

Southern Lehigh School District

Construction Management Services for New Elementary School

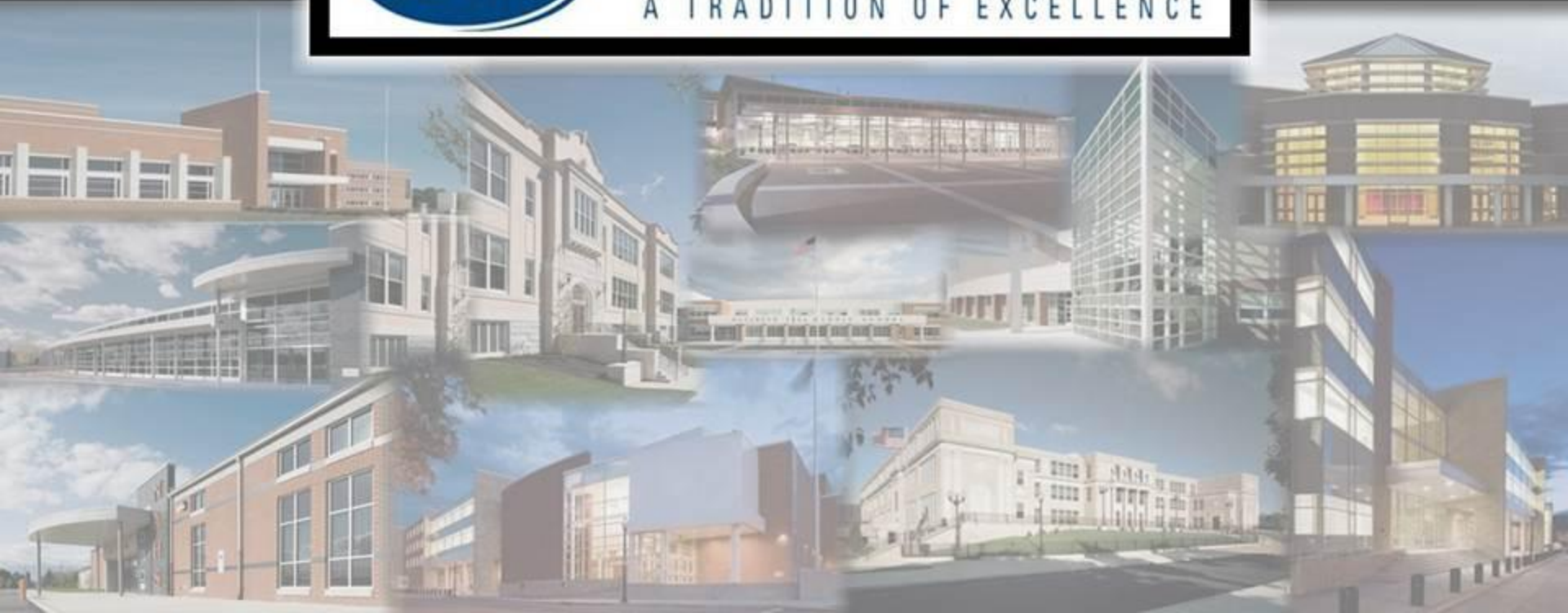
May 27, 2014

Summary Presentation for Board Meeting



D'HUY Engineering, Inc.

A TRADITION OF EXCELLENCE



Company Overview

- Established in 1976 in Bethlehem
- Excelling in **Forensic, Structural, Facilities Engineering & Project/Construction Management** services
- Over 80% of our work is dedicated to public education projects in PA
- Certified Minority Business Enterprise
- Our staff includes professional engineers, architects, construction professionals and LEED and educational specialists
- Over \$400M in completed schools including several LEED certified schools



