City of Bristol
Firehouse 3 Building
Committee

INFORMATION TO ACCESS
THIS MEETING

The Special Firehouse 3 Building Committee meeting will be held on Wednesday, June 5, 2024, at 6:00pm. in Meeting Room 1-4, 111 N Main Street Bristol, CT 06010.

AGENDA

1. Call to Order
2. Public Participation
3. Approval of Minutes
    a. April 24, 2024 Meeting Minutes
4. Architect Update
    a. DD Documents Estimate as of 5/17/2024
    b. Commissioning Design Review
    c. Enscape Front Corner Rendering
    d. Updated Entry Axe Rendering
5. Old Business
    a. Encroachment Update
    b. Traffic Impact Statement Report
    c. Furniture, Fixtures, and Equipment Update
6. New Business
7. Adjournment

PER ORDER OF THE CHAIRPERSON

Fire House 3 Building Committee Regular Meeting
April 24, 2024

A Regular Meeting of the Board of Fire Commissioners was held on Wednesday, March 27, 2024 at 6:00 p.m., in Meeting Room 1-4 of City Hall, 111 N Main Street Bristol, CT

Present: Chairman Sean Moore, Committee Member Raymond Rogozinski, Committee Member David Maikowski, Committee Member John Lodovico, Council Member Sebastian Panioto, Fire Chief Hart, Purchasing Agent Roger Rousseau, and Architect Christopher Nardi.
Absent: Fire Captain Craig Henderson

1. **CALL TO ORDER**
   a. The meeting was called to order by Chairman Moore at 6:01 p.m.

2. **PUBLIC PARTICIPATION**
   a. None.

3. **APPROVAL OF THE MEETING MINUTES**
   a. On motion of Committee Member Rogozinski and seconded by Committee Member Miakowski it was unanimously voted: To approve the March 27, 2024 Meeting Minutes. Following a voice vote in which there was no opposition, the Chairperson declared the motion carried.

4. **ARCHITECT UPDATE**
   a. Architect Christopher Nardi presented advised the committee that the updated schematics design was with the 3rd party estimator and should be available in about 3 weeks.
   b. The encroachment on the property was discussed. The committee's stance is to take back the property and speak with the homeowner.
   c. The committee discussed furniture, fixtures, and equipment. They asked Architect Nardi to get a break down of those items for the committee for next meeting.
   d. The committee asked about COPS, Critical Operating System and that Architect Nardi build an estimate and recommendation to the committee for it.
   e. The Chief discussed the lighting trip sensors for the Heart Safe Lighting System. Architect Nardi will provide a cost estimate for the committee.
   f. Eversource moving the pole in the front of the property was discussed, Committee Member Rogozinski will be in contact with them.
   g. The Flow Test on the property will be taken care of by Public Works.
   h. Architect Nardi will give the committee a cost break down of the hydrant and training tank, and 3 bi-fold front doors.

i. The cost comparison of concrete to heavy duty asphalt was sent over for review by the committee.
j. The Plumbing Engineer is concerned about the design of the roof well and suggested an infrared unit be installed as a safe guard. The committee discussed and will go with that decision.
k. The committee discussed the Inflation Reduction Act. They discussed the possibility to add solar and geothermal. They were advised solar could be added over the apparatus bay, but do not want to enter into a contract or incur additional cost at this time, but Architect Nardi will review.
l. Land Use commented on the turning radius of the driveway in the design. Committee Member Rogozinski suggested that the driveways be widened by a few feet.
m. Architect Nardi will obtain a Traffic Impact Report from the Police Department to Land Use.

5. OLD BUSINESS

a. All old business items were discussed during the Architect's Update.

6. NEW BUSINESS

a. None.

7. ADJOURN

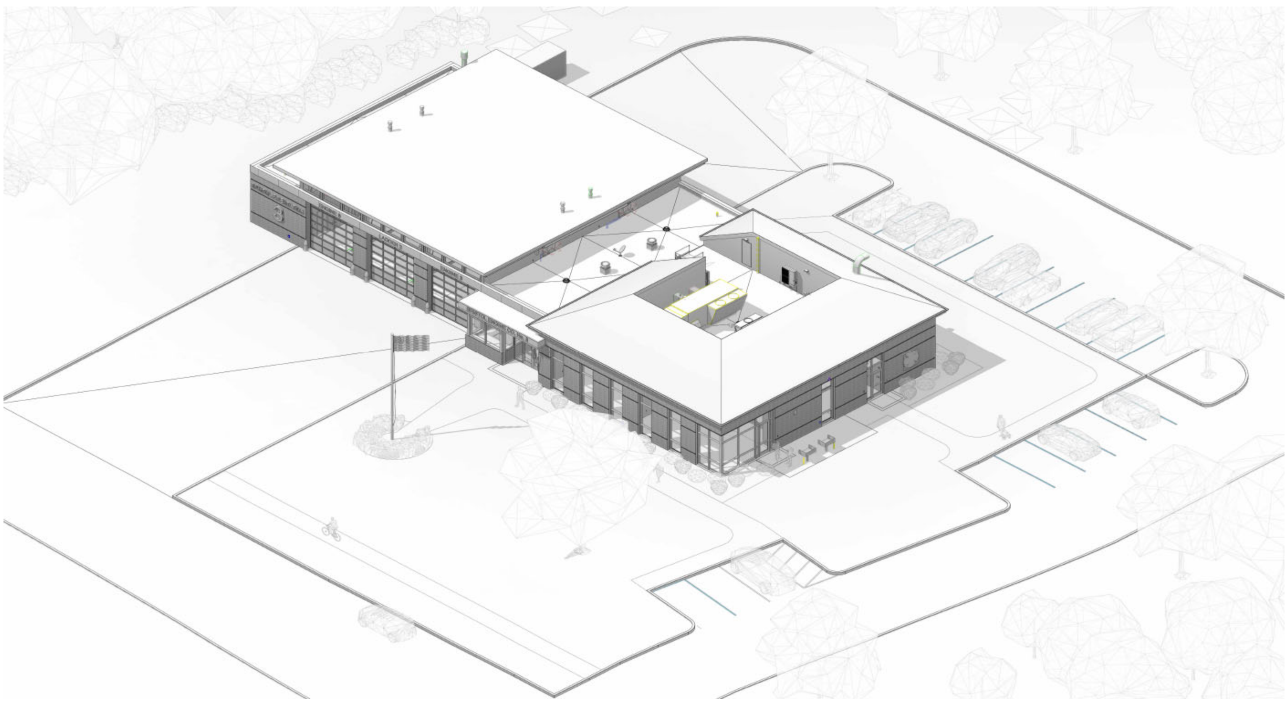
a. On motion of Committee Member Lodovico and seconded by Committee Member Maikowski, was unanimously voted: To adjourn at 6:50 p.m.

Recording Secretary:____Sara Bianchi_______

City of Bristol New Firehouse No.3

DD Documents Estimate

Date: 5/17/2024 REVISED
Per Review 5-17-24



Basis Of Estimate

Basis of Estimate

Introduction

PACS has been engaged by the Silver Petrucelli to provice a Cost Estimate for:

Estimate is based on the following documents provided by Silver Petrucelli & Associates

- **23-017_Bristol Fire #3_DESIGN DEVELOPMENT_COMBINED by Silver Petrucelli dated April 17, 2024, 87pp**
- **090000 Schedule of Finishes by Silver Petrucelli, 8pp**
- **Revised Geotechnical Engineering Report - Fire Station No. 3, Bristol, CT by DTE Consulting dated April 2024 35pp**

Quantities and Methodology

- The cost estimate is based on the measurement of quantities wherever possible.
- Where actual measurements are not used, parametric measurements are used in conjunction with previous but similar project benchmarks.
- PACS uses a wide range of standard measurement and quantifying methods that are common practice in the construction industry today.

Basis of Pricing

a) The construction costs shown in this estimate represent the fair market value and are not intended to be a prediction of the lowest bid.

b) The costs include: labor, material, equipment and the subcontractors overhead and profit. (Subcontractor's Mark Up)

c) The cost of labor is based on local Prevailing wage rates for all trades.

d) The construction rates used are based in "today's dollar" and an escalation allowance is included in the Estimate summary.

e) Our pricing assumes competitive bidding on all elements of the construction work, assuming a minimum of three competitive bidders for all general contractors, subcontractors, materials and

f) It is typical in our experience that if fewer bids are received or solicited, prices can be expected to be higher due to lack of competition.

g) The subcontractor's mark ups include their own overhead, including the cost in the field as well as profit.

h) PACS has priced this taking into account current market conditions, competition between trades and the cost fluctuations in the construction industry.

i) Estimate assumes no Phasing required..

j) Proposal is based on construction being performed on regular hours.

Design and Pricing Contingency

A Design and Pricing Contingency is used as a budgetary tool that allows for scope and detail not defined during the design stage. As the design becomes more defined as the project passes through the design stages, the Design and Pricing Contingency decreases as more scope and detail is now being shown in the documents and is therefore reflected in the cost estimate as actual trade cost. The Design and Pricing Contingency is reduced to zero at 100% Bid Documents.

Escalation

As outlined above the estimate is calculated using rates that are "today's dollar" and reflect the cost of the project as if it was to bid on the date of issue. Due to construction projects having long design phases and long construction schedules, its is imperative to project the construction cost further ahead into the future to the point at which it is bid out. It is common practice to escalate the cost estimate to the mid point of construction to accommodate for economic inflation. This percentage accounts for this increase.

Construction Contingency

PACS advise that a Construction Contingency is carried for unforeseen project conditions and field changes. Typically we see this in the range of 3% to 5% dependent on the scope of the project.

Basis Of Estimate

Probable Cost

It is important for the Owner and Design team to carefully review this cost estimate including all line item descriptions, clarifications, exclusions, unit prices, assumptions, allowances, mark ups and contingencies to ensure the estimate reflects the scope of the project.

PACS has produced the cost estimate based on the widely practiced methods of cost estimating and aims to reflect the fair market value of the construction project. Our aim is to be not the highest or the lowest in the range of bids but to use our experience and expertise in the construction industry to provide the client with a degree of confidence that the project will be close to our calculated estimate.

