typical information for plumbing installation in Area 3 (pipe this area)</td>
</tr>
<tr>
<td>146</td>
<td>P3.07</td>
<td>1, 7, 10</td>
<td></td>
</tr>
<tr>
<td>147</td>
<td>P3.08</td>
<td>1, 7, 10</td>
<td>Verify cross reference for enlarged floor plans.</td>
</tr>
<tr>
<td>148</td>
<td>P3.09</td>
<td>1, 7, 10, 11</td>
<td>Review use of RWC and FD designations in Area 7.</td>
</tr>
<tr>
<td>149</td>
<td>P3.10</td>
<td>1, 7, 10, 11</td>
<td>Reference enlarged kitchen floor plan on P4.02. Verify reference to Area 12</td>
</tr>
<tr>
<td>150</td>
<td>P3.11</td>
<td>1, 2, 7, 10, 11</td>
<td>Reference enlarged kitchen floor plan on P4.02. Verify reference to Area 12</td>
</tr>
<tr>
<td>151</td>
<td>P3.12</td>
<td>1, 7, 10, 11</td>
<td>Verify sheet title (HVAC vs. Plumbing). Several plan notes point to nothing specific.</td>
</tr>
<tr>
<td>152</td>
<td>P3.13</td>
<td>1, 7, 10, 11</td>
<td></td>
</tr>
<tr>
<td>153</td>
<td>P3.14</td>
<td>1, 2, 7, 10</td>
<td></td>
</tr>
<tr>
<td>154</td>
<td>P3.15</td>
<td>1, 7, 10</td>
<td>Verify air compressor location and piping requirements.</td>
</tr>
<tr>
<td>155</td>
<td>P3.16</td>
<td>1, 7, 10, 11</td>
<td>Verify enlarged plan area designations.</td>
</tr>
<tr>
<td>156</td>
<td>P3.17</td>
<td>1, 7, 11, 13</td>
<td>Verify enlarged plan area designations.</td>
</tr>
<tr>
<td>157</td>
<td>P4.01</td>
<td>1, 7, 11, 13</td>
<td>Verify key plan Area designations and use of Area 12. Provide detailed and dimensioned mechanical, electrical, and plumbing drawings as necessary.</td>
</tr>
<tr>
<td>158</td>
<td>P5.01</td>
<td>1</td>
<td>Note: No wet piping to be installed above electrical gear (typical). Verify who is to provide roof drains as necessary.</td>
</tr>
<tr>
<td>159</td>
<td>FP3.01</td>
<td>1</td>
<td>Note: No wet piping to be installed above electrical gear (typical). Decide which method of distribution to be used.</td>
</tr>
<tr>
<td>160</td>
<td>FP3.02</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>161</td>
<td>FP3.03</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>162</td>
<td>FP3.04</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>163</td>
<td>FP3.05</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>164</td>
<td>FP3.06</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>165</td>
<td>FP3.07</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>166</td>
<td>FP3.08</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>167</td>
<td>FP3.09</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>168</td>
<td>FP3.10</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>169</td>
<td>FP3.11</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>170</td>
<td>FP3.12</td>
<td>1</td>
<td>Provide access to areas above walk-in freezer and cooler.</td>
</tr>
<tr>
<td>171</td>
<td>FP3.13</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>172</td>
<td>FP3.14</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>173</td>
<td>FP3.15</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>174</td>
<td>FP3.16</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>175</td>
<td>E1.01</td>
<td>1, 3, 7, 9</td>
<td>AV is Audio Visual</td>
</tr>
<tr>
<td>176</td>
<td>E3.01</td>
<td>1, 3, 7, 9</td>
<td>Verify if electrical work is to be demolished along with building area adjacent service entrance.</td>
</tr>
<tr>
<td>177</td>
<td>E3.02</td>
<td>1, 3, 7, 9</td>
<td>Verify if electrical work is to be demolished along with building area adjacent service entrance.</td>
</tr>
<tr>
<td>178</td>
<td>E3.03</td>
<td>1, 3, 7, 9</td>
<td>Establish lighting control programming parameters with school district (typical).</td>
</tr>
<tr>
<td>179</td>
<td>E4.01</td>
<td>1, 6, 7, 12</td>
<td>Establish lighting control programming parameters with school district (typical).</td>
</tr>
<tr>
<td>180</td>
<td>E4.02</td>
<td>1, 6, 7, 12</td>
<td>Establish lighting control programming parameters with school district (typical).</td>
</tr>
<tr>
<td>181</td>
<td>E4.03</td>
<td>1, 6, 7, 12</td>
<td>Establish lighting control programming parameters with school district (typical).</td>
</tr>
<tr>
<td>182</td>
<td>E4.04</td>
<td>1, 6, 7, 12</td>
<td>Establish lighting control programming parameters with school district (typical).</td>
</tr>
<tr>
<td>183</td>
<td>E4.05</td>
<td>1, 6, 7, 12</td>
<td>Establish lighting control programming parameters with school district (typical).</td>
</tr>
<tr>
<td>184</td>
<td>E4.06</td>
<td>1, 6, 7, 12</td>
<td>Establish lighting control programming parameters with school district (typical).</td>
</tr>
<tr>
<td>185</td>
<td>E4.07</td>
<td>1, 6, 7, 12</td>
<td>Establish lighting control programming parameters with school district (typical).</td>
</tr>
<tr>
<td>186</td>
