

**SUPPLEMENT NO. 2
HOLLAND HILL SCHOOL PHASE 1
ADDITIONS AND ALTERATIONS
GILBANE JOB NO. J07285.000
STATE PROJECT NO. 051-0146 EA
February 23, 2018**

Bid Package:

02A Demolition and Abatement	09A Drywall and Related Work	21A Fire Protection
03A Concrete	09B Flooring – Set Aside	23A Plumbing & HVAC
04A Masonry	09C Painting – Set Aside	23B Testing & Balancing
05A Structural Steel	09D Acoustical Ceilings – Set	26A Electrical
07A Roofing	Aside	31A Sitework
08A Glass and Glazing	11A Food Service Equipment	

**NOTE: TO DOWNLOAD THE ENTIRE SUPPLEMENT, INCLUDING ATTACHMENTS GO
TO <https://publicbids.gilbaneco.com>**

The following items are hereby made part of the bid documents for Holland Hill School Phase 1 – Additions and Alterations Construction Documents:

1. The bid date and time remains unchanged for the following bid packages:

02A Demolition and Abatement	09D Acoustical Ceilings – Set Aside
03A Concrete	11A Food Service Equipment
04A Masonry	21A Fire Protection
05A Structural Steel	23B Testing & Balancing
07A Roofing	26A Electrical
09C Painting – Set Aside	31A Sitework

The bid date and time remain 1:00 p.m., February 28, 2018. Sealed bids must be delivered to the location stipulated on the bid form before or by the close of the bid period. Late bids will be rejected and returned unopened.

2. The bid date and time has changed for the following bid packages:

08A Glass and Glazing
09A Drywall and Related Work
09B Flooring – Set Aside
23A Plumbing & HVAC

The revised bid date and time is 1:00 p.m., March 2, 2018. Sealed bids must be delivered to the location stipulated on the bid form before or by the close of the bid period. Late bids will be rejected and returned unopened.

- Addendum #1 for Holland Hill Elementary School as prepared by Kenneth Boroson Architects, dated February 23, 2018, attached.
- Holland Hill School Additions and Alterations Bid RFI Log dated February 23, 2018, attached.
- Delete Gilbane Project Manual section 00 31 13 – Project Schedule dated September 1, 2017 with Data Date 1/4/18 and replace with section 00 31 13 – Project Schedule dated February 23, 2018 with Data Date 2/22/18, attached.

Specific Scope of Work:

BP04A Masonry

1. Reference Gilbane Project Manual section 00 42 26-04A-Masonry Proposal Form, subsection L Scope of Work, Specific item 2 and subsection M Specifications, paragraph 1; Add: Specification Section 07 27 26 Fluid Applied Membrane Air Barrier, 07 80 00 Commissioning of Building Assemblies, and 07 84 43 Joint Firestopping.

BP08A Glass & Glazing

1. See examples below of typical glass armor installation at Fairfield Public Schools. The panels are banded with an aluminum frame and attached with double stick tape and countersunk stainless steel screws; the exterior of the frame is covered with a color matched decorative tape to conceal the screws.



BP09A Drywall & Related Work

1. Reference Gilbane Project Manual section 00 42 26-09A-Drywall & Related Work Proposal Form, subsection L Scope of Work, Specific item 2 and subsection M Specifications, paragraph 1; Add: 06 20 00 Finish Carpentry, 06 40 00 Architectural Woodwork, 06 41 16 Plastic Laminate Casework, and 06 61 16 Solid Surfacing Fabrications.
2. Reference Gilbane Project Manual section 00 42 26-09A-Drywall & Related Work Proposal Form, subsection L Scope of Work, Specific item 4; temporary partitions are required at all doorways, hallways, openings, etc. to separate construction areas from occupied school areas. Note that the temporary wall assemblies must be at a minimum, steel stud framed with 5/8" GWB and batt insulation and be fire sealed at top and sides.

3. Reference Gilbane Project Manual section 00 42 26-09A-Drywall & Related Work Proposal Form, subsection L Scope of Work, Specific item 4, add after the last sentence:

Include an additional 150 lineal feet of 12'-0" high partition at locations as directed by the Construction Manager. This is in addition to temporary partitions shown on the site logistics plan.

BP26A Electrical

1. In reference to the temporary power service requested off of Milandale Road per the site utilization plan, the correct UI contact for this work will be Michael Crowley – 203-499-2284 - michael.crowley@uinet.com.
2. Exclude new and temporary service fees from United Illuminating, the fees will be paid by others. Include all other costs associate with the new and temporary services.
3. Reference Gilbane Project Manual section 00 42 26-26A Electrical, Subsection L Scope of Work, Specific item 2 and Subsection M Specifications, subsection 1; Add: 28 31 11 Digital Addressable Fire Alarm Systems. Include all work accordingly.

BP31A Sitework

1. Delete Gilbane Project Manual section 00 42 26-31A – Sitework dated September 1, 2017 and replace with section 00 42 26-31A – Sitework dated Revised February 23, 2018. Unit prices for rock removal in non-unclassified areas have been added. Additionally, clarifications from Bid Supplement 1 have been incorporated. Added or changed items are denoted by an underline. Deleted text is shown as a strike-through. The bid should not include costs for deleted items.

All other terms and conditions remain unchanged. Acknowledge your receipt and inclusion of this Supplement No. 2 on the proposal form in the space provided.

Sincerely,
GILBANE BUILDING COMPANY



Patrick J. Delany
Chief Purchasing Agent I

Cc: P. Manning – Gilbane
R Kowal - Gilbane
File

Activity ID	Activity Name	Orig Dur	Start	Finish	2018												2019											
					Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
					FAIRFIELD HOLLAND HILL ELEMENTARY S																							
PRECONSTRUCTION		44	1/29/18 A	3/30/18																								
5140	ADVERTISE TO BID / BID PERIOD	23	1/29/18 A	2/28/18	■ ADVERTISE TO BID / BID PERIOD																							
5150	SCOPE REVIEWS / APPROVAL TO AWARD	10	3/1/18	3/14/18	■ SCOPE REVIEWS / APPROVAL TO AWARD																							
5160	DEVELOP GMP	6	3/15/18	3/22/18	■ DEVELOP GMP																							
5180	OWNER APPROVE GMP	1	3/22/18	3/22/18	! OWNER APPROVE GMP																							
5170	SUBMIT GMP FOR APPROVAL	0		3/22/18	◆ SUBMIT GMP FOR APPROVAL																							
5190	AWARD TRADE CONTRACTS / MOBILIZE	5	3/23/18	3/29/18	■ AWARD TRADE CONTRACTS / MOBILIZE																							
5200	START BASE CONSTRUCTION	0	3/30/18		◆ START BASE CONSTRUCTION																							
EARLY SITE / STRUCT. STEEL / ELECTRICAL PACKAG		33	1/29/18 A	3/14/18																								
9230	ADVERTISE TO BID / BID PERIOD - EARLY PACKAGES	23	1/29/18 A	2/28/18	■ ADVERTISE TO BID / BID PERIOD - EARLY PACKAGES																							
9240	SCOPE REVIEWS - EARLY PACKAGES	5	3/1/18	3/7/18	■ SCOPE REVIEWS - EARLY PACKAGES																							
9250	AWARD TRADE CONTRACTS / MOBILIZE - EARLY PACKAGES	5	3/8/18	3/14/18	■ AWARD TRADE CONTRACTS / MOBILIZE - EARLY PACKAGES																							
SUMMARY		372	3/15/18	8/28/19																								
9560	EARLY SITEWORK	0	3/15/18	3/15/18	! EARLY SITEWORK																							
9570	SITWORK	0	3/15/18	3/15/18	! SITWORK																							
9580	SITE FINISHES - PARKING LOTS	328	5/7/18	8/19/19	SITE FINISHES - PARKING LOTS																							
9620	LAST DAY OF SCHOOL 2018	0	6/15/18*		◆ LAST DAY OF SCHOOL 2018																							
12630	LAST DAY OF SCHOOL 2019	0	6/14/19*		◆ LAST DAY OF SCHOOL 2019																							
NEW CONSTRUCTION		173	4/20/18	12/24/18																								
12990	KITCHEN ADDITION	151	4/20/18	11/21/18	KITCHEN ADDITION																							
5510	NEW ADDITION	172	4/23/18	12/24/18	NEW ADDITION																							
COMMON AREA RENOVATION		302	6/18/18	8/22/19																								
9520	ADMIN AREA	48	6/18/18	8/23/18	ADMIN AREA																							
5520	LABS	33	6/25/18	8/9/18	LABS																							
6510	ALL PURPOSE ROOM	38	6/25/18	8/16/18	ALL PURPOSE ROOM																							
13010	CORRIDORS - COMMON SPACE	24	6/28/18	8/1/18	CORRIDORS - COMMON SPACE																							
5540	VESTIBULE	29	7/3/18	8/13/18	VESTIBULE																							
5530	LIBRARY / MEDIA CENTER	22	7/6/18	8/6/18	LIBRARY / MEDIA CENTER																							
13000	COMMON AREA RENO PUNCH	10	8/17/18	8/30/18	COMMON AREA RENO PUNCH																							
9530	GYMNASIUM	45	6/20/19	8/22/19	GYMNASIUM																							
WEST CORRIDOR RENOVATION		132	1/3/19	7/9/19																								
5430	CLASSROOMS - WEST CORRIDOR RENOVATION	129	1/3/19	7/3/19	CLASSROOMS - WEST CORRIDOR																							
9540	WEST CORRIDOR	46	1/9/19	3/13/19	WEST CORRIDOR																							

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- Remaining Level of Effort
- Actual Level of Effort
- Actual Work
- Remaining Work
- Critical Remaining Work
- ◆ Summary Milestones
- ◆ Critical Milestones
- ◆ Milestone

FAIRFIELD HOLLAND HILL ELEMENTARY SCHOOL
 Project Schedule



Activity ID	Activity Name	Orig Dur	Start	Finish	2018												2019											
					Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
13030	WEST CORRIDOR RENO PUNCH	10	6/25/19	7/9/19																					WEST CORRIDOR RENO PUNCH			
EAST CORRIDOR RENOVATION		53	6/14/19	8/28/19																								
9550	KITCHEN	43	6/14/19	8/14/19																					KITCHEN			
9510	CLASSROOMS - EAST CORRIDOR RENOVATION	41	6/20/19	8/16/19																					CLASSROOMS - EAST CO			
13020	EAST CORRIDOR	24	7/2/19	8/5/19																					EAST CORRIDOR			
13040	EAST CORRIDOR RENO PUNCH	10	8/15/19	8/28/19																					EAST CORRIDOR RENO			
CONSTRUCTION		365	3/15/18	8/19/19																								
SITWORK & LANDSCAPE		365	3/15/18	8/19/19																								
5610	EROSION CONTROLS	1	3/15/18	3/15/18																					EROSION CONTROLS			
5750	INSTALL CONSTRUCTION FENCE	2	3/15/18	3/16/18																					INSTALL CONSTRUCTION FENCE			
5940	INSTALL NEW UG ELECT. SERVICE	7	3/15/18	3/23/18																					INSTALL NEW UG ELECT. SERVICE			
5770	INSTALL CRUSHED STONE @ CONSTRUCTION PARKING & STAGING	5	3/19/18	3/23/18																					INSTALL CRUSHED STONE @ CONSTRUCTION PARKING & STAGING			
5950	INSTALL NEW TRANSFORMER	3	3/26/18	3/28/18																					INSTALL NEW TRANSFORMER			
5960	CONNECT / ENERGIZE NEW SERVICE	11	3/29/18	4/12/18																					CONNECT / ENERGIZE NEW SERVICE			
5970	MASS/FOUNDATION EXCAVATION	15	4/2/18	4/20/18																					MASS/FOUNDATION EXCAVATION			
5980	REMOVE EXISTING UG ELECT. SERVICE	5	4/13/18	4/19/18																					REMOVE EXISTING UG ELECT. SERVICE			
6130	INSTALL DOMESTIC WATER LINE / FIRE LINE (WEEKEND WORK)	5	4/21/18	5/5/18																					INSTALL DOMESTIC WATER LINE / FIRE LINE (WEEKEND WORK)			
6140	INSTALL GAS LINE (WEEKEND WORK)	5	5/6/18	5/20/18																					INSTALL GAS LINE (WEEKEND WORK)			
5760	COMPLETE NORTH PARKING LOT	30	6/25/18*	8/6/18																					COMPLETE NORTH PARKING LOT			
13050	DRIVEWAY UPGRADES	30	6/25/18	8/6/18																					DRIVEWAY UPGRADES			
13060	ADA ACCESS PATH	15	7/24/18	8/13/18																					ADA ACCESS PATH			
13070	WEST LOT COMPLETE	40	6/24/19*	8/19/19																					WEST LOT COMPLETE			
6200	PLANTINGS/LANDSCAPING	20	7/23/19	8/19/19																					PLANTINGS/LANDSCAPING			
NEW CONSTRUCTION		192	3/26/18	12/24/18																								
NEW ADDITION		192	3/26/18	12/24/18																								
STRUCTURE - NEW ADD		84	3/26/18	7/23/18																								
6120	EXISTING DRAINAGE MODIFICATIONS	15	3/26/18	4/13/18																					EXISTING DRAINAGE MODIFICATIONS			
6090	ABATE / DEMO AT EXISTING BLDG. INTERFACE - NEW ADD.	5	4/13/18*	4/19/18																					ABATE / DEMO AT EXISTING BLDG. INTERFACE - NEW ADD.			
5420	SITE PREP / BLDG. PAD PREP / FOUNDATION EXCAVATION - NEW ADD.	5	4/23/18	4/27/18																					SITE PREP / BLDG. PAD PREP / FOUNDATION EXCAVATION - NEW ADD.			
5450	FOUNDATIONS - NEW ADD.	15	5/11/18	6/1/18																					FOUNDATIONS - NEW ADD.			
5460	U/SLAB MEP - NEW ADD.	6	6/4/18	6/11/18																					U/SLAB MEP - NEW ADD.			
5470	SLAB ON GRADE - NEW ADD.	8	6/8/18	6/19/18																					SLAB ON GRADE - NEW ADD.			
5480	ERECT & DETAIL STRUCTURAL STEEL - NEW ADD.	15	6/20/18	7/11/18																					ERECT & DETAIL STRUCTURAL STEEL - NEW ADD.			
5490	ROOF - NEW ADD.	8	7/12/18	7/23/18																					ROOF - NEW ADD.			
6980	SET ROOF CURBS F/HVAC EQUIPMENT - NEW ADD.	5	7/12/18	7/18/18																					SET ROOF CURBS F/HVAC EQUIPMENT - NEW ADD.			

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Remaining Level of Effort Critical Milestones
 Actual Level of Effort Milestone
 Actual Work
 Remaining Work
 Critical Remaining Work
 Summary Milestones

FAIRFIELD HOLLAND HILL ELEMENTARY SCHOOL
 Project Schedule



Activity ID	Activity Name	Orig Dur	Start	Finish	2018												2019											
					Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
EXTERIOR WALL - NEW ADD		38	7/12/18	9/4/18																								
6100	CFMF AND SHEATHING - NEW ADD.	15	7/12/18	8/1/18																								
6110	AIR BARRIER / INSULATION / BRICK VENEER - NEW ADD.	15	8/2/18	8/22/18																								
5500	WINDOWS - NEW ADD.	8	8/23/18	9/4/18																								
INTERIOR FIT-OUT - NEW ADD		116	7/12/18	12/24/18																								
6990	LAYOUT FLOOR & TOP TRACK - NEW ADD.	2	7/12/18	7/13/18																								
7000	R.I. OVERHEAD HVAC DUCT - NEW ADD.	12	8/2/18	8/17/18																								
7020	R.I. OVERHEAD SPRINKLER - NEW ADD.	10	8/9/18	8/22/18																								
7010	R.I OVERHEAD PLUMBING - NEW ADD.	20	8/9/18	9/6/18																								
7030	R.I. OVERHEAD HVAC PIPING - NEW ADD.	12	8/10/18	8/27/18																								
7040	R.I. OVERHEAD ELECTRICAL - NEW ADD.	20	8/23/18	9/20/18																								
9590	PERMANENT POWER TO ELECTRIC ROOM - NEW ADDITION	15	8/23/18	9/13/18																								
7060	DOOR FRAMES - NEW ADD.	5	8/24/18	8/30/18																								
7090	INSULATE DUCT/PIPING - NEW ADD.	15	8/27/18	9/17/18																								
7070	STUD FRAME WALLS - NEW ADD.	10	8/27/18	9/10/18																								
7050	HANG VAV'S/HVAC EQUIP. - NEW ADD.	3	8/28/18	8/30/18																								
7080	R.I./ TIE-IN HVAC PIPING AT HVAC EQUIPMENT - NEW ADD.	5	8/31/18	9/7/18																								
7100	R.I. ELECTRIC IN WALL - NEW ADD.	10	9/11/18	9/24/18																								
7110	R.I. PLUMBING IN WALL - NEW ADD.	10	9/18/18	10/1/18																								
7130	ELECTRICAL INSPECTION IN WALL - NEW ADD.	1	9/25/18	9/25/18																								
7140	SHEET ROCK WALLS - NEW ADD.	15	9/28/18	10/18/18																								
7120	PLUMBING INSPECTION IN WALL - NEW ADD.	1	10/2/18	10/2/18																								
7150	TAPE SHEET ROCK - NEW ADD.	15	10/3/18	10/23/18																								
7160	PRIME PAINT - NEW ADD.	8	10/16/18	10/25/18																								
7180	CEILING GRID - NEW ADD.	10	10/26/18	11/8/18																								
7170	CERAMIC TILE - NEW ADD.	10	10/26/18	11/8/18																								
7200	RGD's @ CEILING - NEW ADD.	5	11/9/18	11/15/18																								
7210	LIGHT FIXTURES @ CEILING - NEW ADD.	8	11/9/18	11/20/18																								
7220	SPRINKLER DROPS @ CEILING - NEW ADD.	8	11/9/18	11/20/18																								
7230	MILLWORK / CASEWORK - NEW ADD.	10	11/9/18	11/23/18																								
7240	ELEC. DEVICES / PLATES - NEW ADD.	7	11/9/18	11/19/18																								
7260	CARPET / RESILIENT - NEW ADD.	10	11/16/18	11/30/18																								
7190	PLUMBING FIXTURES - NEW ADD.	10	11/16/18	11/30/18																								
7290	INSTALL DOORS / HARDWARE - NEW ADD.	5	11/20/18	11/27/18																								
7280	CEILING TILE - NEW ADD.	5	11/21/18	11/28/18																								
7300	FINAL PAINT - NEW ADD.	8	11/29/18	12/10/18																								

- CFMF AND SHEATHING - NEW ADD.
- AIR BARRIER / INSULATION / BRICK VENEER - NEW ADD.
- WINDOWS - NEW ADD.
- LAYOUT FLOOR & TOP TRACK - NEW ADD.
- R.I. OVERHEAD HVAC DUCT - NEW ADD.
- R.I. OVERHEAD SPRINKLER - NEW ADD.
- R.I OVERHEAD PLUMBING - NEW ADD.
- R.I. OVERHEAD HVAC PIPING - NEW ADD.
- R.I. OVERHEAD ELECTRICAL - NEW ADD.
- PERMANENT POWER TO ELECTRIC ROOM - NEW ADDITION
- DOOR FRAMES - NEW ADD.
- INSULATE DUCT/PIPING - NEW ADD.
- STUD FRAME WALLS - NEW ADD.
- HANG VAV'S/HVAC EQUIP. - NEW ADD.
- R.I./ TIE-IN HVAC PIPING AT HVAC EQUIPMENT - NEW ADD.
- R.I. ELECTRIC IN WALL - NEW ADD.
- R.I. PLUMBING IN WALL - NEW ADD.
- ELECTRICAL INSPECTION IN WALL - NEW ADD.
- SHEET ROCK WALLS - NEW ADD.
- PLUMBING INSPECTION IN WALL - NEW ADD.
- TAPE SHEET ROCK - NEW ADD.
- PRIME PAINT - NEW ADD.
- CEILING GRID - NEW ADD.
- CERAMIC TILE - NEW ADD.
- RGD's @ CEILING - NEW ADD.
- LIGHT FIXTURES @ CEILING - NEW ADD.
- SPRINKLER DROPS @ CEILING - NEW ADD.
- MILLWORK / CASEWORK - NEW ADD.
- ELEC. DEVICES / PLATES - NEW ADD.
- CARPET / RESILIENT - NEW ADD.
- PLUMBING FIXTURES - NEW ADD.
- INSTALL DOORS / HARDWARE - NEW ADD.
- CEILING TILE - NEW ADD.
- FINAL PAINT - NEW ADD.

