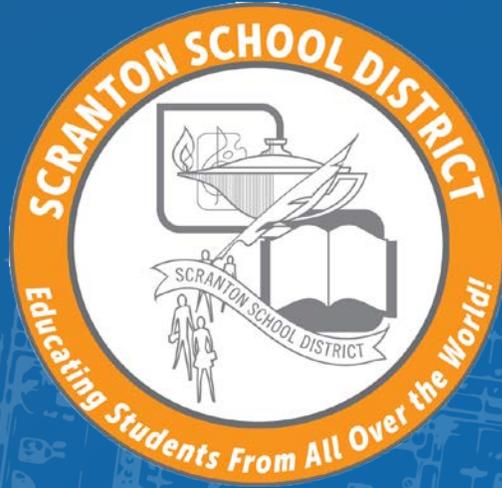


# Scranton School District



## Priority Summer 2021 Projects

## Scranton Board Meeting

February 1, 2021



D'HUY Engineering, Inc.



# OUR PROCESS – YOUR PLAN: Roadmap to Facilities Improvement!



D'HUY Engineering, Inc.



1

## SURVEY & DEVELOP PLAN OF NEEDS

- Obtain Owner Criteria and Input
- Expert Team to Survey Facilities
- Identify Scope for Budget



6

## OVERSEE DESIGNS

- Owner Program
- Constructability Review
- Schedule Risk Management

5

## DEVELOP SCHEDULE & EXECUTION

- Phasing Plan for Keeping Occupied School in Operation
- Funding Plan with Draw Schedule
- Milestone Dates for Execution and Accountability
- Phasing Plan for Competition and Best Value



7

## OVERSEE CONSTRUCTION

- Owner Safety Criteria
- Quality
- Schedule
- Budget
- Risk Management

## PRIORITIZE THE NEED

- Logic Matrix for Priorities
- Budgets with Experienced Staff
- Data Base of Previous Costs
- Identify Value Engineering

2



## DEVELOP PHASED IMPLEMENTATION PLAN

- School Operations
- Efficient Construction
- School First, Construction Site Second
- Manage Indoor Air Quality
- Manage Environmental Remediation

4

## EVALUATE CAPITAL IMPROVEMENT VS. RENOVATION VS. REPLACEMENT

- Review Owner Criteria & Education Specs.
- Review Best Value
- Review Reimbursement Plan
- Review and Apply for Grants

3



# Plan The Work:



D'HUY Engineering, Inc.

## Utilize our Integrated Team...



**Focus on 6 Key Priorities!**

# Schedule for Priority Projects



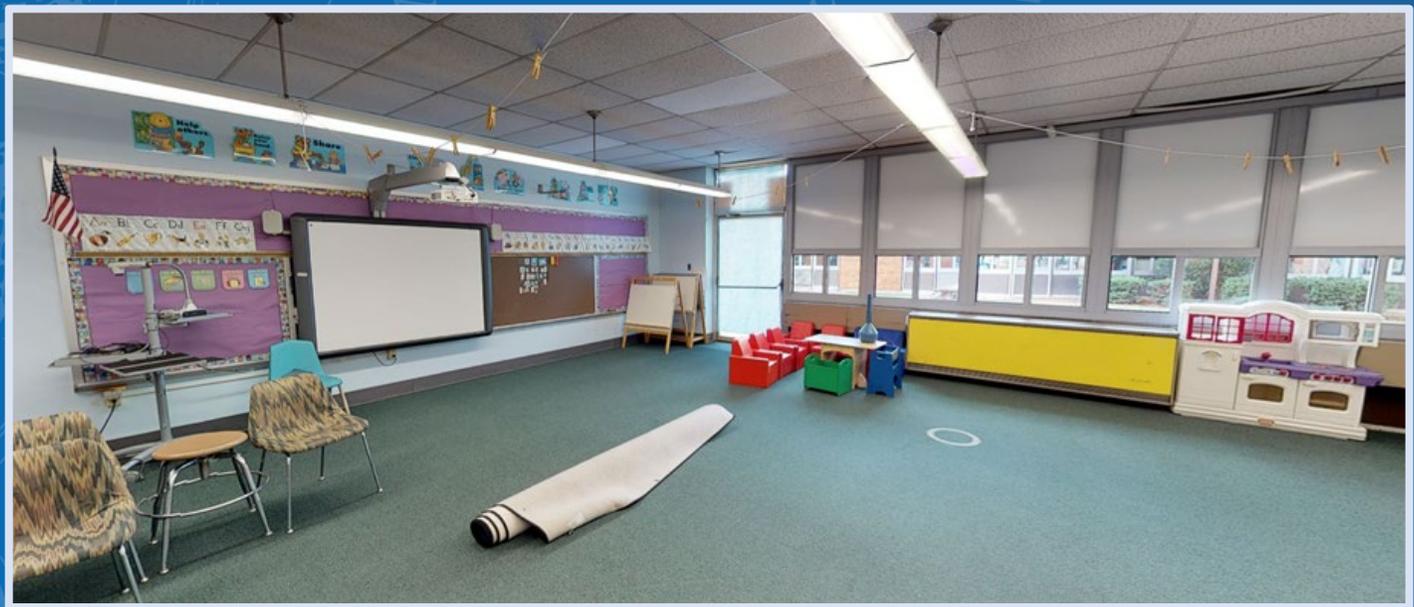
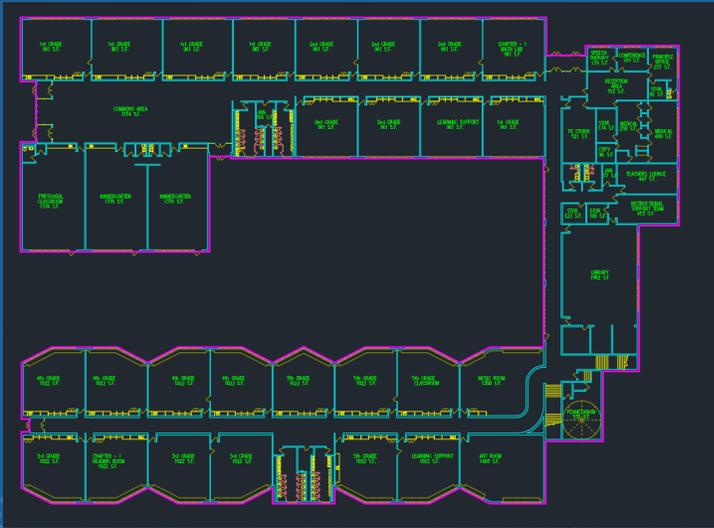
D'HUY Engineering, Inc.

	Northeast Intermediate School Abatement	Northeast Intermediate School Ventilation Upgrades	Frances Willard ES Roof Replacement	South Scranton IS Boiler Replacement and Insulation	Memorial Stadium Bleacher Re-Bid and Track Renovations	Armstrong Elementary School HVAC Renovations
	DEI Project No. 033006	DEI Project No. 033006	DEI Project No. 033003	DEI Project No. 033004	DEI Project No. 033005	DEI Project No. 033002
Ad Date - 1	Friday, February 12, 2021	Friday, February 12, 2021	Friday, February 12, 2021	Friday, February 12, 2021	Friday, February 12, 2021	11/2021
Ad Date - 2	Friday, February 19, 2021	Friday, February 19, 2021	Friday, February 19, 2021	Friday, February 19, 2021	Friday, February 19, 2021	11/2021
Ad Date - 3	Monday, February 22, 2021	Monday, February 22, 2021	Monday, February 22, 2021	Monday, February 22, 2021	Monday, February 22, 2021	11/2021
Docs Released	Tuesday, February 23, 2021	Tuesday, February 23, 2021	Tuesday, February 23, 2021	Tuesday, February 23, 2021	Tuesday, February 23, 2021	11/2021
Pre-Bid Conference	Tuesday, March 2, 2021	Tuesday, March 2, 2021	Tuesday, March 2, 2021	Tuesday, March 2, 2021	Tuesday, March 2, 2021	12/2021
Pre-Bid Time (all virtual)	TBD	TBD	TBD	TBD	TBD	TBD
Bids Due @ 2:00 p.m.	Tuesday, March 23, 2021	Tuesday, March 23, 2021	Tuesday, March 23, 2021	Tuesday, March 23, 2021	Tuesday, March 23, 2021	7/2022
Board Committee Review	Monday, March 29, 2021	Monday, March 29, 2021	Monday, March 29, 2021	Monday, March 29, 2021	Monday, March 29, 2021	12/27/2021
Board Meeting - Award	Monday, April 5, 2021	Monday, April 5, 2021	Monday, April 5, 2021	Monday, April 5, 2021	Monday, April 5, 2021	1/3/2022
Notice to Proceed	Tuesday, April 6, 2021	Monday, April 12, 2021	Monday, April 12, 2021	Monday, April 12, 2021	Monday, April 12, 2021	1/4/2022
Construction Start	Monday, April 12, 2021	Tuesday, June 1, 2021	Tuesday, April 13, 2021	Tuesday, April 13, 2021	Monday, May 3, 2021	6/2022
Construction Final Completion	Friday, May 21, 2021	Monday, August 2, 2021	Tuesday, July 13, 2021	Tuesday, July 13, 2021	Friday, August 13, 2021	8/2022