Exclusions

This cost estimate excludes the following:

- Premiums for working in inaccessible or partially accessible spaces during construction
- Surplus Stock and Spares
- Premiums for restrictive and uncompetitive bidding
- Premiums for non-standard work times
- Work beyond the project limits
- CT Sales Tax - Assumes Exempt
- Wellpoints - Assumes open trench pumping only
- Rock or Unsuitable soils remediation
- Hazardous, Contaminated or Polluted soils
- AV Equipment / Technology Budget
- Utility Costs - Electric, Gas, Water (assumes by Owner)

Risks to the Cost Estimate

Items that may affect the cost estimate, the list as follows but not limited:

- Changes to the design subsequent to the issue of the documents stated above which this estimate is based on
- Non Competitive Bid restrictions and the sole sourcing of products/materials from specific vendors
- Restrictive technical specifications that produce and non competitive environment
- Changes to the project schedule that delay the project and therefore have impact on cost
- Incomplete and poorly coordinated documentation
- Access restrictions, unidentified out of hours work policies and phasing restrictions
- Restrictive technical specifications that produce a non competitive environment
- Unforseen and unknown Site conditions

Trade		Cost		Cost / SF	
01 50 00	Temporary Facilities and Controls	$	39,470	$	4.50
03 30 00	Cast-In-Place Concrete	$	269,240	$	30.70
04 20 00	Unit Masonry	$	398,460	$	45.43
05 12 00	Structural Steel	$	464,740	$	52.99
05 40 00	Cold Formed Metal Framing	$	103,060	$	11.75
05 50 00	Metal Fabrications	$	64,250	$	7.33
06 10 00	Rough Carpentry	$	111,222	$	12.68
06 20 00	Finish Carpentry	$	154,012	$	17.56
07 21 00	Thermal Insulation	$	31,995	$	3.65
07 25 00	Air & Vapor Barriers	$	28,007	$	3.19
07 40 00	Metal Siding & Panels	$	-	$	-
07 50 00	Roofing	$	265,018	$	30.22
07 92 00	Joint Sealants	$	12,500	$	1.43
08 10 00	Doors and Frames	$	48,715	$	5.55
08 30 00	Specialty Doors	$	173,750	$	19.81
08 41 00	Entrances & Storefront	$	224,570	$	25.60
08 71 00	Door Hardware	$	38,400	$	4.38
08 80 00	Glass & Glazing	$	-	$	-
09 21 00	Gypsum Board Assemblies	$	100,169	$	11.42
09 30 00	Tile	$	6,790	$	0.77
09 51 00	Acoustical Ceiling	$	30,483	$	3.48
09 61 10	Vapor Mitigation	$	5,745	$	0.66
09 65 00	Resilient Flooring	$	38,419	$	4.38
09 67 00	Resinous Flooring	$	93,952	$	10.71
09 68 00	Carpet	$	5,999	$	0.68
09 91 00	Painting & Wallcoverings	$	74,404	$	8.48
10 14 00	Signage & Graphics	$	22,750	$	2.59
10 26 00	Wall & Door Protection	$	4,370	$	0.50
10 28 00	Toilet Accessories	$	11,080	$	1.26
10 41 00	Emergency Access Cabinets	$	610	$	0.07

Trade		Cost	Cost / SF
10 44 00	Fire Protection Specialties	$ 2,085	$ 0.24
10 51 00	Lockers	$ 52,590	$ 6.00
11 30 00	Residential Appliances	$ -	$ -
11 40 00	Foodservice Equipment	$ 28,814	$ 3.29
11 52 00	Audio-Visual Equipment	$ 2,500	$ 0.29
11 90 00	Miscellaneous Equipment	$ 50,810	$ 5.79
12 20 00	Window Treatment	$ 15,065	$ 1.72
21 00 00	Fire Protection	$ 84,640	$ 9.65
22 00 00	Plumbing	$ 273,069	$ 31.13
23 00 00	HVAC	$ 633,603	$ 72.24
26 00 00	Electrical	$ 695,455	$ 79.29
33 00 00	Sitework	$ 1,119,731	$ 127.66
TOTAL DIRECT COST		**$ 5,787,489**	**$659.84**

City of Bristol New Firehouse No.3

DD Documents Estimate 5/17/2024 REVISED

Trade			Cost	Cost / SF	
TOTAL DIRECT COST (FROM PREVIOUS PAGE)		$	**5,787,489**	**$659.84**	
Design & Estimating Contingency	4.00%	$	231,500		#
Escalation - @ 6% Annually	1.00%	$	60,190		#
General Conditions- (11 mos @ 50,000 / Month)	$ 550000	$	550,000		#
Preconstruction - Assumes None		$	-		
GC Insurances	0.85%	$	56,348		#
Building Permit		$	50,000		#
GC Surety Bond	0.78%	$	47,418		#
GC Fee	3.00%	$	182,375		#
TOTAL CONSTRUCTION COST (DIRECT & INDIRECT COSTS)		$	**6,965,320**	**$794.13**	
Bonding & Legal fees to Town	$ 10000	$	10,000		
A&E Fees / Professional Services	$ 307800	$	307,800		
Commissioning agent	$ 35000	$	35,000		
Owners Representative	$ 175000	$	175,000		
Builders Risk Insurance - Town	$ 40000	$	40,000		
Testing & Inspections	$ 20000	$	20,000		
Moving & Relocation costs	Excluded				
FF&E (Furniture Fixtures and Equipment)	$ 300000	$	300,000		
State Permit 0.26%	$ 7853120	$	20,418		
A/V Systems - Assumes in FF&E	Excluded				
Artwork - By Owner	Excluded				
Utility Connection fees allowance	$ 25000	$	25,000		
Owners Contingency:	% 5.00%	$	394,927		
TOTAL CONSTRUCTION & SOFT COSTS		$	**8,293,465**	**$945.56**	

Alternates

*	**Add Fire Water Storage tank and Practice Hydrant**	**$**	**190,000**
*	**Deduct EPX-1 / EPX-2 in all areas but the Decon area**	**$**	**(109,450)**
*	**Provide Bifold Doors at Apparatus Bay ILO Overhead doors**	**$**	**80,183**

Base Estimate

	Element / Description	Quantity	Unit	Unit Rate ($)	Extension ($)	Subtotal ($)
01 50 00	**Temporary Facilities and Controls**					
	Temporary Site Services - GC Bid (minimal)	8,771	SF	$ 4.50	$ 39,470	
	Subtotal Temporary Facilities and Controls					**$ 39,470**
02 11 00	**Contaminated Soil Excavation & Disposal**					
	Exluded		< Excluded >			
	Subtotal Contaminated Soil Excavation & Disposal					**$ -**
02 12 00	**Transportation/Disposal of Contaminated Materials**					
	Exluded		< Excluded >			
	Subtotal Transportation/Disposal of Contaminated Materials					**$ -**
02 80 00	**Hazardous Abatement**					
	Exluded		< Excluded >			
	Subtotal Hazardous Abatement					**$ -**
02 41 16	**Building Demolition**					
	Assumes not required		< N/A >			
	Subtotal Building Demolition					**$ -**
02 41 19	**Selective Demolition**					
	Assumes not required		< N/A >			
	Subtotal Selective Demolition					**$ -**
03 30 00	**Cast-In-Place Concrete**					
	Continuous footings	42.00	CYD	$ 645.00	$ 27,090	
	Column Footings	71.00	CYD	$ 695.00	$ 49,345	
	Haunch slab footings		< N/A >			
	Frostwall Foundations with Brick Ledge	81.00	CYD	$ 865.00	$ 70,065	
	Piers & Pilasters	7.00	CYD	$ 1,175.00	$ 8,225	
	Stair pan infill		< N/A >			
	Slab on Grade 5"	5,350	SF	$ 10.25	$ 54,838	
	Slab on Grade 7" reinforced & Sloped in Aparatus Bay	3,153	SF	$ 17.50	$ 55,178	
	Slab on Deck		< N/A >			
	Self leveling underlayment		< N/A >			
	Concrete mechanical equipment pads	120	sf	$ 22.50	$ 2,700	
	Concrete curb @ Decon Wash area	8	lf	$ 225.00	$ 1,800	
	Concrete Locker basses		< N/A >			
	Subtotal Cast-In-Place Concrete					**$ 269,240**
04 20 00	**Unit Masonry**					
	<u>Envelope</u>					
	Envelope CMU Backup - 8"	1,956	SF	$ 29.00	$ 56,724	
	Envelope CMU Bond Beam	320	SF	$ 60.00	$ 19,200	
	Brick Veneer	4,598	SF	$ 43.00	$ 197,714	
	Cast Stone veneer band	563	SF	$ 55.00	$ 30,965	
	<u>Interior</u>					
	Interior CMU Partition 2A - 8"	3,046	SF	$ 29.50	$ 89,857	
	Interior CMU Partition 2C - 4"	160	SF	$ 25.00	$ 4,000	
	Subtotal Unit Masonry					**$ 398,460**
05 12 00	**Structural Steel**					
	Structural Steel - Beams & Columns and Braced Frames per drawings	57.20	TON	$ 4,750.00	$ 271,700	
	Structural Steel Misc angles, Plates, Lintels, bracing - 20%	11.44	TON	$ 4,750.00	$ 54,340	
	Galvanized Steel premium - exposed	1.00	LS	$ 25,000.00	$ 25,000	
	Metal Decking @ Composite deck		< N/A >			
	Metal Decking @ Roof Systems - 1.5 B deck	5,582.00	SF	$ 6.75	$ 37,679	
	Metal Decking @ Roof Systems - 5.5 Acoustical deck	4,170.00	SF	$ 13.95	$ 58,172	
	Column Base Plates, AB. Grouting	30.00	EA	$ 595.00	$ 17,850	
	Subtotal Structural Steel					**$ 464,740**
05 40 00	**Cold Formed Metal Framing**					
	Roof Truss Vertical Framing CFMF	2,252	SF	$ 13.95	$ 31,415	
	Envelope CFMF Backup @ 14'	1,870	SF	$ 13.95	$ 26,087	
	CFMF Channel Rafters	2,682	LF	$ 12.25	$ 32,855	
	Soffit framing systems	1,037	LF	$ 12.25	$ 12,703	
	Subtotal Cold Formed Metal Framing					**$ 103,060**
05 50 00	**Metal Fabrications**					
	Misc Metals - Roof Screening and Supports - Assumes not required		< Not required >			
	Misc Metals - Relieving Angles - Assumes none required		< Not required >			
	Beam Pocket Imbeds	24	EA	$ 325.00	$ 7,800	
	Duct supports @ Roof and Attic	1	LS	$ 5,000.00	$ 5,000	
	Equipment support rails	1	LS	$ 3,500.00	$ 3,500	
	Roof Access Ladder	14	VLF	$ 225.00	$ 3,150	
	Misc Metals - Aparatus Door Frames	6	EA	$ 4,500.00	$ 27,000	
	Misc Metals - Fitted Bollards 12" Concrete filled	12	EA	$ 1,275.00	$ 15,300	
	Misc Metals - Axe Sculpture	1	LS	$ 2,500.00	$ 2,500	
	Subtotal Metal Fabrications					**$ 64,250**
06 10 00	**Rough Carpentry**					
	Window Blocking @ Windows	1,214	LF	$ 13.95	$ 16,935	
	Roof Blocking	1,054	LF	$ 18.50	$ 19,499	
	Naillboard (uninsulated) @ Asphalt pitched roof	3,255	SF	$ 8.95	$ 29,132	
	~~5/8" Plywood in Attic Space floor~~		< Removed >			
	Plywood Sheathing @ CFMF Envelope	4,122	SF	$ 8.65	$ 35,655	
	Inwall and OnWall blocking - Interior	1	LS	$ 2,500.00	$ 2,500	
	Exterior blocking - Trims	1	LS	$ 7,500.00	$ 7,500	
	Subtotal Rough Carpentry					**$ 111,222**