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■ Remaining Level of Effort ◆ Critical Milestones
■ Actual Level of Effort ◆ Milestone
■ Actual Work
■ Remaining Work
■ Critical Remaining Work
◆ Summary Milestones

FAIRFIELD HOLLAND HILL ELEMENTARY SCHOOL
 Project Schedule



Activity ID	Activity Name	Orig Dur	Start	Finish	2018												2019											
					Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
7310	TEST & BALANCE - NEW ADD.	10	11/29/18	12/12/18																								
7270	TOILET ACCESSORIES - NEW ADD.	3	12/3/18	12/5/18																								
7320	ROLLING COMPLETION - NEW ADD.	10	12/11/18	12/24/18*																								
7330	SUBSTANTIAL COMPLETION - TCO - NEW ADD.	0		12/24/18																								
KITCHEN ADDITION		151	4/20/18	11/21/18																								
STRUCTURE - KITCHEN ADD		67	4/20/18	7/25/18																								
11980	ABATE / DEMO AT EXISTING BLDG. INTERFACE - KITCHEN A	2	4/20/18	4/23/18																								
11920	SITE PREP / BLDG. PAD PREP / FOUNDATION EXCAVATION	3	4/24/18	4/26/18																								
11930	FOUNDATIONS - KITCHEN ADD	5	6/4/18	6/8/18																								
11950	U/SLAB MEP - KITCHEN ADD	2	6/12/18	6/13/18																								
11960	SLAB ON GRADE - KITCHEN ADD	3	6/20/18	6/22/18																								
11910	ERECT & DETAIL STRUCTURAL STEEL - KITCHEN ADD	3	7/12/18	7/16/18																								
11970	SET ROOF CURBS F/HVAC EQUIPMENT - KITCHEN ADD	1	7/17/18	7/17/18																								
11940	ROOF - KITCHEN ADD	2	7/24/18	7/25/18																								
EXTERIOR WALL - KITCHEN ADD		31	8/2/18	9/14/18																								
12000	CFMF AND SHEATHING - KITCHEN ADD	8	8/2/18	8/13/18																								
12010	AIR BARRIER / INSULATION / BRICK VENEER - KITCHEN ADD	6	8/23/18	8/30/18																								
11990	DOORS - KITCHEN ADD	8	9/5/18	9/14/18																								
INTERIOR FIT-OUT - KITCHEN ADD		91	7/17/18	11/21/18																								
11560	LAYOUT FLOOR & TOP TRACK - KITCHEN ADD	1	7/17/18	7/17/18																								
11570	R.I. OVERHEAD HVAC DUCT - KITCHEN ADD	5	8/20/18	8/24/18																								
11580	R.I. OVERHEAD SPRINKLER - KITCHEN ADD	5	8/23/18	8/29/18																								
11600	R.I. OVERHEAD HVAC PIPING - KITCHEN ADD	5	8/28/18	9/4/18																								
7760	INSTALL FREEZER - KITCHEN	5	9/5/18	9/11/18																								
11620	HANG VAV'S/HVAC EQUIP. - KITCHEN ADD	5	9/5/18	9/11/18																								
11640	DOOR FRAMES - KITCHEN ADD	5	9/5/18	9/11/18																								
11850	R.I OVERHEAD PLUMBING - KITCHEN ADD	5	9/7/18	9/13/18																								
11630	STUD FRAME WALLS - KITCHEN ADD	3	9/11/18	9/13/18																								
11660	R.I./ TIE-IN HVAC PIPING AT HVAC EQUIPMENT - KITCHEN AI	1	9/12/18	9/12/18																								
11610	INSULATE DUCT/PIPING - KITCHEN ADD	5	9/18/18	9/24/18																								
11590	R.I. OVERHEAD ELECTRICAL - KITCHEN ADD	5	9/21/18	9/27/18																								
11650	R.I. ELECTRIC IN WALL - KITCHEN ADD	5	9/25/18	10/1/18																								
11840	ELECTRICAL INSPECTION IN WALL - KITCHEN ADD	1	10/2/18	10/2/18																								
11670	R.I. PLUMBING IN WALL - KITCHEN ADD	5	10/4/18	10/10/18																								
11680	PLUMBING INSPECTION IN WALL - KITCHEN ADD	1	10/11/18	10/11/18																								

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Remaining Level of Effort Critical Milestones
 Actual Level of Effort Milestone
 Actual Work
 Remaining Work
 Critical Remaining Work
 Summary Milestones

FAIRFIELD HOLLAND HILL ELEMENTARY SCHOOL
 Project Schedule



Activity ID	Activity Name	Orig Dur	Start	Finish	2018												2019											
					Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
11690	SHEET ROCK WALLS - KITCHEN ADD	3	10/19/18	10/23/18											█													
11700	TAPE SHEET ROCK - KITCHEN ADD	3	10/24/18	10/26/18											█													
11710	PRIME PAINT - KITCHEN ADD	2	10/29/18	10/30/18											█													
11720	CEILING GRID - KITCHEN ADD	2	10/31/18	11/1/18											█													
11860	CERAMIC TILE - KITCHEN ADD	2	10/31/18	11/1/18											█													
11730	RGD's @ CEILING - KITCHEN ADD	1	11/2/18	11/2/18											█													
11740	LIGHT FIXTURES @ CEILING - KITCHEN ADD	1	11/2/18	11/2/18											█													
11750	SPRINKLER DROPS @ CEILING - KITCHEN ADD	1	11/2/18	11/2/18											█													
11790	MILLWORK / CASEWORK - KITCHEN ADD	3	11/2/18	11/6/18											█													
11800	ELEC. DEVICES / PLATES - KITCHEN ADD	1	11/2/18	11/2/18											█													
11760	CEILING TILE - KITCHEN ADD	1	11/5/18	11/5/18											█													
11780	FINAL PAINT - KITCHEN ADD	2	11/7/18	11/8/18											█													
11770	INSTALL DOORS / HARDWARE - KITCHEN ADD	1	11/8/18	11/8/18											█													
11810	CARPET / RESILIENT - KITCHEN ADD	2	11/12/18	11/13/18											█													
11870	PLUMBING FIXTURES - KITCHEN ADD	2	11/12/18	11/13/18											█													
11880	TOILET ACCESSORIES - KITCHEN ADD	1	11/14/18	11/14/18											█													
11830	ROLLING COMPLETION - KITCHEN ADD	5	11/15/18	11/21/18											█													
11820	TEST & BALANCE - KITCHEN ADD	2	11/19/18	11/20/18											█													
11550	SUBSTANTIAL COMPLETION - TCO - KITCHEN ADD	0		11/21/18											◆													
COMMON SPACE RENOVATION		53	6/16/18	8/30/18																								
ADMIN AREA		48	6/16/18	8/23/18																								
10440	SELECTIVE DEMOLITION - ADMIN AREA	6	6/16/18*	6/22/18											█													
10480	R.I. OVERHEAD DUCT - ADMIN AREA	7	6/25/18	7/3/18											█													
10500	R.I. OVERHEAD SPRINKLER - ADMIN AREA	7	6/25/18	7/3/18											█													
10540	HANG VAV'S/HVAC EQUIP. - ADMIN AREA	5	6/25/18	6/29/18											█													
10770	R.I OVERHEAD PLUMBING - ADMIN AREA	8	6/25/18	7/5/18											█													
10520	R.I. OVERHEAD HVAC PIPING - ADMIN AREA	8	6/27/18	7/9/18											█													
10560	DOOR FRAMES - ADMIN AREA	3	6/27/18	6/29/18											█													
10580	R.I./ TIE-IN HVAC PIPING AT HVAC EQUIPMENT - ADMIN AREA	5	7/2/18	7/9/18											█													
10550	STUD FRAME WALLS - ADMIN AREA	3	7/3/18	7/6/18											█													
10530	INSULATE DUCT/PIPING - ADMIN AREA	8	7/6/18	7/17/18											█													
10570	R.I. ELECTRIC IN WALL - ADMIN AREA	4	7/9/18	7/12/18											█													
10590	R.I. PLUMBING IN WALL - ADMIN AREA	4	7/9/18	7/12/18											█													
10600	PLUMBING INSPECTION IN WALL - ADMIN AREA	1	7/13/18	7/13/18											█													
10760	ELECTRICAL INSPECTION IN WALL - ADMIN AREA	1	7/13/18	7/13/18											█													

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					Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
10510	R.I. OVERHEAD ELECTRICAL - ADMIN AREA	8	7/16/18	7/25/18									█	R.I. OVERHEAD ELECTRICAL - ADMIN AREA														
10610	SHEET ROCK WALLS - ADMIN AREA	5	7/16/18	7/20/18									█	SHEET ROCK WALLS - ADMIN AREA														
10620	TAPE SHEET ROCK - ADMIN AREA	5	7/23/18	7/27/18									█	TAPE SHEET ROCK - ADMIN AREA														
10630	PRIME PAINT - ADMIN AREA	4	7/26/18	7/31/18									█	PRIME PAINT - ADMIN AREA														
10640	CEILING GRID - ADMIN AREA	7	7/27/18	8/6/18									█	CEILING GRID - ADMIN AREA														
10780	CERAMIC TILE - ADMIN AREA	5	8/1/18	8/7/18									█	CERAMIC TILE - ADMIN AREA														
10650	RGD's @ CEILING - ADMIN AREA	3	8/7/18	8/9/18									█	RGD's @ CEILING - ADMIN AREA														
10660	LIGHT FIXTURES @ CEILING - ADMIN AREA	3	8/7/18	8/9/18									█	LIGHT FIXTURES @ CEILING - ADMIN AREA														
10670	SPRINKLER DROPS @ CEILING - ADMIN AREA	3	8/7/18	8/9/18									█	SPRINKLER DROPS @ CEILING - ADMIN AREA														
10710	MILLWORK / CASEWORK - ADMIN AREA	4	8/7/18	8/10/18									█	MILLWORK / CASEWORK - ADMIN AREA														
10720	ELEC. DEVICES / PLATES - ADMIN AREA	5	8/7/18	8/13/18									█	ELEC. DEVICES / PLATES - ADMIN AREA														
10680	CEILING TILE - ADMIN AREA	4	8/10/18	8/15/18									█	CEILING TILE - ADMIN AREA														
10690	INSTALL DOORS / HARDWARE - ADMIN AREA	4	8/13/18	8/16/18									█	INSTALL DOORS / HARDWARE - ADMIN AREA														
10700	FINAL PAINT - ADMIN AREA	4	8/13/18	8/16/18									█	FINAL PAINT - ADMIN AREA														
10730	CARPET / RESILIENT - ADMIN AREA	4	8/13/18	8/16/18									█	CARPET / RESILIENT - ADMIN AREA														
10790	PLUMBING FIXTURES - ADMIN AREA	4	8/13/18	8/16/18									█	PLUMBING FIXTURES - ADMIN AREA														
10750	ROLLING COMPLETION - ADMIN AREA	5	8/17/18	8/23/18									█	ROLLING COMPLETION - ADMIN AREA														
10800	TOILET ACCESSORIES - ADMIN AREA	3	8/17/18	8/21/18									█	TOILET ACCESSORIES - ADMIN AREA														
10740	TEST & BALANCE - ADMIN AREA	3	8/21/18	8/23/18									█	TEST & BALANCE - ADMIN AREA														
10490	SUBSTANTIAL COMPLETION - ADMIN AREA	0		8/23/18									◆	SUBSTANTIAL COMPLETION - ADMIN AREA														
MATH/SCI/SPAN/SPEECH LABS		21	7/12/18	8/9/18																								
10150	SELECTIVE DEMOLITION - LABS	4	7/12/18	7/16/18									█	SELECTIVE DEMOLITION - LABS														
11530	R.I. OVERHEAD SPRINKLER - LABS	3	7/17/18	7/19/18									█	R.I. OVERHEAD SPRINKLER - LABS														
10200	R.I. PLUMBING IN WALL - LABS	3	7/19/18	7/23/18									█	R.I. PLUMBING IN WALL - LABS														
10190	R.I. ELECTRIC IN WALL - LABS	2	7/24/18	7/25/18									█	R.I. ELECTRIC IN WALL - LABS														
10210	PLUMBING INSPECTION IN WALL - LABS	1	7/24/18	7/24/18									█	PLUMBING INSPECTION IN WALL - LABS														
10330	ELECTRICAL INSPECTION IN WALL - LABS	1	7/26/18	7/26/18									█	ELECTRICAL INSPECTION IN WALL - LABS														
10220	SHEET ROCK WALLS - LABS	2	7/27/18	7/30/18									█	SHEET ROCK WALLS - LABS														
10230	TAPE SHEET ROCK - LABS	2	7/31/18	8/1/18									█	TAPE SHEET ROCK - LABS														
10240	PRIME PAINT - LABS	1	8/2/18	8/2/18									█	PRIME PAINT - LABS														
10250	CEILING GRID - LABS	1	8/3/18	8/3/18									█	CEILING GRID - LABS														
10300	MILLWORK / CASEWORK - LABS	3	8/3/18	8/7/18									█	MILLWORK / CASEWORK - LABS														
11540	SPRINKLER DROPS @ CEILING - LABS	2	8/3/18	8/6/18									█	SPRINKLER DROPS @ CEILING - LABS														
10260	LIGHT FIXTURES @ CEILING - LABS	2	8/6/18	8/7/18									█	LIGHT FIXTURES @ CEILING - LABS														
10310	ELEC. DEVICES / PLATES - LABS	2	8/6/18	8/7/18									█	ELEC. DEVICES / PLATES - LABS														
10270	CEILING TILE - LABS	1	8/8/18	8/8/18									█	CEILING TILE - LABS														

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					11500	RGD'S - LIBRARY / MEDIA CENTER	3	7/26/18	7/30/18																			
11490	NEW CEILING TILE - LIBRARY / MEDIA CENTER	3	8/2/18	8/6/18																								
11510	SUBSTANTIAL COMPLETION - LIBRARY / MEDIA CENTER	0		8/6/18																								
ALL PURPOSE ROOM RENOVATIONS		38	6/23/18	8/16/18																								
9630	SELECTIVE DEMOLITION - ALL PURPOSE ROOM	4	6/23/18*	6/27/18																								
9640	CMU INFILLS - ALL PURPOSE ROOM	4	6/28/18	7/3/18																								
9650	NEW WALLS/FURRING - ALL PURPOSE ROOM	8	6/28/18	7/10/18																								
9660	NEW TOPPING SLAB - ALL PURPOSE ROOM	4	7/11/18	7/16/18																								
9680	INSTALL TEMP. LIGHT FIXTURES - ALL PURPOSE ROOM	3	7/17/18	7/19/18																								
9690	INSTALL NEW DUCTWORK - ALL PURPOSE ROOM	10	7/17/18	7/30/18																								
9720	INSTALL NEW SHIPS LADDERS - ALL PURPOSE ROOM	8	7/17/18	7/26/18																								
9700	INSTALL NEW SPRINKLER PIPING/HEADS - ALL PURPOSE R	5	7/31/18	8/6/18																								
9710	INSTALL NEW LIGHT FIXTURES - ALL PURPOSE ROOM	5	8/7/18	8/13/18																								
9670	NEW RESILIENT FLOORING - ALL PURPOSE ROOM	3	8/14/18	8/16/18																								
9730	SUBSTANTIAL COMPLETION - TCO - ALL PURPOSE ROOM	0		8/16/18																								
ALL AREAS - COMMON SPACE RENOVATION		10	8/17/18	8/30/18																								
11520	PUNCHLIST - COMMON SPACE RENOVATION	10	8/17/18	8/30/18*																								
WEST CORRIDOR RENOVATION		137	12/26/18	7/9/19																								
A1000	OWNER MOVES WEST CORRIDOR CLASSES INTO NEW ADD	5	12/26/18	1/2/19																								
CLASSROOMS - WEST CORRIDOR		129	1/3/19	7/3/19																								
12980	SELECTIVE DEMOLITION - WEST CORR. CLASSRMS	5	1/3/19	1/8/19																								
12640	R.I. OVERHEAD HVAC DUCT - WEST CORR. CLASSRMS	20	1/9/19	2/5/19																								
12650	R.I. OVERHEAD SPRINKLER - WEST CORR. CLASSRMS	20	1/16/19	2/12/19																								
12660	R.I OVERHEAD PLUMBING - WEST CORR. CLASSRMS	20	1/16/19	2/12/19																								
12670	R.I. OVERHEAD HVAC PIPING - WEST CORR. CLASSRMS	20	1/23/19	2/19/19																								
12680	R.I. OVERHEAD ELECTRICAL - WEST CORR. CLASSRMS	20	1/30/19	2/26/19																								
12710	INSULATE DUCT/PIPING - WEST CORR. CLASSRMS	15	2/13/19	3/5/19																								
12720	HANG VAV'S/HVAC EQUIP. - WEST CORR. CLASSRMS	5	2/20/19	2/26/19																								
12730	DOOR FRAMES - WEST CORR. CLASSRMS	5	2/20/19	2/26/19																								
12740	STUD FRAME WALLS - WEST CORR. CLASSRMS	10	2/21/19	3/6/19																								
12750	R.I./ TIE-IN HVAC PIPING AT HVAC EQUIPMENT - WEST CORR	5	2/27/19	3/5/19																								
12760	R.I. ELECTRIC IN WALL - WEST CORR. CLASSRMS	15	3/7/19	3/27/19																								
12770	R.I. PLUMBING IN WALL - WEST CORR. CLASSRMS	15	3/18/19	4/5/19																								
12780	ELECTRICAL INSPECTION IN WALL - WEST CORR. CLASSRM	1	3/28/19	3/28/19																								
12790	PLUMBING INSPECTION IN WALL - WEST CORR. CLASSRMS	1	4/8/19	4/8/19																								

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					Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
12800	SHEET ROCK WALLS - WEST CORR. CLASSRMS	15	4/9/19	4/29/19																					█ SHEET ROCK WALLS - WEST CORR. CLASSRMS			
12810	TAPE SHEET ROCK - WEST CORR. CLASSRMS	15	4/12/19	5/2/19																					█ TAPE SHEET ROCK - WEST CORR. CLASSRMS			
12820	PRIME PAINT - WEST CORR. CLASSRMS	8	4/25/19	5/6/19																					█ PRIME PAINT - WEST CORR. CLASSRMS			
12830	CEILING GRID - WEST CORR. CLASSRMS	10	5/7/19	5/20/19																					█ CEILING GRID - WEST CORR. CLASSRMS			
12840	CERAMIC TILE - WEST CORR. CLASSRMS	10	5/7/19	5/20/19																					█ CERAMIC TILE - WEST CORR. CLASSRMS			
12850	RGD's @ CEILING - WEST CORR. CLASSRMS	5	5/21/19	5/28/19																					█ RGD's @ CEILING - WEST CORR. CLASSRMS			
12860	LIGHT FIXTURES @ CEILING - WEST CORR. CLASSRMS	8	5/21/19	5/31/19																					█ LIGHT FIXTURES @ CEILING - WEST CORR. CLASSRMS			
12870	SPRINKLER DROPS @ CEILING - WEST CORR. CLASSRMS	8	5/21/19	5/31/19																					█ SPRINKLER DROPS @ CEILING - WEST CORR. CLASSRMS			
12880	MILLWORK / CASEWORK - WEST CORR. CLASSRMS	10	5/21/19	6/4/19																					█ MILLWORK / CASEWORK - WEST CORR. CLASSRMS			
12890	ELEC. DEVICES / PLATES - WEST CORR. CLASSRMS	7	5/21/19	5/30/19																					█ ELEC. DEVICES / PLATES - WEST CORR. CLASSRMS			
12900	CARPET / RESILIENT - WEST CORR. CLASSRMS	10	5/29/19	6/11/19																					█ CARPET / RESILIENT - WEST CORR. CLASSRMS			
12910	PLUMBING FIXTURES - WEST CORR. CLASSRMS	10	5/29/19	6/11/19																					█ PLUMBING FIXTURES - WEST CORR. CLASSRMS			
12920	INSTALL DOORS / HARDWARE - WEST CORR. CLASSRMS	5	5/31/19	6/6/19																					█ INSTALL DOORS / HARDWARE - WEST CORR. CLASSRMS			
12930	CEILING TILE - WEST CORR. CLASSRMS	5	6/3/19	6/7/19																					█ CEILING TILE - WEST CORR. CLASSRMS			
12940	FINAL PAINT - WEST CORR. CLASSRMS	8	6/10/19	6/19/19																					█ FINAL PAINT - WEST CORR. CLASSRMS			
12950	TEST & BALANCE - WEST CORR. CLASSRMS	10	6/10/19	6/21/19																					█ TEST & BALANCE - WEST CORR. CLASSRMS			
12960	TOILET ACCESSORIES - WEST CORR. CLASSRMS	3	6/12/19	6/14/19																					█ TOILET ACCESSORIES - WEST CORR. CLASSRMS			
12970	ROLLING COMPLETION - WEST CORR. CLASSRMS	10	6/20/19	7/3/19																					█ ROLLING COMPLETION - WEST CORR. CLASSRMS			
12040	SUBSTANTIAL COMPLETION - WEST CORR. CLASSRMS	0		7/3/19																					◆ SUBSTANTIAL COMPLETION - WEST CORR. CLASSRMS			
WEST CORRIDOR		46	1/9/19	3/13/19																								
12250	SELECTIVE DEMOLITION - WEST CORRIDOR	5	1/9/19	1/14/19																					█ SELECTIVE DEMOLITION - WEST CORRIDOR			
12310	REMOVE LOCKERS - WEST CORRIDOR	5	1/15/19	1/21/19																					█ REMOVE LOCKERS - WEST CORRIDOR			
12260	R.I. OVERHEAD SPRINKLER - WEST CORRIDOR	4	2/13/19	2/18/19																					█ R.I. OVERHEAD SPRINKLER - WEST CORRIDOR			
12270	CEILING GRID - WEST CORRIDOR	7	2/19/19	2/27/19																					█ CEILING GRID - WEST CORRIDOR			
12280	NEW LIGHT FIXTURES - WEST CORRIDOR	7	2/28/19	3/8/19																					█ NEW LIGHT FIXTURES - WEST CORRIDOR			
12290	SPRINKLER HEADS - WEST CORRIDOR	4	2/28/19	3/5/19																					█ SPRINKLER HEADS - WEST CORRIDOR			
12320	INSTALL NEW LOCKERS - WEST CORRIDOR	10	2/28/19	3/13/19																					█ INSTALL NEW LOCKERS - WEST CORRIDOR			
12300	CEILING TILE - WEST CORRIDOR	3	3/11/19	3/13/19																					█ CEILING TILE - WEST CORRIDOR			
ALL AREAS - WEST CORRIDOR RENOVATION		10	6/25/19	7/9/19																								
12620	PUNCHLIST - WEST CORRIDOR RENOVATION	10	6/25/19	7/9/19																					█ PUNCHLIST - WEST CORRIDOR RENOVATION			
EAST CORRIDOR RENOVATION		53	6/14/19	8/28/19																								
CLASSROOMS - EAST CORRIDOR		41	6/20/19	8/16/19																								
7670	SELECTIVE DEMOLITION - EAST CORR. CLASSRMS	10	6/20/19	7/1/19																					█ SELECTIVE DEMOLITION - EAST CORR. CLASSRMS			
7720	R.I. OVERHEAD DUCT - EAST CORR. CLASSRMS	10	7/2/19	7/16/19																					█ R.I. OVERHEAD DUCT - EAST CORR. CLASSRMS			
7730	R.I. OVERHEAD SPRINKLER - EAST CORR. CLASSRMS	10	7/2/19	7/16/19																					█ R.I. OVERHEAD SPRINKLER - EAST CORR. CLASSRMS			

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					Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
7740	R.I. OVERHEAD HVAC PIPING - EAST CORR. CLASSRMS	10	7/2/19	7/16/19																								
7710	HANG VAV'S/HVAC EQUIP. - EAST CORR. CLASSRMS	5	7/2/19	7/9/19																								
7750	R.I OVERHEAD PLUMBING - EAST CORR. CLASSRMS	10	7/2/19	7/16/19																								
7690	REPLACE CONTROL VALVES @ RADIATION HEAT - EAST CORR. CLASSRMS	5	7/2/19	7/9/19																								
7790	R.I. OVERHEAD ELECTRICAL - EAST CORR. CLASSRMS	10	7/10/19	7/23/19																								
7800	INSULATE DUCT/PIPING - EAST CORR. CLASSRMS	10	7/10/19	7/23/19																								
7780	R.I./ TIE-IN HVAC PIPING AT HVAC EQUIPMENT - EAST CORR	5	7/10/19	7/16/19																								
7890	CEILING GRID - EAST CORR. CLASSRMS	4	7/23/19	7/26/19																								
7910	RGD's @ CEILING - EAST CORR. CLASSRMS	5	7/29/19	8/2/19																								
7920	LIGHT FIXTURES @ CEILING - EAST CORR. CLASSRMS	5	7/29/19	8/2/19																								
7930	SPRINKLER DROPS @ CEILING - EAST CORR. CLASSRMS	5	7/29/19	8/2/19																								
7940	MILLWORK / CASEWORK - EAST CORR. CLASSRMS	5	7/29/19	8/2/19																								
7950	ELEC. DEVICES / PLATES - EAST CORR. CLASSRMS	5	7/29/19	8/2/19																								
7960	CEILING TILE - EAST CORR. CLASSRMS	4	8/5/19	8/8/19																								
7990	FINAL PAINT - EAST CORR. CLASSRMS	5	8/5/19	8/9/19																								
8000	CARPET / RESILIENT - EAST CORR. CLASSRMS	2	8/5/19	8/6/19																								
7980	PLUMBING FIXTURES - EAST CORR. CLASSRMS	4	8/5/19	8/8/19																								
8020	TEST & BALANCE - EAST CORR. CLASSRMS	5	8/9/19	8/15/19																								
8030	ROLLING COMPLETION - EAST CORR. CLASSRMS	5	8/12/19	8/16/19																								
8040	SUBSTANTIAL COMPLETION - EAST CORR. CLASSRMS	0		8/16/19																								
KITCHEN		43	6/14/19	8/14/19																								
6900	SELECTIVE DEMOLITION - KITCHEN	5	6/14/19	6/19/19																								
6970	REMOVE EXISTING CONCRETE SLAB - KITCHEN	3	6/20/19	6/24/19																								
7250	U/SLAB PLUMBING - KITCHEN	4	6/25/19	6/28/19																								
7680	RESTORE SLAB ON GRADE - KITCHEN	3	7/1/19	7/3/19																								
7700	NEW MASONRY & INFILLS - KITCHEN	4	7/5/19	7/10/19																								
9010	R.I. OVERHEAD HVAC DUCT - KITCHEN	7	7/11/19	7/19/19																								
9020	R.I OVERHEAD PLUMBING - KITCHEN	7	7/11/19	7/19/19																								
9060	HANG VAV'S/HVAC EQUIP. - KITCHEN	5	7/15/19	7/19/19																								
9030	R.I. OVERHEAD SPRINKLER - KITCHEN	5	7/18/19	7/24/19																								
9050	R.I. OVERHEAD ELECTRICAL - KITCHEN	5	7/18/19	7/24/19																								
9040	R.I. OVERHEAD HVAC PIPING - KITCHEN	5	7/18/19	7/24/19																								
9070	PRIME PAINT - KITCHEN	1	7/22/19	7/22/19																								
7770	INSTALL REFRIGERATOR - KITCHEN	4	7/22/19	7/25/19																								
9090	CEILING GRID - KITCHEN	2	7/25/19	7/26/19																								
9100	RGD's @ CEILING - KITCHEN	1	7/29/19	7/29/19																								

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■ Remaining Level of Effort ◆ Critical Milestones
■ Actual Level of Effort ◆ Milestone
■ Actual Work
■ Remaining Work
■ Critical Remaining Work
◆ Summary Milestones