# Armstrong ES – Existing Conditions



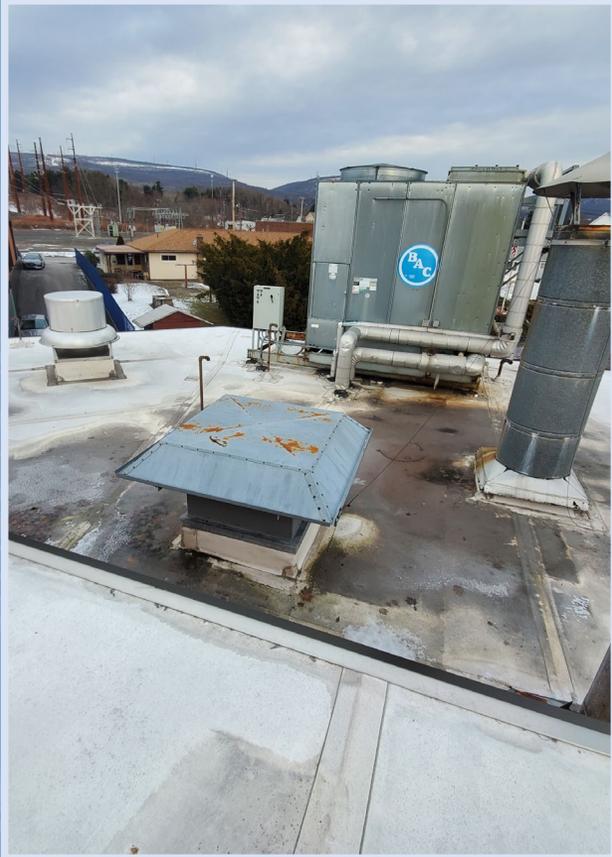
D'HUY Engineering, Inc.



# Armstrong ES – Existing Conditions



**DAMAGED CEILING  
TILES**



**COOLING TOWER AND  
ROOF**



**ROOF CORE**



**WATER COOLED  
CHILLER**



# Armstrong ES – DRAFT BUDGET



D'HUY Engineering, Inc.

Line #	Item	Budget	CIP BUDGET	Billed to Date	Comments
	<i>Scope of Work to include the following:</i>			Bldg. SF: 67,650	
	<b><i>Mechanical Construction</i></b>				
	General Conditions - Temporary Facilities, Bonds & Insurance, Project Supervision, etc.	\$ 101,475			
	Mechanical Demolition - Removal of existing Boilers, Chiller, UVs, Un-needed piping and ductwork, etc.	\$ 405,900			
	New HVAC Equipment - Procure new Boilers, Chiller, AHUs, RTUs, VAV boxes, terminal units, etc.	\$ 744,150			
	Mechanical Material & Labor - New piping, pumps, valves, etc.	\$ 405,900			
	Install new ductwork - Fabrication and installation of ductwork to support new VAV system	\$ 405,900			
	Duct, Pipe and equipment insulation	\$ 202,950			
	Equipment pads, misc. sitework and site restoration	\$ 318,632			
	Structural and Misc. Steel, Rough Carpentry - Steel fabrication, erection and wood blocking necessary to install new units	\$ 202,950			
	Roofing, caulking and doors - Roofing cutting and patching to install new units, caulking and blocking for same	\$ 121,770			
	Finishes - New acoustic ceilings, carpet in corridors and painting	\$ 676,500			
	Secure entrance	\$ 85,000			

# Armstrong ES – DRAFT BUDGET



D'HUY Engineering, Inc.

<b><u>Electrical Construction</u></b>					
General Conditions - Temporary Facilities, Bonds & Insurance, Project Supervision, etc.	\$	92,004			
Electrical Demolition - Remove electrical systems and equipment not needed	\$	81,180			
Power Distribution incl/ Conduit and Wire - Install need power feeds and branch wiring to support new units	\$	135,300			
Remove, store and reset lighting	\$	118,388			
Install new Data Wiring for entire building	\$	152,213			
Fire alarm system - Upgrade system to coordinate with new system and meet code requirements.	\$	202,950			
<b><u>Controls Contractor</u></b>					
New ATC Control Installation to coordinate with new system	\$	473,550			
<b><u>Abatement Contractor</u></b>					
Abatement	\$	10,000			Abatement allowance
Pipe insulation	\$	1,600			Datom Products
<b><u>Roofing Construction</u></b>					
Roof Replacement	\$	1,088,000			
Roof Cores and ACM Testing	\$	1,706			Coordinate with CAI
<b>TOTAL CONSTRUCTION COSTS</b>	<b>\$</b>	<b>6,028,017</b>	<b>\$</b>	<b>2,000,000</b>	

# Armstrong ES – DRAFT BUDGET



D'HUY Engineering, Inc.

Line #	Item	Budget	CIP BUDGET	Billed to Date	Comments
	<b>Soft Costs</b>				
	Environmental Consultant (Cocciardi) Design Fee and air quality testing	\$ 10,000			DEI applied an allowance.
	Greenman-Pederson (GPI) Design Fee for <u>VRF</u> system	\$ 145,000			GPI proposal date 04/22/2020 which includes design, bidding and CA.
	Greenman-Pederson (GPI) Design Fee for <u>VAV</u> system	\$ 105,000			The fee is for the VAV design only. The cost for bidding and CA will be carried forward from the VRF design fee.
	Greenman-Pederson (GPI) Design Fee for: <u>Fire Alarm, Ceilings, Selective Demo, Data, Security, Flooring, Roof Replacement, and Secure Entrance Vestibule</u>	\$ 111,925			GPI verified
	Dehumidification procurement 50 units	\$ 77,000			Purchased through State Contract
	D'Huy Engineering, Inc. - Design Phase Fee	\$ 125,000			Fixed fee
	D'Huy Engineering, Inc. - Construction Phase Fee	\$ 256,238			4% of Project Costs <i>To be adjusted when all fees are known</i>
	Builder's Risk Insurance				To be provided by SSD
	Legal Costs	\$ 10,000			
	Approvals, Permits & Inspections	\$ 76,000			
	TAB / CVA (Non-LEED)	\$ 75,000			
	Printing, etc.	\$ 5,000			
	Design and Estimating Contingency	\$ 301,401			5% of Construction Costs
	Construction Contingency	\$ 602,802			10% of Construction Costs
	Financing	\$ -			
	<b>TOTAL SOFT COSTS</b>	<b>\$ 1,900,365</b>			
	<b>TOTAL ESTIMATED PROJECT COSTS</b>	<b>\$ 7,928,382</b>		<b>\$ -</b>	

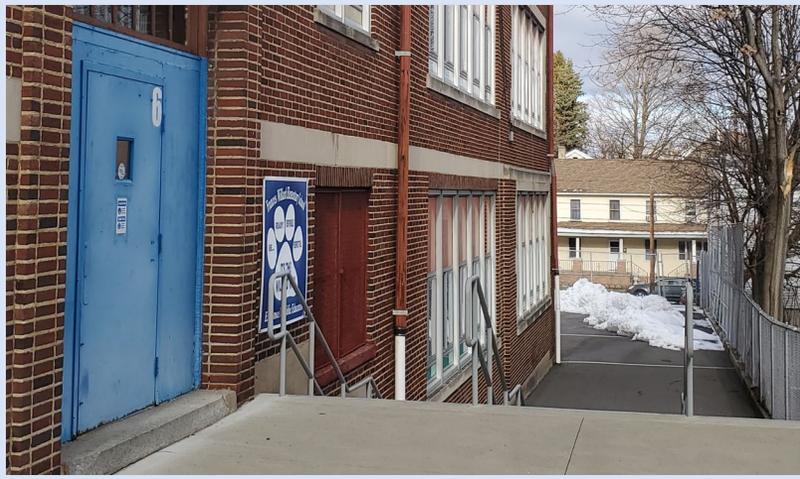
# Willard ES – Existing Conditions



D'HUY Engineering, Inc.



**NORTH EAST ELEVATION**



**VERTICAL RWC LEADER**



**EPDM ROOFING SYSTEM**

# Willard ES - Existing Conditions



D'HUY Engineering, Inc.