Public Education Project Experience



Northampton Community College



Upper Dublin High School



Donegan Elementary



Paxinosa Elementary



Marvine Elementary



Souderton High School



George Wolf Elementary



Broughal Middle School



Liberty High School



Unique Qualifications

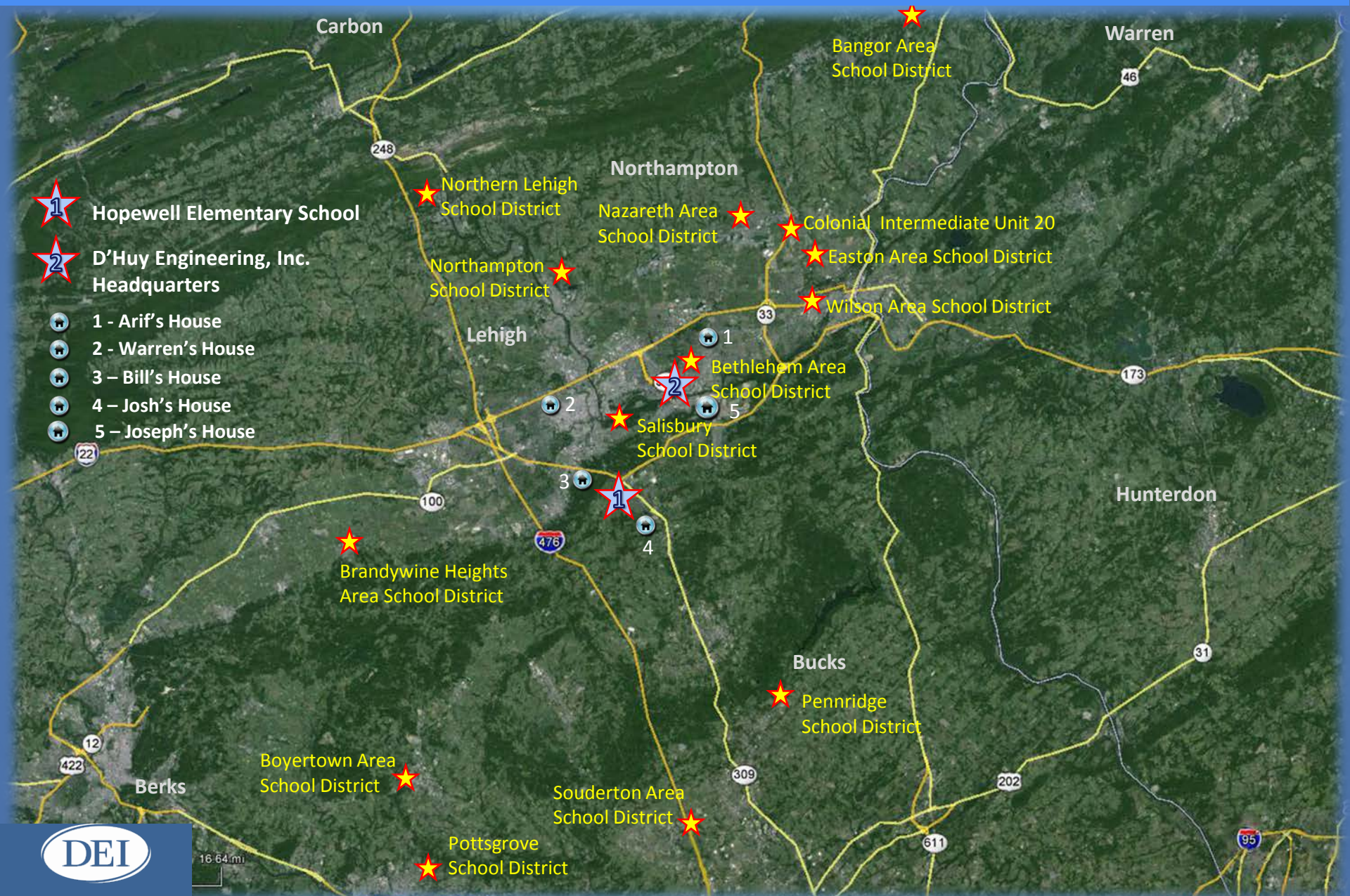
4 Keys that make D'Huy uniquely qualified for your new Elementary School Project

- PROXIMITY & EXTENSIVE PA PUBLIC SCHOOL SUCCESS
- LEED & GRANT EXPERIENCE
- OUR PM APPROACH
- OUR PERSONNEL & TEAM



D'Huy's Successful Projects & Proximity to Hopewell ES

We can be there in less than 15 minutes



LEED Project & Grant Experience



Broughal Middle School LEED Gold



Nazareth Middle School LEED Gold



- NCC Monroe Campus **LEED Gold**
- Upper Dublin HS **LEED Gold**
- Bensalem HS **LEED Gold \$2M Grant**
- Hallowell EM **LEED Gold \$2M Grant**
- Nitschmann MS **LEED Gold \$2M Grant**