FAIRFIELD HOLLAND HILL ELEMENTARY SCHOOL
 Project Schedule



Activity ID	Activity Name	Orig Dur	Start	Finish	2018												2019											
					Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
9110	LIGHT FIXTURES @ CEILING - KITCHEN	3	7/29/19	7/31/19																				■ LIGHT FIXTURES @ CEILING				
9120	SPRINKLER DROPS @ CEILING - KITCHEN	1	7/29/19	7/29/19																				■ SPRINKLER DROPS @ CEILING				
9130	ELEC. DEVICES / PLATES - KITCHEN	3	7/29/19	7/31/19																				■ ELEC. DEVICES / PLATES - K				
9080	CERAMIC TILE - KITCHEN	4	8/1/19	8/6/19																				■ CERAMIC TILE - KITCHEN				
9170	INSTALL KITCHEN EQUIPMENT - KITCHEN	3	8/7/19	8/9/19																				■ INSTALL KITCHEN EQUIPM				
9150	CEILING TILE - KITCHEN	2	8/8/19	8/9/19																				■ CEILING TILE - KITCHEN				
9140	INSTALL DOORS / HARDWARE - KITCHEN	2	8/12/19	8/13/19																				■ INSTALL DOORS / HARDW				
9160	FINAL PAINT - KITCHEN	2	8/12/19	8/13/19																				■ FINAL PAINT - KITCHEN				
9180	PLUMBING CONNECTIONS - KITCHEN EQUIPMENT	3	8/12/19	8/14/19																				■ PLUMBING CONNECTIONS				
9190	ELECTRICAL CONNECTIONS - KITCHEN EQUIPMENT	3	8/12/19	8/14/19																				■ ELECTRICAL CONNECTIO				
9480	SUBSTANTIAL COMPLETION - TCO - KITCHEN	0		8/14/19																				◆ SUBSTANTIAL COMPLETI				
GYMNASIUM		45	6/20/19	8/22/19																								
11260	DEMO & SALVAGE GYM EQUIPMENT - GYMNASIUM	5	6/20/19	6/26/19																				■ DEMO & SALVAGE GYM EQUIPMEN				
11270	MEP MAKE-SAFE - GYMNASIUM	5	6/20/19	6/26/19																				■ MEP MAKE-SAFE - GYMNASIUM				
11280	DEMO/ABATE GYM FLOORING - GYMNASIUM	6	6/27/19	7/5/19																				■ DEMO/ABATE GYM FLOORING - G				
11190	INSTALL NEW DUCTWORK - GYMNASIUM	8	7/8/19	7/17/19																				■ INSTALL NEW DUCTWORK - GY				
11200	INSTALL NEW SPRINKLER PIPING/HEADS - GYMNASIUM	8	7/10/19	7/19/19																				■ INSTALL NEW SPRINKLER PIP				
11210	INSTALL NEW LIGHT FIXTURES - GYMNASIUM	8	7/12/19	7/23/19																				■ INSTALL NEW LIGHT FIXTURE				
11220	PAINT EXPOSED CEILING - GYMNASIUM	4	7/24/19	7/29/19																				■ PAINT EXPOSED CEILING - G				
11230	PAINT WALLS - GYMNASIUM	5	7/24/19	7/30/19																				■ PAINT WALLS - GYMNASIUM				
11180	GYM FLOORING / RUBBER BASE - GYMNASIUM	12	7/31/19	8/15/19																				■ GYM FLOORING / RUBBER				
11240	NEW GYM DIVIDER CURTAIN - GYMNASIUM	5	8/16/19	8/22/19																				■ NEW GYM DIVIDER CUR				
11250	REINSTALL EXISTING GYM EQUIPMENT - GYMNASIUM	5	8/16/19	8/22/19																				■ REINSTALL EXISTING G				
11370	SUBSTANTIAL COMPLETION - TCO - GYMNASIUM	0		8/22/19																				◆ SUBSTANTIAL COMPLE				
EAST CORRIDORS		24	7/2/19	8/5/19																								
6680	SELECTIVE DEMOLITION - EAST CORRIDOR	5	7/2/19	7/6/19																				■ SELECTIVE DEMOLITION - EAST C				
6690	R.I. OVERHEAD SPRINKLER - EAST CORRIDOR	4	7/8/19	7/11/19																				■ R.I. OVERHEAD SPRINKLER - EA				
6740	REMOVE LOCKERS - EAST CORRIDOR	5	7/8/19	7/12/19																				■ REMOVE LOCKERS - EAST COR				
6700	CEILING GRID - EAST CORRIDOR	7	7/12/19	7/22/19																				■ CEILING GRID - EAST CORRID				
6710	NEW LIGHT FIXTURES - EAST CORRIDOR	7	7/23/19	7/31/19																				■ NEW LIGHT FIXTURES - EAS				
6720	SPRINKLER HEADS - EAST CORRIDOR	4	7/23/19	7/26/19																				■ SPRINKLER HEADS - EAST CO				
6750	INSTALL NEW LOCKERS - EAST CORRIDOR	10	7/23/19	8/5/19																				■ INSTALL NEW LOCKERS - E				
6730	CEILING TILE - EAST CORRIDOR	3	8/1/19	8/5/19																				■ CEILING TILE - EAST CORR				
ALL AREAS - EAST CORRIDOR RENOVATION		42	7/1/19	8/28/19																								
6910	REMOVE LEASED PORTABLES	5	7/1/19	7/8/19																				■ REMOVE LEASED PORTABLES				

Start Date: 7/1/13
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■ Remaining Level of Effort ◆ Critical Milestones
■ Actual Level of Effort ◆ Milestone
■ Actual Work
■ Remaining Work
■ Critical Remaining Work
◆ Summary Milestones

FAIRFIELD HOLLAND HILL ELEMENTARY SCHOOL
Project Schedule



Activity ID	Activity Name	Orig Dur	Start	Finish	2018												2019											
					Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
					7340	DEMO OWNED PORTALBES	10	7/1/19*	7/15/19																			
7350	RESTORE PORTABLES FOOTPRINT	10	7/16/19	7/29/19																								
6890	PUNCHLIST - EAST CORRIDOR RENOVATION	10	8/15/19	8/28/19																								

■ DEMO OWNED PORTALBES
■ RESTORE PORTABLES FOOTPRINT
■ PUNCHLIST - EAST CO

Start Date: 7/1/13
 Finish Date: 8/28/19
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- Remaining Level of Effort
- Actual Level of Effort
- Actual Work
- Remaining Work
- Critical Remaining Work
- ◆ Summary Milestones
- ◆ Critical Milestones
- ◆ Milestone

FAIRFIELD HOLLAND HILL ELEMENTARY SCHOOL
 Project Schedule



**PROPOSAL FORM
FOR
HOLLAND HILL ELEMENTARY SCHOOL
Phase 1 of 3
GILBANE JOB NO. J07285.000
STATE PROJECT NO. 051-0146 AE
FAIRFIELD BID NO. 2018-51
BID PACKAGE No. 31A – Sitework**



PRE-BID CONFERENCE: February 8, 2018
TIME: 3:30 PM

PROPOSAL DUE DATE: February 28, 2018
TIME: 1:00 PM

LOCATION: Holland Hill Elementary School
105 Meadowcroft Road
Fairfield, CT 06824

LOCATION: Town of Fairfield Purchasing Authority
Sullivan Independence Hall
725 Old Post Road
Fairfield, CT 06824

DEADLINE FOR SUBMISSION OF QUESTIONS: February 15, 2018

To: Gilbane Building Company c/o
Town of Fairfield Purchasing Authority
Sullivan Independence Hall
725 Old Post Road
Fairfield, CT 06824

FIRM NAME:

_____, the undersigned,

- DAS Update Statement Included
- Bid Bond Included
- Bid is Signed

A. Proposes to furnish all labor, materials, equipment and services as required to satisfactorily complete all **Sitework Work** herein described as Bid Package **No. 31A** as required for the construction and renovations activities at Holland Hill Elementary School Additions and Alterations Project, all in accordance with the Drawings and Specifications as prepared by Kenneth Boroson Architects, the Gilbane Project Manual, and this Proposal Form.

B. All work required by the foregoing documents will be accomplished for the Lump Sum Bid Price of

_____ Dollars (\$) _____).
(Show amount in both words and figures. In case of discrepancy, amount shown in words will govern.)

The Lump Sum Bid Price above INCLUDES all applicable sales and/or use taxes; INCLUDES all insurance premiums required to meet contractual insurance requirements; and INCLUDES all premiums for a Performance Bond and a Labor and Material Payment Bond in the sum of one hundred percent of the Contract price.

C. Bidder agrees that if written notice of the acceptance of this bid is mailed or delivered to the undersigned within sixty (60) days after the Proposal Due Date, or any time thereafter before it is withdrawn, the undersigned shall meet a representative of the Gilbane Glastonbury office or a mutually agreed upon location to execute the Contract. Performance and Payment Bonds and the appropriate insurance certificates will be delivered to the Construction Manager at the time of execution of the Contract. Failure to execute said contract within ten (10) days after receipt of Notice to Award may be considered a default under the obligation of the bid bond.

D. The above price includes all stipulations and requirements of the following Supplements:

- Supplement __ dated _____
- Supplement __ dated _____
- Supplement __ dated _____
- Supplement __ dated _____

which have been received and accepted by the undersigned. Note that it is incumbent of the bidder to include all Supplements issued in the bid. Failure to acknowledge a supplement does not relieve the bidder from the requirements of the supplement.

E. MILESTONE SCHEDULE DATES

See Gilbane Project Manual section 00 31 13 – Schedule for activity milestones, durations, and reference. This schedule represents the general milestones that need to be met to achieve the overall project completion dates, and provides guidance to the bidders to understand the time constraints the work must be performed under. The project detailed schedule, in accordance with the terms of the Contract and General Conditions, will be derived from a “Card Trick” scheduling session with mandatory attendance by all prime Trade Contractors.

- 1. Anticipated Date of Contract Award: 03/09/2018
- 2. Commence Shop Drawings and Submittals..... 03/09/2018
- 3. Commence Work for the Proposal:..... 03/12/2018
- 4. Bid Package Substantial Completion..... 08/21/2019
- 5. Project Substantial Completion: 08/21/2019

* The expectation is that there will be an early award of this Bid Package on 03/09/2018 to facilitate the electrical service refeed required for the North kitchen area addition to commence.

F. TRADE SUBCONTRACTORS AND MAJOR SUPPLIERS

The following trade subcontractors are proposed for the item of work listed. Trade subcontractors are subject to review per the General Conditions.

ITEM OF WORK	TRADE SUBCONTRACTORS
_____	_____ EMR: _____
_____	_____ EMR: _____
_____	_____ EMR: _____
_____	_____ EMR: _____

G. UTILIZATION OF MINORITY CONTRACTORS AND SUPPLIERS

1. The contract to be awarded is subject to contract compliance requirements mandated by Sections 4a-60 and 4a- 60a of the Connecticut General Statutes; and, Sections 46a-71(d) and 46a-81i(d) of the Connecticut General Statutes. There are Contract Compliance Regulations codified at Section 46a-68j-21 through 43 of the Regulations of Connecticut State Agencies, which establish a procedure for awarding all contracts covered by Sections 4a-60 and 46a-71(d) of the Connecticut General Statutes.
2. The Bidder will endeavor to obtain a minimum goal of twenty-five percent (25%) of the awarded amount to small business enterprises, with six and one quarter percent (6.25%) of the awarded amount to minority business trade subcontractors and/or suppliers certified by the **State of Connecticut**.
3. The successful Trade Contractor shall substantiate this participation within ten (10) days after receipt of Notice of Award. Refer to the General Instruction to Bidders for further information.
4. Indicate here the utilization of certified S/MBEs included in the base bid. Failure to comply with M/WBE participation goals may constitute a non-responsive proposal. IF NO INDICATION IS GIVEN, IT SHALL BE INTERPRETED THAT ZERO M/WBE PARTICIPATION IS INCLUDED.

This proposal includes _____% certified SBE participation.

This proposal includes _____% certified MBE participation.

5. S/MBE participation shall count toward stipulated contractual goals or requirements only allowed by Connecticut General Statutes and CHRO Regulations

H. UNIT PRICES

Unit Prices shall be used, where applicable, to make adjustments to the cost of the Work due to changes. All Unit Prices submitted shall be complete in-place prices (unless noted otherwise) and include all costs for overhead, profit, labor, materials, equipment, and any other incidentals related to the completion of the Work, and shall remain firm for the period of the contract. Unit prices listed are for additive work. Deductive unit prices in all cases are to be calculated the same as additive unit prices (100% if used in conjunction with an allowance).

UNIT PRICES:

31A -1	Imported structural fill.....	\$ _____	/CY
31A -2	Trench Excavation and backfill.....	\$ _____	/CY
31A -3	Bituminous Paving per detail 3 on C.200.....	\$ _____	/TN
31A -4	Concrete sidewalk, incl. excavation and backfill	\$ _____	/SF
31A -5	Common fill.....	\$ _____	/CY
31A -6	Screened gravel.....	\$ _____	/CY
31A -7	Processed gravel	\$ _____	/CY
31A -8	Crushed stone	\$ _____	/CY
31A -9	Topsoil and seeding.....	\$ _____	/SF
31A -10	Concrete Sidewalk per detail 5 on C.200	\$ _____	/SF
31A -11	Extruded concrete curb per detail 6 on C.200	\$ _____	/LF

31A-12	Traffic Signs per Detail 5 on Drawing C.201	\$ _____	/EA
31A-13	Rock excavation 0' – 6' (mechanical means for utilities)	\$ _____	/CY
31A-14	Rock excavation 6' – 10' (mechanical means for utilities)	\$ _____	/CY
31A-15	Rock excavation 10' – 15' (mechanical means for utilities)	\$ _____	/CY
31A-16	Rock excavation 0' – 6' (explosive means for utilities)	\$ _____	/CY
31A-17	Rock excavation 6' – 10' (explosive means for utilities)	\$ _____	/CY
31A-18	Rock excavation 10' – 15' (explosive means for utilities)	\$ _____	/CY

Changes in the Work. All bidders are herein advised that they are to provide, in the space provided below, a written description of how they would price lump sum changes. It is understood that the Unit Prices which you would insert in this Proposal Form response would be one element of the Change pricing, however, it is necessary to determine up front and reach agreement on, your intended method of determining units of labor productivity and material pricing as well. Bidders are to be explicit as to what Manual(s), if any, are intended to be utilized. Once accepted by the Construction Manager, provide copies of all applicable pricing manuals for use by the Construction Manual in evaluating Change Order pricing.

Provide labor rates which may be used, subject to review and approval, in pricing any extra work that may be required. Rates are to be complete billing rates and are to include actual wages, taxes, fringes, insurance, small tools and incidentals and **15%** overhead and profit (combined). Base price on current rates in effect at time of bid. As prevailing wages and fringes rate change, these increases will be added to the labor rates at actual cost. Increases in wage rates are subject to audit. Complete the attached Wage Rate Breakdown Form for each classification of worker anticipated to work on the Project.

I. ALTERNATE PRICES

An Alternate Price shall include all costs associated with the changes, omissions, additions or other adjustments to the Work of this Bid Package (Contract) which are described in the Alternate, or are reasonably inferable therefrom. Claims for extras resulting from changes caused by the acceptance or rejection of any Alternate will not be allowed. Alternate Prices shall also include all costs of overhead, profit and bonds associated with the work of the Alternate, whether additive or deductive.

The Drawings, Specifications and other Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternates. The Owner and the Construction Manager expressly reserve the right to accept or reject any, or all, Alternate Prices, and in any sequence prior to or after award. Acceptance or rejection of any Alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.

ALTERNATES:

1. Deduct Alternate No. 1: Toilet Rooms - DELETE new toilet room construction. Including slab demolition, partition demolition, MEP demolition; new partitions, doors and frames, toilet fixtures, and finishes at the following locations: K1A, K2A, 004A, 006A, 007A, 008A, and 009A.
 In lieu of new construction, existing toilet rooms as shown on AX2.12 shall remain as shown.
 New millwork and sinks shall be provided as shown in similar locations as existing; new hot and cold water piping to existing fixtures and new classroom sinks.

Add/Deduct: _____ Dollars (\$ _____)
Circle one Amount in words, in the event of a discrepancy, words will govern Amount in numbers

2. Deduct Alternate No. 3: Landscaping – DELETE, all new trees and shrubs as shown on drawing C1.05
 NOTE: Topsoiling, seeding, fertilizing and mulching of new lawn areas, including restoration of all damaged lawn areas shall remain in the base bid.

Add/Deduct: _____ Dollars (\$ _____)
Circle one Amount in words, in the event of a discrepancy, words will govern Amount in numbers

3. Add Alternate No. 1: Security Camera and Pole - ADD: a single 12 foot (12') tall standard lighting pole on a precast concrete base as shown on Civil drawings. Cost shall include pole, base, trenching and backfill, patching and repair of paved surfaces, power and technology wiring, and a camera as called out on technology drawings

Add/Deduct: _____ Dollars (\$ _____)
Circle one Amount in words, in the event of a discrepancy, words will govern Amount in numbers

4. Provide a full time flagger for use on the project for 17 weeks over and above the time stipulated in the bid documents.

Add/Deduct: _____ Dollars (\$ _____)
Circle one Amount in words, in the event of a discrepancy, words will govern Amount in numbers

J. ALLOWANCES

The Bidder includes the following Allowances and rates in the total Lump Sum Amount of the Base Bid for this Bid Package. Further to Article 10 in the General Conditions and unless noted otherwise below, the following allowance amounts include the Trade Contractor's cost of materials less applicable discounts, delivery to the site, applicable taxes, unloading, handling, installation, allowable overhead and profit. All other costs associated with completing the work described in the allowance is included in the base bid but outside of the allowance amount. Utilize the Unit Price values stipulated in Section H Unit Prices above to calculate allowance values below.

ALLOWANCES:

- 31A -1 Provide 40 hours of additional operator and labor to address unforeseen conditions.

Operating Engineer Journeyman:\$ _____/Hr X 40 hrs = \$ _____
 Laborer Journeyman:\$ _____/Hr X 40 hrs = \$ _____

31A -2 40 man-hours of premium time operator time and labor (Premium portion only) to accelerate work in addition to the base scope requirements as approved by the Owner. Note that the Trade Contractor remains responsible to maintain the schedule and that this allowance will NOT be used for that purpose.

Operating Engineer Journeyman:\$ _____/Hr X 40 hrs = \$ _____
 Laborer Journeyman:\$ _____/Hr X 40 hrs = \$ _____

K. COST AND QUANTITY BREAKDOWN

In order to properly evaluate the Proposal, provide the following information. The Scope of Work to be awarded will not be influenced by the cost and quantity information requested here.

1. **COST BREAKDOWN**

Total Material\$ _____
 Total Labor Cost\$ _____
 Total Subcontractor/Equipment Cost.....\$ _____
 Allowances.....\$ _____
 Total Bond Cost\$ _____
 Total Applicable Sales and Use Taxes.....\$ _____
 Total Bid\$ _____
 Total Estimated On-Site Man-hours _____

2. **QUANTITY BREAKDOWN** (Note: The items listed below are not intended to be an all inclusive listing, but merely to highlight some items of work.)

THE INFORMATION LISTED BELOW IN THE QUANTITY BREAKDOWN SECTION IS REQUIRED AT THE TIME OF BID SUBMISSION.

Item	Quantity	Total Cost
Mobilization	_____ EA	\$ _____
Safety	_____ LS	\$ _____
Temporary Walks & Driveways	_____ SF	\$ _____
Snow Clearing, Salt & Sand	_____ LS	\$ _____
Site Demolition	_____ CY	\$ _____
Site excavation	_____ CY	\$ _____
Building Excavation	_____ CY	\$ _____
Interior Excavation Under Existing Slabs	_____ CY	\$ _____
Building backfill	_____ CY	\$ _____
Temporary Fencing	_____ LF	\$ _____
Sanitary Systems	_____ SF	\$ _____
Storm Systems Excluding Retention Systems	_____ LF	\$ _____
Storm Retention Systems	_____ SF	\$ _____
Manholes	_____ EA	
Paving	_____ TONS	\$ _____
Sidewalks	_____ SF	\$ _____
Landscaping	_____ LS	\$ _____

Item	Quantity	Total Cost
Allowance	LS	\$ _____
Other	LS	\$ _____
Total Bid		\$ _____

L. SCOPE OF WORK

1. Description of Work Included

Except for those items (if any) specifically noted in the section below entitled "Description of Work Excluded", the Work of this Bid Package shall INCLUDE all of the following:

- a. All items of work required by, and/or specified in, those Sections of the Specifications which are listed herein, under Section M SPECIFICATIONS.
- b. All items of work related to the "Scope of Work", which are shown on the Drawings listed herein under Section N Contract Drawings.
- c. The following "Significant Items of Work" are related to those required by the above referenced documents and are to be provided under, and hereby form a part of, the Scope of Work of this Bid Package (Contract). Should any conflict exist between this written scope of work and the scope of work inferred by the above referenced documents, this scope of work shall govern. All items are furnished and installed by this Trade Contractor unless noted otherwise.

GENERAL

- 1. All individuals assigned to the Project site are required to undergo a background check by the Fairfield Police Department (FPD). The name and date of birth of the individual must be furnished to the Construction Manager at least seven (7) calendar days before the individual is to arrive on site. Individuals who have not been approved by the FPD will not be allowed on site. Individuals who are convicted sex offenders, who have committed crimes against minors, or who have been convicted of a serious felony are not permitted on the Project. Individuals with other offenses will be evaluated by the FPD on a case by case basis. ***NO FIREARMS ARE PERMITTED ON SCHOOL GROUNDS, REGARDLESS IF THE INDIVIDUAL HAS A VALID PERMIT TO CARRY.*** Violation of the firearms ban will result in immediate and permanent removal from the Project and all violations will be reported to the FPD.
- 2. Safety is the top priority. All work will be performed in strict accordance with all Federal, State, Local Safety Regulations and the Gilbane Safety Plan. The most stringent requirements will apply. This includes mandatory hardhats, safety glasses, safety vests and specifically Gilbane’s “six foot fall rule”. All workers on their first day on site are required to view a 20-minute safety video, which will be shown daily at Gilbane’s Office Trailer at the start of each working day. Every worker is required to participate in the Stretch & Flex program prior to starting work everyday. The Construction Manager will lead the Stretch & Flex program for 15 minutes starting at 7:00 am. The Trade Contractor is responsible for providing their personnel with the appropriate safety gear/equipment for their work. Confined space gear is required for all work in manholes/catch basins/ tunnels beneath the building.
- 3. Provide daily clean up of your work areas and all your debris. Daily clean up is defined as properly removing all debris, neatly organizing remaining material and broom sweeping

work areas after completion of the day's work at a minimum of EVERY SINGLE DAY and as required to maintain a safe work area and jobsite.

4. The project is on a very small and congested site. Traffic control is critical. The work hours on this project shall be from 7:00AM to 3:30PM to alleviate traffic issues during the student drop-off and pick-up times. Equipment and material deliveries may not be made between 7:45AM and 8:30 AM or between 2:30PM and 3:15PM. Deliveries attempted at other times will be turned away. Queuing up of delivery vehicles will not be permitted on Milandale Road, Jeniford Road, or Meadowcroft Road.
5. The school will remain active during construction. Access to the Site Use areas at the front of the school will be limited to prior to 7:45 AM and after 8:30, and prior to 2:30 PM and after 3:15 PM. No access will be allowed to this area during school pick-up and drop off.
6. Trade Contractor will not be allowed to begin work on the project until the following items have been submitted: Signed Contract, Certificate of Insurance with attached additional insured endorsement(s), written Safety Program, material status report and a list of all materials required under this Contract with indication of which materials require submittal for approval as outlined in the specifications.
7. Demobilize/remobilize as the construction schedule and/or weather conditions require at no extra cost.
8. Each Trade Contractor will be responsible for his own engineering and layout for the execution of his work. Benchmarks and horizontal axis will be established by the Construction Manager and will be transferred to slabs at each floor level . All layout is to proceed from these established benchmarks/axis.
9. Each Trade Contractor will perform a First Delivery Inspection of materials with the Construction Manager to confirm that materials meet the Project Specifications and approved submittals. These reports shall be turned in with the daily report no more than 24 hours after material arrival. Submission of the First Delivery Inspection Report is a condition of monthly payment. All delays that result from failure to confirm materials delivered with the Construction Manager are at the Trade Contractor's cost, including those of other Trade Contractors on this Project. The Construction Manager will provide a form for this use, which is to be jointly filled out by the Construction Manager and the Trade Contractor. It is the Trade Contractor's responsibility to perform subsequent delivery inspections to ensure compliance with Specifications. Include Benchmarking of initial installations in accordance with the Quality Plan in the Project Manual.
10. There will be no deviations from the submittal format established by the Project Specifications. It is the Trade Contractor's responsibility to complete submittals in a timely fashion, and to monitor the status of the A/E review. The Trade Contractors shall provide a Submittal Schedule no later than ten (10) days following the receipt of the Notice of Award. Include attendance and participation at a "pre-submittal" meeting to review all requirements. All submittals must be received by Construction Manager within 60 days of award, or earlier as required to meet delivery schedules. Include in the schedule a listing for any equipment or materials where shop drawings will take more than 4 weeks to prepare, and for equipment or materials that will take more than 6 weeks to arrive following shop drawing approval. The initial material status report must also be submitted with the submittal schedule and must show the projected dates for approved submittals, fabrication and delivery.