<td>E4.08</td>
<td>1, 6, 7, 12</td>
<td>Establish lighting control programming parameters with school district (typical).</td>
</tr>
<tr>
<td>187</td>
<td>E4.09</td>
<td>1, 6, 7, 12</td>
<td>Establish lighting control programming parameters with school district (typical).</td>
</tr>
<tr>
<td>188</td>
<td>E4.10</td>
<td>1, 6, 7, 12</td>
<td>Establish lighting control programming parameters with school district (typical).</td>
</tr>
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<td>189</td>
<td>E4.11</td>
<td>1, 6, 7, 12</td>
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<td>190</td>
<td>E4.12</td>
<td>1, 6, 7, 12</td>
<td>Establish lighting control programming parameters with school district (typical).</td>
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<td>191</td>
<td>E4.13</td>
<td>1, 6, 7, 12</td>
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<td>E4.14</td>
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<tr>
<td>197</td>
<td>E5.02</td>
<td>1</td>
<td>Establish lighting control programming parameters with school district (typical).</td>
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<tr>
<td>198</td>
<td>E5.03</td>
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<td>Establish lighting control programming parameters with school district (typical).</td>
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<tr>
<td>199</td>
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<tr>
<td>200</td>
<td>E5.05</td>
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<tr>
<td>201</td>
<td>E5.06</td>
<td>1</td>
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<td>202</td>
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<td>203</td>
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<td>Item</td>
<td>Discipline</td>
<td>General Notes</td>
<td>Notations</td>
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<td>211</td>
<td>E5.16</td>
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<td>212</td>
<td>E5.17</td>
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<td>213</td>
<td>E5.18</td>
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<tr>
<td>214</td>
<td>E6.01</td>
<td>1, 6, 7, 8, 13</td>
<td></td>
</tr>
<tr>
<td>215</td>
<td>E6.02</td>
<td>1, 6, 7</td>
<td>Review potential for glass on CCTV monitors opposite exterior windows (typical all offices).</td>
</tr>
<tr>
<td>216</td>
<td>E6.03</td>
<td>1, 6, 7, 13</td>
<td></td>
</tr>
<tr>
<td>217</td>
<td>E6.04</td>
<td>1, 6, 7, 13</td>
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<tr>
<td>218</td>
<td>E6.05</td>
<td>1, 6, 7, 13</td>
<td></td>
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<tr>
<td>219</td>
<td>E6.06</td>
<td>1, 6, 7, 13</td>
<td>Review location of Panelboard LC/E</td>
</tr>
<tr>
<td>220</td>
<td>E6.07</td>
<td>1, 6, 7, 8, 13</td>
<td></td>
</tr>
<tr>
<td>221</td>
<td>E6.08</td>
<td>1, 6, 7, 13</td>
<td>Provide specific, detailed and dimensioned locations for all electrical devices to allow proper rough-in.</td>
</tr>
<tr>
<td>222</td>
<td>E6.09</td>
<td>1, 6, 7, 13</td>
<td></td>
</tr>
<tr>
<td>223</td>
<td>E6.10</td>
<td>1, 6, 7, 13</td>
<td>Verify CCTV monitor locations. Verify need for convenience receptacle(s) in biology storage.</td>
</tr>
<tr>
<td>224</td>
<td>E6.11</td>
<td>1, 6, 7, 13</td>
<td></td>
</tr>
<tr>
<td>225</td>
<td>E6.12</td>
<td>1, 6, 7, 13</td>
<td></td>
</tr>
<tr>
<td>226</td>
<td>E7.01</td>
<td>1, 7</td>
<td>Is this plan also intended to show main electrical feeders and/or conduit zones? Will desired elevations</td>
</tr>
<tr>
<td>227</td>
<td>E7.02</td>
<td>1, 7</td>
<td>Is this plan also intended to show main electrical feeders and/or conduit zones? Will desired elevations</td>
</tr>
<tr>
<td>228</td>
<td>E7.03</td>
<td>1, 7</td>
<td>Is this plan also intended to show main electrical feeders and/or conduit zones? Will desired elevations</td>
</tr>
<tr>
<td>229</td>
<td>E7.04</td>
<td>1, 7</td>
<td>Is this plan also intended to show main electrical feeders and/or conduit zones? Will desired elevations</td>
</tr>
<tr>
<td>230</td>
<td>E8.01</td>
<td>1, 7</td>
<td>Limited information to allow review.</td>
</tr>
<tr>
<td>231</td>
<td>E8.02</td>
<td>1, 7</td>
<td>Limited information to allow review.</td>
</tr>
<tr>
<td>232</td>
<td>E8.03</td>
<td>1, 7</td>
<td>Limited information to allow review.</td>
</tr>
<tr>
<td>233</td>
<td>E8.04</td>
<td>1, 7</td>
<td>Limited information to allow review.</td>
</tr>
<tr>
<td>234</td>
<td>E9.01</td>
<td>4, 5</td>
<td>Provide generator location.</td>
</tr>
<tr>
<td>235</td>
<td>E9.02</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>236</td>
<td>E9.03</td>
<td>4</td>
<td>Provide generator location.</td>
</tr>
</tbody>
</table>