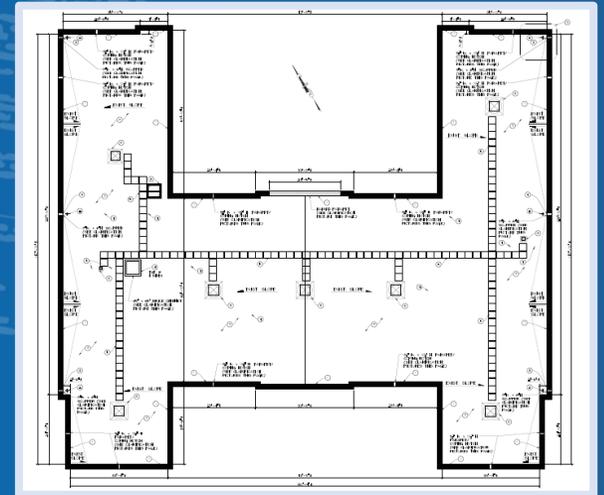
**ROOF CORE**



**ROOF DRAIN &  
SUMP PUMP**



**CEILING DAMAGE**



# Willard ES – DRAFT BUDGET



D'HUY Engineering, Inc.

Line #	Item	Budget	CIP BUDGET	Billed to Date	Comments
	<b>Scope of Work to include the following:</b>				
	General Conditions - Temporary Facilities, Bonds & Insurance, Project Supervision, etc.	\$ 75,000			
	Roof cores and ACM Testing	\$ 1,542			Coordinated with CAI
	Roofing tear off and disposal	\$ 66,000			
	Coping repairs	\$ 10,000			
	Insulation to meet current energy code	\$ 107,250			16,500 SF
	Rising wall flashing repairs	\$ 25,000			800 LF
	New roof drains and scuppers	\$ 38,000			Roof drains: 6 EA Scuppers: 17 EA
	Downspout repairs/replacement	\$ 40,000			
	Deck repairs	\$ 20,000			
	Parapet repairs	\$ 30,000			
	Parapet wall coating	\$ 25,000			2,500 SF
	New single ply roof	\$ 140,250			16,500 SF
	<b>TOTAL CONSTRUCTION COSTS</b>	<b>\$ 578,042</b>	<b>\$ 500,000</b>		
	<b>Soft Costs</b>				
	Environmental Consultant (Cocciardi) Design Fee	\$ 5,000			DEI applied an allowance.
	Greenman-Pedersen (GPI) Design Fee	\$ 41,500			GPI proposal 05/06/2020
	D'Huy Engineering, Inc. - Design Phase Fee	\$ 25,000			Fixed fee
	D'Huy Engineering, Inc. - Construction Phase Fee	\$ 12,991			2% of Project Costs <i>To be adjusted when all fees are known</i>
	Builder's Risk Insurance	N/A			
	Legal Costs	\$ 10,000			
	Approvals, Permits & Inspections	\$ 25,000			
	Printing, etc.	\$ 5,000			
	Design and Estimating Contingency	\$ 28,902			5% of Construction Costs
	Construction Contingency	\$ 57,804			10% of Construction Costs
	Financing	N/A			
	<b>TOTAL SOFT COSTS</b>	<b>\$ 211,197</b>			
	<b>TOTAL ESTIMATED PROJECT COSTS</b>	<b>\$ 789,239</b>		<b>\$ -</b>	

# Our Constructability Team also Looks for...



D'HUY Engineering, Inc.

**“Coordinate-ability” confirms building systems are well coordinated with each other and MEP systems**

- Eliminates underground and utility/ductwork conflicts
- Proper electrical rough-in for township technology
- Clear scope definition for network, fire alarm, security and emergency systems



**“Compete-ability” ensures materials/equipment are specified to maximize competition**

- Strategies for multiple vendors/subs for building, HVAC, roofing & finishes, low voltage systems and bid alternates for cost flexibility
- Strategies for Owner procurement of furniture and equipment



**“Maintain-ability” makes sure materials/equipment are specified to ease operation and maintenance**

- Coordinate lighting controls, fire alarm and security with other Township buildings to reduce attic stock variation
- Maximize warranty periods, Owner training requirements & spare parts and reduce the number of service contracts



# Willard ES - Constructability Review

ROOF SYMBOL LEGEND	
SYMBOL	DESCRIPTION
○	FLUPIPING VENT
⊗	ROOF DRAIN
⊕	EXHAUST VENT
⊞	ROOF ACCESS HATCH

- ROOFING SCOPE INFORMATION:**
- REMOVE EXISTING SCUPPER AND INSULATION TO DECK SUBSTRATE. PROVIDE NEW ROOF INSULATION TO MEET CODE REQUIREMENTS FOR ENERGY EFFICIENCY AND GUMPS TO DRAIN.
  - PROVIDE NEW EPDM ROOFING AND RIGID INSULATION. NEW ROOF INSULATION TO MEET CODE REQUIREMENTS FOR ENERGY EFFICIENCY AND GUMPS TO DRAIN.
  - PROVIDE NEW EPDM FLASHING. INCLUDE FLASHING AT EXISTING ROOF PENETRATIONS, ETC AS REQUIRED.
  - REPLACE ROOF PARAPETS AS PART OF TOTAL ROOFING SYSTEM WARRANTY. PROVIDE COPING CAPS.
  - REMOVE EXISTING ROOF DRAIN AS REQUIRED FOR NEW ROOFING SYSTEM AND INSTALL NEW DRAIN TO MATCH EXISTING.
  - REPLACE ROOF ACCESS HATCH.
  - REPLACE ROOF SCUPPERS AS PART OF TOTAL ROOFING SYSTEM WARRANTY.

- PHASING NOTES:**
- PRIOR TO START OF CONSTRUCTION, PREPARE AND REVIEW PHASING SCHEDULE WITH OWNER. PROPOSED SEQUENCES TO THE PHASING PLAN AND SCHEDULE WILL BE CONSIDERED, BUT MUST BE APPROVED BY OWNER ARCHITECT.
  - PROVIDE TEMPORARY BARRICADES WHERE NECESSARY TO SEPARATE CONSTRUCTION AREAS. PROVIDE TEMPORARY BARRICADES WITH OWNER ARCHITECT PRIOR TO ERECTING. MAINTAIN EGRESS PATHWAYS AS REQUIRED BY CODE.
  - FOLLOWING REMOVAL OF EXISTING ROOF MATERIALS AND ACCESSORIES, PATCH AND REPAIR EXISTING MASONRY AS REQUIRED PRIOR TO INSTALLATION OF NEW ROOFING.

- STAGING NOTES:**
- PORTIONS OF BUILDING WILL BE OCCUPIED DURING CONSTRUCTION. ALL AREAS WHERE REQUIRED ENITS AND ENIT PASSENGEAYS MUST BE PROTECTED. PROVIDE EQUIVALENT, PROTECTED ENIT FACILITIES.
  - CONTRACTORS SHALL REMOVE FROM THE PROJECT SITE AND PROVIDE PROPER DISPOSAL OF ALL CONSTRUCTION WASTE ITEMS. IN THEIR ENTIRETY, ON A REGULAR BASIS SO AS NOT TO ALLOW UNNECESSARY ACCUMULATION OF WASTE.
  - CONTRACTOR SHALL SCHEDULE SETUP OF CONSTRUCTION EQUIPMENT, SUCH AS CRANES, LIFTS, ETC. WITH OWNER PRIOR TO SETUP.
  - CONTRACTOR PARKING SHALL ONLY BE ALLOWED IN AREAS DESIGNATED BY THE OWNER. INITIAL ON-SITE PARKING WILL BE AVAILABLE FOR ALL CONSTRUCTION.
  - MINIMAL STORAGE AND STAGING AREAS ARE AVAILABLE OUTSIDE THE BUILDING. OFF-SITE STORAGE MAY BE NECESSARY FOR MATERIALS REQUIRING PROTECTION FROM WEATHER.
  - UPON COMPLETION OF CONSTRUCTION, RESTORE ALL AREAS WHERE DUMPTER, TEMPORARY FENCING, STAGED MATERIALS, CONSTRUCTION ITEMS HAVE DISTURBED EXISTING LANDSCAPE, PLANTING, UTILITIES, AND OTHER FACILITIES TO PRE-CONSTRUCTION CONDITION.