11. Gilbane has automated its monthly payment application process and solely utilizes an online web-based application provided by Textura LLC. Trade contractors will be required to participate and must implement Textura on the project.

Textura will automatically generate the AIA G702/703 and Lien Release Documents. Any additional documentation required as part of the Gilbane application process must be uploaded in the form of a PDF prior to your submission.

There is a nominal fee to use this service. These costs are summarized in the Textura brochure included in Section 00 62 90.8 of the Gilbane Project Manual. The costs of using this service must be included in your bid. If you have any questions regarding Textura's Terms and Conditions, costs of service, or training implementation please contact Textura at 866-TEXTURA (839-8872).

12. Any payment for overtime work, if authorized as an extra, is for labor, and not for equipment provided on job during regular shifts for base contract work. Trade contractors are obligated to perform contract, change order and/or time and material work on overtime or during off hours when so directed by the Construction Manager. Trade contractors are obligated to provide the additional labor as required to perform change order work as needed to maintain progress and meet base contract schedule requirements. If additional work is requested, authorized and directed to be performed on a time and material basis or otherwise during regular hours, the trade contractor shall provide the necessary manpower to perform the work during regular hours without impacting the progress of contract work.
13. The items listed herein are not intended to be an all-inclusive listing of the specified Contract Scope of Work, but merely highlight the major items of work. Review the Contract Documents for work by this Trade Contractor included within the other specification sections. Include all work within your specific scope of work which contained in other specifications, or on drawings whether or not specifically listed within the Proposal Form.
14. PARKING POLICY: Trade Contractors will be allowed to park on site within the project limits only. Access to the site for workers must be made prior to 7:30AM.
15. Each Trade Contractor, where applicable, shall receive, unload, and distribute, secure and install all materials furnished by others for installation as indicated within its specific scope of work and the contract documents.
16. All equipment used on the Jobsite shall have state of the art noise, vibration and exhaust control, scrubbers shall be installed as required to meet all applicable laws, ordinances and regulations.
17. All Trade Contractors are responsible for security of materials, equipment, and work in place until acceptance as it relates to your work. This includes the security and safety of your area(s) of work and includes providing safety barriers, safety signals, warning signage and precautions for the protection of all during normal work hours and off-hours.
18. Temporary toilet facilities will be provided by others at the site for the Trade Contractor's use.
19. Coordinate and cooperate with other Trade Contractors for the installation and/or testing of their work.

20. Furnish attic stock of all materials as specified. Note the requirement that all attic stock must be from the same production run as the materials applied on the project. Turnover of attic stock shall include a separate and distinct listing and schedule and listing of all materials. The list is to include the project name and date and, identify and describe each specific product and color and a description of where the product was applied. The description shall include the name of each manufacturer, the color and/or color formula, style, product number and/or style and where the item was purchased with a phone number and contact. Materials shall be packaged separately. Each box or package must also be identified and labeled the same way as in the listing. Deliver, unload and properly secure all attic stock to an area designated by the Construction Manager.
21. Protect all existing construction adjacent to the work of this bid package. Adequately and safely secure work whenever it is not manned and at the conclusion of each day. Provide and maintain protection for all equipment and material provided under this contract. Also include the protection of workers on the site, the public and other property as it relates to the execution of the work of this Bid Package.
22. Provide all shoring, bracing, staging, scaffolding, hoisting and/or rigging required to complete your work including any breakdown of equipment required to bring the equipment into the building and install it without cutting existing or new construction. This trade contractor shall be responsible for all costs associated with making and repairing openings in existing or new construction required beyond what is indicated in the contract documents to install his work. Take note of building access and make provisions to ensure that equipment will fit through permanent doorways and/or structure.
23. All Warranties and Guarantees shall commence as detailed in the Project Manual. Note, commencement of warranties and guarantee on this project is atypical.
24. Maintain the integrity of perimeter safety systems during the performance of your work until such time it is no longer needed. Any components of the perimeter safety system that are required to stay in place and were disconnected by a trade contractor shall be reconnected by the same trade contractor as required to ensure continuous safety measures. At all times provide protection of the perimeter openings regardless of whether or not the perimeter safety system as described in the safety plan is in place or not.
25. All deliveries, storage areas and lay down areas must be coordinated with the Construction Manager. Provide all measures necessary to ensure the protection and security of your materials until they are accepted by the Owner and move materials if they are interfering with the progress of other trade contractors.
26. Verify that all equipment and material which are provided under this contract are installed with adequate and code compliant access for service provided.
27. Provide all temporary power needed for your office/break/storage trailers or similar facilities (including hook-ups). Cost of Utility power consumption will not be paid by others.
28. Trade contractors may install clips and hangers prior to spray-on-fireproofing. Each Trade Contractor shall remove spray fireproofing as required for the installation of his work after the application of the spray fire proofing. Each Trade Contractor shall broom clean floors of removed fireproofing daily. If the spray fireproofing is damaged, or if excess amounts are removed, the offending trade contractor shall be responsible for all costs of repair. "Excess amounts" is defined as exposed steel.

29. File for and obtain all required permits for your work. This Trade Contractor and all its subcontractors shall obtain all permits required and arrange for testing, inspection and approval of this work, such that the work of other trades can progress in a continuous manner. Provide the Construction Manager with copies of all permits prior to the start of work. General building permit fees will be paid by others (Town of Fairfield), the trade contractor is responsible for obtaining and paying for licensing fees and utility taping fees.
30. Provide supplemental lighting, ventilation and power that may be required to perform any work of this bid package beyond what is indicated in General Conditions or noted within this specific scope of work.
31. Should the Engineer allow the use of its CAD files for coordination or other purposes, this Trade Contractor shall sign any required release and compensate the Engineer as requested.
32. Submit, receive approval, and deliver their equipment and material to the required point of use in timely manner so as to maintain the project schedule as prepared by the Construction Manager.
33. Include all traffic control, police details, signage and barricades required on-site and off-site to maintain vehicle and pedestrian traffic and coordinate concurrent trade contractor access to construction area all as required to complete the work of this Bid Package. Include all signage required by the local governing authority and permits and fee's where applicable.
34. Provide to the Construction Manager, at least ten (10) days prior to mobilization, the following: A work plan and schedule detailing all means and methods, sequence/flow of work, worker and site supervisor manpower utilization, copies of all applicable licenses, first aid certificates, CPR certificates, a site specific Health & Safety Plan and copies of all Applicable Contractor Licenses.
35. Provide all costs for standby trades should your work be performed during other than normal working hours.
36. The Construction Manager must receive the required data prior to processing this Trade Contractor's request for monthly and/or final payment. Failure to provide the required data in a timely enough manner so as to allow the Construction Manager and others to review and approve the data prior to the submission deadline will result in the trade contractor's application for payment being delayed until the next billing cycle.
37. Include snow removal as necessary to perform your work, except access to the site and slabs, which is by others. Snow and ice removal, including sanding for access to the site, site roads, staging areas, Construction Manager's office trailers (including deck and steps), and at the Trade Contractor parking areas is by the BP 31A trade contractor.
38. Participate with the inspection walkthroughs as requested by the Construction Manager. Provide suitable access for inspectors to perform all tests or inspections. Trade Contractor supplied temporary ladders and lifts to perform their work are to be available for the use of all parties.
39. The site is somewhat restricted with surrounding occupied residential building as well as adjacent elementary school. Deliveries and storage must be coordinated with the Construction Manager in advance. On site storage will not be available without prior approval by the Construction Manager.

40. Immediately notify the Construction Manager of any delays to the schedule of this bid package scope which is being caused by the work of any other Trade Contractor on site. This requirement supersedes other notice provisions in the Contract Documents for this type of delay.
41. Sets of documents are available at the Trade Contractor's expense. Universal Copy, LLC, 83 Bank Street, Waterbury, CT 06702, t. 203.757.2100 for a fee.
42. It is the Trade Contractor's responsibility to request a preconstruction meeting 30 days prior to commencement of work or 30 days prior to the start of shop drawings where coordination with other trades are required.
43. Fire Stop Systems – A single source fire stop manufacturer will be selected by the Construction Manager from the list of providers noted in the Contract Documents. The trade contractor will be required to provide fire stop systems as it applies to the individual scope. The trade contractors shall also include fire stop / safe labeling and tagging each penetration or application with data including but not limited to Installer, Contractor, Location, System used, and date. Also, the trade contractor shall provide data log entries for use in generating an as-built plan including location.
44. Refer to perimeter fencing and gates as indicated on the Site Utilization Plan. The site contractor will provide all fencing and it is each trade contractor's responsibility to keep the gates closed when entering or exiting the site. The gates shall be closed at all times. This will be included as part of the initial orientation process but must be reinforced by the trade contractor's project manager and field supervisor.
45. Gilbane, along with the Owner and Architect, have elected to utilize iBuild. iBuild is an internet based program designed to enhance collaboration amongst the project team members, and was created by Gilbane in conjunction with InQuest. There are no fees to utilize iBuild. iBuild requires Internet Explorer version 7.0 or higher, a current version of PDF writer, Windows XP, Vista, Windows 7 supported, and a high speed internet connection. The use of PDF, jpg (photos only) or dwg files will be required as upload formats for this system. Paper copies of documents will not be utilized or accepted. See section 00 72 26 General Conditions for Trade Contractor Agreements, subsection 14 Submittals for more information on iBuild.
46. All reference in the contract documents to the Construction Manager/General Contractor/Contractor as performing any field work or providing services in connection with any aspect of the Work shall be understood to mean the Trade Contractor. The Construction Manager will not layout, log, record, or otherwise provide actual work or service related to the Trade Contractor's scope of work, inclusive of Division 0 and Division 1 specifications.

SPECIFIC ITEMS:

1. Provide all labor, materials, equipment and services required to complete all Sitework and related work, including, but not be limited to clearing, dust control, dewatering, soil erosion and sediment control, environmental protection, earthwork, foundation excavation, building backfill, utility installation, retention system installation, paving, sidewalks, bollards, topsoil, temporary construction driveways, gravel work areas, semi- permanent fencing, moveable fencing.

2. Provide all work as specified in the following Specification Sections and as shown on the drawings (all drawings). The work specified in the following specification sections is the sole responsibility of this Trade Contractor unless modified below:
 - Section 02 01 00 Protection of Existing Utilities
 - Section 02 21 13 Project Surveying and Layout
 - Section 02 32 13 Subsurface Drilling and Sampling
 - Section 07 92 00 Joint Sealants
 - Section 31 10 00 Site Clearing
 - Section 31 20 00 Earth Moving
 - Section 31 23 19 Dewatering
 - Section 31 50 00 Excavation Support and Protection
 - Section 32 12 16 Asphalt Paving
 - Section 32 12 23 Imprinted Asphalt
 - Section 32 13 13 Concrete Paving
 - Section 32 17 23 Pavement Markings
 - Section 32 17 26 Tactile Warning Surfacing
 - Section 32 31 13 Chain Link Fences and Gates
 - Section 32 92 00 Turf and Grasses
 - Section 32 93 00 Plants
 - Section 32 94 00 Topsoil
 - Section 33 41 00 Storm Utility Drainage Piping
 - Section 22 11 13 Facility Water Distribution Piping
 - Section 22 13 13 Facility Sanitary Sewers

In addition, the Trade Contractor shall provide work specified elsewhere in the Specifications and specifically listed within this scope of work.
3. Prepare all areas for construction. Remove trees and plantings indicated on drawings and Gilbane Site Utilization Plan or otherwise necessary to perform work outlined in the contract documents. Restore all areas at the completion of the project. Do not remove or clear areas not specifically indicated in the documents without prior approval from the Construction Manager. Protect trees and vegetation that is scheduled to remain from damage, traffic or storage.
4. Perform all site demolition of sidewalks, curbs, fencing, paving, retaining walls, structures, landscaping and furnishings as shown. Provide all site removals indicated on C.101 with the exception of the existing portable at the southwest corner of the classroom addition. Include removal of the existing tracking pads and restore the existing grass areas at the locations disturbed by the relocation of the existing portable from behind the school to its new location at the northwest corner.
5. Verify dimensions and length of pipe for all utilities. Information provided on the drawings is for convenience only and should not be used for estimating or pricing purpose
6. Provide Site Water Systems including fire main, fittings, accessories, underground valves, indicator posts, valve boxes, fire hydrants for limit of work description in accordance with documents. Piping to the building shall be installed to just inside the building with a flange and the opening protected. Provide linkseal or other method of waterproofing all pipe penetrations into basements. Installation of the water main shall be done on off hours (evenings/ weekends) if required, and installation of such cannot in any way impact vehicle or pedestrian traffic to the site during school hours.

7. Conduct a precondition site survey. Survey to include examination, assessment and documentation of the existing building conditions. Include photographs and a videotape of any preexisting damage to the building. Submit survey to the Construction Manager immediately upon its completion and before any disruptive activities begin.
8. Provide all lines, grades, layout, field engineering and survey work as required to complete this scope of work.
9. Inspect and maintain storm water control measures including but not limited to erosion controls, hay bales, rock traps, etc. as required by Federal and State regulations and the specifications, whichever is more stringent, until such time as these systems are removed. Inspect weekly or after a storm or rainfall event, whichever is more frequent. Keep a log of deficiencies and repairs, provide a copy of the weekly report to the Construction Manager.
10. Provide Storm Sewage Systems including storm drainage piping to just inside the building with a flange and the opening protected, accessories, manholes, catch basins, paved area drainage, site surface drainage and trench drains in accordance with documents. Provide linkseal or other method of waterproofing all pipe penetrations into basements.
11. Review sequencing of construction required for the storm system revisions as noted on C.302. Provide all work associated with the relocations and sequencing, and carry temporary measures as might be required to ensure continuous operation of the storm drainage systems.
12. Provide Sanitary Sewage Systems including sanitary drainage piping to just inside the building with a flange and the opening protected, accessories, manholes, catch basins, paved area drainage, site surface drainage and trench drains in accordance with documents. Provide linkseal or other method of waterproofing all pipe penetrations into basements. Connection to the existing sanitary sewer shall be made by a licensed and bonded Contractor with the Town of Fairfield. A current P-1, P-7, or W-9 Connecticut License is required.
13. Pump out grease from existing underground grease trap prior to removal. Confirm whether waste can be discharged on site prior to pumping; if not make arrangements to truck waste offsite for proper disposal.
14. Remove by pumping or other means water accumulated in excavation until earthwork operations are complete (backfilled) to maintain a stable excavation and undisturbed subgrade at all times; and to allow construction to proceed in-the-dry. Properly discharge any pumped water through filtration or sedimentation methods per State and/or Federal guidelines and per the Contract Documents. All dewatering shall be performed at the Trade Contractor's expense.
15. Construct and maintain an area for concrete truck washout. Remove and dispose of all concrete washout material, regardless of which trade contractor generated the washout.
16. Provide all Traffic Control required on-site and off-site maintaining vehicle and pedestrian traffic in the public right-of-way during the course of your work. Include police duty and signage as necessary. Coordinate concurrent trade contractor access to construction area

17. Procure any and all permits, as required, to complete the work of this bid package and furnish copies of all permits to the Construction Manager as required. General building permit will be obtained by the Construction Manager. Include all costs for utility company tie-ins. A permit from the Fairfield Sewer Office will be needed for the Sewer connection and also for the new grease trap. Permit applications with the Tree Warden are required for the removal of trees and the planting of new trees.
18. Include earthwork, excavation and backfill for all Site Utilities whether or not being installed by this Trade Contractor (i.e. electrical duct bank).
19. Provide excavation and backfill for all under-slab utilities within the building. Particular attention should be made to the underground utilities shown on the Mechanical, Electrical, Plumbing and Fire Protection drawings. Include all coordination, excavation and backfill as required.
20. Provide vapor barrier and adhesives as indicated on the drawings and specified in section 07 21 00 Building Insulation. Provide all mastic dampproofing and ridged insulation at both vertical and horizontal applications. Rigid insulation shall be in accordance with specification section 07 21 00 - Building Insulation.
21. Provide all concrete work outside the foundation of the building and as necessary to provide a complete installation of all work required by this Trade Contractor, including but not limited to sidewalks, curbs, equipment pads, concrete encasement around piping and duct banks, etc., thrust blocks, paving beds, pathway and other light foundations, light pole bases, stone wall footings, site stairs and ramps.
22. Provide drain, sewer, and electric manholes including frames, covers and grates as indicated and as required to meet the requirements of the respective utility company.
23. Prior to any site disturbance there shall be a pre-construction meeting held with Conservation Department staff, the permittee, the Construction Manager, the approved environmental site monitor, and any other necessary subcontractors or individuals INVOLVED WITH ANY SITE WORK OUTSIDE OF THE BUILDING to review staff's concerns for phasing, erosion and sediment control, recharge, IPM and general site development. ALL PARTIES, the Construction Manager, the approved environmental monitor, and any other necessary subcontractors or individuals INVOLVED WITH ANY SITE WORK OUTSIDE OF THE BUILDING SHALL DEMONSTRATE AT THE PRE-CONSTRUCTION MEETING THAT THEY ALL HAVE THE FINAL APPROVED PLANS THEY WILL ADHERE TO UNDER THIS CERTIFICATE APPROVAL.
24. Immediately upon contract award, install fencing, gates, stone parking and laydown areas as shown on the Site Logistics plan. Include fence modifications and laydown / staging area adjustments required to be made at the end of each phase. Include regrading the Milandale Road entrance as necessary to provide tractor trailer and car traffic access to the construction trailers staging area. Modify the existing fencing as necessary to allow the installation of a two lane (16' minimum) rolling gate for access control. Include removal and restoration of the field and entrance area when directed
25. Protect the existing field and irrigation system by installing metal protection over sprinkler heads and shallow piping adequate enough to support vehicle traffic. Protection shall be installed under the 6" of gravel and filter fabric required. If protection of the existing system is not viable, include replacement of the existing system affected by the site use plan.

26. Provide 6" of process stone over filter fabric at site use / laydown areas shown on the phasing plan included in the project manual. ~~gravel with filter fabric underneath at the site use / laydown areas shown on the Phasing plan included in the Project Manual.~~ Stockpile location shall be per the phasing plan and note as shown on the C.300 drawings. Include removal of topsoil and filter fabric and restoration of the site use areas (topsoil, seeding, landscaping, irrigation, etc.) in their entirety at the end of each phase or as directed by the CM.
27. Provide all temporary signage required for site use and identified on the Site Utilization plans.
28. Provide flagger for the duration of the time you are active on the project.
29. Provide storm water control measures including, but not limited to, silt fence, erosion controls, hay bales, rock traps, anti-tracking pads, dewatering etc. as required by Federal, State and Local regulations and the Contract Documents, whichever is more stringent, until such time as these systems are removed. Inspect weekly or after a storm or rainfall event, whichever is more frequent. Keep a log of deficiencies and repairs, provide a copy of the weekly report to the Construction Manager. Remove all built-up silt and debris at storm systems prior to their release downstream; the storm system is to be cleaned of any and all accumulated silt and debris as required. Dispose of all silt and debris material legally.
30. Provide and maintain on site at all times, one Emergency spill kit similar to Safety Source Northeast (800-364-6113) Catalog N: SKA-20 including at least (12) pads 16" x 20", (3) Booms 3" x 12', (2) pillows 18" x 18", goggles, nitrile gloves and (3) disposal bags.
31. Include all site snow removal and sanding as required outside of the footprint of the building and within the fenced areas of the site utilization plan. Maintain snow removal on the access way from the courtyard to the area outside of the fence. Plowing and piling of snow to be confined within the site clearing limit lines. Snow removal is to be included as needed at all access roads to the site use area, including the trades parking areas and staging areas. Sanding and snow removal work shall be completed by 6:30 AM each work day. The site has limited staging areas for material and equipment. Haul offsite and legally dispose of any excess snow that cannot be stockpiled on site.
32. Provide a level work surface around the buildings as required for general access, staging, scaffolding, material, hoisting, etc. Install temporary trade parking area as shown on the Site Logistics Plan and maintain it during the construction period, temporary parking to be processed aggregate approximately 4" six inches (6") thick, pitch to drain. Re-grade/repair areas that become damaged during construction period. Remove at completion of project prior to making final site improvements. Provide graded, compacted processed aggregate lay-down areas for the structural steel and masonry trade contractors as shown on the site logistics plan, include access roads to these laydown areas. Provide access ramps as required for the concrete contractor to access foundation area for cranes and concrete trucks. Provide level area free from standing water for the structural steel erector's crane including the area required for access and staging in accordance with Subpart R of the 1926.750-761 OSHA Regulations, review site logistics plan for crane locations.
33. Include all site preparation work for the Construction Manager's field office and contractor storage area indicated on the Site Utilization/ Logistics Plan. Provide ¾" stone parking

- area (for 12 vehicles) adjacent to field office trailer . After removal of trailers, remove stone and complete as indicted in the contract documents.
34. Provide temporary construction fencing and gates as indicated on the site logistics plan and drawing. Temporary Construction fencing to include red privacy screen. Maintain and relocate fencing as indicated. Remove temporary construction fencing and gates upon completion of the project or as directed by the Construction Manager.
 35. Provide all dumpsters required to complete this work. Coordinate the location of your dumpsters with the Construction Manager. The Construction Manager's dumpster shall not be used by this Trade Contractor. Remove and legally dispose of all demolished materials. To the greatest extent possible the Trade Contractor shall recycle demolition material. Provide Construction Manager with documentation of the quantities of materials (tonnage) removed from the site. Also provide documentation of the quantities of materials (tonnage) recycled. In the event that the materials are not directly recycled by the Trade Contractor, provide copies of the monthly recycling report generated by the facility(ies) which receives the demolition debris. The Project has a goal of recycling at least seventy-five percent (75%) of the waste materials generated by the Project.
 36. At the completion of the project, complete the following final cleaning items related to sitework:
 - a. Remove all fencing, erosion and sedimentation control materials and re-grade/landscape as required to create smooth transition.
 - b. Clean entire project site, including landscape and existing wooded areas, of all rubbish, litter, debris and other extraneous materials.
 - c. Sweep paved areas broom clean. Remove stains and spills.
 - d. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.
 - e. Clean all catch basins within the Project limits.
 - f. Remove marks, stains, finger prints, and other soil from finished, painted, decorated or stained surfaces of site furnishings and sidewalks
 37. The Site Contractor shall request in writing to receive an inspection of the infiltrators, dry wells or galleries, roof leaders and overflow pipes backfilling over manhole covers. This request shall be made at least one week prior to anticipated inspection. No portion of the performance bond will be released unless this inspection has been made.
 38. In addition to the As-Built survey requirement in the specifications, provide a topographic survey of all areas impacted to verify the new grades are met or the restoration of the old grades was maintained.
 39. Patch and pave all excavations in active parking and driveways as required throughout duration of construction.
 40. Recondition the site (level and grade) at the location of the portables currently in use at the northeastern corner of the school after their removal. Removal is by others.
 41. It is the intent of the project to have the work associated with the electrical refeed required for the kitchen addition proceed immediately after contract award.