Base Estimate

	Element / Description	Quantity	Unit	Unit Rate ($)	Extension ($)	Subtotal ($)
06 20 00	**Finish Carpentry**					
	Exterior Finish Carpentry					
	Sloped roof facia - PVC 12"	234	LF	$ 13.67	$ 3,199	
	Sloped roof trip @ Facia 4"	221	LF	$ 7.35	$ 1,624	
	Azek or similar PVC Siding & Soffit systems	2,818	SF	$ 28.00	$ 78,904	
	Interirior Finish Carpentry & Millwork					
	Kitchen base cabinets - Island	12	LF	$ 825.00	$ 9,900	
	Kitchen base cabinets Deep with PLAM Tpps	16	LF	$ 575.00	$ 9,200	
	Stainless tops	91	SF	$ 155.00	$ 14,105	
	PLAM upper Cabinets	17	LF	$ 295.00	$ 5,015	
	PLAM upper Cabinet fillers	27	LF	$ 150.00	$ 4,050	
	PLAM Full height Pantry	4	LF	$ 795.00	$ 3,180	
	Workroom counter Stainless Surface with RAKKS supports - wide HD	19	LF	$ 345.00	$ 6,555	
	Watchroom counter Solid Surface with RAKKS supports	18	LF	$ 295.00	$ 5,310	
	Pantry Storage Shelving X5	16	LF	$ 55.00	$ 880	
	Interior window sills - Solid surface eased edge	186	LF	$ 65.00	$ 12,090	
	Personnel Bunk Wardrobe Ubits	< In FF&E >				
	Subtotal Finish Carpentry					$ 154,012
07 10 00	**Damp / Waterproofing**					
	Waterproofing & Drainage Board	< Included in Civil Structural E&B >				
	Subtotal Damp / Waterproofing					$ -
07 21 00	**Thermal Insulation**					
	Insulation @ Exterior	1,870	SF	$ 6.45	$ 12,062	
	Insulation @ Attic	2,393	SF	$ 8.33	$ 19,934	
	Subtotal Thermal Insulation					$ 31,995
07 25 00	**Air & Vapor Barriers**					
	AVB @ Envelope	4,001	SF	$ 7.00	$ 28,007	
	Subtotal Air & Vapor Barriers					$ 28,007
07 40 00	**Metal Siding Panels & Soffits -**					
	See Finish Carpentry	< See finish Carpentry >				
	Subtotal Metal Siding Panels & Soffits -					$ -
07 50 00	**Roofing**					
	EPDM Roof on Tapered Insulation	7,307	SF	$ 29.50	$ 215,557	
	EPDM Roof walk pads	50	EA	$ 81.25	$ 4,063	
	Roof curbs and Dunnage flashing & Penetrations	1	LS	$ 3,500.00	$ 3,500	
	Asphalt Shingles on Ice & Water Shield	3,255	SF	$ 9.25	$ 30,109	
	Gutters - Aluminum	235	LF	$ 39.00	$ 9,165	
	Leaders - Aluminum	75	LF	$ 35.00	$ 2,625	
	Subtotal Roofing					$ 265,018
07 81 00	**Applied Fireproofing**					
	Assumes not required	< Not included >				
	Subtotal Applied Fireproofing					$ -
07 84 00	**Pentration Firestopping**					
	In Trades					
	Subtotal Pentration Firestopping					$ -
07 92 00	**Joint Sealants**					
	Caulking & Sealants	1	LS	$ 12,500.00	$ 12,500	
	Subtotal Joint Sealants					$ 12,500
07 95 00	**Expansion Control**					
	Expansion systems - Assumes not required	< Not included >				
	Subtotal Expansion Control					$ -
08 10 00	**Doors & Frames**					
	Frame A - HM3070	27	EA	$ 450.00	$ 12,150	
	Frame A - HM6070	3	EA	$ 595.00	$ 1,785	
	Door leaf 3070 HM	33	EA	$ 365.00	$ 12,045	
	Premium Rating	5	EA	$ 550.00	$ 2,750	
	Premium 1/2 lite	1	EA	$ 575.00	$ 575	
	Door hardware premium - Electrified Locksets	3	EA	$ 2,750.00	$ 8,250	
	Install frame	30	EA	$ 220.00	$ 6,600	
	Install Door leaf	38	EA	$ 120.00	$ 4,560	
	Subtotal Doors & Frames					$ 48,715
08 30 00	**Specialty Doors**					
	New 14x14 Vertically acting Aparatus Bay Doorswith High Speed operator and controls - Installed	6	EA	$ 27,500.00	$ 165,000	
	Roof Hatch with Safety Railings	1	EA	$ 3,250.00	$ 3,250	
	Roof access to Pitched Attic Space - DF&H	2	EA	$ 2,750.00	$ 5,500	
	Subtotal Specialty Doors					$ 173,750
08 41 00	**Entrances & Storefront**					
	Exterior Aluminum Glazed Storefront Doors and Hardware - Installed	8	EA	$ 4,250.00	$ 34,000	
	Storefront Systems - Glazed openings -	1,971	SF	$ 95.00	$ 187,245	
	Storefront Systems - Glazed openings - Added mullions - eliminate framing	35	SF	$ 95.00	$ 3,325	
	Subtotal Entrances & Storefront					$ 224,570
08 44 00	**Metal Framed Curtainwall**					
	Curtainwall Systems -	< N/A >				
	Subtotal Metal Framed Curtainwall					$ -
08 50 00	**Windows**					
	See Storefronts	< N/A >				
	Subtotal Windows					$ -
08 71 00	**Door Hardware**					
	Hardware set / leaf - Passage (installed)	38	EA	$ 900.00	$ 34,200	
	Hardware Set / Leaf - Egress (installed) - premium	6	EA	$ 700.00	$ 4,200	
	Access Control Head end Equipment	< In Technology >				
	Subtotal Door Hardware					$ 38,400
08 80 00	**Glass & Glazing**					
	Interior Borrowed Lites - Sidelites	< Removed >				
	Skylights - None Identified	< N/A >				
	Full height mirror @ Fitness - None identified	< Not included >				
	Full height mirror @ Bunk rooms and Bathrooms	< Not included >				
	Subtotal Glass & Glazing					$ -

Base Estimate

	Element / Description	Quantity	Unit	Unit Rate ($)	Extension ($)	Subtotal ($)
08 90 00	**Louvers & Vents**					
	None identified	< Included in Mechanical>				
	Subtotal Louvers & Vents					$ -
09 21 00	**Gypsum Board Assemblies**					
	Wall Type 1A	553	SF	$ 7.95	$ 4,396	
	Wall Type 1B	6,628	SF	$ 10.45	$ 69,263	
	Wall Type 1C	351	SF	$ 13.25	$ 4,651	
	Gyp @ Envelope walls	3,966	SF	$ 3.45	$ 13,683	
	Gyp ceilings - suspended	81	SF	$ 18.00	$ 1,458	
	Gyp soffits and Ceiling transitions	625	SF	$ 10.75	$ 6,719	
	Subtotal Gypsum Board Assemblies					$ 100,169
09 30 00	**Tile**					
	PF-1- Toilets 24x24	237	SF	$ 21.00	$ 4,977	
	PFT-1 Base	148	LF	$ 12.25	$ 1,813	
	Porcelainwall tile - full height at wet walls	< Removed >				
	Subtotal Tile					$ 6,790
09 51 00	**Acoustical Ceiling**					
	Ceilings - ACT 2x2 Ultima	3,523	SF	$ 7.10	$ 25,013	
	Ceilings - ACT 2x2 Healthzone	585	SF	$ 9.35	$ 5,470	
	Subtotal Acoustical Ceiling					$ 30,483
09 64 00	**Wood Flooring**					
	None identified		< N/A >			
	Subtotal Wood Flooring					$ -
09 61 10	**Vapor Mitigation**					
	Topical Moisture Mitigation- High Performance Glues	3,482	SF	$ 1.65	$ 5,745	
	Subtotal Vapor Mitigation					$ 5,745
09 65 00	**Resilient Flooring**					
	Resilient LVT	1,610	SF	$ 7.65	$ 12,317	
	Safety sheet floor	500	SF	$ 13.10	$ 6,550	
	RAF - Rubber Athletic Floor	515	SF	$ 17.65	$ 9,090	
	Rubber Stair Treads and risers	< Not included >				
	Sealer @ Mechanical spaces	< Not included >				
	Resilient Base RB-1 / RB-2	1,142	LF	$ 3.45	$ 3,940	
	Integral Base @ Safety floor	217	LF	$ 11.00	$ 2,387	
	Transition Strips	1	LS	$ 750.00	$ 750	
	Floor Prep - Resilient	2,625	SF	$ 1.10	$ 2,888	
	Attic Stock Flooring 10% Materials	10%	LS	$ 4,982	$ 498	
	Subtotal Resilient Flooring					$ 38,419
09 66 00	**Terrazzo**					
	None identified		< N/A >			
	Subtotal Terrazzo					$ -
09 67 00	**Resinous Flooring**					
	EPX1 -	738	SF	$ 19.65	$ 14,502	
	EPX1 - EPX-2 flooring / patterns Aparatus Bay	3,152	SF	$ 23.95	$ 75,490	
	EPX Base integral	360	SF	$ 11.00	$ 3,960	
	Subtotal Resinous Flooring					$ 93,952
09 68 00	**Carpet**					
	Carpet Tile	857	SF	$ 6.25	$ 5,356	
	Carpet Tile floor prep	857	SF	$ 0.75	$ 643	
	Subtotal Carpet					$ 5,999
09 80 00	**Acoustical Treatment**					
	None identified		< N/A >			
	Subtotal Acoustical Treatment					$ -
09 91 00	**Painting & Wallcoverings**					
	Painting - walls & Ceilings - Gyp	19,183	SF	$ 0.78	$ 14,963	
	Painting - walls CMU including block-fill - Epoxy Paint	8,494	SF	$ 4.65	$ 39,497	
	Painting - Exposed Structure & Decking - Epoxy	3,804	SF	$ 3.45	$ 13,124	
	Painting Exterior trims and siding		< N/A >			
	Paint Doors and Frames	38	EA	$ 80.00	$ 3,040	
	Vinyl Wallcoverings		< N/A >			
	Digital Wallcoverings	216	SF	$ 17.50	$ 3,780	
	Subtotal Painting & Wallcoverings					$ 74,404
10 11 00	**Visual Display Surfaces**					
	Wallboard & Tackboards allowance		< N/A >			
	Display Cabinet	1	LS	$ 3,000.00	$ 3,000	
	Subtotal Visual Display Surfaces					$ 3,000
10 14 00	**Signage & Graphics**					
	Signage - Interior Wayfingding	1	LS	$ 1,250.00	$ 1,250	
	Signage - Interior ADA / Rooms	35	EA	$ 95.00	$ 3,325	
	Signage -Exterior Building Pin Letters 12" (removed over front entry)	62	EA	$ 225.00	$ 13,950	
	Signage -Exterior Building Pin Letters 36"	1	EA	$ 725.00	$ 725	
	Signage -Exterior Fire Rescue Sign	1	EA	$ 3,500.00	$ 3,500	
	Subtotal Signage & Graphics					$ 22,750
10 21 13	**Toilet Compartments**					
	None identified		< N/A >			
	Subtotal Toilet Compartments					$ -
10 21 23	**Cubicle Curtain & Track**					
	None identified		< N/A >			
	Subtotal Cubicle Curtain & Track					$ -
10 22 00	**Operable Partitions**					
	None identified		< N/A >			
	Subtotal Operable Partitions					$ -
10 26 00	**Wall & Door Protection**					
	FRP Paneling @ Custodial	200	SF	$ 9.35	$ 1,870	
	Corner Guards - Allowance	1	LS	$ 2,500.00	$ 2,500	
	Subtotal Wall & Door Protection					$ 4,370