SCALE: 1/8" = 1' - 0"

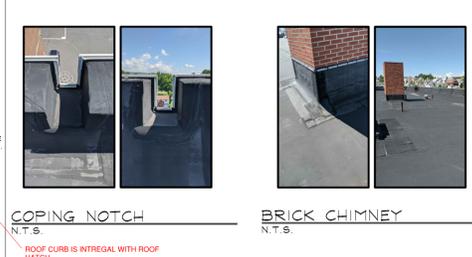
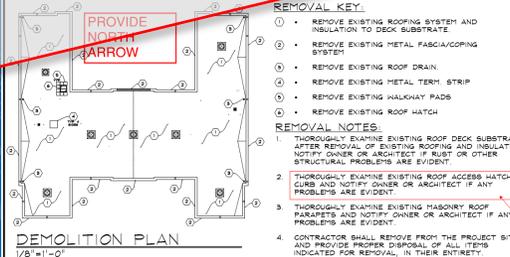
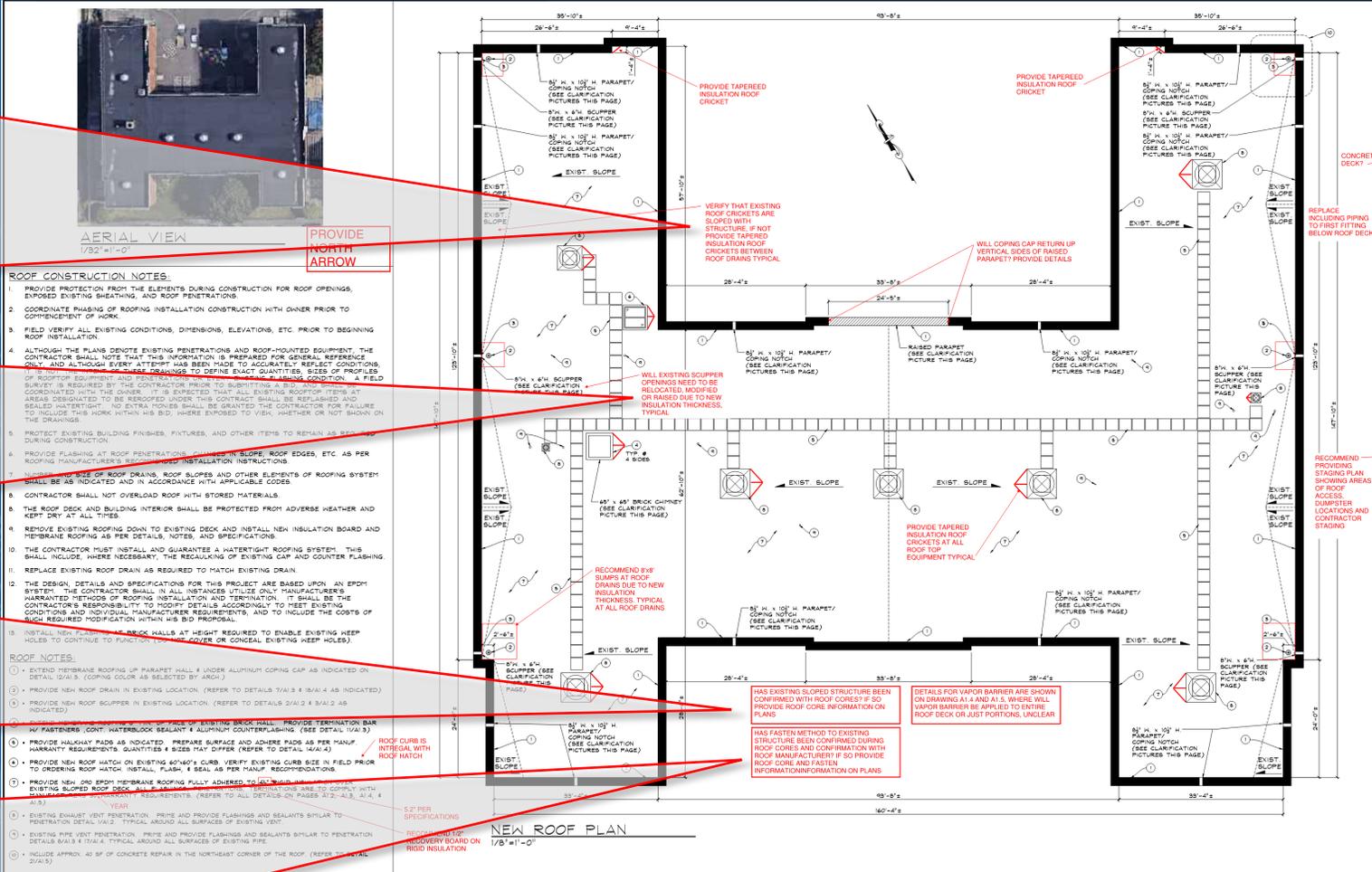


**CONSTRUCTION DOCUMENTS**

**-ROOF REPLACEMENT- WILLARD ELEMENTARY SCHOOL**

ROOF PLAN, DEMOLITION PLAN, AERIAL VIEW, NOTES, & LEGENDS

DATE: 07.21.2020  
 DRAWN BY: [Signature]  
 CHECKED BY: [Signature]  
 PROJECT NO.: [Number]  
**A.1.1**  
 AS NOTED



VERIFY THAT EXISTING ROOF CRICKETS ARE SLOPED WITH STRUCTURE, IF NOT PROVIDE TAPERED INSULATION ROOF CRICKETS BETWEEN ROOF DRAINS TYPICAL

WILL EXISTING SCUPPER OPENINGS NEED TO BE RELOCATED, MODIFIED OR RAISED DUE TO NEW INSULATION THICKNESS, TYPICAL

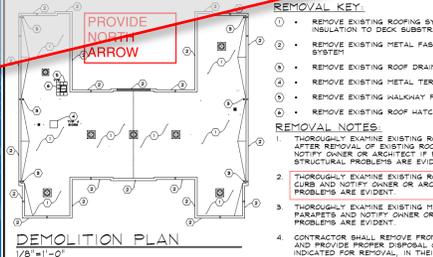
HAS EXISTING SLOPED STRUCTURE BEEN CONFIRMED WITH ROOF CORES? IF SO PROVIDE ROOF CORE INFORMATION ON PLANS

HAS FASTEN METHOD TO EXISTING STRUCTURE BEEN CONFIRMED DURING ROOF CORES AND CONFIRMATION WITH ROOF MANUFACTURER? IF SO PROVIDE ROOF CORE AND FASTEN INFORMATION ON PLANS



- ROOF CONSTRUCTION NOTES:**
- PROVIDE PROTECTION FROM THE ELEMENTS DURING CONSTRUCTION FOR ROOF OPENINGS, EXPOSED EXISTING SHEATHING, AND ROOF PENETRATIONS.
  - COORDINATE PHASING OF ROOFING INSTALLATION CONSTRUCTION WITH OWNER PRIOR TO COMMENCEMENT OF WORK.
  - FIELD VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, ELEVATIONS, ETC. PRIOR TO BEGINNING ROOF INSTALLATION.
  - ALTHOUGH THE PLANS DENOTE EXISTING PENETRATIONS AND ROOF-MOUNTED EQUIPMENT, THE CONTRACTOR SHALL NOTE THAT THIS INFORMATION IS BASED ON GENERAL REFERENCE ONLY, AND ALTHOUGH EVERY ATTEMPT HAS BEEN MADE TO ACCURATELY REFLECT CONDITIONS, THERE MAY BE CHANGES TO DURING EXACT QUANTITIES, SIZES OF PROFILES OF ROOFER EQUIPMENT, AND PENETRATIONS. THE CONTRACTOR SHALL MAINTAIN RECORD OF ALL CHANGES COORDINATED WITH THE OWNER. IT IS EXPECTED THAT ALL EXISTING ROOFER ITEMS AT AREAS DESIGNATED TO BE REMOVED UNDER THIS CONTRACT SHALL BE RELOCATED AND SEALED WATER-TIGHT. NO EXTRA NOTES SHALL BE GRANTED FOR FAILURE TO INCLUDE THIS WORK WITHIN HIS BID, WHERE EXPOSED TO VIEW, WHETHER OR NOT SHOWN ON THE DRAWINGS.
  - PROTECT EXISTING BUILDING FINISHES, FIXTURES, AND OTHER ITEMS TO REMAIN AS SPECIFIED DURING CONSTRUCTION.
  - PROVIDE FLASHING AT ROOF PENETRATIONS, DRAINS IN SLOPE, ROOF EDGES, ETC. AS PER ROOFING MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS.
  - FIELD VERIFY ROOF DRAINS, ROOF SLOPES AND OTHER ELEMENTS OF ROOFING SYSTEM SHALL BE AS INDICATED AND IN ACCORDANCE WITH APPLICABLE CODES.
  - CONTRACTOR SHALL NOT OVERLAP ROOF WITH STORED MATERIALS.
  - THE ROOF DECK AND BUILDING INTERIOR SHALL BE PROTECTED FROM ADVERSE WEATHER AND KEEP DRY AT ALL TIMES.
  - REMOVE EXISTING ROOFING DOWN TO EXISTING DECK AND INSTALL NEW INSULATION BOARD AND MEMBRANE ROOFING AS PER DETAILS, NOTES, AND SPECIFICATIONS.
  - THE CONTRACTOR MUST INSTALL AND GUARANTEE A WATER-TIGHT ROOFING SYSTEM. THIS SHALL INCLUDE, WHERE NECESSARY, THE REPAIRING OF EXISTING GAP AND COUNTER FLASHING.
  - REPLACE EXISTING ROOF DRAIN AS REQUIRED TO MATCH EXISTING DRAIN.
  - THE DESIGN, DETAILS AND SPECIFICATIONS FOR THIS PROJECT ARE BASED UPON AN EPDM SYSTEM. THE CONTRACTOR SHALL IN ALL INSTANCES UTILIZE ONLY MANUFACTURER'S WARRANTED METHODS OF ROOFING INSTALLATION AND TERMINATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MODIFY DETAILS ACCORDINGLY TO MEET EXISTING CONDITIONS AND INDIVIDUAL MANUFACTURER REQUIREMENTS, AND TO INCLUDE THE COSTS OF SUCH REQUIRED MODIFICATION WITHIN HIS BID PROPOSAL.
  - INSTALL NEW FLASHING AT BRICK CHIMNEYS AT HEIGHT REQUIRED TO ENABLE EXISTING HEEP HOLES TO CONTINUE TO FUNCTION AS INTENDED ON ORIGINAL EXISTING HEEP HOLES.