42. Provide all site bollards required. Coordinate with the electrical drawings for bollards required at utility transformers.
43. Provide crushed stone pathway in the new addition courtyard for use as an egress pathway during Phase 1. The existing classrooms currently exit via concrete ramps from the classrooms. The egress path will need to be high enough to allow classrooms to exit without the need for a ramp.

2. Description of Work Excluded

- A. Interior sawcutting and concrete slab removal.

M. SPECIFICATIONS

The following Specifications Sections, together with the Drawings and other related items of work as described herein, further define the Scope of Work of the Bid Package (Contract) Note these lists may be modified by Bid Supplements and Addenda.

Reference Kenneth Boroson Architects specification listing found under the Table of Contents in Volume 2 and Volume 3 of the Specifications, dated September 01, 2017.

N. CONTRACT DRAWINGS

The following drawings are included in the Scope of Work of this Bid Package. This list may be modified by Bid Supplements and Addenda.

Reference Kenneth Boroson Architects drawing list found on drawing A0.01, dated September 01, 2017.

O. The undersigned represents that this Proposal is made in good faith, without fraud, collusion, or connection of any kind with any other bidder of the same work, that he is competing in his own interest and in his own behalf, without connection of obligation to any undisclosed person, that no other person has any interest in regard to all conditions pertaining to the Work and in regard to the place where it is to be done, has made his own examination and estimates and from them makes this Proposal.

The undersigned represents that he has reviewed the Trade Contract Agreement issued as part of the bidding documents, agrees that if selected for award he will execute the Trade Contract Agreement without exceptions, exclusions, qualifications, clarifications and/or alterations, and is authorized to make such representation on behalf of the Bidder.

The undersigned represents that he has reviewed the insurance requirements in Article 6 of the Trade Contract Agreement, has included all costs to fully comply with same, and is authorized to make this representation on behalf of the Bidder.

Bidder: _____
(Legal Signature) (Type/Print Name)

(Title)

Firm: _____ Address: _____

Business Phone No.: () _____

Business Fax No.: () _____

This bidder is a (an): _____ Individual, Partnership, Corporation

Current Experience Modification Rating _____ **Federal ID#** _____

OSHA Incident Rates: Recordable _____

List here by title and number all licenses held by the bidder associated with the performance of this work.

License Title	License Number
_____	_____
_____	_____
_____	_____

Indicate the name of the health plan(s) to which benefits will be paid for all employees working on this project. _____

The full names, addresses and telephone numbers of all persons interested in this Proposal, as principals are as follows:

NOTE: This Proposal must bear the written signature of the Bidder.

- a. If the Bidder is an Individual doing business under a name other than his own name, the Proposal must so state, giving the address of the Individual.
- b. If the Bidder is a Partnership, the Proposal must so state, setting forth the names and addresses of all Partners, and must be signed by a Partner so designated as such.
- c. If the Bidder is a Corporation, the Proposal must be signed by a duly authorized officer or agent of such Corporation.

BREAKDOWN OF HOURLY RATES

WORKERS TITLE: _____

	STRAIGHT TIME	ADD for 1 ½ TIME PREMIUM	ADD for DOUBLE TIME PREMIUM
BASE WAGE RATE			
F.I.C.A.			
F.U.T.A.			
S.U.T.A.			
GEN. LIABILITY INS.			
WORKER'S COMP. INS.			
WELFARE FUND			
PENSION FUND			
APPRENTICE FUND			
VACATION FUND			
ED. & CULT. FUND			
DEFERRED INCOME FUND			
PAID HOLIDAYS			
OTHER: _____			
SUBTOTAL			
OVERHEAD & PROFIT (15%)			
TOTAL			

SUBMITTED BY: _____

Not to be included in the wages above:

BOND PREMIUM.....			
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**HOLLAND HILL ELEMENTARY SCHOOL
105 MEADOWCROFT ROAD
FAIRFIELD CT**

SDE PROJECT NO. 051-0146 EA

PHASE 1 of 3

ADDENDUM #1
Bids Due- February 28, 2018

Date: February 23, 2018

From: Kenneth Boroson Architects

REVISIONS TO SPECIFICATIONS:

REVISE, specification section 04 20 00 as follows; DELETE para 2.2 B-3 and SUBSTITUTE
“Face brick shall be Watson town Brick Co Hillcrest sanded matt type 2 modular units.

Submit samples for color/texture verification.”

REVISE specification section 08 88 56.40, Bullet Resistant Pressure Plate Frames, see attachment

REVISE specification section 09 30 13, Ceramic Tile, see attachment

REVISE specification section 09 65 19, Resilient Flooring, see attachment

REVISE specification section 09 68 00, Carpet, see attachment

ADD specification section 28 31 11, Digital Addressable Fire Alarm Systems, see attachment.

REVISIONS TO DRAWINGS:

See attached roof key plan showing existing warranty information requested.

REVISE drawings S-1, S-2, and S-4, see attachment

END OF ADDENDUM NO. 1

SECTION 08 88 56.40

BULLET RESISTANT PRESSURE PLATE FRAME ASSEMBLY
REVISED: 2018-02-23

PART 1 GENERAL

1.1 REFERENCE

- A. Underwriters Laboratory UL 752-Standard for Bullet Resisting Equipment, ASTM C 1172 - Standard Specification for Laminated Architectural Flat Glass, NIJ Standard 0108.01 - (National Institute of Justice) Standard for Ballistic Resistant Protective Materials (September, 1985). ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate, ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- B. The general provisions of the contract, including General and Supplementary General conditions and Division 1, General Requirements apply to the work specified in this section. Note also all Addenda.
- C. Section includes: Bullet resistant thermally broken fixed exterior window frames and glazing at window types W1, W2, W3, W7, W9, W10, and W11.
- D. Related Sections:
 - 1. Section 04810 – Unit Masonry Assemblies
 - 2. Section 07920 – Joint Sealants
 - 3. Section 08110 – Hollow Metal Doors and Frames
 - 4. Section 08411 – Aluminum Framed Storefronts
 - 5. Section 08710 - Finish Hardware
 - 6. Section 09250 – Gypsum Board
 - 7. Section 09900 – Paintings and Coatings
 - 8. Section 019113 - Commissioning

1.1.1 GREEN REQUIREMENTS

- A. The Owner requires the Contractor to implement practices and procedures to meet the project's environmental performance goals. Specific project goals that may impact this area of work include: use of recycled-content materials; use of locally-manufactured materials; use of low-emitting materials; construction waste recycling and an indoor quality management plan. The Contractor shall ensure that the requirements related to these goals, as defined in the sections below, are implemented to the fullest extent. Substitutions, or other changes to the work proposed by the Contractor or their Subcontractors, shall not be allowed if such

1.2 SUBMITTALS

- A. The following shall be submitted by the manufacturer in accordance with Sections 13070 and any Special Contract Requirements: Submit for approval prior to

fabrication: samples, product data (including preparation, storage and installation methods), cuts & anchor spacing, reinforcement & location, product specifications, shop drawings, test reports (current UL Listing Verification & UL 752 Test Results as provided by Underwriters Laboratories), and printed data in sufficient detail to indicate compliance with the contract documents.

- B. Provide manufacturer's instructions for installation and cleaning of TSS Bullet Resistant Assemblies. All required submittals shall be approved prior to installation.

1.3 DESIGN PERFORMANCE

A. Through the design, manufacturing techniques and material application the TSS Bullet Resistant Pressure Plate Frame assembly shall be constructed of an extruded aluminum in 6061-T6 alloy/tempered. With a UL Standard 752 Level 3, 4 or 5 protection rating. Door and frame to have no exposed fasteners, corner joints shall consist of extruded and keyed aluminum spline with continuous 3/8" diameter steel tie rod at door top and bottom rails. All joints and connections shall be tight, providing hairline points and true alignment of adjacent members. Panels shall not be removable from threat side. Door system to be available in Right hand, left hand and reverse swings.

B. Frame to defeat ballistic assaults from ballistic projectiles as tested with UL Standard 752 at Underwriters Laboratories, L3.

1.4 QUALITY ASSURANCE

- A. Manufacturer shall be a Company that specializes in manufacturing products of the specified type with a minimum of five years experience. Installer shall be a Company that specializes in product type specified. Manufacturer shall provide a sample with color/finish to the Architect for approval prior to start of work.

1.5 DELIVERY, STORAGE & HANDLING

- A. Delivery the materials to the project with the manufacturer's UL Listed Labels intact and legible. Handle the materials with care to prevent damage. Store materials inside and under cover, stack flat and off floor. Project conditions (temperature, humidity, and ventilation) shall be within the maximum limit recommendations set by manufacturer. Do not install products that are under conditions outside these limits.

1.6 WARRANTY

- A. All materials shall be warranted against defects for a period of 1 year for the date of receipt at the project site. Certificates of manufacturer's standard limited warranty shall be provided at project completion.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Products shall be manufactured by: Total Security Solutions, Inc, 170 National Park Drive, Fowlerville, MI 48836, 866930-7807. Jim Richards, info@tssbulletproof.com .
Web: www.tssbulletproof.com . No substitutions shall be accepted.

2.2 PRODUCT: BULLET RESISTANT STOREFRONT FRAMING LEVEL 3

- A. Product to be: Total Security Solutions Bullet Resistant Aluminum Pressure Plate Framing System. Head and sill are one piece extrusions with no integral weep system at the sill. Jambes are two piece extrusions with removable faces to allow for re-glazing. Mullions are a three piece extrusion with removable faces to allow for glazing and individual lite replacement. All joints and connections shall be tight, providing hairline joints and true alignment of adjacent members. Glazing must not be removable from the threat side of the sash. Provide to dimension heights and widths indicated on the Drawings. All frames shall be thermally broken.
1. System shall be designed to defeat ballistic assaults from ballistic projectiles in accordance with UL 752, Level 3.
 2. Aluminum Frames:
 - a. Size 2 inches by 5.1875 inches.
 3. Glazing:
 - a. Glazing to conform to UL 752 of the following protection level. Level 3.
 - b. Glazing Type: PAS 3-500, 1 ¼" thickness, at all lower level panels
 - c. Standard 1" insulating glass panels, consisting of laminated outer and annealed inner glass panels. See section 08800 for additional information.
- B. Bullet Resistant Pressure Plate System: Total Security Solutions Bullet Resistant Aluminum Pressure Plate Framing System. Head and sill are multi piece extrusions with an integral weep system at the sill. Jambes are multi piece extrusions with removable faces to allow for re-glazing. Mullions are multi piece extrusions with removable faces to allow for glazing and lite replacement. All joints and connections shall be tight, providing hairline joints and true alignment of adjacent members. Glazing must not be removable from the threat side of the sash. Provide to dimension heights and widths indicated on the Drawings.
1. System shall be designed to defeat ballistic assaults from ballistic projectiles in accordance with UL 752, Level 3.
 - a. Aluminum Frames: Head, Sill and Jamb Size: 2" x 5.1875", Mullion 2" x 5.1875".
 - b. Glazing: conform to UL 752 for protection Level 3

C. Bullet Resistant Door System: Total Security Solutions Bullet Resistant Aluminum TSS-BL3-DR Bullet Resistant Door System. All joints and connections shall be tight, providing hairline joints and true alignment of adjacent members. Corner joinery shall consist of heavy duty extruded and keyed aluminum corner splines with continuous 3/8 inch diameter tie rod construction. Glazing must not be removable from the threat side of the door. Provide to dimension heights and widths indicated on the Drawings.

1. System shall be designed to defeat ballistic assaults from a .44 magnum handgun in accordance with UL 752, Level 3
 - a. Aluminum Doors: Top rail and stile 2-3/4" (70 mm), Bottom rail 10" (216 mm) including glass stops.
 - b. Aluminum Door and Sidelight Frames and Extrusions: 1 3/4" (44mm) x 4" (102mm), Structural section .125" thickness
 - c. Glazing: conform to UL 752 for protection Level 3
 - d. Hardware: Select SL-11HD continuous aluminum gear hinge, Adams Rite MS1850 deadlock, with Adams Rite 4510 Series mortise thumb turn and or Keyed mortise cylinder, 9" aluminum pull handle and door width push bar as selected by architect. LCN 400 series heavy duty door closer.
2. Door Frame Construction: Frames shall provide equal UL protection level as door, non-ricochet type, Aluminum ballistic extruded aluminum in 6061-T6 alloy, Kynar finish. Door hardware includes: HD continuous hinge, push/pull handle, mortised lock, overhead closer. Optional hardware: exit devices, electric strike plate, and custom security hardware. Shipped fabricated and ready for field installation. Stile: 2 3/8" medium style door system.

D. Operable Sash: Provide AWNING type operable sash where located on drawings; sash shall be fabricated from L3 materials similar to frames. Provide L3 glazing. Hardware shall include hinges and opening limiters that restrict panel swing to 2" of clear opening, edge of fixed frame to edge of operable sash frame.

E. Finish: Kynar High Performance Coating.

F. ADD ALTERNATE NO. 2: L4 BALISTIC GLAZING

1. In lieu of L3 ballistic glazing at locations indicated, provide L4 ballistic glazing. Framing shall remain L3.

PART 3 EXECUTION

3.1 PREPARATION

- A. Prior to installing the bullet resistive material, the contractor shall verify that all supports have been installed as required by the contract documents and architectural drawings, and approved shop/CAD drawings, if required. Installer shall notify architect of any unsatisfactory preparation that is responsibility of another installer.
- B. Clean and prepare all surfaces per manufacturers recommendations for achieving the best results for the substrate under the project conditions.

3.2 INSTALLATION

- A. Do not begin installation until openings have been verified and surfaces properly prepared in accordance with Drawings. Install in accordance with manufacturer's instructions and UL 752. Set all equipment plumb.
- B. TSS Bullet Resistant Store Fronts Install in accordance with manufacturer's instructions.
Install plumb, level, square, true to line, and without warp or rack. Provide all fasteners required for installation. Anchor frames securely in place to supports. Use attachment methods permitting adjustment for construction tolerances, irregularities, alignment, and expansion and contraction. Separate aluminum from other metal surfaces with bituminous coatings or other means approved by Architect. Sheet Metal Flashing: Coordinate with sheet metal flashing as specified in Section 07620. Joint Sealants: Install joint sealants as specified in Section 07920.

3.3 POST APPLICATION

- A. TSS BL3 Bullet Resistant Store Fronts shall be installed in accordance with manufacturer's printed recommendations, including adhering to anchoring and finishing details. Method of application shall maintain the bullet resistive rating at junctures with concrete floor slabs, the concrete roof slabs, the bullet resistive door frames, the bullet resistive window frames and all required penetrations.
- B. Inspection and Cleaning: Verify installation is complete and complies with manufacturer's requirements. Clean product and accessories, removing excess sealant, labels and protective covers.
- C. Touch-up, repair or replace damaged products before Substantial Completion.
- D. Product Warranty: Applicable warranty shall be issued to owner upon final release of completed project.

END OF SECTION

SECTION 09 30 13

**CERAMIC TILE
REVISED 2018-02-23
(REPLACEMENT SECTION)**

PART 1 - GENERAL

1.1 CONDITIONS AND REQUIREMENTS

- A. The General Conditions, Supplementary Conditions, and Division 1 – General Requirements apply.

1.1.1 GREEN BUILDING REQUIREMENTS

The Owner requires the Contractor to implement practices and procedures to meet the project's environmental performance goals, which include complying with CTHPB standards. Specific project goals that may impact this area of work include: use of recycled-content materials; use of locally-manufactured materials; use of low-emitting materials; construction waste recycling and an indoor quality management plan. The Contractor shall ensure that the requirements related to these goals, as defined in the sections below, are implemented to the fullest extent. Substitutions, or other changes to the work proposed by the Contractor or their Subcontractors, shall not be allowed if such changes compromise the aforementioned environmental compliance goals.

1.2 SECTION INCLUDES

- A. Porcelain Floor Tile
- B. Ceramic Mosaic
- C. Marble saddles.
- D. Setting materials and accessories.
- E. Grouting materials.

1.3 RELATED SECTIONS

- A. Section 01575 – Construction Waste Management.
- B. Section 01810 – CT HPB Requirements.

- C. Section 03300 – Cast-in-Place Concrete.
- D. Section 03371 - Shotcrete: Substrate for ceramic tile.
- E. Section 07130 – Sheet Waterproofing.
- F. Section 07920 – Joint Sealants.
- G. Section 09250 – Gypsum Board: Wall substrate.
- H. Section 09330 – Quarry Tile.
- I. Section 10810 – Toilet Accessories.
- J. Division 15 – Mechanical: Plumbing and floor drains.

1.4 REFERENCES

- A. American National Standards Institute (ANSI):
 1. ANSI A108.1, Installation of Glazed Wall Tile, Ceramic Mosaic Tile, Quarry Tile and Paver Tile with Portland Cement Mortar.
 2. ANSI A108.5, Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar.
 3. ANSI A108.6, Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and Grouting Epoxy.
 4. ANSI A108.10, Installation of Grout in Tilework.
 5. ANSI A118.3, Specifications for Chemical Resistant Water Cleanable Tile Setting and Grouting Epoxy and Water Cleanable Tile Setting Epoxy Adhesive.
 6. ANSI A118.4, Specification for Latex Portland Cement Mortar.
 7. ANSI A118.6, Specification for Ceramic Tile Grouts.
 8. ANSI A118.8, Specification for Modified Epoxy Emulsion Mortar/Grout.
 9. ANSI A137.1, Specifications for Ceramic Tile.
- B. American Society for Testing and Materials (ASTM):
 1. ASTM C144, Specification for Aggregate for Masonry Mortar.
 2. ASTM C150, Specification for Portland Cement.
 3. ASTM C177, Specification for Sheet Materials for Curing Concrete.
 4. ASTM C206, Specification for Finishing Hydrated Lime.
 5. ASTM C207, Specification for Hydrated Lime for Masonry Purposes.
 6. ASTM C241, Test Method for Abrasion Resistance of Stone Subjected to Foot Traffic.
 7. ASTM C503, Specification for Marble Building Stone (Exterior).
 8. ASTM C836, Specification for High Solids Content Cold Liquid Applied Elastomeric Waterproofing Membrane For Use With Separate Wearing Course.
 9. ASTM C1028, Specification for The Slip Resistance of Flooring Products.
 10. ASTM C1353, Test Method for Abrasion Resistance of Dimension Stone by the Taber Abraser.

11. ASTM D-2047, Test Method for Static Coefficient of Friction of Polished-Coated Floor Surfaces as Measured by the James Machine.

- C. Tile Council of America (TCA):
1. Handbook For Ceramic Tile Installation, 20.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01330.
- B. Product Data: Submit manufacturer's specifications and installation instructions for each type of tile. Include slip-resistance test data for installed floor products.
- C. Samples: Submit for each kind and size of tile and grout, together with colors of each material and accessory for selection. Submit 12-inch square sample of selected tile color and grout assembly for final review.
- D. Certificate of Compliance: Furnish a master grade certificate signed by both Tile Manufacturer and Tile Installer stating the quality grade of tile furnished.
- E. Maintenance Instructions: Submit tile manufacturer's maintenance guide for Owner's use in maintaining ceramic tile work specified at completion of the work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's unopened containers or packages, fully identified with trade name, type, class, and other classifying information.
- B. Store materials above grade in clean, dry location.
- C. Maintain 50 degrees F minimum temperature during tile work and for seven (7) days after completion. Provide adequate ventilation.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Indoor Air Quality:
1. Insulation products that contain loose fiber or chemicals that offgas should be sealed within wall, floor, and ceiling cavities.
2. Protect ducts and HVAC system from loose insulation particulates: fiberglass, cellulose, vermiculite, etc.

1.8 EXTRA MATERIALS

- A. Provide 5% of each type of tile used for Owner's use at completion of the Work.

- B. Provide 2 containers of each type of grout used for Owner's use at completion of the Work.
- C. Provide the following of each type of tile used for Owner's use at completed of the Work.
 - 1. Perimeter Tile Band: 25 sq ft.
 - 2. Contrasting Color Locations: 15 pieces of each color.
 - 3. Field Tile: 25 sq ft.

1.9 WARRANTY

- A. Provide manufacturer's 10 year systems product warranty non-prorated to include replacement of defective materials including labor and materials. To greatest extent practical supply materials from single source.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers: Acceptable manufacturers: Subject to compliance with requirements herein, provide products from one of the following manufacturers.
- B.
 - 1. American Olean
 - 2. Dal-Tile.
 - 3. Crossville Tiles
- C. Requests for substitutions will be considered in accordance with Section 01600.

2.2 PORCELAIN FLOOR TILE- TILE TYPE 1 -TOILET ROOMS

- A. For use on toilet room floors as indicated on room finish schedule.
- B. Product basis: Dal Tile: Unity
- C. Material: Porcelain based, impervious unglazed ceramic, through body color.
- D. Water Absorption: Less than 0.5 percent maximum, ASTM C 373.
- E. Finish: Polished
- F. Slip Resistance 0.50 minimum, ASTM C 1028.
- G. Trim Shapes: Caps, returns and other trim accessories as required; same characteristics as tile.

- H. Thickness 3/8".
- I. Grout joint: 1/8"
- J. Breaking Strength: 450 lbs
- I. Size: 12" x 12"

2.3 CERAMIC MOSAICS- FLOOR ACCENTS- TYPE 2- TOILET ROOMS

- A. For use on toilet room walls as indicated on room finish schedule.
- B. Product Basis: Dal Tile: Athena Mosaics
- C. Material: Porcelain based, impervious unglazed ceramic, through body color.
- D. Water Absorption: Less than 0.5 percent maximum, ASTM C 373.
- E. Finish: Gloss.
- F. Slip Resistance 0.60 minimum, ASTM C 1028.
- G. Trim Shapes: Caps, returns and other trim accessories as required; same characteristics as tile.
- H. Thickness 1/4"
- I. Abrasion Resistance: 4
- J. Size: 1/2" x 1/2" (Mesh mounted 12 x 12)
- K. Breaking Strength: 350 lbs

2.6 THRESHOLDS

- B. General: Fabricate to sizes and profiles indicated or required to provide transition between adjacent floor finishes.
 - 1. Bevel edges at 1:2 slope, aligning lower edge of bevel with adjacent floor finish. Limit height of bevel to 1/2 inch or less, and finish bevel to match face of threshold.
- C. Marble Thresholds: ASTM C503 with a minimum abrasion resistance of 12 per ASTM C1353 or ASTM C241 and with honed finish.
 - 1. Description: Uniform, fine- to medium-grained white stone with gray veining.

2.4 SETTING MATERIALS AND ACCESSORIES

- A. Portland Cement: ASTM C150, Type II, low alkali.
- B. Hydrated Lime: ASTM C206 or C207, Type S.
- C. Mortar Sand: ASTM C144, at least four (4) percent passing No. 100 sieve.
- D. Joint Sand: Same as mortar sand except all passing No. 30 sieve.
- E. Water: Clean and fresh, from domestic potable source.
- F. Color Pigments: Pure ground mineral oxides, non-fading, alkali and lime-proof, factory-weighted and packaged.
- G. Bond Coat: Fast setting, latex hydraulic mortar system; weather, frost and shock resistant, TCA Rating of extra heavy duty.
- H. Dry-Set Portland Cement Mortar (Thin Set): ANSI A118.1.
 - 1. For wall applications, provide non-sagging mortar that complies with Paragraph C-4.6.1 in addition to the other requirements in ANSI A118.1.
- I. Chemical-Resistant, Water-Cleanable, Tile-Setting and -Grouting Epoxy: ANSI A118.3[, with a VOC content of 65 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24)].
 - 1. Provide product capable of withstanding continuous and intermittent exposure to temperatures of up to 140 degrees F and 212 degrees F, respectively, and certified by manufacturer for intended use.

2.5 GROUTING MATERIALS

- A. Tile Joint Grout: Fast curing, high early strength, polymer modified sanded tile grout.

2.6 SETTING BED MORTAR

- A. Machine mix mortar after dry mixing materials. Mix mortar for not less than five (5) minutes after water is added. Accurately measure materials using calibrated measuring boxes; shovel measurement is not permitted. Discard mortar that is not placed and compacted before initial set. Measure materials by volume.
- B. Setting Bed Mortar: Laticrete 226; factory blended thick bed mortar mix gauged with Laticrete 3701 admix; weather, frost and shock-resistant; TCA Rating of heavy duty.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and adjoining construction, and conditions under which the work is to be installed.
- B. Verify that substrate surfaces are ready to receive work of this section.
- C. Verify that rough-in utilities are in proper location.
- D. Do not proceed with installation until unsatisfactory conditions have been corrected.
- E. Beginning of installation means installer accepts existing conditions.