**GENERAL NOTES (MEP):**

1. Provide clear building floor designation to be consistent throughout construction documents.
2. Properly coordinate area designation and machine lines.
3. Provide detailed demolition notes.
4. Provide panelboard schedules.
5. Provide complete equipment schedules.
6. Provide circuiting for electrical devices.
7. Show all column lines and their designations.
8. Provide accurate equipment layouts in mechanical and electrical rooms.
9. Provide demarcation legend to decipher scope of work.
10. Layout and size storm piping for roof drains and other related equipment.
11. Complete pipe sizing and labeling.
12. Indicate all trades within ceiling grid for proper coordination (mechanical, electrical, fire alarm, fire protection, etc.).
13. Cross reference enlarged plans to their originating plan sheet number.
FACILITIES IMPROVEMENTS - PHASE 1
ALLENTOWN SCHOOL DISTRICT

PROJECT TYPE
Additions and Renovations to Two High Schools, Two Middle Schools and One Elementary School and Construction of New Elementary School
- William Allen High School
- Dieruff High School
- Trexler Middle School
- South Mountain Middle School
- Roosevelt Elementary
- Ramos Elementary School

LOCATION
Allentown, PA

PROJECT SIZE
1,302,750 sf

TOTAL PROJECT COST
$140,614,000

SCHEDULE
January 2007 – July 2011

OWNER
Allentown School District
Allentown, PA

CONTACT
Mr. Robert Sperling
Director of Facilities Services
Allentown School District
Allentown, PA
484-765-4980

William Allen High School

All six buildings in the William Allen campus were upgraded. A new three-story ninth grade academy and 19,000 SF basement faculty parking garage were constructed on the grassy vacant area above. The academy features 84,476 SF of classroom and administration space, 28 classrooms, a two-story cafeteria, a media center, and a green roof. There is an 85’ long pedestrian bridge connecting the academy to the main campus. The fully enclosed structure is constructed with aluminum storefront and glass, an insulated panel system and slab on metal deck. The finished interior is controlled by a full HVAC system.