D'Huy Project Management Approach

List of Priorities	Cost Savings
Continuous Schedule and Budget focus to Deliver the Project on Time and on Budget	1-2%
Clear, Concise and Complete Documents	1-2%
Value Engineering and Life Cost Analysis	1-2%
Good Documents Attract Good Bidders and Responsive Bids	1-2%
Integration of BIM to Eliminate Conflicts Early	1-2%
Energy Savings, Commissioning, Maintainability	3% ongoing
Pursuit of Funding or Grant Opportunities(High Performance Grants)	4-10%
Focus on Best Value and Quality	Priceless
Strong Owner Advocate	Priceless
Keeping Client Informed	Priceless
Enhance the Program and Owner Criteria Driven Approach	Priceless
Risk & Liability Reduction through Sound Contract Docs & Pro-Active Management	Priceless
Achieving and Exceeding District Goals	Priceless



Southern Lehigh School District



New Elementary School Project

Leah Christman, Superintendent – Jeremy Melber, Business Administrator – Todd Bergey – Director of Support Services

Design Team

Civil Engineer

Structural Engineer

MEP Engineers

Food Service, Etc.



D'HUY Engineering, Inc.

Construction Management Services

Pre-Design, Design, Bidding, Construction and Close-out Services

Principal-in-Charge

M. Arif Fazil, PE, CCS, CEM, LEED AP

Senior Project Manager

Josh Grice, PE, CEM, CCCA

Field Representatives

Warren Gericke, CDT

Joseph L. Herman, AIA, LEED AP

William Hambly, CDT

Technical Specialists

James G. Hanna, CPE, CCS, CCCA
Estimating Specialist

B. Ethan Fick, PE, LEED AP
Mechanical Specialist

Pete M. Garland, PE
Structural Specialist

Christopher W. Haller, ICC, BCO
Codes Specialist

John Hartman, AIA, LEED AP
Architectural Specialist

Construction Team Contractors- TBD

General

Mechanical

Electrical

Plumbing

**D'Huy
Engineering's
Organizational
Chart**

D'HUY'S INTEGRATED TEAM APPROACH

PROCESSES FOR BEST VALUE

1. OWNER REQUIREMENTS

- Educational Specs
- Durability
- Maintainability
- Final Outcome

2. BUDGET

- Value Engineering
- Energy Efficiency
- Competitive Bids

3. SCHEDULE

- Milestones (Design & Construction)
- Multi Prime Coordination

4. QUALITY

- Quality Control Process
- Design – Pre Install Installation

6. REDUCE RISK & LIABILITY

5. MAX. SAFETY & MIN. DISRUPTION

- Manage Safety First
- It's a School First
- Construction Next



Value Engineering

Maximize the Concept

- A systematic and proactive route to savings
- Used early and often to guide the design, achieve LEED points, maximize energy efficiency
- Turn grant fund into YOUR funds
- VALUE:

$$\text{VALUE} = \frac{\text{Function/Quality}}{\text{Cost}}$$

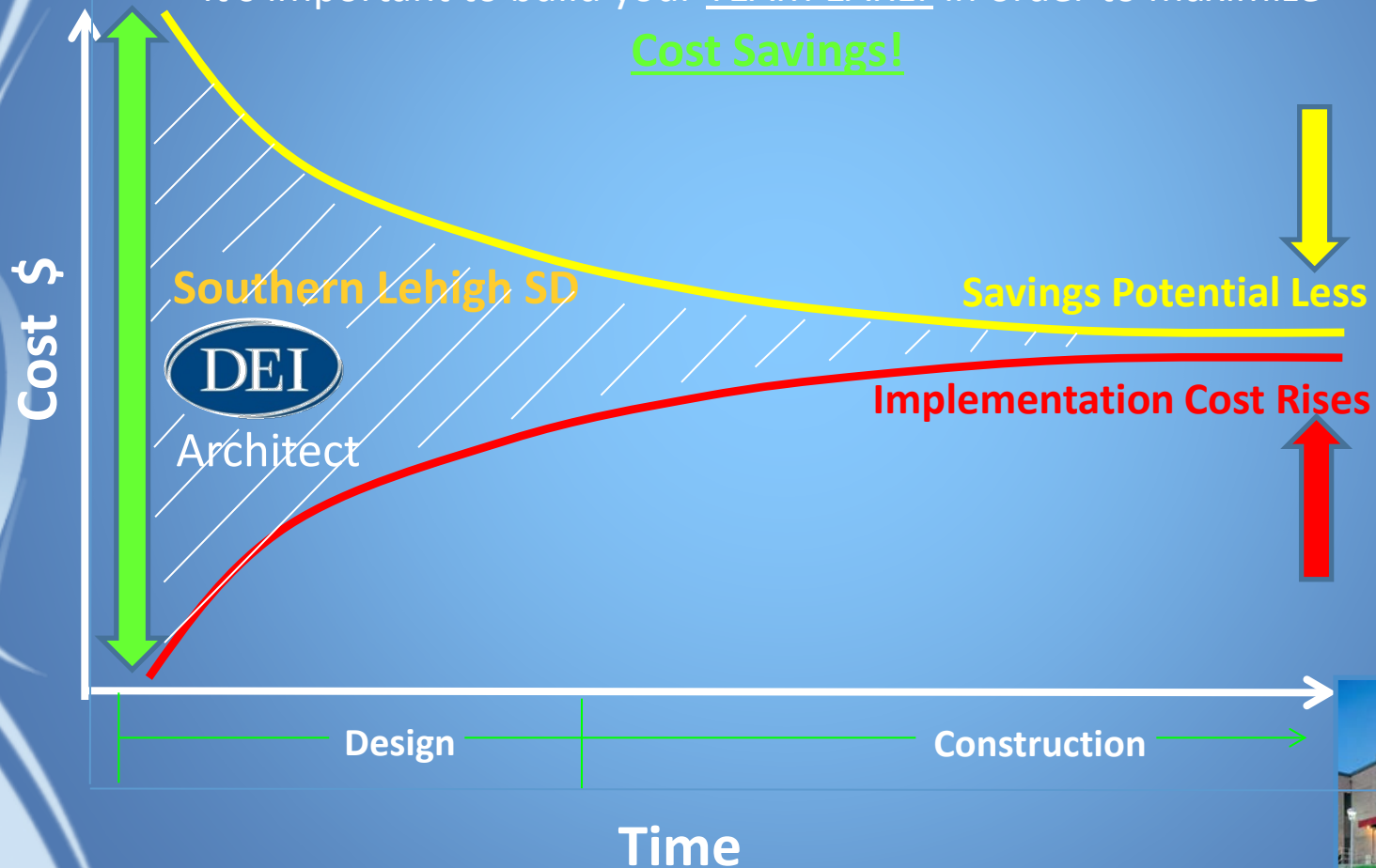


Value Management

Early Team Formation & Cost Impact

It's important to build your TEAM EARLY in order to maximize

Cost Savings!



Milestone Schedule

ID	Work Description	Baseline Schedule		Target Schedule		2014												2015											
		Start	Finish	Start	Finish	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D				
Pre-Design		05/30/14	11/26/14	05/30/14	07/29/14																								
10	Selection of Construction Manager		05/30/14		05/30/14																								
20	Educational Program Requirements, Prelim Room Schedule	06/02/14	06/30/14																										
30	Site Survey, Preliminary Geotech Investigation	06/15/14	06/30/14																										
40	Prepare Concept Plans, Concept budget, concept schedule	07/01/14	08/01/14																										
50	Issue and Receive RFP for Architect and Include Concept Plans	08/15/14	09/15/14																										
60	Architect Interviews and Board Discussion	09/15/14	10/15/14																										
70	Architect Selection	10/15/14	11/26/14																										
Schematic Design		12/01/14	02/27/15	08/04/14	09/08/14																								
100	Design Team Kick-Off Meeting		12/01/14		08/04/14																								
110	Identify LEED and Value Engineering Opportunities	12/01/14	12/10/14																										
120	Geotechnical Investigation	12/01/14	12/10/14																										
130	Architect develop outline specs and finalize schematic drawings	12/01/14	01/15/15																										
140	Owner input and feedback on Schematic Design	01/15/15	02/01/15																										
150	CM to review Schematic Design & Prepare 30% Budget	02/01/15	02/15/15																										
160	Prepare Plancon A&B and Board Approval	02/20/15	02/27/15																										



Contract Language to protect the District from Risk

- Bidder Qualifications
- Insurance and damage clauses
- Sound General Conditions
- Multi-Prime Responsibilities
- Contractor Accountability
- Temporary Facilities
- Scope Assignment
- Scheduling Milestones
- Coordination Responsibilities
- Unit Prices
- Quality Control, Testing, TAB
- Contractor Commissioning and Performance Responsibilities

...we worry over the details so you don't have to.