Base Estimate

	Element / Description	Quantity	Unit	Unit Rate ($)	Extension ($)	Subtotal ($)
10 28 00	**Toilet Accessories**					
	TR Accessories - Grab Bars set (3)	2	EA	$ 365.00	$ 730	
	TR Accessories - Lav Guard	4	EA	$ 295.00	$ 1,180	
	TR Accessories - Shower seat	1	EA	$ 965.00	$ 965	
	TR Accessories - Shower curtain & rod assy	4	EA	$ 395.00	$ 1,580	
	TR Accessories - Shower bench floor mounted	8	lf	$ 225.00	$ 1,800	
	TR Accessories - Soap dispensers	7	EA	$ 95.00	$ 665	
	TR Accessories - PT Dispenser	6	EA	$ 95.00	$ 570	
	TR Accessories - Mirrors	4	EA	$ 345.00	$ 1,380	
	TR Accessories - Coat hooks	10	EA	$ 35.00	$ 350	
	TR Accessories - Custodial	1	EA	$ 310.00	$ 310	
	TP Dispensers	4	EA	$ 65.00	$ 260	
	Baby changing stations	< None identified >				
	Accessory Installation	43	EA	$ 30.00	$ 1,290	
	Subtotal Toilet Accessories					**$ 11,080**
10 41 00	**Emergency Access Cabinets**					
	Knox Box	1	LS	$ 610.00	$ 610	
	Subtotal Emergency Access Cabinets					**$ 610**
10 44 00	**Fire Protection Specialties**					
	FE Cabinets and Extinguishers - Qty assumed	3	EA	$ 695.00	$ 2,085	
	Subtotal Fire Protection Specialties					**$ 2,085**
10 51 00	**Lockers**					
	Penco Patriot double door gear lockers GW242472SS4DCL	32	EA	$ 1,395.00	$ 44,640	
	Penco Patriot double door gear lockers - shipping and distribution	1	LS	$ 3,000.00	$ 3,000	
	Penco Patriot double door gear lockers - installation	30	EA	$ 165.00	$ 4,950	
	Subtotal Lockers					**$ 52,590**
11 13 00	**Loading Dock Equipment**					
	None identified		< N/A >			
	Subtotal Loading Dock Equipment					**$ -**
11 30 00	**Residential Appliances**					
	Dryer - residential		< FF&E >			
	Washer - residential		< FF&E >			
	Washer - Commercial @ Gear wash room		< FF&E >			
	Extractor- Commercial @ Gear wash room		< FF&E >			
	Subtotal Residential Appliances					**$ -**
11 40 00	**Foodservice Equipment**					
	Food Lockers		< N/A >			
	6 burner range with 24" Griddle (2 ovens) - Southbend S80-DD	1	LS	$ 7,750.00	$ 7,750	
	Drop in Sink Single	1	LS	$ 977.00	$ 977	
	Drop in Sink - DuaL with drain boards	1	LS	$ 2,822.00	$ 2,822	
	Reach in Refridgerator - 2 door	1	LS	$ 5,500.00	$ 5,500	
	Reach in Freezer True TR-38 FRZ	1	LS	$ 4,750.00	$ 4,750	
	Under Counter Refridgerator True TUR-24-I	1	LS	$ 2,750.00	$ 2,750	
	Pot Filler T&S Brass	1	LS	$ 325.00	$ 325	
	Coffee Maker Curtiss AL3GPT	1	LS	$ 1,750.00	$ 1,750	
	Trash Chute	1	LS	$ 225.00	$ 225	
	Microwave Waring WMQ-120	1	LS	$ 715.00	$ 715	
	Commercial Toaster HATCO TQ-10	1	LS	$ 1,250.00	$ 1,250	
	Range hood with Ansul System - Installed	< In Mechanical >				
	Subtotal Foodservice Equipment					**$ 28,814**
11 52 00	**Audio-Visual Equipment**					
	IT Data Rack with Switches (Cable & terminations in Electrical / Security)	1	LS	$ 2,500.00	$ 2,500	
	Large Format Projection Systems - Not included		< N/A >			
	Video Conferencing System - Not included	< By Owner >				
	Radio / Dispatch Systems - Not included	< By Owner >				
	Subtotal Audio-Visual Equipment					**$ 2,500**
11 66 00	**Athletic Equipment**					
	None identified	< By Owner >				
						$ -
11 90 00	**Miscellaneous Equipment**					
	Magnegrip Aparatus Vehicle Exhaust System - 2 bays 60'	1	LS	$ 42,860.00	$ 42,860	
	Vehicle Exhaust Modification	3	EA	$ 650.00	$ 1,950	
	Gear wash SS Table with integral basins	1	LS	$ 3,500.00	$ 3,500	
	Gear wash Track & Curtain @ Basin	1	LS	$ 1,250.00	$ 1,250	
	Gear hanger rod @ Gear wash room	1	LS	$ 1,250.00	$ 1,250	
	Defibrillator cabinet		< N/A >			
	Subtotal Miscellaneous Equipment					**$ 50,810**
12 20 00	**Window Treatment**					
	Mechoshade - Manual light filtering	898	SF	$ 9.10	$ 8,172	
	Mechoshade - Mechoshade Blackout	384	SF	$ 17.95	$ 6,893	
	Subtotal Window Treatment					**$ 15,065**
12 48 13	**Entrance Mats**					
	Walk off Mats	220	SF	$ 17.95	$ 3,949	
	Subtotal Entrance Mats					**$ 3,949**
12 52 00	**Furnishings - Movable**					
	Beds		< FF&E >			
	Desk and Chair		< FF&E >			
	Subtotal Furnishings - Movable					**$ -**
13 00 00	**Special Construction**					
	N/A		< N/A >			
	Subtotal Special Construction					**$ -**
14 20 00	**Conveying**					
	Elevators / lifts - Not required		< N/A >			
	Subtotal Conveying					**$ -**