The existing 447,147 SF campus buildings had air-conditioning installed, in addition to receiving ADA, lighting, power, data and security upgrades. Over 100 classrooms were modernized, in addition to auditorium, gymnasium, natatorium, kitchen/cafeteria, locker rooms, art, music and performing arts spaces.

The academy achieved LEED Gold Certification. Significant features include:
- Energy efficient mechanical systems including water-efficient plumbing fixtures
- Energy efficient lighting systems including exterior sunshades and abundant day lighting
- Recycled/regional materials
- Green roofs
- Reduction of existing impervious areas and native planting

NINTH GRADE ACADEMY ADDITION
Dieruff High School
The addition to Dieruff High School consists of a new 60,800 sq. ft. ninth-grade academy providing 24 new science and academic classrooms, in addition to a new kitchen/cafeteria, media center, weight and wrestling rooms.

The 237,500 SF existing high school received air-conditioning, in addition to receiving ADA, lighting, power, data and security upgrades. All classrooms and science classrooms were modernized, in addition to upgrades to the auditorium, kitchen/cafeteria, locker rooms, art, music and performing art spaces. The entire existing school received a new window wall system.

Ramos Elementary School
A new 85,000 SF elementary school was constructed at 15th & Allen Streets, adjacent to the existing Jackson Elementary School. The Allentown School District acquired three adjacent parcels to accommodate construction of the new facility. Designed by Roberson Butz Architects, it accommodates 750 students and is organized into three distinct masses. Each mass is composed of multiple “learning communities” for each grade level. Exterior materials include brick, concrete block, aluminum curtainwall and storefront systems, and glazed brick accents.

The new Ramos Elementary School earned LEED Gold certification through the U.S. Green Building Council. The project has sustainable features such as green roofs, reduction of existing impervious areas, native plantings, exterior sunshades, energy efficient mechanical and lighting systems, water-efficient plumbing fixtures, recycled/regional materials, abundant day lighting and curriculum enrichment opportunities for students.

Trexler Middle School
The addition to Trexler Middle School provides a new 9,200 sq. ft. classroom area and elevator, expanding the capacity of the school by over 100 students. The existing school received air-conditioning upgrades for all academic, auditorium, cafeteria and administrative spaces. Additionally, ADA, lighting, power, data, security and selected window replacements were upgraded. The kitchen and cafeteria were renovated in addition to general architectural upgrades of all classrooms.
Roosevelt Elementary School
Roosevelt received Gold LEED certification upon completion of an L-shaped addition and renovations. The existing gym became a new entrance, office and health room. A second floor was added along the balcony of the auditorium for a new library and additional support classes. The new auditorium/gym was relocated to the old cafeteria area. There is now classroom space for another 100 students and existing classrooms had cosmetic renovations performed. The building now has central air, an elevator, entrance ramps and a conference room. Thirty one parking spaces next to the building were eliminated and replaced with a parking lot for 36 spaces.

South Mountain Middle School
The two new additions to South Mountain Middle School provide both cafeteria and classroom/library additions totaling 14,000 sq. ft. and helped to expand the school capacity by over 100 students. The exiting school received air-conditioning upgrades for all academic, auditorium, cafeteria and administrative spaces. Additionally, ADA, lighting, power, data and security systems were upgraded and selected windows were replaced. The existing kitchen/cafeteria was renovated in addition to general architectural upgrades of all classrooms.