3.2 PREPARATION

- A. Clean substrates.
- B. Wet down or wash dry, dusty surfaces and remove excess water immediately prior to application of tiles.
- C. Prepare surfaces in strict accordance with instructions of manufacturer whose setting materials or additives are being used.
- D. Acid Based Cleaners: Use not permitted.
- E. Scarify concrete substrates with blast track equipment if necessary to completely remove curing compounds or other substances that would interfere with proper bond of setting materials. Clean and maintain substrate in condition required by setting material manufacturer.
- F. Do not seal substrate unless required by manufacturer.
- G. Prime substrate when required by manufacturer.
- H. Membrane:
 - 1. Install membrane in accordance with Section 01600.
 - 2. Flash membrane up adjacent walls and restraining surfaces.
 - 3. Use preformed cove, corners, and expansion joint flashing.
 - 4. Allow membrane to cure as prior to setting tile.
 - 5. Do not allow construction traffic on membrane.
- I. Apply primer-sealer to wood and plywood subfloors when recommended by setting materials manufacturer.

J. Blending: For tile exhibiting color variations within the ranges selected during sample submittals, verify that tile has been blended in factory and packaged accordingly so that tile units taken from one package show the same range in colors as those taken from other packages and match approved samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

K. Field-Applied Temporary Protective Coating: Where indicated under tile type or needed to prevent adhesion or staining of exposed tile surfaces by grout, protect exposed surfaces of tile against adherence of mortar and grout by pre-coating them with a continuous film of temporary protective coating indicated below, taking care not to coat unexposed tile surfaces:

1. Petroleum paraffin wax, applied hot.
2. Grout Release.
3. Petroleum paraffin wax or grout release.

3.3 INSTALLATION

A. Cement Board Substrate

1. Place rough side out and fasten with galvanized or resin coated gypsum board screws at 8 inches on center in field of panel and at 6 inches on center at edges.
2. Provide ¼ inch gap above floor or fixture lip for flexible caulking.
3. Maintain manufacturer's required space between board edges.
4. Fill joints by applying tile setting material and joint reinforcement.
5. Vapor Retarder:
 - a. Extend vapor retarder to extremities of areas indicated to be protected from vapor transmission.
 - b. Secure in place with mechanical fasteners or adhesives.
 - c. Extend vapor retarder to cover miscellaneous voids in insulated substrates, including those filled with loose mineral-fiber insulation.
 - d. Seal vertical joints in vapor retarders over framing by lapping not less than two wall studs.
 - e. Fasten vapor retarders to framing at top, end, and bottom edges, at perimeter of wall openings, and at lap joints; space fasteners no greater than 16 inches apart,
 - f. Seal joints in vapor retarders caused by pipes, conduits, electrical boxes and similar items penetrating vapor retarders with vapor retarder tape.

g. Repair tears and punctures in vapor retarder immediately before concealing it with the installation of cementitious backer units.

B. Membrane:

1. Install membrane in accordance with Section 01600.
2. Install membrane with products or methods approved in writing by membrane manufacturer when joining, sealing, fastening, or adhering sheet membranes.
3. Flash membrane to cure prior to setting tile.
4. Do not allow construction traffic on membrane.

C. Crack Isolation Membrane\

1. Install crack isolation membrane over cracks up to 1/8 inch or greater in substrates. Apply a 12 inch wide strip centered on crack. Install in accordance with manufacturer's recommendations.
2. Install membrane with products or methods approved in writing by membrane manufacturer when joining, sealing, fastening, or adhering sheet membranes.

D. Waterproofing

1. Install waterproofing in strict compliance with manufacturer's instructions.
2. Flash waterproofing up adjacent wall in accordance to manufacturer's details, to a height of 4 inches.
3. Flood test waterproof membranes after fully cured.
4. Field Quality Control water test when required.

E. Tile Installation, General

1. Install tile materials in accordance with ANSI A137.1, other referenced ANSI and TCA specifications, and TCA "Handbook for Ceramic Tile Installation", except for more stringent requirements of manufacturer or these specifications.
2. Cut and fit tile tight to protrusions and vertical interruptions and treat with a compatible sealant as specified in Section 07900. Form corners and bases neatly.
3. Work tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make joint watertight, without voids, cracks, excess mortar, or grout.
4. Prepare surface, fit, set, bond, grout, and clean in accordance with applicable requirements of ANSI standards and Tile Council of America.

a. Floors

- 1) Dry-set: TCA F113, F131

b. Walls

- 1) Dry-set on Gypsum Board: TCA W243.
- 2) Dry-set on Gypsum Board: W222.
- 3) Dry-set on Masonry: W222.
- 4) Dry-set on Masonry: W202.

c. Showers: TCA B414.

F. Layout

1. Layout work to pattern indicated so that full tile or joint is centered on each wall and no tile of less than half width need be used. Do not interrupt pattern through openings. Lay out tile to minimize cutting and to avoid tile less than half size.

2. For heights stated in feet and inches, use courses of full tile to produce nearest attainable heights without cutting tile.

3. No staggered joints will be permitted.

4. Align joints in tile in both directions.

5. Align joints between floor and base tile.

6. Make joints between sheets of tile exactly same width as joints within sheet.

7. File edges of cut tiles smooth and even.

8. Cut and fit tile at penetrations through tile. Do not damage visible surfaces. Carefully grind edges of tile abutting built-in items. Fit tile at outlets, piping and other penetrations so the plates, collard, or covers overlap tile.

9. Extend tile work into recesses and under or behind equipment and fixtures, to form complete covering without interruptions, except as otherwise indicated. Terminate work neatly at obstructions, edges and corners without disrupting pattern or joint alignments.

10. Accurately form intersections and returns.

11. Form internal angles [square] [coved] and external angles [bullnosed] [square].

G. Thick Bed Method, Horizontal Surfaces

1. Apply slurry bond coat approximately 1/6 inch thick to substrate surface using flat trowel.

2. Place thick bed mortar, [1-1/4 inch thick nominally] onto slurry bond coat while coat is still wet and tacky.
3. Spread prepared mortar approximately one-half desired bed thickness and then lay reinforcing mesh.
4. [Lap wire 3 inches and place additional mortar on top of wire to bring bed to required thickness].
5. Rod and compact mortar with steel trowel.
6. Before placing tiles on green or wet screed bed, apply slurry bond coat approximately 1/16 inch thick to mortar using flat trowel.
7. Apply mortar skim coat to back of each tile or sheet of tile immediately prior to placing on bed.
8. Place tiles in wet slurry coat before surface dries maintaining uniform joints.
9. After each tile or sheet of tiles is laid, beat tile with wooden block or rubber mallet to level surface and embed tiles.
10. Perform beating before mortar takes initial set.
11. Pitch surface to drain where required.
12. On hardened screed or mortar bed, install tiles by thin bed method.
13. Sound tiles after setting. Replace hollow sounding tiles.
14. Clean excess mortar or adhesive from surface of tile with wet cheese cloth (not a sponge) while mortar is fresh.

H. Thin Set Method, Floors and Walls

1. Apply mortar or adhesive with notched trowel using scraping motion to work material into good contact with surface to be covered. Maintain 90 percent coverage on back of tile and fully bed all corners.
2. Apply only as much mortar or adhesive as can be covered within allowable windows as recommended by mortar or adhesive manufacturer or while surface is still tacky.
3. When installing large tiles, ceramics or mosaics, trowel small quantity of mortar or adhesive onto back of each tile or sheet of tiles.
4. Set tiles in place and rub or beat with small beating block.
5. Beat or rap tile to ensure proper bond and also to level surface of tile.

6. Align tile to show uniform joints and allow to set until firm.
7. Clean excess mortar or adhesive from, surface of tile with wet cheese cloth (not a sponge) while mortar is fresh.
8. [Allow face mounted tile to set until firm before removing paper and before grouting.]
9. Sound tile after setting. Replace hollow sounding tile.

I. Grouting

1. Allow tiles to set a minimum of 48 hours before grouting.
2. If bonding materials are rapid setting, follow manufacture's recommendations.
3. Install in accordance with grout manufacturer's recommendations and ANSI A108.10.
4. Pack joints full and free before mortar takes initial set.
5. Clean excess grout from surface with wet cheese cloth as work progresses. Do not use hydrosponges.
6. Cure after grouting by covering with kraft or construction paper for 72 hours.
7. Install sealant in vertical wall joints at interior corners.

J. Marble Threshold

1. Provide thresholds at wall or framed openings to other building areas not receiving tile.
2. Set one piece threshold in adhesive without voids, full width of door opening.
3. Point threshold base flush with adjoining tile floors.
4. Cope ends to fit door frame profile.

K. Control Joints and Other Sealant Usage

1. Install control joints where tile abuts retaining surfaces such as perimeter wall, curbs, columns, wall corners and directly over cold joints and control joints in structural surfaces conforming to architectural details.
2. Install control joint in floor at spacing as indicated in TCA Installation Handbook, unless noted otherwise.
3. Rake or cut control joints through setting bed to supporting slab or structure. Keep joints free of mortar.

4. Install in accordance with TCA Installation Handbook.

5. Fill joints with self-leveling polyurethane sealant and backing material specified in Section 07900.

6. Fill joints around toilet fixtures with white silicone sanitary sealant. Refer to Section -7900.

L. Expansion Joints

1. Keep expansion joints free of mortar and grout.

2. Use manufacturer's expansion joint flashing when covering expansion joints with waterproof or crack isolation membranes.

3. Provide expansion joints directly over changes in material, over control and expansion joints in substrate, at juncture of floors and walls, at other restraining surfaces such as curbs, columns, bases, and wall corners, and where recommended by TCA EJ171 Expansion Joint Requirements.

4. Install sealant in expansion joints.

5. Provide sealant materials at items penetrating tile work, unless otherwise indicated.

6. Provide sealants and related materials in accordance with cited ANSI and TCA requirements.

3.4 CLEANING

A. Grouting Completion: Clean tile surfaces thoroughly on completion of grouting.

B. Grout Haze Removal: Remove grout haze, observing tile manufacturer's recommendations as to use of acid and chemical cleaners equal to Pro So Co. Sure Klean grout and tile cleaner.

C. Rinsing: Rinse tilework thoroughly with clean water before and after using chemical cleaners.

D. Neutral Cleaner Solution: Apply to clean, completed tile floors a protective coat of neutral cleaner solution, one part cleaner to one part water.

3.5 PROTECTION

A. Construction Paper: Cover tile floors with heavy-duty non-staining construction paper, masked in place equal to St. Regis Paper Co. "Seekure" or Fortifiber Corp. Seekure finished floor protection paper or Pro So Co. Inc. Protec Tile with 859 stripper.

B. Paper Removal & Rinsing: Just before final acceptance of tilework, remove paper and rinse protective coat with neutral cleaner on tile surfaces.

C. Protection From Traffic:

1. Time: Prohibit foot and wheel traffic from using newly installed tile floors for at least seven (7) days.
2. Method: Place large, flat boards in walkways and wheelways for seven (7) days where use of newly installed floor is unavoidable.

3.6 ENVIRONMENTAL PROCEDURES

A. Construction Waste Management: As specified in Section 01575 and as follows:

1. Separate and recycle waste materials in accordance with the Waste Management Plan and place in designated areas in the following categories for recycling.
2. Half Tiles and Larger: Set aside for reuse by Owner, nonprofit organizations such as Habitat for Humanity, etc.
3. Broken Tile, Cutoffs Smaller Than 1/2 Tile, and Excess Mortar and Grout: Crush for use as mosaic, sub-base, or fill.
4. Separate metal waste and place in designated areas for recycling or reuse.
5. Separate cardboard waste and place in designated areas for recycling.

END OF SECTION 09310

SECTION 09 65 19
RESILIENT FLOORING
REVISED 2018-02-23
(REPLACEMENT SECTION)

PART 1 - GENERAL

1.1 CONDITIONS AND REQUIREMENTS

- A. The General Conditions, Supplementary Conditions, and Division 1 – General Requirements apply.

1.1.1 GREEN BUILDING REQUIREMENTS

The Owner requires the Contractor to implement practices and procedures to meet the project's environmental performance goals, which include complying with CTHPB standards. Specific project goals that may impact this area of work include: use of recycled-content materials; use of locally-manufactured materials; use of low-emitting materials; construction waste recycling and an indoor quality management plan. The Contractor shall ensure that the requirements related to these goals, as defined in the sections below, are implemented to the fullest extent. Substitutions, or other changes to the work proposed by the Contractor or their Subcontractors, shall not be allowed if such changes compromise the aforementioned environmental compliance goals.

1.2 SECTION INCLUDES

- A. Vinyl composition flooring (VCT).
- B. Rubber wall base.
- C. Slip resistant flooring.
- D. Rubber stair treads/ Stair Landings
- E. Primers, adhesives, edge strips, floor wax and accessories.

1.3 RELATED SECTIONS

- A. Section 01575 – Construction Waste Management.
- B. Section 01810 – CT HPB Requirements.

- C. Section 03300 – Cast-in-Place Concrete: Concrete slab.
- D. Section 09250 – Gypsum Board.
- E. Section 09680 – Carpet.
- F. Division 16 – Electrical: Recessed floor mounted boxes.

1.4 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 1. ASTM D2240, Test Method for Rubber Property Durometer Hardness.
 2. ASTM E84, Test Method for Surface Burning Characteristics of Building Materials.
 3. ASTM E648, Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source.
 4. ASTM E662, Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
 5. ASTM F1066, Specification for Vinyl Composition Floor Tile.
 6. ASTM F2034, Specification for Sheet Linoleum Floor Covering.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01330.
- B. Product Data: Submit manufacturer's specifications and installation instructions for each type of flooring material, adhesives, accessories and other products required, including certified laboratory test reports and other data as may be required to show compliance with the Contract Documents.
 1. Manufacturers' product data for adhesives, including printed statement of VOC content and material safety data sheets.
 2. Recycled Content: Indicate percentage of pre-consumer and post-consumer recycled content in each product.
- C. Samples:
 1. Manufacturer's full range of base, trim and tile colors for Architect's selection in price range identified.
 2. Resilient Flooring: Submit three 12 inch by 12 inch samples showing full color variation of each selected type and color.
 3. Wall Base: Submit 24-inch long sample of each selected type and color.
 4. Vinyl Edge Strip: Submit 12-inch long sample of each color selected.
- D. Concrete Slab Moisture Tests: Submit data of concrete slab moisture test using calcium chloride at 60-72 hr.
- E. Maintenance Instructions: Submit manufacturer's written maintenance instructions for each type of flooring material required.

- F. Provide SCS FLOORSCORE certifications for all resilient flooring products; provide GREENSEAL certifications for low VOC adhesives.

1.6 QUALITY ASSURANCE

- A. Provide flooring materials that are identical to those tested for the following fire-performance characteristics, per ASTM test method indicated below, by UL or other testing and inspecting organizations acceptable to authorities having jurisdiction. Identify flooring materials with appropriate markings of applicable testing and inspecting organization.
 - 1. Surface Burning Characteristics: as follows, tested per ASTM E84 and complying with ASTM E1264 for Class A products:
 - a. Flame Spread: 25 or less.
 - b. Smoke Developed: 50 or less.
- B. Mock-Up: Install mock-up of each type flooring material in areas selected for Architect's review. Mock-up shall be used as a standard for subsequent resilient flooring installation.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to job site in manufacturer's unopened containers clearly marked with manufacturer's name, brand, size, thickness, grade, color and pattern.
- B. Store materials per manufacturer's recommendations.

1.8 PROJECT CONDITIONS

- A. Maintain uniform temperature of minimum 60 degrees F and humidity of 20 to 40 percent prior to, during, and after installation.

1.9 WARRANTY

- A. The warranty specified in this article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Submit installer's warranty, signed by installer, covering Work of this section, including all components of resilient flooring such as linoleum sheet flooring, vinyl composition flooring, rubber wall base, raised surface rubber flooring, rubber stair treads, primers, adhesives, edge strips, floor wax and accessories and against failure of the installation, for the following warranty period:
 - 1. Warranty Period: Five (5) years from date of Substantial Completion.

1.10 EXTRA MATERIALS

- A. At completion of work, deliver 5% boxes of each type of resilient flooring material and 50 feet of each base color for the Owner's use.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers:
 - 1. Johnsonite
 - 2. Armstrong.
 - 3. Azrock
- B. Requests for substitutions will be considered in accordance with Section 01600.

2.2 VINYL COMPOSITION TILE (VCT) Reference finish schedule for specific colors.

- A. Type 1-Armstrong Standard Excelon or equal - comply with ASTM F1066 Class 2 with color and pattern extending through the tile. Reference finish schedule/ finish key for specific colors being used. (Classrooms- field color with random accent drop ins at 25%) Corridors in the existing building to match adjacent colors. 4 different accent colors, one field color.
 - 1. Size and Thickness: 12 x 12 x 1/8 inch.
 - 2. Recycled Content: Minimum five (5) percent post-consumer recycled content.
 - 3. Critical Radiant Flux: ASTM E648; Class I – 0.45 or more watts/sq cm.
 - 4. Smoke Developed: ASTM E662; 450 or less.
 - 5. Static Load Limit: ASTM F970; 75 psi.
 - 6. Colors as selected by Architect from manufacturer's currently available range of colors.

2.3 RUBBER WALL BASE- Reference finish schedule for specific colors.

- A. Johnsonite "Rubber Wall Base"; comply with ASTM F1861, Type TP, Group I (solid).
 - 1. Size: Four (4) inch high x 1/8-inch thick.
 - 2. Type: Provide cove base at resilient tile floor including base at casework and custom woodwork and straight base at carpeted areas.
 - 3. Length: Provide base at the greatest lengths possible (minimum 4 foot lengths).
 - 4. Special Shapes: Provide pre-molded outside corners where available, and stop units and other shapes for continuous sanitary installation.
 - 5. Colors as selected by Architect from manufacturer's currently available range of colors.

2.4 SLIP RESISTANT FLOORING

- A. Azrock Color Essence SR; Vinyl Enhanced tile, comply with ASTM F1913 and ASTM F1066. Slip resistance ASTM D2047 SCOF > 0.6.
 - 1. Size: 12 x 12 x 1/8".
 - 2. Color as selected by Architect from manufacturer's currently available range of colors.

2.5 RUBBER STAIR TREADS/ LANDINGS- Reference finish schedule for specific colors

- A. Rubber Stair Treads: Johnsonite "Hammered One-piece Tread/Riser for Visually Impaired"; comply with FS RR-T-650d, Composition A, Type 2.
 - 1. Size: 13" tread x 7" integral riser x .210 to .153 inch thickness gauge.
 - 2. Colors as selected by Architect from manufacturer's currently available range of colors.
- B. Stair Landings: Raised Surface Rubber Flooring: Johnsonite "Roundel Speckled Rubber Tile"; comply with ASTM F1344.
 - 1. Size: 24 x 24 x .125 inches.
 - 2. Color as selected by Architect from manufacturer's currently available range of colors including but not limited to the speckled color collection.

2.6 PRIMERS, ADHESIVES, VINYL EDGE STRIPS, FLOOR WAX & ACCESSORIES

- C. Primer: When a curing, sealing, hardening, or parting compound has been used on concrete, follow the resilient flooring manufacturer's recommendation to insure adhesive compatibility.
- D. Cementitious Underlayment: As recommended by manufacturer to fill depressions and imperfections in concrete surface. Manufacturer shall be equal to: Armstrong World Industries Inc. Type S-180 latex modified underlayment.
- E. Adhesive: Water-resistant type recommended by manufacturer to suit resilient products and substrate conditions indicated.
 - 1. Use adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - a. VCT Tile and Sheet Adhesives: 50 g/L.
 - b. Cove Base Adhesives: 50 g/L.
 - c. Rubber Floor Adhesives: 60 g/L.
 - 2. For Azrock Products: For increased substrate moisture and alkali tolerance, all products are suitable for installation using manufacturers Spray Smart adhesive system. Select and incorporate from the available choices: 120Gold; Max 7lbs (MVER), 90% (RH) & 11pH Tolerance or 121 Platinum: Max 10 lbs (MVER), 93% (RH & 12pH Tolerance).
- F. Vinyl Edge Strips: Standard design, color and finish with beveled edge where not flush with adjacent floor.

- G. Floor Treatment (For Use Prior to Final Inspection on VCT Floors): Floor materials manufacturer shall recommend system for their materials. Assume the following system or equal for estimating purposes installed as per manufacturers instructions:
1. Commercial neutral detergent (PH 7-8).
 2. Conditioner-sealer shall be equal to: Johnson Wax Co. - "Over and Under" applied at a rate of two or three light coats as needed to fill the pours of the tile.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates to which resilient flooring attaches or abuts, with Installer present, for compliance with requirements specified in this and other sections that affect installation of resilient flooring.
- B. Verify that rough-in utilities are in proper location.
- C. Do not proceed with installation until unsatisfactory conditions have been corrected.
- D. Beginning of installation means installer accepts existing conditions.

3.2 PREPARATION

- A. Acceptance: Prior to beginning resilient floor work, review surfaces for suitability. After acceptance, repairs to floor are under this scope of work. Test for moisture content at a rate of one test for each 500 sq ft where moisture is suspected at new construction and existing slabs on grade.
- B. Cleaning: Clean substrate to remove deleterious substances that would impair the work.
- C. Filling: Surface of a concrete subfloor should be dry, smooth, structurally sound, and free of depressions, scale, or foreign deposits. Fill cracks, holes and depressions, and remove roughness or protrusions by grinding. Use compounds for filling complying with resilient flooring manufacturer's recommendations.
- D. Priming, Sealing: Prime, seal or cover substrate as recommended by manufacturer of resilient flooring. Use materials complying with manufacturer's recommendations.
- E. Temperature Requirements: Maintain temperature in spaces receiving resilient tile flooring at 65 degrees F, minimum at least 48 hours before, during, and 48 hours after installation; maintain a 55 degrees F minimum.

3.3 INSTALLATION

- A. Install all flooring in strict accordance with the manufacturers written instructions.
- B. Prime Coat: Apply primer to concrete surfaces if recommended by resilient flooring manufacturer.
- C. Adhesive: Apply to substrate with properly notched steel trowel. Follow manufacturer's recommendation for open time before applying resilient flooring.
- D. Edge Strips: Install in continuous lengths at exposed edges of resilient flooring. Anchor strips solidly to substrate with recommended adhesive.
- E. Extension: Extend resilient flooring into closets and off-sets, under movable equipment of the rooms and spaces shown or scheduled to receive resilient flooring.
- F. Tile Units:
 - 1. Layout: Lay tile units symmetrically about centerline of major room or space. Lay in a square, stack-bond (ashlar) pattern, unless otherwise shown. Adjust pattern so edge units are not less than one-half of tile width. Spaces and adjoining spaces shall have the grain running in the same direction.
 - 2. Installation: Fit tiles tightly so each unit is in contact with surrounding tiles and joints in proper alignment. Make neat tight joints where exposed edges abut other surfaces. Lay tile with grain running in one direction as directed.
 - 3. Follow patterns as indicated on drawings.
- G. Wall Base: Secure base to surfaces with waterproof cement; make joint tight, keep top and bottom edges in firm contact to adjacent surfaces.

3.4 CLEANING AND PROTECTION

- A. Cleaning & Waxing: Not more than 4 days before acceptance or occupancy by the Owner, clean the resilient flooring and base. Wash thoroughly with a cleaner recommended by the flooring manufacturer, and in accordance with the flooring manufacturer's recommendations. Follow manufacturers recommendations for initial application of initial coats of sealer and finish. (Minimum 5 coats)
- B. Protection: Protect work from damage and from normal wear and tear throughout construction period so that it will be without indication of use or damage at the time of acceptance by the Owner using a product similar to Fortifiber Corp. Seekure finished floor protection or St. Regis Paper Co. Seekure or other means.