Base Estimate

	Element / Description	Quantity	Unit	Unit Rate ($)	Extension ($)	Subtotal ($)
21 00 00	**Fire Protection**	8,771	SF	9.65		
	RPDA Discharge (Drain / test)	1	LS	$ 1,750.00	$ 1,750	
	Fire Sprinkler Riser assembly	1	LF	$ 12,500.00	$ 12,500	
	2-3" Branch	805	LF	$ 38.00	$ 30,590	
	4" Mains	188	LF	$ 55.00	$ 10,340	
	Dropperd Sidewall heads @ Doors	9	EA	$ 225.00	$ 2,025	
	Dry Sidewall heads	2	EA	$ 310.00	$ 620	
	FD Connection	1	EA	$ 2,125.00	$ 2,125	
	Recessed heads	63	EA	$ 265.00	$ 16,695	
	Upright heads	41	EA	$ 195.00	$ 7,995	
	Fire Pump -Assumes not required		< Excluded >			
	Subtotal Fire Protection					$ 84,640
22 00 00	**Plumbing**					
		8,771	SF	31.13		
	DOM Connection with BFP & valve assy	1	LS	$ 3,625.00	$ 3,625	
	Domestic water booster pump - Assumes not required		<NIC>			
	Gas Meter / riser assy	1	LS	$ 2,210.00	$ 2,210	
	Gas Emergency Shut-offy	1	LS	$ 1,500.00	$ 1,500	
	Gas Grill Regulator and connections	1	LS	$ 500.00	$ 500	
	Pipe Gas AG 0.75"	22	LF	$ 26.00	$ 572	
	Pipe Gas AG 1"	70	LF	$ 34.00	$ 2,380	
	Pipe Gas AG 2"	269	LF	$ 52.00	$ 13,988	
	Pipe Gas Buried 0.75" to Grills	28	LF	$ 37.00	$ 1,036	
	Pipe Gas Buried 2" to generator	69	LF	$ 65.00	$ 4,485	
	Water heater -	1	LS	$ 12,500.00	$ 12,500	
	Water heater - Intake & Exhaust Flue	32	LF	$ 38.00	$ 1,216	
	PET-1 - Expansion Tank	1	EA	$ 1,850.00	$ 1,850	
	Air Seperator	1	EA	$ 1,975.00	$ 1,975	
	2-1/2" Reduced Backflow Preventer	1	EA	$ 1,725.00	$ 1,725	
	Hot water tempering valve 140 / 110	1	LS	$ 3,500.00	$ 3,500	
	Hot water recirculation system with pump and controls	1	LS	$ 3,750.00	$ 3,750	
	Balancing vales for HWR	8	EA	$ 125.00	$ 1,000	
	Domestic water booster pump - Assume not required		<NIC>			
	Domestic Water 3"	198	LF	$ 51.00	$ 10,098	
	Domestic Water 2"	236	LF	$ 45.00	$ 10,620	
	Domestic Water 1.25"	-	LF	$ 27.00	$ -	
	Domestic Water 1.0"	257	LF	$ 23.00	$ 5,911	
	Domestic Water 0.75" & 0.5"	341	LF	$ 17.00	$ 5,797	
	Pipe insulation - blended cost	1,032	LS	$ 7.25	$ 7,482	
	Sanitary 3" PVC	147	LF	$ 26.00	$ 3,822	
	Sanitary 4" PVC	340	LF	$ 32.00	$ 10,880	
	Sanitary 6" PVC	287	LF	$ 44.00	$ 12,628	
	Sanitary Vent piping - PVC	160	LF	$ 28.00	$ 4,480	
	Sanitary CO	7	EA	$ 375.00	$ 2,625	
	T&B for underslab sanitary	531	LF	$ 25.00	$ 13,275	
	Storm Drains	4	EA	$ 795.00	$ 3,180	
	Storm Drains - Combination Overflow	1	EA	$ 975.00	$ 975	
	Storm Overflow cows tongue	4	EA	$ 565.00	$ 2,260	
	Condensate Drains	528	LF	$ 22.00	$ 11,616	
	Fixture - ADA Dual water cooler Bottle filler Elkay EZH2O	1	EA	$ 2,150.00	$ 2,150	
	Fixture - Custodial basin and Hydrants	1	EA	$ 795.00	$ 795	
	Fixture - FP Hose Bib	4	EA	$ 310.00	$ 1,240	
	Fixture - Floor drain with trap primer	4	EA	$ 1,225.00	$ 4,900	
	Fixture - Floor drain Kitchen		< Removed >			
	Fixture - KS-1 - Kitchen		< In Food Service Equip >			
	Fixture - KS-2 - Kitchen		< In Food Service Equip >			
	Fixture - Eyewash	1	EA	$ 1,725.00	$ 1,725	
	Fixture - Sink and faucet - TR wall hung vitreous	4	EA	$ 1,100.00	$ 4,400	
	Fixture - Wall Hydrant	6	EA	$ 225.00	$ 1,350	
	Fixture - Water Closet	4	EA	$ 1,675.00	$ 6,700	
	Fixture - Faucet / Sprayer @ Gear wash sinks		< Removed >			
	Fixture - Shower Assembly and Shower valves	4	EA	$ 3,375.00	$ 13,500	
	Fixture - Gear Wash Basin and Valve / Sprayer Assembly	1	EA	$ 3,500.00	$ 3,500	
	Fixture Carriers	8	EA	$ 425.00	$ 3,400	
	Fixture Rough-in	25	EA	$ 275.00	$ 6,875	
	Compressor AC-1 Champion VRV5-6 installed	1	LS	$ 5,500.00	$ 5,500	
	Pipe - compressed Air	285	LF	$ 24.00	$ 6,840	
	AJ Air Connection	6	EA	$ 235.00	$ 1,410	
	Temperature Maintainence Cable and contoller	1	LS	$ 6,500.00	$ 6,500	
	Aparatus Trench Drains - Prefab with H20 Grates	140	LF	$ 195.00	$ 27,300	
	Fixture Rough-in & Connections - Kitchen	3	LS	$ 375.00	$ 1,125	
	Fixture Rough-in & Connections - Water heaters	1	LS	$ 750.00	$ 750	
	Other Plumbing Systems (includes Subcontractor Mgmt, Submittals, testing, Termp svcs)	8,771	SF	$ 1.10	$ 9,648	
	Subtotal Plumbing					$ 273,069
23 00 00	**HVAC**					
		8,771	SF	72.24		
	Major Equipment					
	VRF Systems	18.5	ton	$ 5,390.00	$ 99,715	
	VRF Refrigerant Pipe w/ Insulation	1,410.0	lf	$ 45.00	$ 63,450	
	VRF Refrigerant Pipe w/ Insulation to CU	141.0	lf	$ 75.00	$ 10,575	
	VRF Controllers	3.0	EA	$ 6,500.00	$ 19,500	
	Condensate Pumps - Diamond	21.0	EA	$ 285.00	$ 5,985	
	DOAS / ERV Allowance	1	LS	$ 51,474.00	$ 51,474	
	Mini Split HVAC System - IT Room 1 ton	1	TON	$ 7,500.00	$ 7,500	
	EF--1 & EF-2 Electrical & Mechanical	1,000	CFM	$ 4.95	$ 4,950	
	EF--3 & EF-4 Sprinkler & Work Room	300	CFM	$ 7.95	$ 2,385	
	EF-5 - Exhaust Fan with CO Sensors @ Aparatus Bays	2,400	CFM	$ 4.95	$ 11,880	
	EF--6 - Exhaust Fan with CO Sensors @ Aparatus Bays	180	CFM	$ 7.95	$ 1,431	
	EF--8 & EF-9 Gear locker - Exhaust Fan with CO Sensors @ Aparatus Bays	200	CFM	$ 7.95	$ 1,590	
	EF-7 - Exhaust Fan Decon	175	CFM	$ 7.95	$ 1,391	
	EF-11 - Exhaust Fan SCBA	1,980	CFM	$ 4.95	$ 9,801	
	SF-1 - Supply Fan		< Removed >			
	SF-2 - Supply Fan		< Removed >			
	Motorised Ventilation Louver ILO SF-1 / SF-2	1	LS	$ 3,500.00	$ 3,500	
	KMUA-1	1	LS	$ 22,850.00	$ 22,850	
	KEF-1 - Exhaust Fan	1,250	CFM	$ 6.45	$ 8,063	
	Gas fired unit heaters	4	EA	$ 3,150.00	$ 12,600	
	EWH Electric Wall Heaters	3	EA	$ 2,750.00	$ 8,250	
	EUH Electric Unit Heaters	3	EA	$ 2,250.00	$ 6,750	

Base Estimate

	Element / Description	Quantity	Unit	Unit Rate ($)	Extension ($)	Subtotal ($)
	Kitchen Hood with Ansul System	1	LS	$ 12,500.00	$ 12,500	
	Distribution Systems					
	16 Gauge Sched 40 Grease Duct (Welded)	1	LS	$ 7,500.00	$ 7,500	
	Stainless Steel Duct (Dishwasher Exhaust)		< N/A >			
	Ductwork Galvanized	6,600	LBS	$ 17.00	$ 112,200	
	Insulation					
	Duct Wrap Insulation	4,539	SF	$ 6.15	$ 27,915	
	Duct Fire Wrap	1	LS	$ 5,500.00	$ 5,500	
	Registers	38	ea	$ 140.00	$ 5,320	
	Supply / Return Sound Attenuators	2	ls	$ 2,500.00	$ 5,000	
	Volume Dampers	38	ea	$ 110.00	$ 4,180	
	Misc. Duct Accessories / connections	1	ls	$ 5,500.00	$ 5,500	
	Flues for GFUH	4	EA	$ 1,250.00	$ 5,000	
	Extereior Louvers	1	LS	$ 3,750.00	$ 3,750	
	Vehicle CO Detection controls	1	LS	$ 3,500.00	$ 3,500	
	Controls and Instrumentation - Assumes Factory Controls with minimal DDC for local access	8,771	SF	$ 5.45	$ 47,802	
	Systems Testing & Balancing	8,771	SF	$ 0.65	$ 5,701	
	Other HVAC Systems & Equipment					
	Coordination & Management	1	LS	$ 12,500.00	$ 11,875	
	Seismic Restraints / Bracing	1	LS	$ 1,500.00	$ 1,425	
	Coring & Patching / Firestopping	1	LS	$ 750.00	$ 713	
	Hoisting & Rigging / Floor Loading	1	LS	$ 2,500.00	$ 2,375	
	Shop Drawings & Submittals	1	LS	$ 1,850.00	$ 1,758	
	BIM Coordination & Mgmt		< N/A >			
	Record Drawings / as builts	1	LS	$ 3,500.00	$ 3,325	
	Equipment Start up and Inspection	1	LS	$ 2,500.00	$ 2,375	
	Access panels - furnish only	1	LS	$ 1,500.00	$ 1,425	
	Commissioning	1	LS	$ 3,500.00	$ 3,325	
	Subtotal HVAC					$ 633,603
26 00 00	**Electrical**					
		8,771	SF	79.29		
	Normal Power Distribution					
	MCB 800A / CT Cab	1	ea	$ 17,500.00	$ 17,500	
	SB-1 800A 120/208	1	ea	$ 28,000.00	$ 28,000	
	Panel RP1 225A 60p	1	ea	$ 9,750.00	$ 9,750	
	Panel RP-2 225A 60p	1	ea	$ 9,750.00	$ 9,750	
	Panel RP-3 225A 60p	1	ea	$ 9,750.00	$ 9,750	
	Panel RP-4 400A 42p	1	ea	$ 6,750.00	$ 6,750	
	Feeders					
	Secondary feeder 800A	70	lf	$ 465.00	$ 32,550	
	400A Feeder EMT copper	200	lf	$ 161.00	$ 32,200	
	225A Feeder EMT copper	250	lf	$ 115.00	$ 28,750	
	Machine & Equipment Power					
	DOAS-1 50A 208v connect	1	ea	$ 1,825.00	$ 1,825	
	KMUA-1 30A 208v connect	1	ea	$ 1,428.14	$ 1,428	
	ERC-1 30A 208v connect	1	ea	$ 1,165.00	$ 1,165	
	EWH1-3	3	ea	$ 975.00	$ 2,925	
	EUH 1-2	2	ea	$ 1,225.00	$ 2,450	
	EF1-11	10	ea	$ 595.00	$ 5,950	
	CU 60A 120v connect	3	ea	$ 695.00	$ 2,085	
	FCU 20 A Circuit & Connection	20	ea	$ 425.00	$ 8,500	
	VRF Control Boxes	3	ea	$ 795.00	$ 2,385	
	Equipment connection Washing Machine 100A	2	ea	$ 725.00	$ 1,450	
	Equipment connection Dryer	2	ea	$ 845.00	$ 1,690	
	Equipment connection Door operator	6	ea	$ 1,125.00	$ 6,750	
	Chord reel hard wired	4	ea	$ 795.00	$ 3,180	
	Equipment - DECON Room	2	ea	$ 525.00	$ 1,050	
	Equipment -Antennae Ground in Conduit 75'	1	ea	$ 1,250.00	$ 1,250	
	Equipment -Conduit roof to watch room	1	ea	$ 800.00	$ 800	
	Equipment connection Plymovent system	3	ea	$ 525.00	$ 1,575	
	Fire pump connection		< N/A >			
	KEF-1 Kitchen exhaust fan 1-1/2HP 480v connect	1	ea	$ 1,250.00	$ 1,250	
	Kitchen Equipment & Hood controls connections	1	ls	$ 3,750.00	$ 3,750	
	Floor boxes and outlets		< N/A >			
	Equipment Power branch wiring	8,771	ls	$ 1.65	$ 14,472	
	Emergency Power and Distribution					
	Generator and 800A ATS -175 KW Natural Gas	1	ls	$ 175,000.00	$ 175,000	
	General Power					
	Device Branch					
	Equipment Disconnect	13	EA	$ 525.00	$ 6,825	
	Equipment Disconnect WP	21	EA	$ 735.00	$ 15,435	
	Recept Double duplex	11	EA	$ 142.00	$ 1,562	
	Recept Duplex	67	EA	$ 96.00	$ 6,432	
	Recept Duplex GFI	64	EA	$ 135.00	$ 8,640	
	Recept Duplex GFI WP	19	EA	$ 165.00	$ 3,135	
	Recept Duplex WP	13	EA	$ 112.00	$ 1,456	
	Recept Emergency Power Off	1	EA	$ 650.00	$ 650	
	Sensor OC	19	EA	$ 182.00	$ 3,458	
	Switch $	21	EA	$ 75.00	$ 1,575	
	Switch $3K	3	EA	$ 325.00	$ 975	
	Switch D	15	EA	$ 145.00	$ 2,175	
	Switch OC	9	EA	$ 250.00	$ 2,250	
	Conduits & Conductors	8,771	SF	$ 1.71	$ 14,998	
	Lighting and Branch					
	Lighting					
	W1 Extereior wall packs	14	ea	$ 650.00	$ 9,100	
	B2 Exterior recessed fixtures	4	ea	$ 435.00	$ 1,740	
	A1 Fixture	33	ea	$ 265.00	$ 8,745	
	A2 Fixture	4	ea	$ 265.00	$ 1,060	
	A3 Fixture	16	ea	$ 265.00	$ 4,240	
	B1 Fixture	29	ea	$ 165.00	$ 4,785	
	B2 Fixture	2	ea	$ 165.00	$ 330	
	C1 Fixture	16	ea	$ 655.00	$ 10,480	
	D1 Fixture	12	ea	$ 225.00	$ 2,700	
	D2 Fixture	3	ea	$ 345.00	$ 1,035	
	E1 Fixture	3	ea	$ 395.00	$ 1,185	
	E2 Fixture	5	ea	$ 395.00	$ 1,975	