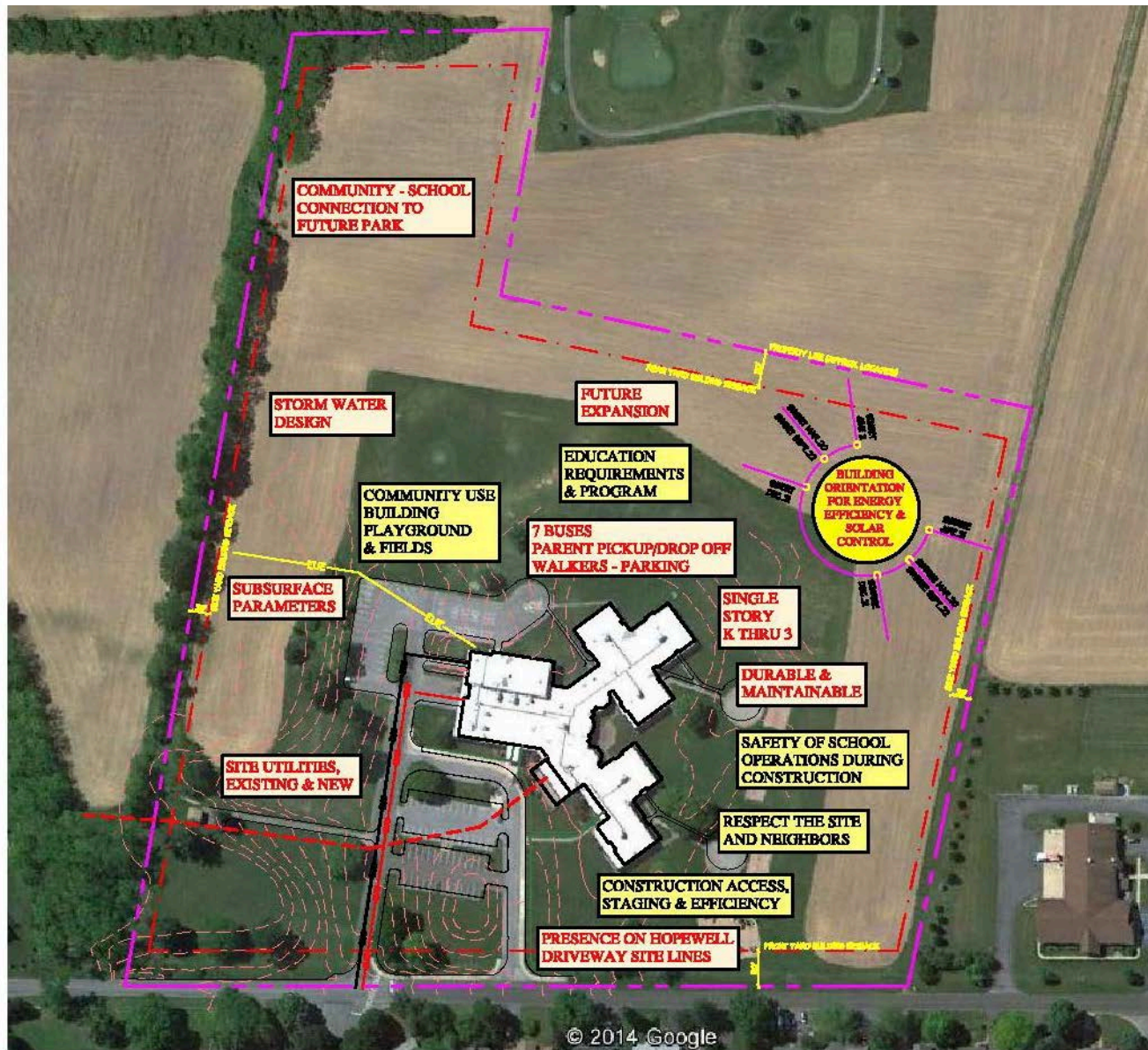
Bid Phase Review

We provide input to ensure competition and value:

- Value analysis of bids, including alternate items and recommendations for accepting or rejecting them
- Review of the contractors' proposed vendors and subcontractors
- Confirmation of responsible bids and review of the schedule of values
- Review of contractor insurance, bonds, financials and qualifications statements
- Because of DEI's involvement, contractors will be attracted to your project, with **NO BID DAY SURPRISES!**



We are Starting to Think on Your Behalf



D'HUY'S CULTURE OF QUALITY

PRE-INSTALLATION



Constructability Reviews

Eliminate Conflicts

CONSTRUCTABILITY REVIEW

Item	Date	Sht/Sec	Discipline	Comment Description	Disposition
89	3/15/2013	A-2a	A	Misc steel framing for RTU 5 not shown.	
90	3/15/2013	sht 3 of 7	E/M	Voltage to VAV boxes is 277V, while panel schedules indicate 120V, investigate needs and coordinate	
91	3/15/2013	A-4a	A	Piping for condensate not indicated, add to M & P dwgs, assign work to PC.	
92	3/15/2013	P10	M/P	Duct in corridor C200 conflicts with roof drain piping outside clrm 203, reroute RWC to adjacent chase	
93	3/15/2013	M2a/P2a	M/P	Backflow preventer is shown on M & P dwgs. Assign to PC in both instances.	
94	3/15/2013	A12c	A	Flashing dtl on roof curbs not compliant with warrantee, increase height from finished roof - 8"-14" min.	
95	3/15/2013	A-7c	A	Threshold detail at door 116a doesn't indicate proper transition from Terrazzo to VCT.	
96	3/15/2013	A-7c	A	Hardware for door 134c does not reference card access requirements, show on A and E dwgs.	
97	3/15/2013	C-5	E/M	No emergency power to UPS in IDF closet	

D'HUY'S CULTURE OF QUALITY



Communication

Southern Lehigh School District

Reduces Risk and Liability

D'Huy Engineering

Scheduling
Value Engineering
Phasing
Final Outcome
Documentation

Safety
Budgeting
Quality
Maintainability
Coordination

Architect

Prime Contractors

- Civil Engineer
- Struct Engineer
- MEPF Engineers
- Food Service
- Site/Survey
- LEED Consult
- Environmental
- Safety/ Security
- Geotechnical
- Data/Comm
- Furn, Fix, Equip
- HVAC-TAB
- Constr. Testing
- General
- Mechanical
- Electrical
- Plumbing

Design Team – Stakeholder & Owner Input
Architect/Engineers/Consult/Vendors

Construction Team
QA/QC/Vendors/Contractors

Authorities – Code Agencies – Approvals – Regulators - Utilities



ACTIVITY	New Elementary School		
	DUR DAYS	START NO LATER THAN	FINISH NO LATER THAN
	TBD	TBD	TBD
PREPARE SUB GRADE FOR BUILDING PAD	X	X	X
PLACE FOUNDATIONS	X	X	X
INSTALL MECH & PLUB UNDERGROUND ROUGH-IN	X	X	X
INSTALL ELEC UNDERGROUND	X	X	X
ERECT STEEL FRAMING	X	X	X
PLACE SLAB ON GRADE & ELEVATED SLABS	X	X	X
INSTALL MEP ABOVE CEILING ROUGH-IN	X	X	X
PERFORM ABOVE CEILING PUNCHLIST & INSPECTIONS	X	X	X
CONSTRUCT EXTERIOR SHELL	X	X	X
BUILDING TO BE WATERTIGHT	X	X	X
INSTALL UTILITY PIPING AND DUCTBANK TO RESPECTIVE BUILDINGS	X	X	X
PROVIDE TEMPORARY HEAT OR ENVIROMENTAL CONTROL AS SPECIFIED IN THE CONTRACT DOCUMENTS	X	X	X
BEGIN INTERIOR PARTITIONS & MEP ROUGH-INS	X	X	X
COMPLETE MEP WALL ROUGH-INS & INSPECTIONS	X	X	X
INSTALL CEILING GRID	X	X	X
COMPLETE CEILING GRID & MEP CEILING SYSTEMS	X	X	X
INSTALL FINISHED CEILINGS	X	X	X
ENERGIZE PERMANENT POWER	X	X	X
COMPLETE ALL INTERIOR WALL FINISHES & TRIM	X	X	X
START UP AND COMMISSION CENTRAL PLANT	X	X	X
START UP AND COMMISSION EQUIPMENT AND SYSTEMS	X	X	X
PUNCHLIST PREPARATION AND COMPLETION	X	X	X
COMPLETION OF ALL CONSTRUCTION ACTIVITIES	X		X
OBTAIN CERTIFICATE OF OCCUPANCY -BUILDING SUBSTANTIAL COMPLETION			August 2016
OWNER CLEANING AND FURNITURE SET UP			August 2016
EXISTING BUILDING DEMOLITION AND RELATED SITEWORK IMPROVEMENTS		August 2016 – May 2017	