3.5 ENVIRONMENTAL PROCEDURES

- A. Construction Waste Management: As specified in Section 01575 and as follows:

1. Separate and recycle metal waste, packaging, and other materials in accordance with the Waste Management Plan and place in designated areas in the following categories for recycling.
 2. Sheet materials larger than two (2) sq ft.
 3. Tiles larger than 1/2 tiles.
- B. Close and seal tightly all partly used adhesive containers and store protected in well-ventilated, fire-safe area at moderate temperature.

END OF SECTION 09650

SECTION 09 68 00

CARPET **REVISED: 2018-02-22**

PART 1 - GENERAL

1.1 CONDITIONS AND REQUIREMENTS

- A. The General Conditions, Supplementary Conditions, and Division 1 – General Requirements apply.

1.1.1 GREEN BUILDING REQUIREMENTS

The Owner requires the Contractor to implement practices and procedures to meet the project's environmental performance goals. Specific project goals that may impact this area of work include: use of recycled-content materials; use of locally-manufactured materials; use of low-emitting materials; construction waste recycling and an indoor quality management plan. The Contractor shall ensure that the requirements related to these goals, as defined in the sections below, are implemented to the fullest extent. Substitutions, or other changes to the work proposed by the Contractor or their Subcontractors, shall not be allowed if such changes compromise the aforementioned environmental compliance goals.

1.2 SECTION INCLUDES

- A. Broadloom Carpeting.
- B. Walk Off Mats.
- C. Adhesives and fasteners.
- D. Trim and accessories.

1.3 RELATED SECTIONS

- A. Section 01575 – Construction Waste Management.
- B. Section 03300 – Cast-in-Place Concrete: Concrete slab.
- C. Section 09250 – Gypsum Board.
- D. Section 09650 – Resilient Flooring: Base and transition strips.
- E. Division 16 – Electrical: Recessed floor mounted boxes.

1.4 REFERENCES

- A. American Association of Textile Chemists and Colorists (AATCC):

1. AATCC Test Method 30 - Fungicides, Evaluation on Textiles: Mildew and Rot Resistance of Textiles.
 2. AATCC Test Method 90-1982 - Detection of Antibacterial Activity of Fabrics, Agar Plate Method.
 3. AATCC Test Method 100-1986 - Evaluation of Antibacterial Finishes on Fabrics.
- B. American Society for Testing and Materials (ASTM):
1. ASTM D2859, Test Method for Flammability of Finished Textile Floor Covering Materials.
 2. ASTM E648, Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source.
 3. ASTM E662, Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
 4. ASTM F1066, Specification for Vinyl Composition Floor Tile.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01330.
- B. Product Data: Submit manufacturer's specifications and installation instructions for each type of carpet, adhesives, accessories and other products required, including certified laboratory test reports and other data as may be required to show compliance with the Contract Documents.
1. Manufacturers' product data for adhesives, including printed statement of VOC content and material safety data sheets.
 2. Recycled Content: Indicate percentage of pre-consumer and post-consumer recycled content in each product.
 3. Carpet: Submit manufacturer's certification of compliance with Carpet and Rug Institute's (CRI) Green Label Indoor Air Quality program.
- C. Shop Drawings: Submit a seam plan for carpeted spaces.
- D. Samples:
1. Manufacturer's full range of colors for Architect's selection.
 2. Sample of selected color approximately 24 x 24 inches in size for final review.
 3. Provide custom color samples for indicated areas as coordinated with Architect.
- E. Maintenance Instructions: Submit manufacturer's written maintenance and repair instructions for carpeted areas.

1.6 QUALITY ASSURANCE

- A. Provide carpet materials that are identical to those tested for the following fire-performance characteristics, per ASTM test method indicated below, by UL or other testing and inspecting organizations acceptable to authorities having jurisdiction.

Identify carpet materials with appropriate markings of applicable testing and inspecting organization.

- B. Flammability of Carpet Assemblies:
 - 1. Comply with National Bureau of Standards "Flooring Radiant Panel Test (FRPT) with a radiant flux of 0.45 watts per square centimeter or greater as per ASTM E648. Test shall be applicable for life of floor covering.
 - 2. Comply with "Standard for Surface Flammability of Carpets and Rugs" DOC FF-1-70 (Methenamine Tablet test) and NFPA 101 "Life Safety Code", edition, as it complies with the Code (self-extinguishing). Test shall be applicable for life of carpet.
- C. Smoke Developed:
 - 1. Comply with NFPA 258 as conducted in standard National Bureau of Standards Test Chamber with a specific optical density (Dm) of 450 or less when flaming as per ASTM E662.
 - 2. Comply with applicable portions of UL 992, F.S. DDD-C-95, and DOC FF-1-70. Test shall be applicable for life of carpet.
- D. Toxicity: Materials shall be non-toxic as per Foster D. Snell, Inc. live specimen test or future toxicity inhalation tests.
- E. Static Build-Up: Flooring materials shall not build up static level exceeding 3.5 kv, when tested by AATCC Test Method 134 at 20 percent humidity and 70 degrees F, for life of carpet.
- F. Standard for Use by the Handicapped: Comply with HEW-6 requirements securing carpet at surfaces with adhesive. Maintain edging strips less than 3/8-inch above floor line.
- G. Mock-Up: Install mock-up of each type flooring material in areas selected for Architect's review. Mock-up shall be used as a standard for subsequent carpet installation.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to job site in manufacturer's unopened packaging and containers clearly marked with manufacturer's name, brand, size, thickness, grade, color and pattern.
- B. Store carpet and adhesives in clean, dry location in accordance with manufacturer's recommendations.

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Indoor Air Quality:

1. Carpet should meet or exceed the minimum standards contained in Carpet and Rug Institute (CRI) consumer information label; product should carry CRI Indoor Air Quality label indicating that product complies with CRI VOC emission standards.
2. Test any carpet that has been water-saturated for mold and mildew.

1.9 EXTRA MATERIALS

- A. At completion of work, deliver 250 sq ft of each type of carpet material and color for the Owner's use.

1.10 WARRANTY

- A. Submit manufacturer's written Lifetime wear guarantee on stain removal, color fastness and 10 year warranty on static resistance, and wear.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers:
 1. Mannington Commercial Broadloom
 2. Mohawk
 3. Shaw
- B. Requests for substitutions will be considered in accordance with Section 01600.

2.2 CARPET

- A. **Carpet Type A**
 1. **Carpet Name/Number: Mannington Commercial Broadloom KAMI II**
 2. **Type Face Yarn: Invista Antron Legacy Type 6,6 Four Hole, Hollow Filament Nylon, with Permanent Stain and Bleach Protection, Static Control, and Duratech Soil Resistant Treatment, and a Fiber Modification Ratio of <1.5**
 3. **Dye Method: Solution Dyed/ Yarn**
 4. **Stitches Per Inch: 10.5**
 5. **Gauge: 5/64**
 6. **Pile Thickness: .108 inch**
 7. **Static Propensity: Under 3.5 KV in accordance with AATCC-134**
 8. **Pile Weight: 21 OZ**

- 9. **Density/ Weight density:** **7000/ 147,000**
- 10. **Width:** **12' broadloom**
- 11. **Construction:** **patterned loop**
- 12. **Tufted pattern repeat:** **18 ¾"W x 29 ½"L**
- 13. **Performance Warranty:** **Lifetime Limited Wear Warranty**
- 14. **Backing System:** **Primary: Synthetic with Integra HP with Chemically Weldable Seams for Complete Moisture Barrier secondary backing**
- 15. **Warranty:** **Lifetime Limited Warranty, Including Face Wear, Moisture Barrier, Wick-Back, Delamination, Tuft Bind, Unraveling, and Static Protection**
- 16. **Bleach Resistance Warranty:** **ColorSafe with 15 Year Limited Warranty Against Color Loss from Bleach Spills**
- 17. **Stain Resistance Warranty:** **XGUARD with 15 Year Limited Warranty Against Staining Bleach and Stain resistance warranty: 10 year color safeness, edge ravel, backing resiliency, delamination and static protection.**
- 18. **Colors as selected by Architect from manufacturer's currently available range of colors.**
- 19. **Please note installation methods are specific by the manufacturer.**

B. CARPET Type B: Entry Mats: Mats Inc. Vinyl Back Berber

- 1. Material : 100% Solution Dyed UV Stabilized Polypropylene Fibers.
- 2. Face WT: 37 oz
- 3. Overall Thickness: 3/8"
- 4. Backing: Premium Non-Staining Vinyl
- 5. Provide quantity and sizes as listed below:

Door	Size	Quantity
102A	6x10	2
102B	6x10	2
C6B	6x10	2
S1B	4x8	2
C5A	6X10	2

- 6. Colors to be selected by Architect.

2.3 INSTALLATION MATERIALS

- A. Adhesives: Water-resistant, mildew-resistant, nonstaining type to suit products and subfloor conditions indicated, that complies with flammability requirements for installed carpet and that is recommended by carpet manufacturer.

1. Use adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
- B. Seaming Cement: Hot-melt adhesive tape or similar product recommended by carpet manufacturer for taping seams and butting cut edges at backing to form secure seams and to prevent pile loss at seams.

2.4 TRIM & ACCESSORIES

- A. Filling Compound: Filling compound for use in filling cracks, depressions and irregularities in the concrete slab shall be equal to:
 1. Sonneborn-Contech Co. - Sonnocrete.
 2. Crossfield Products Co. - Dex-O-Tex G-26 or A-81 underlayment.
- B. Edge Strip: Vinyl edge strip shall be provided between other floor surfaces unless a depression is provided for carpet. Provide a 1/8-inch vinyl edge reducing strip equal to Mercer Plastics No. 15 where needed for transition. Coordinate with Section 09650.
- C. Concrete Surface Hardener: Where concrete surface is not adequate for good adhesive bond, provide surface hardener to prevent dusting or powdering (generally most slabs will not require additional surface hardeners).
- D. Concrete Floor Sealer: Water base floor sealer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates to which carpet attaches or abuts, with Installer present, for compliance with requirements specified in this and other sections that affect installation.
- B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F710 and the following:
 1. Slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials that may interfere with adhesive bond. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by carpet manufacturer.
 2. Subfloor finishes comply with requirements specified in Section 03300.
 3. Subfloors are free of cracks, ridges, depressions, scale, and foreign deposits.
- C. Verify that rough-in utilities are in proper location.
- D. Do not proceed with installation until unsatisfactory conditions have been corrected.

- E. Beginning of installation means installer accepts existing conditions.

3.2 PREPARATION

- A. Prior to beginning carpet work, review surfaces for suitability. After acceptance, repairs to floor are under this scope of work. Test for moisture content at a rate of one (1) test for each 500 sq ft where moisture is suspected at new construction and existing slabs on grade.
- B. Clean substrate to remove deleterious substances that would impair the work.
- C. Fill cracks, holes and depressions in the substrate. Surface shall be smooth, level and at proper elevations. Surface shall not vary more than 1/8-inch in 10 ft in any direction from level, plumb or slopes shown. Remove roughness and protrusions from concrete surfaces by grinding. Use compounds for filling complying with carpet manufacturer's recommendations.
- D. Prime, seal or cover substrate if it is of a kind or in a condition that carpet manufacturer recommends be primed, sealed or covered. Use materials complying with carpet manufacturer's recommendations.
- E. Test concrete floors to ensure that they are dry before installation of carpet, in accordance with applicable provisions of adhesive and carpet manufacturer.

3.3 INSTALLATION

- A. Install vinyl edge strips in continuous lengths at exposed edges of resilient flooring. Butt and seal strips solidly to edge of carpet.
- B. Apply adhesive to substrate with properly notched steel trowels. Allow adhesive to become tacky before applying carpet. Spot applied adhesive may be used in various carpeted areas as recommended by manufacturer.
- C. Extend carpet into closets and offsets, under movable equipment in rooms and spaces shown or scheduled to receive carpet. Extend carpet under set-on bases or trim work where shown on schedule or details. Scribe, cut and fit exposed edges of carpet and base adjoining other work accurately and neatly with a tight joint. Run carpet grain in one (1) direction in major and adjoining spaces.
- D. Layout carpet symmetrically above center of major rooms so that joints align with major features.
- E. Install carpet with bottom surface securely bonded to substrate and top surface left smooth, clean and free from imperfections. Fit edges tightly. Make neat, tight joints where exposed edges abut other surfaces. Install carpet with grain running in one (1) direction.

- F. Install feature strips in single lengths, fitting other flooring tightly. Apply with adhesives and methods recommended by manufacturer.

3.4 CLEANING AND PROTECTION

- A. Cleaning: Not more than four (4) days before acceptance or occupancy by Owner, clean carpet to its original appearance by cleaning method or vacuuming as per manufacturer's recommendations.
- B. Protection: Protect work from damage and from normal wear and tear throughout construction period so that it will be without any indication of use or damage at time of acceptance by Owner.

3.5 ENVIRONMENTAL PROCEDURES

- A. Construction Waste Management: As specified in Section 01575 and as follows:
 - 1. Separate and recycle metal waste, packaging, and other materials in accordance with the Waste Management Plan and place in designated areas in the following categories for recycling.
 - 2. Set aside and protect offcuts and remainder greater than one (1) sq yd in size for reuse by Owner.
- B. Close and seal tightly partly used adhesive containers and store protected in well-ventilated, fire-safe area at moderate temperature.

END OF SECTION

SECTION 28 31 11

DIGITAL, ADDRESSABLE FIRE-ALARM SYSTEM

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Contractor is responsible for Specification Section 019113 – General Commissioning Requirements as it pertains to their work, and shall participate in and perform commissioning team activities.

1.02 SUMMARY

- A. Section Includes:
 - 1. Fire-alarm control unit.
 - 2. Manual fire-alarm boxes.
 - 3. System smoke detectors.
 - 4. Heat detectors.
 - 5. Notification appliances.
 - 6. Magnetic door holders.
 - 7. Remote annunciator.
 - 8. Addressable interface device.

1.03 DESCRIPTION

- A. This section of the specification includes the furnishing, installation, connection and testing of a microprocessor control, intelligent reporting fire alarm equipment required to form a complete, operative, coordinated system. It shall include, but not be limited to, alarm initiating devices, alarm notification appliances, Fire Alarm Remote Control Panels, auxiliary control devices, transponders, annunciators, and wiring as shown on the drawings and specified herein.
- B. The fire alarm system shall comply with requirements of 2010 NFPA Standard 72 for Protected Premises Signaling Systems except as modified and supplemented by this specification. The system shall be electrically supervised and monitor the integrity of all conductors.
- C. The fire alarm manufacturer shall be of the highest caliber and insist on the highest quality. The system shall be manufactured by an ISO 9001 certified company and meet the requirements of BS EN9001: ANSI/ASQC Q9001-1994.
- D. The FACP and peripheral devices shall be manufactured 100% by a single U.S. manufacturer (or division thereof).

- E. The system and its components shall be Underwriters Laboratories, Inc. listed under the appropriate UL testing standard as listed herein for fire alarm applications and shall be in compliance with the UL listing.

1.04 SCOPE

- A. New fire alarm equipment shall be installed in accordance to the project specifications and drawings.

- B. Basic Performance:

1. Alarm, trouble and supervisory signals from all intelligent reporting devices shall be encoded on NFPA Style 4 (Class B) Signaling Line Circuits (SLC).
2. Initiation Device Circuits (IDC) shall be wired Class B (NFPA Style B) as part of an addressable device connected by the SLC Circuit.
3. Notification Appliance Circuits (NAC) shall be wired Class B (NFPA Style Y) as part of an addressable device connected by the SLC Circuit.
4. Digitized electronic signals shall employ check digits or multiple polling.
5. A single ground or open on the system signaling line circuit shall not cause system malfunction, loss of operating power or the ability to report an alarm.
6. Alarm signals arriving at the main FACP shall not be lost following a primary power failure (or outage) until the alarm signal is processed and recorded.
7. NAC speaker circuits shall be arranged such that there is a minimum of one speaker circuit per floor of the building or smoke zone whichever is greater.
8. Audio amplifiers and tone generating equipment shall be electrically supervised for normal and abnormal conditions.
9. NAC speaker circuits and control equipment shall be arranged such that loss of any one (1) speaker circuit will not cause the loss of any other speaker circuit in the system.

- C. BASIC SYSTEM FUNCTIONAL OPERATION

1. When a fire alarm condition is detected and reported by one of the system initiating devices, the following functions shall immediately occur:
 - a. The system alarm LED on the FACP shall flash.
 - b. A local piezo electric signal in the control panel shall sound.
 - c. A backlit 80 character LCD display on the FACP shall indicate all information associated with the fire alarm condition, including the type of alarm point and its location within the protected premises.
 - d. Printing on the FACP and history storage equipment shall log the information associated with each new fire alarm control panel condition, along with time and date of occurrence.
 - e. All system output programs assigned via control-by-event interlock programming to be activated by the particular point in alarm shall be executed, and the associated system outputs (alarm notification appliances and/or relays) shall be activated

1.05 DEFINITIONS

- A. EMT: Electrical Metallic Tubing.
- B. FACP: Fire Alarm Control Panel.
- C. HLI: High Level Interface.
- D. NICET: National Institute for Certification in Engineering Technologies.

1.06 APPLICABLE STANDARDS AND SPECIFICATIONS

- A. The specifications and standards listed below form a part of this specification. The system shall fully comply with the latest issue of these standards.
 - 1. National Fire Protection Association (NFPA) - USA:
 - a. No. 12 CO2 Extinguishing Systems
 - b. No. 12A & 12B Halon Extinguishing Systems
 - c. No. 15 Water Spray Systems
 - d. No. 16 Foam/Water Deluge and Spray Systems
 - e. No. 72-1993 National Fire Alarm Code
 - f. No. 101 Life Safety Code
 - 2. Underwriters Laboratories Inc. (UL) - USA:
 - a. No. 268 Smoke Detectors for Fire Protective Signaling Systems
 - b. No. 864 Control Units for Fire Protective Signaling Systems
 - c. No. 268A Smoke Detectors for Duct Applications
 - d. No. 521 Heat Detectors for Fire Protective
 - e. No. 464 Audible Signaling Appliances
 - f. No. 38 Manually Actuated Signaling Boxes
 - g. No. 346 Waterflow Indicators for Fire Protective Signaling Systems
 - h. No. 1076 Control Units for Burglar Alarm Proprietary Protective Signaling Systems
 - i. No. 1971 Visual Notification Appliances
 - j. No. 2034 Carbon Monoxide Alarms
 - k. No. 2075 Carbon Monoxide Detectors
 - 3. Local and State Building Codes.
 - 4. All requirements of the Authority Having Jurisdiction (AHJ).
 - 5. Distributor of fire alarm to be an approved UUJS certified company.
- B. APPROVALS:
 - 1. The system shall have proper listing and/or approval from the following nationally recognized agencies:
 - a. UL Underwriters Laboratories Inc.
 - b. FM Factory Mutual
 - 2. The fire alarm control panel shall meet UL Standard 864 (Control Units) and UL Standard 1076 (Proprietary Burglar Alarm Systems).

1.07 ACTION SUBMITTALS

- A. Product Data: For each type of product, including furnished options and accessories.
 - 1. Include construction details, material descriptions, dimensions, profiles, and finishes.
 - 2. Include rated capacities, operating characteristics, and electrical characteristics.

- B. Shop Drawings: For fire-alarm system.
 - 1. Comply with recommendations and requirements in the "Documentation" section of the "Fundamentals" chapter in NFPA 72.
 - 2. Include plans, elevations, sections, details, and attachments to other work.
 - 3. Include details of equipment assemblies. Indicate dimensions, weights, loads, and required clearances, method of field assembly, components, and locations. Indicate conductor sizes, indicate termination locations and requirements, and distinguish between factory and field wiring.
 - 4. Detail assembly and support requirements.
 - 5. Include voltage drop calculations for notification-appliance circuits.
 - 6. Include battery-size calculations.
 - 7. Include input/output matrix.
 - 8. Include statement from manufacturer that all equipment and components have been tested as a system and meet all requirements in this Specification and in NFPA 72.
 - 9. Include performance parameters and installation details for each detector.
 - 10. Verify that each duct detector is listed for complete range of air velocity, temperature, and humidity possible when air-handling system is operating.
 - 11. Provide program report showing that air-sampling detector pipe layout balances pneumatically within the airflow range of the air-sampling detector.
 - 12. Include plans, sections, and elevations of heating, ventilating, and air-conditioning ducts, drawn to scale; coordinate location of duct smoke detectors and access to them.
 - a. Show critical dimensions that relate to placement and support of sampling tubes, detector housing, and remote status and alarm indicators.
 - b. Show field wiring required for HVAC unit shutdown on alarm.
 - c. Locate detectors according to manufacturer's written recommendations.
 - d. Provide description of duct smoke detector operation, including shutdown of individual HVAC unit where smoke is detected, and associated supervisory alarm at fire alarm control panel and remote annunciator(s).
 - 13. Include floor plans to indicate final outlet locations showing address of each addressable device. Show size and route of cable and conduits and point-to-point wiring diagrams.
 - 14. Include floor plans to indicate locations of carbon monoxide detectors connected to fire alarm system.

- a. Provide description of carbon monoxide detector operation, including supervisory alarm at fire alarm control panel and remote annunciator(s).
- C. General Submittal Requirements:
1. Submittals shall be approved by authorities having jurisdiction prior to submitting them to Architect.
 2. Shop Drawings shall be prepared by persons with the following qualifications:
 - a. Trained and certified by manufacturer in fire-alarm system design.
 - b. NICET-certified, fire-alarm technician; Level III minimum.
 - c. Licensed or certified by authorities having jurisdiction.
- 1.08 INFORMATIONAL SUBMITTALS
- A. Qualification Data: For Installer.
- B. Seismic Qualification Certificates: For fire-alarm control unit, accessories, and components, from manufacturer.
1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
- C. Field quality-control reports.

1.09 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For fire-alarm systems and components to include in emergency, operation, and maintenance manuals.
1. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:
 - a. Comply with the "Records" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
 - b. Provide "Fire Alarm and Emergency Communications System Record of Completion Documents" according to the "Completion Documents" Article in the "Documentation" section of the "Fundamentals" chapter in NFPA 72.
 - c. Complete wiring diagrams showing connections between all devices and equipment. Each conductor shall be numbered at every junction point with indication of origination and termination points.
 - d. Riser diagram.
 - e. Device addresses.
 - f. Record copy of site-specific software.
 - g. Provide "Inspection and Testing Form" according to the "Inspection, Testing and Maintenance" chapter in NFPA 72, and include the following:

- 1) Equipment tested.
 - 2) Frequency of testing of installed components.
 - 3) Frequency of inspection of installed components.
 - 4) Requirements and recommendations related to results of maintenance.
 - 5) Manufacturer's user training manuals.
 - h. Manufacturer's required maintenance related to system warranty requirements.
 - i. Abbreviated operating instructions for mounting at fire-alarm control unit and each annunciator unit.
- B. Software and Firmware Operational Documentation:
1. Software operating and upgrade manuals.
 2. Program Software Backup: On magnetic media or compact disk, complete with data files.
 3. Device address list.
 4. Printout of software application and graphic screens.
- 1.10 QUALITY ASSURANCE
- A. Installer Qualifications: Installation shall be by personnel certified by NICET as fire-alarm Level III technician.
- B. NFPA Certification: Obtain certification according to NFPA 72 by an NRTL (nationally recognized testing laboratory).
- 1.11 PROJECT CONDITIONS
- A. Interruption of Existing Fire-Alarm Service: Do not interrupt fire-alarm service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary guard service according to requirements indicated:
1. Notify Construction Manager no fewer than 2 days in advance of proposed interruption of fire-alarm service.
 2. Do not proceed with interruption of fire-alarm service without Architect's written permission.
- 1.12 SEQUENCING AND SCHEDULING
- A. Existing Fire-Alarm Equipment: Maintain existing equipment fully operational until new equipment has been tested and accepted. As new equipment is installed, label it "NOT IN SERVICE" until it is accepted. Remove labels from new equipment when put into service, and label existing fire-alarm equipment "NOT IN SERVICE" until removed from the building.
- B. Equipment Removal: After acceptance of new fire-alarm system, remove existing disconnected fire-alarm equipment and wiring.