Base Estimate

	Element / Description	Quantity	Unit	Unit Rate ($)	Extension ($)	Subtotal ($)
	E3 Fixture	3	ea	$ 395.00	$ 1,185	
	W3 Fixture	9	ea	$ 7.50	$ 68	
	Lighting Device Branch & Controls	8,771	SF	$ 3.20	$ 28,067	
	Lightning and Power Specialties					
	Building & service grounding	1	ls	$ 4,500.00	$ 4,500	
	Lighting protection	< N/A >				
	Miscellaneous Systems					
	Temporary power and lights	8,771	ls	$ 0.65	$ 5,701	
	Subcontractor site office & storage	1	ls	$ 5,000.00	$ 5,000	
	Subcontractor lifts & scaffolding	1	ls	$ 2,500.00	$ 2,500	
	BIM Coordination	< N/A >				
	Bond excluded	< N/A >				
	Testing and Commissioning					
	Testing and commissioning	1	ls	$ 3,500.00	$ 3,500	
	Communications					
	Telephone and Communications Systems	< Assumes by Owner >				
	Telecomm Backbone racewys	1	ls	$ 3,500.00	$ 3,500	
	Telecomm Box & 1-1/4" EMT wall sleeve	1	ls	$ 1,250.00	$ 1,250	
	Telecom box and riser	19	ea	$ 225.00	$ 4,275	
	2V/2D CAT 6 cable /termination & testing	33	ea	$ 395.00	$ 13,035	
	WAP 2D CAT 6 cable /termination & testing	10	ea	$ 265.00	$ 2,650	
	IDF Closet fit up	1	ea	$ 3,500.00	$ 3,500	
	Av System					
	Local Sound System in Exercise room	1	ea	$ 5,000.00	$ 5,000	
	Public Address Systems					
	Public Address Systems - Head end	1	ea	$ 3,500.00	$ 3,500	
	Speakers	34	ea	$ 225.00	$ 7,650	
	Televisiion Mount	7	ea	$ 300.00	$ 2,100	
	Safety & Security					
	Security Access Control					
	Control panels , ,licenses and programming allowance	< Assumes by Owner >				
	Access control door roughing & devices	1	LS	$ 5,000.00	$ 5,000	
	Door bell / buzzer	1	EA	$ 1,250.00	$ 1,250	
	[CR] Card reader raceway, device & wire	4	EA	$ 3,500.00	$ 14,000	
	[DC] Door contact	7	EA	$ 795.00	$ 5,565	
	Fire Alarm System					
	Equipment ,devices and programming	1	LS	$ 3,250.00	$ 3,250	
	F/A Addressable control panel	1	EA	$ 1,725.00	$ 1,725	
	FA-CFA	5	EA	$ 925.00	$ 4,625	
	FA-Heat	8	EA	$ 196.00	$ 1,568	
	FA-Horn Strobe	9	EA	$ 240.00	$ 2,160	
	FA-Horn Strobe WP	4	EA	$ 365.00	$ 1,460	
	FA-Pull	7	EA	$ 239.00	$ 1,673	
	FA-Smoke	35	EA	$ 385.00	$ 13,475	
	F/A Tamper switch & monitor module	2		$ 378.90	$ 758	
	F/A Flow switch & monitor module	1		$ 377.18	$ 377	
	F/A Pressure switch & monitor module	2		$ 355.29	$ 711	
	F/A SLC/NAC 3/4" EMT & loop circuits	260	lf	$ 10.00	$ 2,599	
	F/A 14/4 FPLP/MC cable	725	lf	$ 4.31	$ 3,127	
	F/A 16/2 FPLP/MC cable	700	lf	$ 3.26	$ 2,280	
	Subtotal Electrical					**$ 695,455**
33 00 00	**Sitework**					
	Sitework from PACS Site estimate	1	LS	$ 1,119,731.16	$ 1,119,731	
						$ 1,119,731

	Quantity	Unit	Unit Price	Extended Total	$ 1,119,731
City of Bristol New Firehouse No.3					5/17/2024 REVISED
Temporary Site Security Fencing					8,080.75
6' CLF, panels	975	lf	5.69	5,547.75	
24' Double drive gate	1	ea	900.00	900.00	
Privacy mesh	300	lf	1.61	483.00	
Temp. signage as needed	1	ls	1,150.00	1,150.00	
Surveying & Layout for Sitework					13,650.00
Surveying LS	1	ls	12,500.00	12,500.00	
Red line as-builts	1	ls	1,150.00	1,150.00	
A-2 As-Built survey - Excluded		ls	-	-	
Winter Conditions - Excluded					-
Erosion Control					28,927.87
Construction entrance	1	ea	2,750.00	2,750.00	
Staked hay bales	144	ea	13.00	1,872.00	
Dewatering - open pumping only	60	hrs	153.90	9,234.00	
Dust control	10	hrs	124.89	1,248.90	
Inlet protection	12	ea	157.32	1,887.84	
Silt fence, 36" tall	557	lf	4.04	2,250.28	
Pump water filter bag (15' x 15')	3	ea	745.96	2,237.88	
Sweeping (truck)	10	hrs	124.89	1,248.90	
Temp. sediment basin	< Removed >			-	
Temp swales / earth dikes	< Removed >			-	
Mulch on temp swayle	< Removed >			-	
Temp. outlet structure w/ riser	< Removed >			-	
Overflow spillway / checkdams - Stone	< Removed >			-	
E&S Inspection & reports	40	hrs	90.00	3,600.00	
Furnish 20 gallon oil spill kit	1	ea	146.57	146.57	
Removal of E&S measures	1	ls	1,653.02	1,653.02	
Site Demolition					22,664.54
Clearing & Grubbing / Selective tree removals	1	ls	7,500.00	7,500.00	
Remove fencing	250	lf	5.65	1,412.50	
Sawcut Asphalt	683	lf	9.18	6,269.94	
Strip & load asphalt	59	cy	47.31	2,800.05	
Export asphalt	59	cy	20.12	1,190.81	
Strip & load concrete - small area, sidewalk (backhoe & handwork)	27	cy	45.73	1,226.58	
Export concrete	27	cy	20.12	539.66	
Dumpsters	2	ea	862.50	1,725.00	
Building Demolition - Not Required (See Selective)					-
			-	-	
Earthwork -					33,754.55
Strip & Stockpile topsoil for processing	933	CY	6.35	5,924.55	
Export excess topsoil (load & Haul)	< Assumes balanced >			-	
Unsuitable Soils / removal and replacement per Geotech	< Excluded >			-	
Mass Earthwork Cuts to fills	2,200	CY	12.65	27,830.00	
Mass Earthwork Import & Place	< Assumes balanced >			-	
Segmental Block Retaining Walls - Assumes not required					-
			-	-	
Structural Excavation					129,136.50
Foundation Structural Earthwork	9,430	SF	7.95	74,968.50	
Furnish rigid insulation 4' x 8' x 2"	3,904	SF	4.45	17,372.80	
Footing Drains w/ Crushed Stone & Fabric	488	LF	43.65	21,301.20	
Furnish vertical drain board	2,440	SF	6.35	15,494.00	
Work Inside Existing Building					-
Storm Drainage					255,505.81
Test pits in street prior to construction - Assumes no street connection	2	ea	1,750.00	3,500.00	
Traffic control	80	hrs	86.25	6,900.00	
6" HDPE Storm drains (2-4vf)	90	lf	40.22	3,619.80	
8" HDPE Storm drains (2-4vf)	106	lf	43.57	4,618.42	
12" HDPE (4-6vf)	460	lf	50.52	23,239.20	
15" HDPE (4-6vf)	35	lf	70.14	2,454.90	
24" HDPE (4-6vf)	10	lf	87.68	876.80	
12" RCP (10-12vf)	223	lf	78.72	17,554.56	
15" RCP (10-12vf)	< Removed >			-	
Yard drains (2-4vf)	3	ea	2,123.89	6,371.67	
Catch basin w/ 4' sump (6-8vf)	5	ea	3,436.68	17,183.40	
Manhole 4' diameter (10-12vf)	1	ea	3,173.18	3,173.18	
Tie into existing structure in street	1	ea	2,250.00	2,250.00	
Tie into stub at building	2	ea	382.25	764.50	
Stone bedding	48	cy	31.86	1,514.06	
Sand cover	130	cy	26.51	3,439.23	
Detention System -			-	-	
Outlet Control Structure	1	ea	8,234.42	8,234.42	
Water quality structure Barracuda	1	ea	18,195.00	18,195.00	
Detention System - Excavate to bottom of stone in Mass EW				-	
Crushed stone bottom - in place	100	cy	52.00	5,200.00	
Crushed stone Sides - in place	107	cy	52.00	5,546.67	
Retain it structures 3' delivered	40	ea	1,295.00	51,800.00	
Retain it inspection risers	4	ea	395.00	1,580.00	
F&I Liner	4,000	sf	9.65	38,600.00	
Install Structures	24	hrs	907.00	21,768.00	
4" HDPE Underdrain system in Stone bedding	100	lf	40.22	4,022.00	
Install Inspection manholes	4	ea	775.00	3,100.00	