- ROOF NOTES:**
- EXTEND MEMBRANE ROOFING UP PARAPET WALL & UNDER ALUMINUM COPING CAP AS INDICATED ON DETAIL 2(A)1.5 (COPING COLOR AS SELECTED BY ARCH).
  - PROVIDE NEW ROOF DRAIN IN EXISTING LOCATION. (REFER TO DETAILS 2(A)1.5 & 2(A)1.6 AS INDICATED)
  - PROVIDE NEW ROOF DRAIN IN EXISTING LOCATION. (REFER TO DETAILS 2(A)1.2 & 2(A)1.2 AS INDICATED)
  - IF FABRICATORS CONT. WATER-TIGHT DETAILS OF EXISTING BRICK WALL. PROVIDE TERMINATION BAR WITH WATER-TIGHT SEALANT & ALUMINUM COUNTERFLASHING. (SEE DETAIL 1(A)1.3)
  - PROVIDE HALKHATY PADS AS INDICATED. PREPARE SURFACE AND ADHERE PADS AS PER MANUFACTURER'S REQUIREMENTS. QUANTITIES & SIZES MAY DIFFER. (REFER TO DETAIL 2(A)1.4)
  - PROVIDE NEW ROOF HATCH ON EXISTING 40"x40" CURB. VERIFY EXISTING CURB SIZE IS FIELD FLOOR TO PREVENT ROOF HATCH INSTALL. FLOOR & SEAL AS PER MANUFACTURER'S REQUIREMENTS.
  - PROVIDE NEW EPDM MEMBRANE ROOFING FULLY ADHERED TO DECK SUBSTRATE. VERIFY EXISTING CURB IS INTEGRAL WITH ROOF HATCH. (REFER TO ALL DETAILS ON PAGES 2(A)1.2, 2(A)1.3, 2(A)1.4 & 2(A)1.5)
  - EXISTING EXHAUST VENT PENETRATION. PRICE AND PROVIDE FLASHINGS AND SEALANTS SIMILAR TO PENETRATION DETAIL 1(A)1.2. TYPICAL AROUND ALL SURFACES OF EXISTING VENT.
  - EXISTING PIPE VENT PENETRATION. PRICE AND PROVIDE FLASHINGS AND SEALANTS SIMILAR TO PENETRATION DETAIL 1(A)1.3. TYPICAL AROUND ALL SURFACES OF EXISTING PIPE.
  - INCLUDE APPROX. 40 SF OF CONCRETE REPAIR IN THE NORTHEAST CORNER OF THE ROOF. (REFER TO DETAIL 2(A)1.5)



# Willard ES – Constructability Review



- C. Existing Guarantees: Guarantees on existing building elements should not be affected by scope of work.
  - 1. Installer is responsible for coordinating with building owner's representative to verify compliance.

## PART 2 - PRODUCTS

Recommend Reinforced Roofing Membrane

Does the membrane need to be Fire Rated?

### 2.1 ETHYLENE PROPYLENE DIENE MONOMER ROOFING MEMBRANE - EPDM

- A. Non-reinforced uniform, flexible sheet made from Ethylene Propylene Diene Monomer, ASTM D 4637, Type I. Basis of Design: JM EPDM NR FIT SYSTEMS
  - 1. Thickness (minimum): 90 mils (2.2 mm)
  - 2. Exposed Face Color: Black.
  - 3. Factory Inseam Tape: 4 inch-wide minimum, butyl splice tape with release film.
  - 4. All Seams and flashing shall receive a covering of 6" wide Sealing Strip.

Recommend listing at least three allowable manufacturers

### 2.2 AUXILIARY ROOFING MATERIALS

## 2.4 WALKWAYS

- A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads sourced from membrane roofing system manufacturer.

Recommend adding Tapered Insulation specifications for roof drain sumps and possible tapered insulation areas.

## 2.5 ROOF INSULATION

- A. General: Preformed roof insulation boards that comply with requirements and referenced standards, selected from manufacturer's standard sizes and of thicknesses indicated.

- B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 2, Grade 2 (20 psi), Basis of Design: ENRGY 3 CGF

Will a Recovery Board Spec be needed?

1. Provide insulation package with minimum R Value: LTTR 30
2. Provide insulation package with minimum thickness: 5.2.
3. Provide insulation package in multiple layers.
4. Minimum Long-Term Thermal Resistance (LTTR): 5.7 per inch.

- a. Determined in accordance with CAN/ULC S770 at 75°F (24°C)

## 2.6 INSULATION ACCESSORIES

Carpentry."

- 2.7 VAPOR RETARDER **Will Vapor Barrier be applied to entire roof or just select areas, plans and details are unclear.**
- A. Self-Adhered SBS Vapor Retarder: Fiber glass reinforced, tri-laminate woven polyethylene, nonslip UV protected top surface; suitable for application method specified. Basis of Design: JM Vapor Barrier SAR
  - B. Self-Adhered Primer: One-part penetrating primer solution to enhance the adhesion of self-adhering membranes. SA Primer Low VOC

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Concrete Decks:
  - 1. Verify that concrete curing compounds that will impair adhesion of roofing components to roof deck have been removed.
  - 2. Verify that concrete substrate is visibly dry and free of moisture. **and debris.**
- B. Ensure general rigidity and proper slope for drainage.