SELF-APPRAISAL
- The Phase 1 Projects for ASD all involved working in and around operating schools while maintaining the safety of the students and staff and delivering the projects within the approved budget.
- The Allentown School District Phase 1 projects encompassed renovations and additions to six schools including two major high schools. The overall program grew from the initial $118M conceptual budget to nearly $133M at schematic design so as to provide needed improvements and programs to schools that had not been renovated in over 40 years or more.
- The renovations to both William Allen and Dieruff High Schools were almost $80M of the overall program. The exceedingly difficult renovations occurred while the schools were at capacity over a four year time frame. The preconstruction for all six schools was also completed simultaneously, with some staging of the bidding process.
- The high schools were certainly the most difficult part of the process with new additions completed first so as to provide swing space for renovations. Summers were fully utilized for more wide-spread renovations. Budget management was particularly critical during preconstruction to match the limited budget against an extensive list of worn out infrastructure items and facilities’ needs to support education.
- The Allentown School District Elementary and Middle School projects encompassed almost $52M of the overall program budget. Except for the new Ramos Elementary School, the bulk of the projects were mainly renovations with minor additions. All projects were completed within a two-year time frame. The Roosevelt school involved extensive structural renovations to convert the gym into a two story space for administration, library and classroom functions. All schools were upgraded with air-conditioning, major architectural, IT and ADA improvements.
- All projects ended very successfully at nearly the original project budgets, on-time and with no claims.
**Ferguson Township Elementary School**

The project systematically replaced an aging school through a series of renovations and additions, with much of the original building ultimately being demolished. Work was phased while the school continued to operate. The new school accommodates current enrollment of 400, with a future capacity of 500.

The project involved renovation of a 1930’s wing and replacement of the existing gym, classrooms, kitchen, art and music rooms, and administrative offices. Work entailed installation of new partitions and flooring, MEP upgrades, ADA compliance, and datacom/security systems. The school features resilient flooring and energy-efficient MEP systems, and is fully air-conditioned, sprinklered, and handicapped accessible. Classrooms feature marker boards and tack boards (with provision for future smartboards).

**Gray’s Woods Elementary School**

This project consisted of the construction of a single-story addition to an existing K-5 school building, originally built in 2002. The addition increased the school’s capacity from 400 to 500 students.

The addition is constructed of masonry walls on strip footings with wood trusses and a brick façade. All mechanical and electrical systems were tied into the school's existing infrastructure. Additional parking and site development on the 15-acre lot were also provided. While the project is not a suitable candidate to pursue LEED certification, many “green building” criteria were incorporated into the design and construction of the addition, including the use of sustainable materials where possible.
Mount Nittany Elementary School

Construction of a new 1- and 2-story, 59,946 square foot building located on a 5-acre site. The school currently serves 400 students with a potential capacity of 500. This school replaces the smaller Panorama Village and Boalsburg schools, which continued in operation during construction.

The new school provides three kindergarten rooms, 18 flexible classrooms for grades 1-5, two special education rooms, art and music rooms, library/media center, nurse’s suite, administration, guidance and faculty space. An all-purpose room provides space for both physical education and kitchen/cafeteria with stage.

The steel structure was built on strip footings with CMU foundation, brick and curtain wall façade. The school features resilient flooring and energy-efficient MEP systems, and is fully air-conditioned, sprinklered, and handicapped accessible. Classrooms feature marker boards and tack boards (with provision for future smartboards).

SELF-APPRAISAL

- The Phase 1 Projects for SCASD all involved working in and around operating schools while maintaining the safety of the students and staff and delivering the projects within the approved budget. Our ability to do so was recognized with the CMAA Mid-Atlantic and National Project of the Year Awards for two of the schools.
- Despite encountering a 12-week summer abatement delay at Ferguson Elementary School, the project was completed on time. This was accomplished by having all material released months in advance and held in storage. Coordination and sequence plans were made with the school district facility staff who moved out furniture and their abatement contractor who isolated and cleared areas before demo began. The renovation wing was done on time and allowed occupancy as needed for the start of school.
- Prior to hiring a Construction Manager, the SCASD provided an initial budget that was to be finalized during Schematic Design in conjunction with the Plancon state funding effort. Alexander worked with the design team throughout preconstruction to help keep the design under budget. This was accomplished in part through the development of a 30%, 60% and 90% design estimate. These estimates served as a cost management tool throughout the design development to ensure when project bids were received they were within budget. On bid day, the sum of both projects was under budget and within one-half percent of the 90% Design Estimate produced by Alexander.
- Alexander’s priority on safety involved detailed logistics plans to incorporate protected passage ways for students around and through the site so that emergency egress routes remained open and clear. Fencing and locked gates lined the perimeter of sites to ensure access only for contractor business. We worked 9 months adjacent to (and sometimes directly interfacing with) the Elementary Schools with no incidents and minimal impact on daily school operations.