Working the Plan

Cost, Schedule, Quality Control and Final Outcome

MEP Systems

- Protected ductwork
- Access to valve, coils and filters for maintenance
- Duct leakage testing
- Coordination between electrical and architectural casework, equipment and furnishings
- Generator Fuel source and ventilation
- Technology and Communication
- Life Safety and Security



D'Huy Commissioning Approach

"Begin with the End in Mind"



Thermostat
Calibrated

Ductwork Protected
from water/debris

Roof Membrane
Installed per Detail



Ductwork/Piping
Leakage Test

Commissioning Checklist

- Owner Training
- Automatic Temperature System Sensors Calibrated
- Lighting Controls turn on lights
- Hot is on the left, cold is on the right, urinals have cold water
- Ductwork protected from moisture
- Check, Test, and Startup
- Warranty Information Provided
- Test, Adjust, and Balance
- Report Documentation



Project Closeout and Turnover

D'Huy provides a complete project record and a building ready to operate...with a minimal punchlist

- Coordinate final inspections and obtain Certificate of Occupancy
- Coordinate & schedule Owner training for all new equipment & systems
- Operation and Maintenance Manuals
- Complete LEED checklist, requirements and certification documents
- Assist with technology and furniture installation
- Verify Contractor turnover of attic stock, spare parts and extra material



Souderton High School



Our hard work results in savings for you

<u>Project Name & Description</u>	<u>Actual Bid</u>	<u>Final cost</u>	<u>Change Order %</u>
Broughal Middle School New Construction 187,500 S.F. Parking Garage	\$50,170,000	\$50,170,000	0%
Slatington Elementary School New Construction 24,500 S.F. Renovations 83,700 S.F.	18,030,442	18,329,651	1.6%
Col. John Siegfried ES Renovations 76,000 S.F. Additions 55,000 S.F.	\$15,495,000	\$15,375,000	0%*
Wilson Intermediate School New Construction 125,000 S.F. Renovations 25,000 S.F.	27,873,000	28,396,500	1%
Easton Middle School New Construction 540,000 S. F.	\$80,643,443	\$81,629,741	1.2%
Souderton Area High School New Construction 420,000 S. F.	\$90,960,000	\$91,612,000	0.7%
Holland Elementary School New Construction 16,766 S.F. Renovations 55,190 S.F.	\$14,935,000	\$14,490,000	0%*
Washington Township ES Renovations 21,500 S.F. Additions 66,000 S.F.	\$16,955,000	\$16,850,300	0%*
Nazareth Middle School New Construction 230,000 S.F.	\$49,284,200	\$49,625,979	0.7%

- ✓ Cost Control
- ✓ Schedule Control
- ✓ Quality Control
- ✓ Successful Final Outcome that Meets Owner's Criteria
- ✓ Safety and Risk Management



Esprit De Corps of Project Management

Qualified Resources - Meticulous, Diligent, Professional Personnel



M. Arif Fazil



Josh Grice



Warren Gericke



Ethan Fick



Bill Hambly

Multi-prime Project Management	✓	✓	✓	✓	✓
Cost, Schedule and Quality Control	✓	✓	✓	✓	✓
Elementary School Experience	✓	✓	✓	✓	✓
New Construction Experience	✓	✓	✓	✓	✓
Exceptionally Qualified	✓	✓	✓	✓	✓

“Coming together is a beginning; Keeping together is progress; Working together is success”

- Henry Ford



WITH D'HUY ENGINEERING INC,

PROJECTS ARE FINISHED SUCCESSFULLY

THANK YOU