# Northeast Scranton IS – Existing Conditions



**VENTILATION DUCTWORK**



**VENTILATION AIRFLOW  
CONTROL DAMPERS**

# Northeast Scranton IS – Existing Conditions



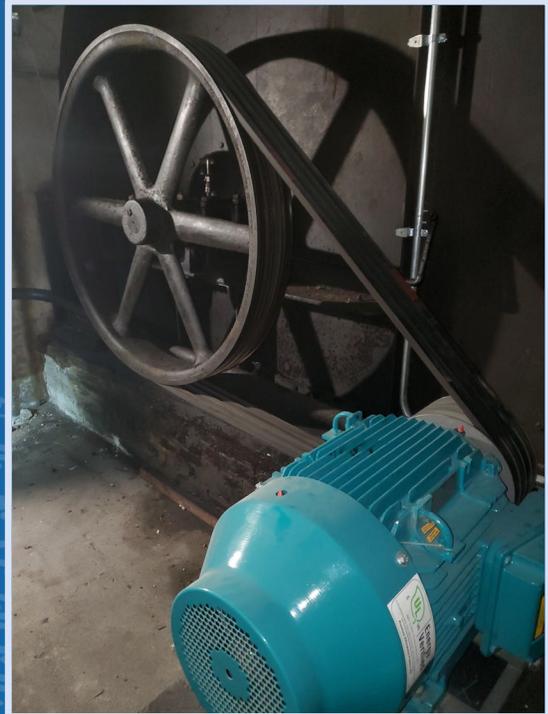
**DEBRIS IN VENTILATION SYSTEM**



**CLASSROOM VENTILATION SUPPLY AND EXHAUST**



**HEATING COIL FOR TEMPERING VENTILATION AIR**



**VENTILATION FAN**

# Northeast Scranton IS – DRAFT BUDGET



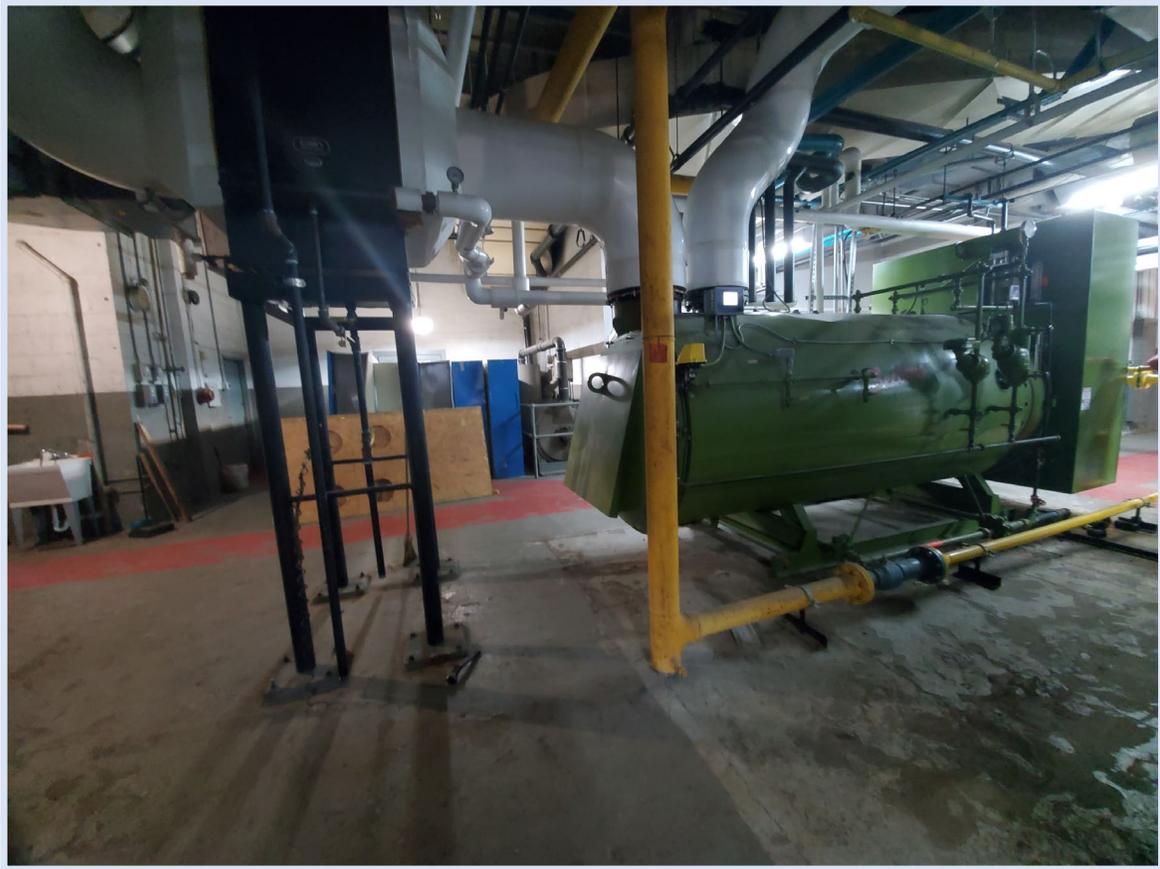
D'HUY Engineering, Inc.

Line #	Item	Budget	CIP Budget	Billed to Date	Comments
	<b>Scope of Work to include the following:</b>				Building SF: 206,121
	General Conditions - Temporary Facilities, Bonds & Insurance, Project Supervision, etc.	\$ 75,000			
	Demolition and debris removal	\$ 15,000			
	New Ductwork needed to integrate ventilation system for entire building	\$ 100,000			GPI to verify scope at 1/21/21 meeting
	ATC Controls to control fresh air through existing basement chambers up through existing shafts to each floor.	\$ 150,000			
	Electric Power Wiring to work for upgrade of ventilation system	\$ 30,000			
	Asbestos Abatement	\$ 150,000			CAI to confirm scope
	<b>TOTAL CONSTRUCTION COSTS</b>	<b>\$ 520,000</b>	<b>\$ 500,000</b>		
	<b>Soft Costs</b>				
	Environmental Consultant (Cocciardi) Design Fee and air quality testing	\$ 50,000			DEI applied an allowance.
	Greenman-Pedersen (GPI) Design Fee	\$ 28,000			Includes bidding and CA
	D'Huy Engineering, Inc. - Design Phase Fee	\$ 25,000			Fixed fee
	D'Huy Engineering, Inc. - Construction Phase Fee	\$ 13,960			2% of Project Costs <i>To be adjusted when all fees are known</i>
	Builder's Risk Insurance	N/A			
	Legal Costs	\$ 10,000			
	Approvals, Permits & Inspections	\$ 25,000			
	TAB/CVA (Non- LEED)	\$ 75,000			
	Printing, etc.	\$ 5,000			
	Design and Estimating Contingency	\$ 52,000			10% of Construction Costs
	Construction Contingency	\$ 78,000			15% of Construction Costs
	Financing	N/A			
	<b>TOTAL SOFT COSTS</b>	<b>\$ 361,960</b>			
	<b>TOTAL ESTIMATED PROJECT COSTS</b>	<b>\$ 881,960</b>		<b>\$ -</b>	

# South Scranton IS – Existing Conditions



D'HUY Engineering, Inc.



**SELLERS BOILERS**



**CONDENSATE RETURN PUMPS**

# South Scranton IS – DRAFT BUDGET



D'HUY Engineering, Inc.

Line #	Item	Budget	CIP BUDGET	Billed to Date	Comments
	<b>Scope of Work to include the following:</b>				
	General Conditions - Temporary Facilities, Bonds & Insurance, Project Supervision, etc.	\$ 92,000			
	Removal of existing boilers	\$ 40,000			
	Installation of new boilers (4)	\$ 500,000			
	Reconfigure primary piping	\$ 135,000			
	New pumps and tanks	\$ 200,000			
	Power wiring	\$ 25,000			
	ATC Controls	\$ 125,000			
	Insulation for reconfiguration	\$ 15,000			
	Insulate abated piping & breaching at both South Scranton IS & West Scranton HS	\$ 200,000			
	Repair of condensate pit	\$ 95,000			
	New breaching	\$ 65,000			
	<b>TOTAL CONSTRUCTION COSTS</b>	<b>\$ 1,492,000</b>	<b>\$ 1,000,000</b>		
	<b>Soft Costs</b>				
	Environmental Consultant (Cocciardi) Design Fee and air quality testing	\$ 5,000			DEI applied an allowance.
	Greenman-Pedersen (GPI) Design Fee	\$ 52,300			GPI proposal 05/11/2020 & email
	D'Huy Engineering, Inc. - Design Phase Fee	\$ 25,000			Fixed fee
	D'Huy Engineering, Inc. - Construction Phase Fee	\$ 31,986			2% of Project Costs <i>To be adjusted when all fees are known</i>
	Builder's Risk Insurance	N/A			
	Legal Costs	\$ 10,000			
	Approvals, Permits & Inspections	\$ 25,000			
	TAB / CVA (Non-LEED) Services	\$ 25,000			Allowance. To be bid with NEIS Ventilation repairs.
	Printing, etc.	\$ 5,000			
	Design and Estimating Contingency	\$ 74,600			5% of Construction Costs
	Construction Contingency	\$ 149,200			10% of Construction Costs
	Financing	N/A			
	<b>TOTAL SOFT COSTS</b>	<b>\$ 403,086</b>			
	<b>TOTAL ESTIMATED PROJECT COSTS</b>	<b>\$ 1,895,086</b>		<b>\$ -</b>	

# Memorial Stadium Track and Field – Existing Conditions



**PONDING  
WATER ON  
TRACK**



**VALOR FIELD AT VETERANS MEMORIAL STADIUM**



**TRACK CORE  
SAMPLE**

# Memorial Stadium Track and Field – Existing Conditions



**VISITOR BLEACHERS WITH CORROSION**

# Memorial Stadium Track and Field – DRAFT BUDGET



D'HUY Engineering, Inc

Line #	Item	Budget	CIP BUDGET	Billed to Date	Comments
	<b>Scope of Work to include the following:</b>				
	General Conditions - Temporary Facilities, Bonds & Insurance, Project Supervision, etc.	\$ 300,000			
	Lead Paint Remediation Allowance	\$ 100,000			
	Remove, store, and reset seats	\$ 80,000			
	Sand blast, clean up and priming of steel base	\$ 975,000			
	Repair steel plate	\$ 95,000			
	Apply second and final coat of special coating	\$ 525,000			
	Repair CMU wall	\$ 125,000			
	Remove track coating	\$ 35,000			
	Repair track base	\$ 65,000			
	Install new track surface	\$ 400,000			
	<b>TOTAL CONSTRUCTION COSTS</b>	<b>\$ 2,700,000</b>	<b>\$ 625,000</b>		\$375,000 Track cost (SSD) \$250,000 Bleacher cost (SSD)
	<b>Soft Costs</b>				
	Environmental Consultant (Cocciardi) Design Fee	\$ 10,000			DEI applied an allowance.
	Greenman-Pedersen (GPI) Design Fee for new bid	\$ 77,750			Includes design of track and cost for first bid and rebid.
	Geotechnical Investigation & Construction Testing	\$ 15,000			GPI proposal 5/19/2020
	D'Huy Engineering, Inc. - Design Phase Fee	\$ 45,000			Fixed fee
	D'Huy Engineering, Inc. - Construction Phase 1 Fee	\$ 54,970			2% of Project Costs <i>To be adjusted when all fees are known</i>
	D'Huy Engineering, Inc. - Construction Phase 2 Fee	\$ 38,479			DEI allowance for Project extending to 2 summers <i>To be adjusted when all fees are known</i>
	Track cores	\$ 3,500			
	Builder's Risk Insurance	N/A			
	Legal Costs	\$ 10,000			
	Approvals, Permits & Inspections	\$ 20,000			
	Printing, etc.	\$ 5,000			
	Design and Estimating Contingency	\$ 135,000			5% of Construction Costs
	Construction Contingency	\$ 270,000			10% of Construction Costs
	Financing	N/A			
	<b>TOTAL SOFT COSTS</b>	<b>\$ 684,699</b>			
	<b>TOTAL ESTIMATED PROJECT COSTS</b>	<b>\$ 3,384,699</b>		<b>\$ -</b>	