The project is pursuing LEED Gold certification. Significant green features include:

- Lighting control systems that reduce energy use
- Low flow fixtures to reduce water usage
- Geothermal heating and cooling systems
- Certified wood (approximately 75% of the lumber came from a sustainable forest approved by the F.S.C.)
- Construction waste management (diverted 75% from landfills)
- High performance glazing and sunshades
- Heat island reduction
- Rainwater management
- Systems commissioning
- Recycled materials
- Regional materials
Alexander completed addition/renovations to five areas of Mount Nittany Medical Center over the past 5 years with similar aspects and challenges as the SCASD High School project. Projects featured below include additions and renovations to existing structures which were in need of expansion to accommodate the needs of the community and its patients and caregivers. The primary focus during construction and phasing considerations was maintaining patient safety and health as the projects were largely completed in occupied and operating facilities.

**SELF-APPRAISAL**

- Alexander is very proud of their track record of delivering high quality projects for Mount Nittany Medical Center (MNMC) that are on schedule and at or below budget starting with the East Wing Project and continuing on through the current Perioperative Services Project. Our careful planning and attention to detail starting with estimating in the preconstruction phase were key aspects in this successful end result. We developed estimates at the design phase to ensure that project costs were controlled during design and that there were no surprises when bids were received. Once the construction phase started, the project teams worked collaboratively to track costs and address unknown conditions expeditiously in the most cost effective methods possible.

- Alexander places an enormous amount of effort in meeting schedules. Those efforts paid off for example, with the East Wing, Cancer Center, and Entrance A projects at MNMC that were all completed over one month ahead of the scheduled completion dates. On the Emergency Department project, despite early design delays and unforeseen soil conditions encountered during the project, we developed a revised phasing plan that allowed the project to be completed on schedule. All of the projects at the hospital included phased construction which was required to limit the effect of construction on the renovated spaces.

- The level of complexity of the projects completed to date at Mount Nittany Medical Center is significant. **Working in an existing, operating hospital without adversely affecting patients, staff, or visitors has proven to be a significant requirement of construction at the hospital.** Several of the projects, including the East Wing, Cancer Center, and Perioperative Services Project involved construction on top of an existing occupied space (overbuild). The concerns associated with overbuild construction were addressed through a dedicated section of the Site Specific Safety Plan. Some of the practices implemented as a result of this considerable effort included: independent crane inspections, erection of steel on weekends when the space was unoccupied, and the installation of existing roof protection to mitigate fire risks as a result of hot work and water/sound infiltration. Close coordination with hospital personnel is an ongoing, daily component of continued success at Mount Nittany Medical Center.
**East Wing Addition**
ICU/ACU expansion and infrastructure upgrades

- Construction of a 4-story addition above the existing 3-story East Wing and adjacent to an occupied hospital
- Completed in a single phase prior to connecting it to the existing facility
- Existing mechanical equipment located on the roof of the original structure (now the second floor of the ICU) was maintained until the 4th level penthouse was constructed and the new equipment placed into service
- A complex sequence of temporary feeds and tie-ins ensured continuous operation during construction and a smooth transition upon completion
- Significant upgrades to the mechanical and electrical infrastructure and extension of emergency power and chilled water piping through a new utility tunnel

**Emergency Department Expansion**
Phased construction enlarging and modernizing existing Emergency Department

- New roof-top helipad with dedicated access elevator
- New mechanical penthouse and addition to the campus central utility plant
- Careful scheduling and logistical planning to minimize disruption to existing operations and ensure continuity of emergency and basic care services
- New parking lot replacing spaces demolished for addition