City of Bristol New Firehouse No.3	Quantity	Unit	Unit Price	Extended Total	$ 1,119,731
					5/17/2024 REVISED
Sanitary Sewer					**47,239.03**
Tie in in street	1	ea	6,468.84	6,468.84	
Traffic control	12	hrs	86.25	1,035.00	
Temp pavement patch	30	sy	46.00	1,380.00	
Core into existing manhole	< Removed >			-	
4" PVC SDR-35 (6-8vf)	16	lf	38.76	620.16	
6" PVC SDR-35 (8-10vf)	225	lf	46.28	10,413.00	
Cleanouts	2	ea	955.67	1,911.34	
Wye in Street - Connect to Main	1	ls	2,000.00	2,000.00	
Manhole over existing Sanitary in street	< Removed >			-	
~~Decontamination storage tank Pipes, Level controls~~	<Removed >			-	
Oil / water separator 1000 gallon	1	ea	5,394.83	5,394.83	
Tie into stub at building	2	ea	382.25	764.50	
Stone bedding	19	cy	34.00	637.31	
Sand cover	37	cy	26.51	993.83	
Export excess material	56	cy	23.00	1,293.37	
Testing (vacuum)	2	ls	1,412.85	2,825.70	
Water System - New Fire & DOM Water Service					**57,874.87**
Test pits in street prior to construction	2	ea	1,617.21	3,234.42	
Traffic control	16	hrs	86.25	1,380.00	
Temp pavement patch	2	sy	46.00	92.00	
8" x 6" Wet-tap in Road	2	ea	5,325.00	10,650.00	
Traffic control	20	hrs	86.25	1,725.00	
Temp pavement patch	20	sy	46.00	920.00	
Meter vault	< Excluded >			-	
4" DIP CL54	140	lf	61.01	8,541.40	
6" DIP CL54	135	lf	77.07	10,404.45	
4" Gate valve	1	ea	1,146.95	1,146.95	
6" Gate valve	1	ea	1,312.63	1,312.63	
6" Post indicator valve	1	ea	2,867.52	2,867.52	
4" Bends	3	ea	458.72	1,376.16	
6" Bends	3	ea	516.07	1,548.21	
6" x 4" Reducer	1	ea	471.46	471.46	
~~Fire Water Storage Assembly~~					
~~Excavate for Tank Foundation~~	<Removed >			-	
~~Tank Hold down slab Assumes 12" thick for~~	<Removed >			-	
~~Tank Cover slab~~	<Removed >			-	
~~Tank, Manway, collars, Sump, hold down straps, turnbuckles, deadman anchors delivered~~	<Removed >			-	
~~Installation of tank, anchors, straps, plumbing~~	<Removed >			-	
~~Backfill tank with stone~~	<Removed >			-	
~~Pumping - Open pumping watertable~~	<Removed >			-	
~~Hydrants - Practice Hydrant~~	<Removed >			-	
Thrust blocks	6	ea	354.65	2,127.90	
Stub 4" DIP inside building from 5' away, stub AFF & flanged cap	1	ea	2,639.36	2,639.36	
Stub 6" DIP inside building from 5' away, stub AFF & flanged cap	1	ea	2,602.40	2,602.40	
Stone bedding	21	cy	34.00	727.22	
Sand cover	43	cy	26.51	1,134.04	
Export excess material	64	cy	19.36	1,242.27	
Testing (bacteria & pressure tests)	1	ls	1,731.48	1,731.48	
Gas Service E/B					**7,195.59**
Gas service -				-	
Traffic control	16	hrs	86.25	1,380.00	
Temp pavement patch	20	sy	46.00	920.00	
Permanent pavement restoration		sy	115.00	-	
E/B for Gas service	228	lf	9.49	2,163.72	
Sand bedding	41	cy	26.51	1,074.54	
Export excess material	41	cy	13.75	557.33	
Provide Gas Service to Grill locations	50	lf	22.00	1,100.00	
Site Electric					**66,865.77**
Locate existing service on-site	1	ea	592.89	592.89	
E/B Primary ductbank	249	lf	11.86	2,953.14	
Primary Conduits	498	lf	20.00	9,960.00	
Sand bedding	22	cy	26.51	586.75	
Concrete encasement (free pour)	5	cy	209.58	1,117.76	
#4 Rebar for ductbank	240	lf	0.92	220.80	
E/B Secondary ductbank	70	lf	11.86	830.20	
Secondary Conduits	280	lf	20.00	5,600.00	
Sand bedding	6	cy	26.51	164.95	
E/B Generator UG Feed	60	lf	11.86	711.60	
Generator Conduits	60	lf	60.00	3,600.00	
Sand bedding	5	cy	26.50	141.33	
E/B EV Charger	< Removed >			-	
EV Charger Conduit`s	< Removed >			-	
Sand bedding	< Removed >			-	
Quartzite pull boxes	< Removed >			-	
E/B Other conduits (Telecom)	300	lf	11.86	3,558.00	
Telecom Conduit`s	900	lf	20.00	18,000.00	
Sand bedding	22	cy	26.51	586.75	
Concrete encasement (free pour)	5	cy	209.58	1,117.76	
#4 Rebar for ductbank	240	lf	0.92	220.80	
Transformer pad & Grounding	1	ls	4,275.00	4,275.00	
Generator pad & Grounding	1	ls	6,750.00	6,750.00	
Electric handhole	1	ls	1,426.82	1,426.82	
Pole riser	1	ls	1,662.30	1,662.30	
Load & Export excess material	66	cy	28.00	1,861.69	
Eversource Pole relocation #2379 - Assumes by Utility Company		< Excluded >		-	

City of Bristol New Firehouse No.3	Quantity	Unit	Unit Price	Extended Total	$ 1,119,731
					5/17/2024 REVISED
Site Lighting					51,982.62
Concrete pole bases (6-8vf bury)	6	ea	1,082.19	6,493.14	
E/B for Conduits	775	lf	11.86	9,191.50	
Site Lighting conduits & Conductors	775	lf	12.95	10,036.25	
Sand bedding	34	cy	26.51	913.12	
Export excess material	34	cy	13.75	473.61	
Site light poles, fixtures, conduits, and wiring	8	ea	2,650.00	21,200.00	
Flagpole light fixtures	3	ea	1,225.00	3,675.00	
Curbing					34,720.00
Cast-in-place concrete curb	1,085	lf	32.00	34,720.00	
Concrete Sidewalks & Pavers					35,540.37
Form subgrade	351	sy	4.74	1,663.74	
6" Base material	70	cy	34.75	2,439.45	
Fine grade	351	sy	4.74	1,663.74	
E/B Monolithic curb	187	lf	4.54	848.98	
5" Concrete sidewalks w/ wire	3,159	sf	8.45	26,693.55	
Monolithic curb	187	lf	11.93	2,230.91	
Detectable warning surfaces - tiles	< Removed >			-	
Concrete Site Stairs - None identified					-
Paved Surfaces					210,426.45
Standard Duty			-	-	
Form subgrade	1,258	sy	1.03	1,295.63	
12" Subbase	503	cy	38.00	19,119.91	
6" Process Base	-	cy	48.00	-	
Fine grade	1,258	sy	1.15	1,446.57	
Prime coat	1,258	sy	1.15	1,446.57	
1.5" Binder	110	ton	160.00	17,610.44	
Tack coat	1,258	sy	0.58	729.58	
1.5" Surface	110	ton	165.00	18,160.77	
Heavy Duty			-	-	
Form subgrade	820	sy	1.03	844.14	
12" Subbase	328	cy	38.00	12,457.24	
6" Process Base	164	cy	48.00	7,867.73	
Fine grade	820	sy	1.15	942.49	
Prime coat	820	sy	1.15	942.49	
3" Binder	143	ton	160.00	22,947.56	
Tack coat	820	sy	0.58	475.34	
1.5" Surface	72	ton	165.00	11,832.33	
Heavy Duty Concrete Apron @ Building			-	-	
Form subgrade	142	sy	1.03	146.72	
Geotextile fabric	1,410	sf	0.30	423.06	
10" Base	47	cy	56.00	2,658.96	
Fine grade	142	sy	1.15	163.81	
8" Reinforced Concrete Apron with 2x Rebar mats T&B	1,282	sf	22.50	28,845.00	
Heavy Duty Concrete Apron @ road			-	-	
Form subgrade	49	sy	1.03	50.93	
Geotextile fabric	490	sf	0.30	146.85	
10" Base	16	cy	56.00	922.96	
Fine grade	49	sy	1.15	56.86	
8" Reinforced Concrete Apron with 2x Rebar mats T&B	445	sf	22.50	10,012.50	
Pavement patching - Temp and permanent @ street for utility connections	418	sy	117.00	48,880.00	
Site Signage					3,750.00
Site Signage Allowance	1	ls	3,750.00	3,750.00	
Landscaping					52,236.44
Plantings					
Trees	19	ea	1,250.00	23,750.00	
Shrubs	20	ea	265.00	5,300.00	
Annuals, Perrentials & Grasses	52	ea	65.00	3,380.00	
Plantings mix & Mulch (18")	13	cy	95.00	1,266.67	
Stone mulch - river cobble	18	cy	65.00	1,161.33	
Weed barrier fabric / Mirafi root barrier	1,250	sf	0.96	1,200.00	
Steel edging	202	lf	6.90	1,393.80	
Topsoil Screen stockpiled (assume 70% useable)	482	cy	6.00	2,889.60	
Load & Export screening spoils (Assumes clean)	144	cy	23.00	3,323.04	
Move and place screened topsoil	482		9.00	4,338.00	
Seeding	21,675	sf	0.08	1,734.00	
Maintenance	1	ls	1,500.00	1,500.00	
Watering	1	ls	1,000.00	1,000.00	
Fence & Guiderail					46,775.00
6' Ornamental metal fence	30	lf	210.00	6,300.00	
8' Screen fence @ Generator	120	lf	135.00	16,200.00	
6' Ornamental Man Gate - 5' swing	1	ea	3,500.00	3,500.00	
8' Dual Swing Gate - 8' swing	1	ea	4,500.00	4,500.00	
8' Ornamental fence augured footings	21	ea	775.00	16,275.00	
Bollards					6,755.00
8" Steel bollards	7	ea	965.00	6,755.00	
Site Furnishings					6,650.00
Furnish materials			-	-	
Flagpole and base	1	ls	4,500.00	4,500.00	
Shipping	1	ls	2,150.00	2,150.00	
End of Estimate					

COMMISSIONING DESIGN REVIEW COMMENTS-MECHANICAL

VANZELM ENGINEERS
VAN ZELM HEYWOOD & SHADFORD, INC.
10 TALCOTT NOTCH FARMINGTON, CT 06032-1800
P:(860) 284-5064 F:(860) 284-5098

Project Name: *Bristol Fire House Church Street*

van Zelm #: 2023084.00

Phase (% DD or CD)	Issued Date	Review Date	Notes:
100% DD	*4/17/2024*	*5/12/2024*	*Project Drawings and Specs dated 4/17/24 and identified as DD*
XX% CD			