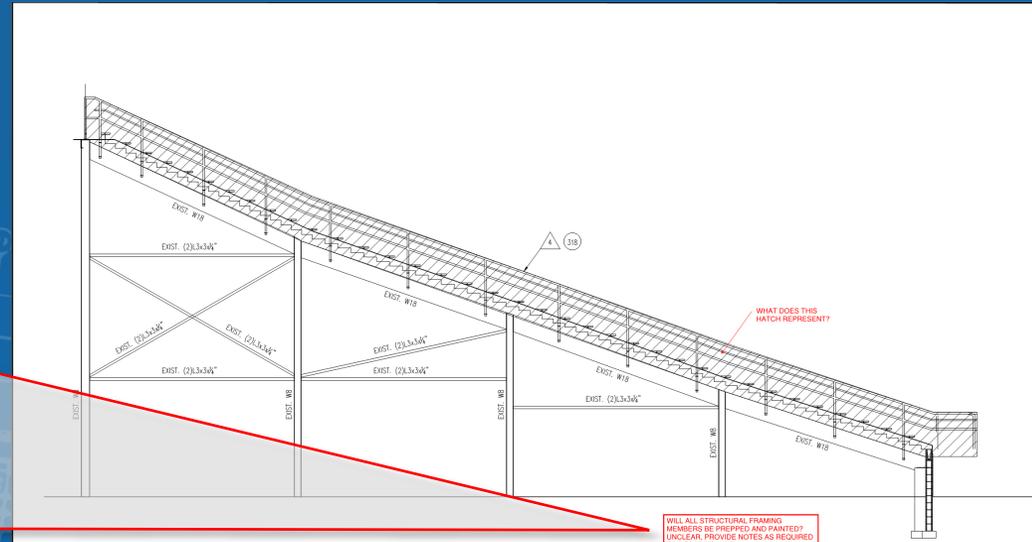
# Memorial Stadium Track and Field



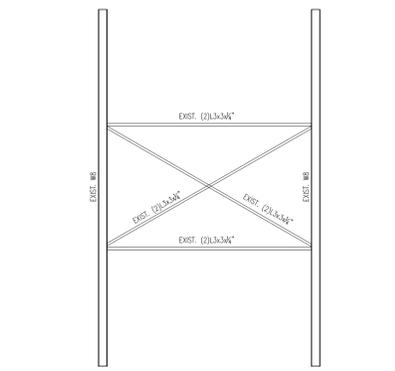
D'HUY Engineering, Inc.

**WILL ALL STRUCTURAL FRAMING MEMBERS BE PREPPED AND PAINTED? UNCLEAR, PROVIDE NOTES AS REQUIRED TO DESCRIBE WORK**

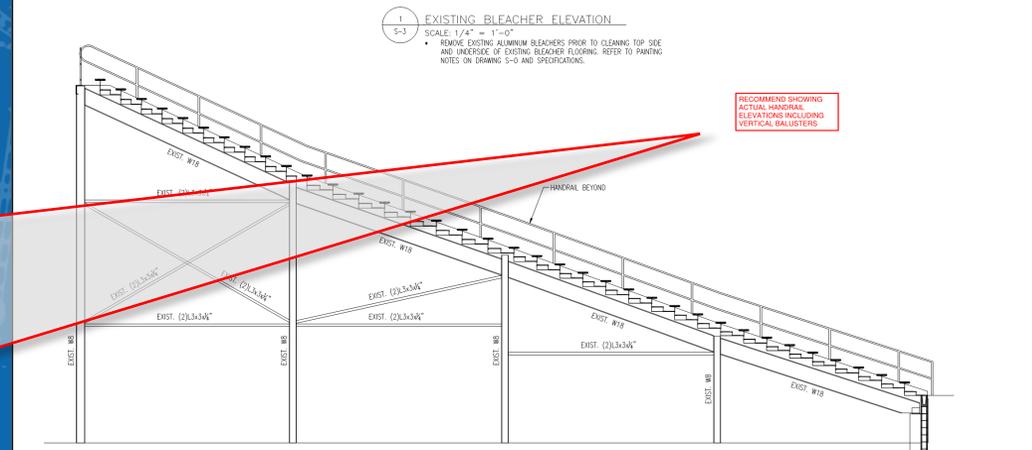
**RECOMMEND SHOWING ACTUAL HANDRAIL ELEVATIONS INCLUDING VERTICAL BALUSTERS**



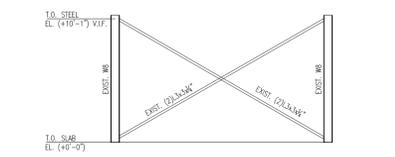
WILL ALL STRUCTURAL FRAMING MEMBERS BE PREPPED AND PAINTED? UNCLEAR, PROVIDE NOTES AS REQUIRED TO DESCRIBE WORK



2 TYPICAL EXISTING BLEACHER X-BRACING ELEVATION  
SCALE: 1/4" = 1'-0"  
REFER TO PAINTING NOTES ON DRAWING S-0 AND THE SPECIFICATIONS.



RECOMMEND SHOWING ACTUAL HANDRAIL ELEVATIONS INCLUDING VERTICAL BALUSTERS



4 TYPICAL EXISTING BLEACHER X-BRACING ELEVATION  
SCALE: 1/4" = 1'-0"  
REFER TO PAINTING NOTES ON DRAWING S-0 AND THE SPECIFICATIONS.



SECTION REFERENCE IS ON HOME AND VISITORS BLEACHER PLANS  
1 EXISTING HOME BLEACHER SECTION  
SCALE: 1/4" = 1'-0"

REMOVE EXISTING ALUMINUM BLEACHERS PRIOR TO CLEANING TOP SIDE AND UNDERSIDE OF EXISTING BLEACHER FLOORING. REFER TO PAINTING NOTES ON DRAWING S-0 AND SPECIFICATIONS.

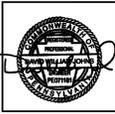
REPAIR LEGEND		QUANTITIES
△	INDICATES STEEL PLATE REPAIR REQUIRED	(37)
△	INDICATES CMU WALL REPAIR REQUIRED	(37)
△	INDICATES CONCRETE WALL REPAIR REQUIRED	(37)
△	INDICATES RAILING CLEANING AND PAINTING REQUIRED	(2)
△	INDICATES RAILING REPAIR REQUIRED	(2)

NOTE: SEE TYPICAL REPAIR DETAILS ON S-5

**GPI** Consulting  
Engineering  
Architectural  
Interior Design  
Construction Management  
See 900 P.O. Box 5777  
Scranton, PA 18502

CONSTRUCTION DOCUMENTS

SSD SCRANTON MEMORIAL STADIUM RENOVATIONS  
818 PROVIDENCE ROAD  
SCRANTON, PA 18508



NO.	REVISION	DATE

07/17/2020  
DRAWN/DESIGN BY: NAS  
CHECKED BY: NAS

EXISTING BLEACHER ELEVATIONS AND SECTION

SCALE: AS NOTED  
SCR-2020267.00  
S-3

# Memorial Stadium Track and Field



D'HUY Engineering, Inc.