**Perioperative Services Expansion**
New four-story addition and renovations to sterile processing department (SPD)

- Construction adjacent to existing hospital, including multiple operating rooms
- Careful phasing to ensure limited disruptions to the hospital’s doctors, nurses, employees and patients
- Replacement of 13 existing air-handling units with new ones
- New generator for entire hospital
- New medical air system and vacuum system
- Significant electrical relocations
- 132 micro piles for structural support
Lance and Ellen Shaner Cancer Pavilion
Phased construction of a 1-story addition above and a 3-story addition adjacent to the Health Services Wing
Renovation of the ground floor housing the Radiology/Oncology and Information Services Departments

- Carefully planned and phased to minimize impacts to patients and staff in occupied areas
- Features treatment infusion units, patient exam rooms, procedure rooms, physicians’ offices, pharmacy, and a 2-story glass-enclosed atrium
- Addition includes a 3,100 square foot penthouse with two dedicated air handling units serving the new and existing areas.
- Temporary feeds and tie-ins were provided to ensure the existing roof-top mechanical equipment continued to operate during new additions construction
- Ground floor interior modifications as well as a complex structural retrofit to modify the building structure from a CMU load bearing system to a structural steel frame
- Retrofit required a detailed shoring design that enabled the demolition of existing load-bearing walls and the installation of new concrete footings and steel columns, all while supporting the existing structure and new addition

Main Entrance Addition & Renovation
Phased addition and renovation

- Phased to accommodate continual patient/visitor access to adjacent spaces
- Created and installed temporary entrance allowing patients and staff to continue to enter and exit the hospital near the existing entrance, while also maintaining the help desk for visitors during construction
- Construction of the single-story addition, renovation work and removal of the temporary entrance
- Renovations included new carpet, porcelain tile, wood plank look vinyl flooring, paint, stone veneer columns and accents, light fixtures and HVAC system. Radiant panels incorporated into the ceiling provide heat source when required. New underground work included sanitary utilities for toilet and bathroom fixtures, electrical utilities for floor installed electrical outlets, and plumbing for potential future coffee/snack bar area in the waiting room.
- Careful coordination and review of new work installation during regular foremen and project manager meetings.
- ICRA partitions were utilized to delineate, separate and protect the public from construction activities
- Walls were sealed and insulated to prohibit dust migration, minimize odors and reduce sound transmission
Construction estimating services were delivered after review of the project drawings and the scope of work to be performed was fully understood.

The estimate detailed costs associated with the proposed renovations and addition to the existing high school. The scope of the project includes:

- renovations & additions to the North and South campus
- demolition
- additional green space
- gym and natatorium renovations
- update code and ADA standards
- update campus safety and security systems

The approach focused on the collaboration between the designers, owners and sub-contractors. The estimate is a working tool to review constructability, address phasing and sequencing issues and achieve the highest level of value engineering.

**SELF-APPRAISAL**

- Alexander provided an estimate that confirmed that the estimate SCASD had already received was a viable budget. The final estimate number was used for the Referendum vote which resulted in a Yes vote to proceed with the project.
- To determine viability, Alexander utilized extremely detailed drawings from a previous school district job in order to get the most accurate estimate for this project.
10A) Please indicate your fixed fee doe this project. The fee will be all-inclusive for services from schematic development through project closeout, including but not limited to all staff related travel and housing.

$2,849,650

10B) Please list a per-meeting fee for “other” meetings. (All direct, project-related meetings are included in the base fee, regardless of number required).

$0

10C) List any additional services or costs that could be incurred, including reimbursable expenses and include a fee schedule. (11.4: All indirect costs will be billed 1X, that is, no mark-up).

Add alternate to be mutually agreed upon by the State College Area School District and Alexander Building Construction Co:
  Assistant Superintendent - $235,000
  Safety Director - $12,750

10D) Please indicate a plus/minus adjustment for each month deviation from the project September 2018 completion date.

$52,015