ITEM #	ROOM NAME/AREA	EQUIPMENT ID	DWG/SPEC SECTION	REVIEW COMMENTS	DATE IDENTIFIED	RESPONSE	STATUS (OPEN/CLOSED)	DATE
M1	All Areas	MEP/FP Equipment	All MEP/FP Drawings	Has the final room numbering scheme been established by Owner and Architect? This will be important to establish early, all trades have the correct room numbering so labeling of various items (BMS, Electrical Panels, Fire Alarm, etc.) so there is less confusion later on.	5/6/2024		**Open**	
M2	Bunk Rooms	DOAS Delivery	M101	With such a low volume of needed for ventilation, why not connect F.A. directly to Ceiling cassettes for a less expensive cleaner installation.	5/6/2024		**Open**	
M3	Gear Locker	IDU	M101	Nomenclature is a bit confusing IDU-1-2 and FCU-2-2 are almost identical, why change the name, help me.	5/6/2024		**Open**	
M4	Gear Locker	Exhaust	M101	There appears to be two separate exhaust fans (8&9) for gear locker rooms, and these are intended to run 24/7? Could these be tied into common exhaust. If same usage why not combined into one larger system, could ERV be utilized?	5/6/2024		**Open**	
M5	Decon/Bay 1,2,3	Exhaust	M101	There appears to be two separate exhaust fans (6&7) for gear Decon and (3) bays, and these are intended to run 24/7? Similar to item 13 above.	5/6/2024		**Open**	
M6	Jan Closet 240	Supply	M101	Why are we delivering fresh air and exhaust into jan closet, why not just exhaust	5/6/2024		**Open**	
M7	All Areas	Sensors	M101	There are no wall mounted thermostats indicated in Bunk Room 116. Symbol used is difficult to see.	5/6/2024		**Open**	
M8	All Areas	Refrigerant	M101	Has mechanical contractor provided volume calculations to meet ASHRAE monitoring for areas with VRF.	5/6/2024		**Open**	

COMMISSIONING DESIGN REVIEW COMMENTS-ELECTRICAL				VAN ZELM ENGINEERS VAN ZELM HEYWOOD & SHADFORD, INC. 10 TALCOTT NOTCH FARMINGTON, CT 06032-1800 P:(860) 284-5064 F:(860) 284-5098
Project Name:	*Bristol Fire House Church Street*			
vanZelm # 2023084.00				
Phase (% DD or CD)	**Issued Date**	**Review Date**	**Notes:**	
100% DD	*1/26/2024*	*3/12/2024*	*Project Drawings and Specs dated 1/26/24 and identified as DD-Pricing*	
100% CD				

ITEM #	ROOM NAME/AREA	EQUIPMENT ID	DWG/SPEC SECTION	REVIEW COMMENTS	DATE IDENTIFIED	RESPONSE	STATUS (OPEN/CLOSED)	DATE
E1	All Areas	MEP/FP Equipment	All MEP/FP Drawings	Has the final room numbering scheme been established by Owner and Architect? This will be important to establish early, all trades have the correct room numbering so labeling of various items (BMS, Electrical Panels, Fire Alarm, etc.) so there is less confussion later on.	5/6/2024		Open	**Open**
E2	Kitchen	EPO	P101	There is no EPO switch shown in kitchen to kill associated gas valve.	5/6/2024		Open	
E3	All Areas	Electrical Symbols	E001	Symbols list has two symbols for GFI. I assume either one meets proximity to wet locations but only one has GFI maring on the drawings, confusing, please clarify/simplify.	5/6/2024		Open	
E4	Kitchen	Hood	E001	Does kitchen hood fire supression system shut down gas and alarm with hood interlock?	5/6/2024		**Open**	
E5	High Bay	Lighting	E110	I assume the roof lighting plan is the high bay lighting not actually roof ligting	5/13/2024		**Open**	
E6	Equipment	Lighting	E210	Is there any Rooftop equipment service lighting being provided for convenience	5/13/2024		**Open**	
END OF 100% DD ELECTRICAL REVIEW								

Abbreviations: **vZ = van Zelm Engineers**

Notes:

COMMISSIONING DESIGN REVIEW COMMENTS-PLUMBING

VAN ZELM ENGINEERS

VAN ZELM HEYWOOD & SHADFORD, INC.
10 TALCOTT NOTCH FARMINGTON, CT 06032-1800
P:(860) 284-5064 F:(860) 284-5098

Project Name: *Bristol Fire House Church Street*

vanZelm #: 2023084.00

Phase (% DD or CD)	Issued Date	Review Date	Notes:
100% DD	*1/26/2024*	*3/12/2024*	*Project Drawings and Specs dated 1/26/24 and identified as DD-Pricing*
100% CD			

ITEM #	ROOM NAME/AREA	EQUIPMENT ID	DWG/SPEC SECTION	REVIEW COMMENTS	DATE IDENTIFIED	RESPONSE	STATUS (OPEN/CLOSED)	DATE
P1	MER	Leak detection	P101	There appears to be no leak detection in MER for domestic water tanks, should one be added with inline control valve.	5/6/2024		**Open**	
P2	All	Drainage Plan	P101	I can see that the Engineer is using trap guards in most floor drain locations which does meet code. Has local authority approved this application?	5/6/2024		**Open**	
P3	Garage	Trench Drains	P101	How are you meeting trap seals in the trench drain /Catch Basin application? Details are not clear.	5/6/2024		**Open**	
P4	Kitchen	Grease separator	P101 FS-1.11	There does nor appear to be a kitchen grease separator indicated in either Plumbing or Kitchen consultants plans. Please show us where this is located, I could not find.	5/6/2024		**Open**	
P5	Kitchen	Water Booster	P101 FS-1.11	There is no information on water heater requirements indicated. Domestic water heater is only providing 120 LWT. Does dishwasher have its own booster, please verify.	5/6/2024		**Open**	
P6	Kitchen	Emergency Gas switch	P101-FS-1.11	There is no EPO switch shown in kitchen to kill associated gas valve. Coordinate with kitchen consultant. Is this required to meet state and local codes?	5/6/2024		**Open**	
P7	Garage Bays	Plymo Vent	FP-floor plans	There is a note for Plymo vent controls, refer to Div 23. I cannot find detail on M-Drawings, coordinate with as required.	5/10/2024		**Open**	

END OF 100% DD PLUMBING REVIEW

Abbreviations: **vZ = van Zelm Engineers**

Notes:

COMMISSIONING DESIGN REVIEW COMMENTS-FIRE PROTECTION

VANZELM ENGINEERS

VAN ZELM HEYWOOD & SHADFORD, INC.
10 TALCOTT NOTCH FARMINGTON, CT 06032-1800
P:(860) 284-5064 F:(860) 284-5098

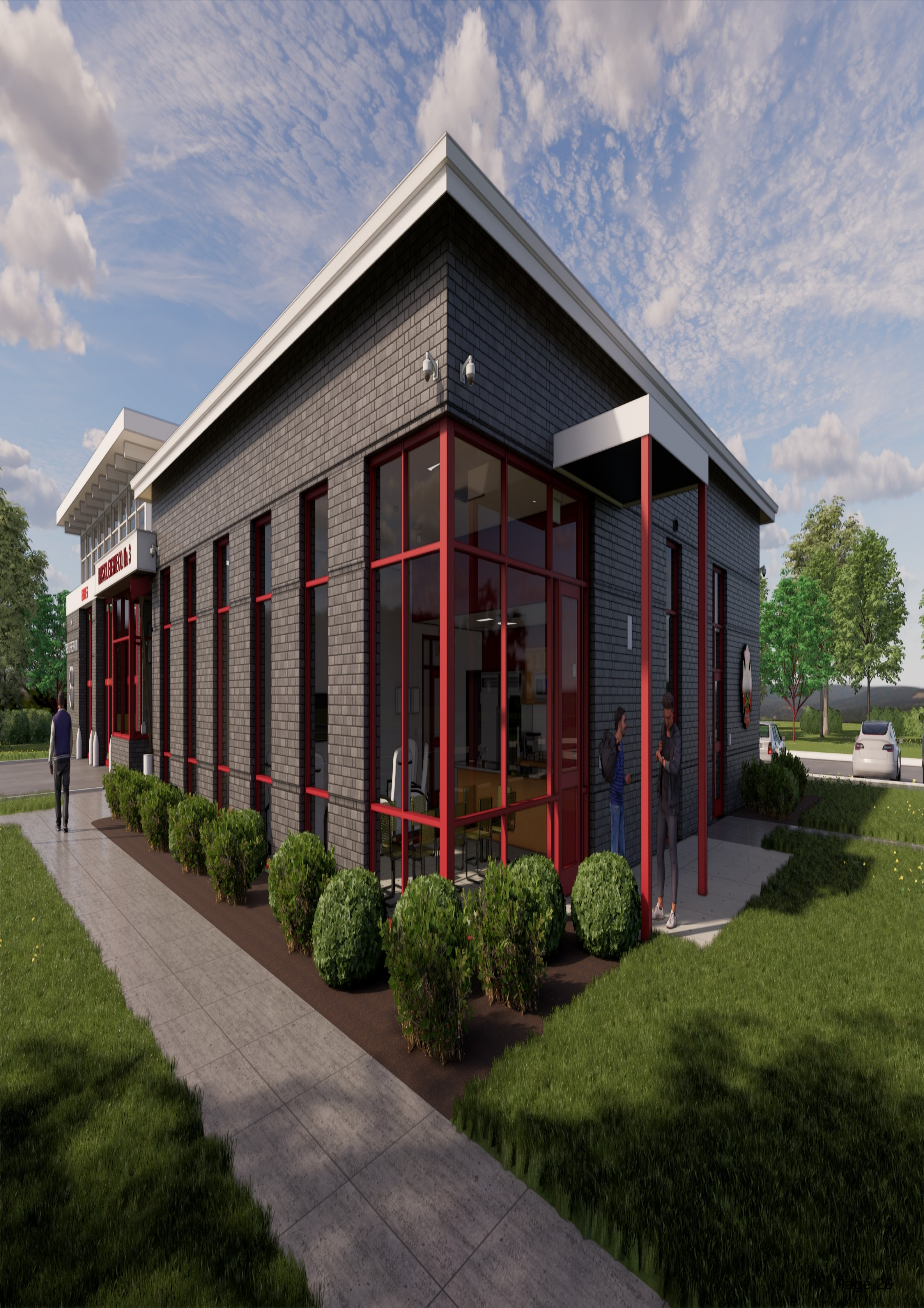
Project Name:	*Bristol Fire House Church Street*		
vanZelm #: 2023084.00			
Phase (% DD or CD)	**Issued Date**	**Review Date**	**Notes:**
100% DD	*1/26/2024*	*3/12/2024*	*Project Drawings and Specs dated 1/26/24 and identified as DD-Pricing*
100% CD			

ITEM #	ROOM NAME/AREA	EQUIPMENT ID	DWG/SPEC SECTION	REVIEW COMMENTS	DATE IDENTIFIED	RESPONSE	STATUS (OPEN/CLOSED)	DATE
FP1	All	Heads	FP-floor plans	Areas appear to have complete coverage	5/6/2024		**Open**	
FP1	Garage Bays	Sprinkler	FP-floor plans	Is there any concerns about wet piping within garage especially near overhead doors? Might dry pipe be used?	5/10/2024		**Open**	

END OF 100% DD FIRE PROTECTION REVIEW

<u>Abbreviations</u>: vZ = van Zelm Engineers

<u>Notes:</u>


BRISTOL ENGINE CO. No. 3


EXIT