CONSTRUCTION DOCUMENTS

SSD SCRANTON MEMORIAL STADIUM RENOVATIONS  
816 PROVIDENCE ROAD  
SCRANTON, PA 18508



REVISIONS

NO.	REVISION	DATE

NO. REVISION DATE  
07/17/2020

DRAWN/DESIGN BY: NAB CHECKED BY: NAB

SECTIONS AND DETAILS

SCALE: AS NOTED

SCR-2020287.00

S-5

**PLANS AND ELEVATIONS REFERENCE C.M.U. REPAIRS NOT BRICK, ARE BRICK REPAIRS INCLUDED IN THIS PROJECT?**

**HOW DO YOU KNOW WHICH REPAIR IS REQUIRED BOTH REFERENCE KEY NOTE 3? QUANTITIES FOR REPAIR KEY NOTE 3 IS IN SQUARE FOOTAGE, CRACK REPAIRS WOULD BE IN LINEAL FOOTAGE.**

**TYPICAL STEEL PLATE REPAIR DETAIL**  
SCALE: 1" = 1'-0"

NOTE: DETAIL TAG INCLUDES:

ARE THE ONLY STEEL PLATE REPAIRS AT RISERS? IF NOT RECOMMEND SHOWING ADDITIONAL DETAILS FOR LARGER HORIZONTAL SURFACES

**TYPICAL MASONRY REPAIR DETAIL**  
NOT TO SCALE

NOTE: DETAIL TAG INCLUDES:

EXISTING MASONRY REPAIR NOTES:  
1. CONTRACTOR SHALL MAKE EVERY EFFORT TO MATCH EXISTING MORTAR AND BRICK COLOR PRIOR TO START OF WORK. MORTAR AND BRICK COLOR SAMPLE SHALL BE APPROVED BY THE PROFESSIONAL PRIOR TO ORDERING MATERIALS.  
2. CAREFULLY CUT OUT MORTAR SURROUNDING AFFECTED BRICKS TAKING CARE NOT TO DAMAGE ADJACENT BRICKS.  
3. AFFECTED BRICKS MAY BE BROKEN TO EASE THEIR REMOVAL.  
4. CAREFULLY CHISEL REMAINING MORTAR AND SWEEP ALL DUST AND DEBRIS WITH A BRUSH TAKING CARE NOT TO ALLOW ANY TO FALL BETWEEN AN AIR SPACE TO PREVENT BLOCKAGE OF WEEDS.  
5. DAMPEN BRICK SURFACES IN THE WALL BEFORE PLACING NEW UNITS. MASONRY SHOULD ABSORB ALL SURFACE MOISTURE TO ENSURE A GOOD BOND.  
6. REPLACEMENT BRICKS AND SURROUNDING SURFACES OF EXISTING BRICKWORK SHALL BE BUTTERED WITH MORTAR. CENTER THE REPLACEMENT BRICK AND PRESS IT INTO POSITION REMOVING EXCESS MORTAR WITH A TROWEL.  
7. POINT AROUND REPLACEMENT BRICK TO ENSURE FULL HEAD AND BED JOINTS AND TOOL JOINTS TO MATCH THE ORIGINAL PROFILE. ONCE MORTAR BECOMES TRANSPARENT HAND.  
8. PRESERVE OR REPLACE ALL DAMPROOFING, INSULATION, DRAINAGE, AND TIES/ANCHORS THAT HAVE TO BE DAMAGED OR ARE DEFECTIVE.

ARE THE MASONRY REPAIRS FOR REPOINTING OR MASONRY REPLACEMENT?

**TYPICAL CONCRETE CRACK REPAIR DETAIL**  
NOT TO SCALE

NOTE: DETAIL TAG INCLUDES:

1. SAW CUT PERIMETER MINIMUM 3/4" DEEP.  
2. REMOVE AREAS OF SPALLING CONCRETE UNTIL SOUND CONCRETE IS OBSERVED.  
3. CLEAN ALL EXPOSED REINFORCING STEEL IF CORRODED. REINFORCEMENT IN THE REPAIR IS EXPOSED AND FOUND TO HAVE LOOSE OXIDATION PRODUCTS, USE LOSS OF CROSS SECTION, OR IS NOT BONDED TO THE SURROUNDING CONCRETE, REMOVE CONCRETE AROUND THE BAR AND REPLACE THE BAR IN KIND. DRILL & EPOXY REPLACEMENT BARS INTO SOUND CONCRETE WITH A HIGH-STRENGTH EPOXY ADHESIVE. PROVIDE A MINIMUM 3/4" CLEARANCE AROUND BAR.  
4. APPLY CONCRETE REPAIRING & ANTI-CORROSION COATING TO AREA.  
5. FILL ALL AREAS WITH A HIGH-STRENGTH STRUCTURAL REPAIRING MORTAR.  
6. APPLY PENETRATING CONCRETE HARDENER COATING TO THE SURFACE OF THE CONCRETE.  
7. APPLY ONE COAT OF ELASTOMERIC CRACK BRIDGING ANTI-CARBONATION ACRYLIC WATER DISPERSER PROTECTIVE COATING TO CONCRETE.  
8. AVERAGE SPALL DEPTH IS APPROXIMATELY 4" INCHES.

HOW DO YOU KNOW WHICH REPAIR IS REQUIRED BOTH REFERENCE KEY NOTE 3? QUANTITIES FOR REPAIR KEY NOTE 3 IS IN SQUARE FOOTAGE, CRACK REPAIRS WOULD BE IN LINEAL FOOTAGE.

**TYPICAL RAILING PLATE REPAIR DETAIL**  
SCALE: 1" = 1'-0"

NOTE: DETAIL TAG FOR:

IS THIS DETAIL JUST FOR POST REPAIRS OR CONSIDER HORIZONTAL RAIL REPAIRS?

WILL AN INNER PIPE SLEEVE BE REQUIRED FOR STRENGTH?

NOTE:  
1. RAILING REPAIR SHALL TAKE PLACE PRIOR TO RAILING CLEANING AND PAINTING PROCEDURE.  
2. VERIFY EXISTING RAILING MEMBER SIZE.  
3. CLEAN AND PREPARE SURFACE SUCH THAT NO LOOSE MATERIAL, PAINT, OR DIRT IS ON THE WELDING SURFACE.  
4. FIELD WELD NEW SEGMENT OF RAILING.

# Schedule for Priority Projects



D'HUY Engineering, Inc.

	Northeast Intermediate School Abatement	Northeast Intermediate School Ventilation Upgrades	Frances Willard ES Roof Replacement	South Scranton IS Boiler Replacement and Insulation	Memorial Stadium Bleacher Re-Bid and Track Renovations	Armstrong Elementary School HVAC Renovations
	DEI Project No. 033006	DEI Project No. 033006	DEI Project No. 033003	DEI Project No. 033004	DEI Project No. 033005	DEI Project No. 033002
Ad Date - 1	Friday, February 12, 2021	Friday, February 12, 2021	Friday, February 12, 2021	Friday, February 12, 2021	Friday, February 12, 2021	11/2021
Ad Date - 2	Friday, February 19, 2021	Friday, February 19, 2021	Friday, February 19, 2021	Friday, February 19, 2021	Friday, February 19, 2021	11/2021
Ad Date - 3	Monday, February 22, 2021	Monday, February 22, 2021	Monday, February 22, 2021	Monday, February 22, 2021	Monday, February 22, 2021	11/2021
Docs Released	Tuesday, February 23, 2021	Tuesday, February 23, 2021	Tuesday, February 23, 2021	Tuesday, February 23, 2021	Tuesday, February 23, 2021	11/2021
Pre-Bid Conference	Tuesday, March 2, 2021	Tuesday, March 2, 2021	Tuesday, March 2, 2021	Tuesday, March 2, 2021	Tuesday, March 2, 2021	12/2021
Pre-Bid Time (all virtual)	TBD	TBD	TBD	TBD	TBD	TBD
Bids Due @ 2:00 p.m.	Tuesday, March 23, 2021	Tuesday, March 23, 2021	Tuesday, March 23, 2021	Tuesday, March 23, 2021	Tuesday, March 23, 2021	7/2022
Board Committee Review	Monday, March 29, 2021	Monday, March 29, 2021	Monday, March 29, 2021	Monday, March 29, 2021	Monday, March 29, 2021	12/27/2021
Board Meeting - Award	Monday, April 5, 2021	Monday, April 5, 2021	Monday, April 5, 2021	Monday, April 5, 2021	Monday, April 5, 2021	1/3/2022
Notice to Proceed	Tuesday, April 6, 2021	Monday, April 12, 2021	Monday, April 12, 2021	Monday, April 12, 2021	Monday, April 12, 2021	1/4/2022
Construction Start	Monday, April 12, 2021	Tuesday, June 1, 2021	Tuesday, April 13, 2021	Tuesday, April 13, 2021	Monday, May 3, 2021	6/2022
Construction Final Completion	Friday, May 21, 2021	Monday, August 2, 2021	Tuesday, July 13, 2021	Tuesday, July 13, 2021	Friday, August 13, 2021	8/2022

# Robust Facilities Systems for:



D'HUY Engineering, Inc.

The background features a large, semi-transparent seal of the "SCANTON SCHOOL DISTRICT" in the center. The seal includes a crest with a book and a torch, and the text "Scanton School District" and "Students From All Over the World". Surrounding the seal are faint architectural floor plans and technical drawings, including a "LIBRARY SHELVING SCHEDULE" on the right side.

Compete-ability  
Maintain-ability  
Durability