1.13 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace fire-alarm system equipment and components that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Extent: All equipment and components not covered in the Maintenance Service Agreement.
 - 2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 EQUIPMENT AND MATERIAL, GENERAL:

- A. Manufacturers: Subject to compliance with requirements, provide products that are compatible with the existing system.
- B. All equipment and components shall be new, and the manufacturer's current model. The materials, appliances, equipment and devices shall be tested and listed by a nationally recognized approvals agency for use as part of a protective signaling system, meeting the National Fire Alarm Code.
- C. All equipment and components shall be installed in strict compliance with manufacturers' recommendations. Consult the manufacturer's installation manuals for all wiring diagrams, schematics, physical equipment sizes, etc., before beginning system installation.
- D. All equipment shall be attached to walls and ceiling/floor assemblies and shall be held firmly in place (e.g., detectors shall not be supported solely by suspended ceilings). Fasteners and supports shall be adequate to support the required load.
- E. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.02 CONDUIT AND WIRE:

- A. Conduit or Raceway:
 - 1. Conduit shall be in accordance with the National Electrical Code (NEC), local and state requirements.
 - 2. All wiring subject to damage or exposed shall be installed in conduit or raceway. Wiremold V700 shall be used in areas subject to the public. Conduit fill shall not exceed 40 percent of interior cross sectional area where three or more cables are contained within a single conduit.
 - 3. Cable must be separated from any open conductors of power, or Class 1 circuits, and shall not be placed in any conduit, junction box or raceway containing these conductors, per NEC Article 760-29.
 - 4. Wiring for 24 volt DC control, alarm notification, emergency communication and similar power-limited auxiliary functions may be run in the same conduit as initiating and signaling line circuits. All circuits shall

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be provided with transient suppression devices and the system shall be designed to permit simultaneous operation of all circuits without interference or loss of signals.

5. Conduit shall not enter the fire alarm control panel, or any other remotely mounted control panel equipment or backboxes, except where conduit entry is specified by the FACP manufacturer.
6. Conduit shall be 3/4 inch (19.1 mm) minimum.

B. Wire:

1. All fire alarm system wiring shall be new and rated for plenum use. Wiring located in assembly areas shall be in conduit or rated as Type MC FPLP.
2. Wiring shall be in accordance with local, state and national codes (e.g., NEC Article 760) and as recommended by the manufacturer of the fire alarm system. Number and size of conductors shall be as recommended by the fire alarm system manufacturer, but not less than 18 AWG (1.02 mm) for initiating device circuits and signaling line circuits, and 14 AWG (1.63 mm) for notification appliance circuits.
3. All wire and cable shall be listed and/or approved by a recognized testing agency for use with a protective signaling system.
4. Wiring used for the SLC multiplex communication loop shall be twisted and shielded and support a minimum wiring distance of 10,000 feet. In certain applications, the system shall support up to SLC loops with up to 1,000 feet of untwisted, unshielded wire. The system shall permit use of IDC and NAC wiring in the same conduit with the SLC communication loop.
5. All field wiring shall be completely supervised.
6. The fire alarm control panel shall be capable of t-tapping Class B (NFPA Style 4) Signaling Line Circuits (SLCs). Systems which do not allow or have restrictions in, for example, the amount of t-taps, length of t-taps etc., are not acceptable.

C. Terminal Boxes, Junction Boxes and Cabinets:

1. All boxes and cabinets shall be UL listed for their use and purpose.

D. Initiating circuits shall be arranged to serve like categories (manual, smoke, waterflow). Mixed category circuitry shall not be permitted except on signaling line circuits connected to intelligent reporting devices.

E. The fire alarm control panel shall be connected to a separate dedicated branch circuit, maximum 20 amperes. This circuit shall be labeled at the main power distribution panel as FIRE ALARM. Fire alarm control panel primary power wiring shall be 12 AWG. The control panel cabinet shall be grounded securely to either a cold water pipe or grounding rod.

2.03 MAIN FIRE ALARM CONTROL PANEL

A. The specification is based on a Notifier Model NFS2-640. The system shall contain a microprocessor based Central Processing Unit (CPU). The CPU shall communicate with and control the following types of equipment used to make

up the system: intelligent addressable smoke and thermal (heat) detectors, addressable modules, printer, annunciators, and other system controlled devices.

- B. Operator Control:
1. Acknowledge Switch:
 - a. Activation of the control panel acknowledge switch in response to new alarms and/or troubles shall silence the local panel piezo electric signal and change the alarm and trouble LEDs from flashing mode to steady-ON mode. If multiple alarm or trouble conditions exist, depression of this switch shall advance the 80-character LCD display to the next alarm or trouble condition.
 - b. Depression of the Acknowledge switch shall also silence all remote annunciator piezo sounders.
 2. Alarm Silence Switch:
 - a. Activation of the alarm silence switch shall cause all programmed alarm notification appliances and relays to return to the normal condition after an alarm condition. The selection of notification circuits and relays that are silence able by this switch shall be fully field programmable within the confines of all applicable standards. The FACP software shall include silence inhibit and auto-silence timers.
 3. Alarm Activate (Drill) Switch:
 - a. The Alarm Activate switch shall activate all notification appliance circuits. The drill function shall latch until the panel is silenced or reset.
 4. System Reset Switch:
 - a. Activation of the System Reset switch shall cause all electronically-latched initiating devices, appliances or software zones, as well as all associated output devices and circuits, to return to their normal condition.
 5. Lamp Test:
 - a. The Lamp Test switch shall activate all system LEDs and light each segment of the liquid crystal display.
- C. System Capacity and General Operation:
1. The control panel shall provide, or be capable of expansion to 636 intelligent/addressable devices.
 2. The system shall include Form-C alarm, trouble, supervisory, and security relays rated at a minimum of 3.0 amps @ 30 VDC. It shall also include four Class B (NFPA Style Y) or Class A (NFPA Style Z) programmable notification appliance circuits.
 3. The system shall support up to 8 additional output modules (signal, speaker, telephone, or relay), each with 8 circuits for an additional 64 circuits. These circuits shall be either Class A (NFPA Style D) or Class B (NFPA Style Y) per the project drawings.
 4. The fire alarm control panel shall include a full featured operator interface control and annunciation panel that shall include a backlit Liquid Crystal Display (LCD), individual color coded system status LEDs, and an

alphanumeric keypad for the field programming and control of the fire alarm system.

5. All programming or editing of the existing program in the system shall be achieved without special equipment and without interrupting the alarm monitoring functions of the fire alarm control panel. The system shall be fully programmable, configurable, and expandable in the field without the need for special tools, PROM programmers or PC based programmers. It shall not require replacement of memory ICs to facilitate programming changes.
 6. The system shall allow the programming of any input to activate any output or group of outputs. Systems which have limited programming (such as general alarm), have complicated programming (such as a diode matrix), or require a laptop personal computer are not considered suitable substitutes.
 7. The FACP shall provide the following features:
 - a. Drift compensation to extend detector accuracy over life. Drift compensation shall also include a smoothing feature, allowing transient noise signals to be filtered out.
 - b. Detector sensitivity test, meeting requirements of NFPA 72, Chapter 7.
 - c. Maintenance alert, with two levels (maintenance alert/maintenance urgent), to warn of excessive smoke detector dirt or dust accumulation.
 - d. Nine sensitivity levels for alarm, selected by detector. The system shall also include up to nine levels of pre-alarm, selected as a percentage of the alarm level, in steps from 90% down to 50%.
 - e. System status reports to display or printer.
 - f. Alarm verification, with verification counters.
 - g. PAS pre-signal, meeting NFPA 72 3-8.3 requirements.
 - h. Rapid manual station reporting (under 3 seconds).
 - i. Non-alarm points for general (non-fire) control.
 - j. Periodic detector test, conducted automatically by the software.
 - k. Self-optimizing pre-alarm for advanced fire warning, which allows each detector to learn its particular environment and set its pre-alarm level to just above normal peaks.
 - l. Cross zoning with the capability of counting: two detectors in alarm, two software zones in alarm, or one smoke detector and one thermal detector.
 - m. Walk test, with a check for two detectors set to same address.
 - n. Control-by-time for non-fire operations, with holiday schedules.
 - o. Day/night automatic adjustment of detector sensitivity.
 - p. Device blink control for sleeping areas.
 - q. UL-1076 security monitor points.
 8. The FACP shall be capable of coding notification circuits in march time (120 PPM), temporal (NFPA 72 A-2-2.2.2), and California code.
- D. Central Microprocessor
1. The microprocessor shall be a state-of-the-art, high speed, 16 bit RISC device and it shall communicate with, monitor and control all external

interfaces. It shall include an EPROM for system program storage, non-volatile memory for building-specific program storage, and a "watch dog" timer circuit to detect and report microprocessor failure.

2. The microprocessor shall contain and execute all control-by-event programs for specific action to be taken if an alarm condition is detected by the system. Control-by-event equations shall be held in non-volatile programmable memory, and shall not be lost even if system primary and secondary power failure occurs.
3. The microprocessor shall also provide a real-time clock for time annotation of system displays, printer, and history file. The time-of-day and date shall not be lost if system primary and secondary power supplies fail. The real time clock may also be used to control non-fire functions at programmed time-of-day, day-of-week, and day-of-year.
4. A special program check function shall be provided to detect common operator errors.
5. An auto-program (self-learn) function shall be provided to quickly install initial functions and make the system operational.
6. For flexibility and to ensure program validity, an optional Windows(TM) based program utility shall be available. This program shall be used to off-line program the system with batch upload/download. This program shall also have a verification utility which scans the program files, identifying possible errors. It shall also have the ability to compare old program files to new ones, identifying differences in the two files to allow complete testing of any system operating changes. This shall be in compliance with the NFPA 72 requirements for testing after system modification.

E. Display

1. The display shall provide all the controls and indicators used by the system operator and may also be used to program all system operational parameters.
2. The display shall include status information and custom alphanumeric labels for all intelligent detectors, addressable modules, internal panel circuits, and software zones.
3. The display shall include an 80-character back-lit alphanumeric Liquid Crystal Display (LCD). It shall also provide 8 Light-Emitting-Diodes (LEDs, that indicate the status of the following system parameters: AC POWER, FIRE ALARM, PREALARM WARNING, SECURITY ALARM, SUPERVISORY SIGNAL, SYSTEM TROUBLE, DISABLED POINTS, and ALARM SILENCED.
4. The display keypad shall be an easy to use QWERTY type keypad, similar to a PC keyboard. This shall be part of the standard system and have the capability to command all system functions, entry of any alphabetic or numeric information, and field programming. Two different password levels shall be provided to prevent unauthorized system control or programming.
5. The display shall include the following operator control switches: ACKNOWLEDGE, ALARM SILENCE, ALARM ACTIVATE (drill), SYSTEM RESET, and LAMP TEST.

F. Signaling Line Circuits (SLC)

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1. The system shall include two SLC circuits. Each SLC interface shall provide power to and communicate with up to 159 intelligent detectors (ionization, photoelectric or thermal) and 159 intelligent modules (monitor or control) for a system capacity of 636 devices. Each SLC loop shall be capable of NFPA 72 Style 4, Style 6, or Style 7 (Class A or B) wiring.
2. The Loop Control Module (LCM) shall receive analog information from all intelligent detectors to be processed to determine whether normal, alarm, pre-alarm, or trouble conditions exist for each detector. The software shall automatically maintain the detector's desired sensitivity level by adjusting for the effects of environmental factors, including the accumulation of dust in each detector. The analog information shall also be used for automatic detector testing and for the automatic determination of detector maintenance requirements.
3. The detector software shall meet NFPA 72, Chapter 7 requirements and be certified by UL as a calibrated sensitivity test instrument.
4. The detector software shall allow manual or automatic sensitivity adjustment.

G. Serial Interfaces

1. The system shall include two serial EIA-232 interfaces. Each interface shall be a means of connecting UL Listed Electronic Data Processing (EDP) peripherals.
2. One EIA-232 interface shall be used to connect an UL-Listed 40 or 80 column printer. Printers which are not UL-Listed are not considered acceptable substitutes.
3. The system shall include an EIA-485 port for the serial connection of optional annunciators and remote LCD displays.
4. The EIA-485 interface may be used for network connection to a proprietary receiving unit.

H. Notification Appliance Circuit (NAC) Module

1. The notification appliance circuit module shall provide six fully supervised Class A or B (NFPA Style Z or Y) notification circuits. An expansion circuit board shall allow expansion to eight circuits per module.
2. The notification circuit capacity shall be 3.0 amperes maximum per circuit and 6.0 amperes maximum per module.
3. The module shall not affect other module circuits in any way during a short circuit condition.
4. The notification circuit module shall be provided with removable wiring terminal blocks for ease of installation and service. The terminal strips shall be UL listed for use with up to 12 AWG wire.
5. Each circuit shall be capable of, through system programming, deactivating upon depression of the signal silence switch.

I. Control Relay Module

1. The control relay module shall provide six Form-C auxiliary relay circuits rated at 5 amperes, 28 VDC. An expansion circuit board shall allow expansion to eight Form-C relays per module.
2. Each relay circuit shall be capable of being activated (change in state) by any initiating device or from any combination of initiating devices.

3. The control relay module shall be provided with removable wiring terminal blocks for ease of installation and service. The terminal blocks shall be UL listed for use with up to 12 AWG wire.

J. Voice Control Module

1. The voice control (speaker circuit) module shall provide six fully supervised Class B (NFPA Style Y) or Class A (NFPA Style Z) speaker circuits. An expansion circuit board shall allow expansion for up to eight circuits per module.
2. Each speaker circuit shall be capable of switching up to 30 watts maximum per circuit or 60 watts per four circuit module.
3. If a short-circuit trouble occurs on one of the circuits, that circuit will not activate on either manual or automatic command.
4. The voice control module shall be provided with removable wiring terminal blocks for ease of installation and service. The terminal strips shall be UL Listed for use with up to 12 AWG wire.
5. Each speaker circuit module may be programmed to activate on activation of the All-Call switch and to deactivate upon pressing the signal silence switch.

K. Enclosures:

1. The control panel shall be housed in a UL-listed cabinet suitable for surface or semi-flush mounting. The cabinet and front shall be corrosion protected, given a rust-resistant prime coat, and manufacturer's standard finish.
2. The back box and door shall be constructed of .060 steel with provisions for electrical conduit connections into the sides and top.
3. The door shall provide a key lock and shall include a glass or other transparent opening for viewing of all indicators. For convenience, the door may be selected for either right or left hand hinging.

L. Digital Voice Command Center (DVCC)

1. The Digital Voice Command Center (DVCC) shall contain equipment required for all audio control, telephone system control, signaling and supervisory functions. This shall include amplifiers, tone generators, digital voice units, a microphone and a main telephone handset. The voice command center shall be an integral part of the fire alarm system. Systems which require separate, non-integrated voice systems are not considered suitable substitutes.
2. Function: The voice command center equipment shall perform the following functions:
 - a. Operate as a supervised single channel or dual channel emergency voice communication system.
 - b. Provide automatic custom digital recorded voice message and tone generation.
 - c. Provide a hand held microphone with priority push-to-talk switch.
 - d. Provide an all-call switch and indicator to quickly activate all speaker circuits.

M. Power Supply:

1. The main power supply for the fire alarm control panel shall provide 6.0 amps of available power for the control panel and peripheral devices.
 2. Provisions will be made to allow the audio-visual power to be increased as required by adding modular expansion audio-visual power supplies.
 3. Positive-Temperature-Coefficient (PTC) thermistors, circuit breakers, or other over-current protection shall be provided on all power outputs. The power supply shall provide an integral battery charger for use with batteries up to 55 AH or may be used with an external battery and charger systems. Battery arrangement may be configured in the field.
 4. The main power supply shall continuously monitor all field wires for earth ground conditions, and shall have the following LED indicators:
 - a. Ground Fault LED
 - b. Battery Fail LED
 - c. AC Power Fail LED
 5. The main power supply shall operate on 120 VAC, 60 Hz, and shall provide all necessary power for the FACP.
 6. The main power supply shall provide a battery charger for 24 hours of standby using dual-rate charging techniques for fast battery recharge.
 7. The main power supply shall provide a very low frequency sweep earth detect circuit, capable of detecting earth faults on sensitive addressable modules.
 8. The main power supply shall provide meters to indicate battery voltage and charging current.
 9. All circuits shall be power-limited, per 1995 UL864 requirements.
- N. Audio Amplifiers (Size amplifiers with a minimum spare capacity of 20% and provide a minimum of one backup amplifier.)
1. The audio amplifiers will provide audio power (@ 25 Volts RMS) for distribution to the speaker circuits.
 2. Multiple audio amplifiers may be mounted in the fire alarm control panel using additional cabinets if necessary.
 3. The audio amplifiers shall include an integral power supply, and shall provide the following controls and indicators:
 - a. Normal Audio Level LED
 - b. Incorrect Audio Level LED
 - c. Brownout LED
 - d. Battery Trouble LED
 - e. Amplifier Trouble LED
 - f. Audio Amplifier Gain Adjust
 4. Adjustment of the correct audio level for the amplifier shall not require any special tools or test equipment.
 5. All terminal blocks for the connection of field wiring shall have a removable plug-in and be hardwired to allow for ease of field wire installation in a cabinet or at a remote location.
 6. The amplifier shall include audio input and amplified output supervision, back-up input, and automatic switch-over to back up (if primary amplifier should fail).
 7. Amplifiers shall be backed up in groups (one amplifier backs up several).
- O. Prerecorded Voice - Audio Message Generator

1. The voice communication system shall be capable of transmitting a prerecorded voice message to all speakers in the building, or to any programmed group of speakers.
 2. Actuation of any alarm initiating device shall cause a pre-recorded message to sound over the speakers. The message shall be repeated four times.
 3. A built-in microphone shall be provided to allow paging through speaker circuits and shall have priority over the alarm message.
 4. The message generator shall provide an interface to allow paging through telephone circuits.
 5. The audio message generator shall have the following controls and indicators to allow for proper operator understanding and control.
 - a. Audio Level Normal LED
 - b. All Call LED
 - c. On-Line LED
 - d. Amplifier Trouble LED
 - e. Speaker Trouble LED
 - f. All Call Switch
 - g. Local Speaker Volume Control
 6. The prerecorded message shall be stored on a non-volatile read only memory chip. The message shall be up to 24 seconds in length. A random access chip shall be available for a field programmable message. This message shall be programmed through the system's microphone or downloaded via a cassette recorder. Systems which utilize prerecorded memory storage other than on ROM type memory chips are not suitable substitutes.
 - a. A field customizable recordable message shall be programmed during the startup phase for the Panic message and shall be determined at that time. Cost for this special message shall be included in the price.
- P. Specific System Operations
1. Smoke Detector Sensitivity Adjust: A means shall be provided for adjusting the sensitivity of any or all addressable intelligent detectors in the system from the system keypad. Sensitivity range shall be within the allowed UL window and have a minimum of 9 levels.
 2. Alarm Verification: Each of the intelligent addressable smoke detectors in the system may be independently selected and enabled to be an alarm verified detector. The alarm verification delay shall be programmable from 5 to 30 seconds and each detector shall be able to be selected for verification. The FACP shall keep a count of the number of times that each detector has entered the verification cycle. These counters may be displayed and reset by the proper operator commands.
 3. Point Disable: Any addressable device or conventional circuit in the system may be enabled or disabled through the system keypad.
 4. Point Read: The system shall be able to display or print the following point status diagnostic functions:
 - a. Device status
 - b. Device type

- c. Custom device label
 - d. View analog detector values
 - e. Device zone assignments
 - f. All program parameters
5. System Status Reports: Upon command from an operator of the system, a status report will be generated and printed, listing all system status.
 6. System History Recording and Reporting: The fire alarm control panel shall contain a history buffer that will be capable of storing up to 1000 events. 200 events shall be dedicated to alarm and the remaining events are general purpose. Each of these activations will be stored and time and date stamped with the actual time of the activation. The contents of the history buffer may be manually reviewed, one event at a time, or printed in its entirety.
 - a. The history buffer shall use non-volatile memory. Systems that use volatile memory for history storage are not acceptable substitutes.
 7. Automatic Detector Maintenance Alert: The fire alarm control panel shall automatically interrogate each intelligent detector and shall analyze the detector responses over a period of time. If any intelligent detector in the system responds with a reading that is above or below normal limits, then the system will enter the trouble mode, and the particular detector will be annunciated on the system display, and printed on the optional printer. This feature shall in no way inhibit the receipt of alarm conditions in the system, nor shall it require any special hardware, special tools or computer expertise to perform.
 8. Pre-Alarm Function: The system shall provide two levels of pre-alarm warning to give advance notice of a possible fire situation. Both pre-alarm levels shall be fully field adjustable. The first level shall give an audible indication at the panel. The second level shall give an audible indication and may also activate control relays. The system shall also have the ability to activate local detector sounder bases at the pre-alarm level, to assist in avoiding nuisance alarms.
 9. Software Zones: The FACP shall provide 99 software zones and 10 additional special function zones.
 10. The fire alarm control panel shall include a walk test feature. It shall include the ability to test initiating device circuits and notification appliance circuits from the field without returning to the panel to reset the system. Operation shall be as follows:
 - a. Alarming an initiating device shall activate programmed outputs, which are selected to participate in walk test, for 3 seconds.
 - b. Introducing a trouble into the initiating device shall activate the programmed outputs for 8 seconds.
 - c. Walk test shall be selectable on a per device/circuit basis. All devices and circuits which are not selected for walk test shall continue to provide fire protection and if an alarm is detected, will exit walk test and activate all programmed alarm functions.
 - d. All devices tested in walk test shall be recorded in the history buffer.
- Q. Waterflow Operation (Provide one FMM-1 for Each)

1. An alarm from a waterflow detection device shall activate the appropriate alarm message on the 80 character display, turn on all programmed notification appliance circuits and shall not be affected by the signal silence switch.
- R. Supervisory Operation (Provide one FMM-1 for Each)
1. An alarm from a supervisory device shall cause the appropriate indication on the 80 character display, light a common supervisory LED, but will not cause the system to enter the trouble mode.
- S. Signal Silence Operation
1. The FACP shall have the ability to program each output circuit (notification, relay, speaker etc.) to deactivate upon depression of the signal silence switch.
- T. Non-Alarm Input Operation
1. Any addressable initiating device in the system may be used as a non-alarm input to monitor normally-open contact type devices. Non-alarm functions are a lower priority than fire alarm initiating devices.
- 2.04 SYSTEM COMPONENTS:
- A. Speakers (Speaker/Strobes are to meet requirements of both paragraphs A and B)
1. All speakers shall operate on 25 VRMS or with field selectable output taps from 0.5 to 2.0 Watts.
 2. Speakers in corridors and public spaces shall produce a nominal sound output of 84 dBA at 10 feet (3m).
 3. Frequency response shall be a minimum of 400 HZ to 4000 HZ.
 4. The back of each speaker shall be sealed to protect the speaker cone from damage and dust.
- B. Strobe lights shall meet the requirements of the ADA, UL Standard 1971, NFPA 2010 and shall meet the following criteria:
1. The pulse duration shall be between minimum of one second and maximum of two seconds.
 2. Strobe intensity shall meet the requirements of UL 1971, NFPA 2010 and ADA.
 3. All visual units shall be synchronized to meet ADA requirements using sync modules.
- C. Alphanumeric LCD Type Annunciator
1. The alphanumeric display annunciator shall be a supervised, remotely located back-lit LCD display containing a minimum of eighty (80) characters for alarm annunciation in clear English text.
 2. The LCD annunciator shall display all alarm and trouble conditions in the system.
 3. An audible indication of alarm shall be integral to the alphanumeric display.
 4. The display shall be UL listed for fire alarm application.

5. It shall be possible to connect up to 32 LCD displays and be capable of wiring distances up to 6000 feet from the control panel.
 6. The annunciator shall connect to a separate, dedicated "terminal mode" EIA-485 interface. This is a two-wire connection and shall be capable of distances to 6,000 feet. Each terminal mode LCD display shall mimic the main control panel.
 7. The system shall allow a minimum of 32 terminal mode LCD annunciators. Up to 10 LCD annunciators shall be capable of the following system functions: Acknowledge, Signal Silence and Reset which shall be protected from unauthorized use by a key switch or password.
 8. Provide annunciator key switch to enable or disable operation of annunciator membrane control switches.
- D. All interfaces and associated equipment are to be protected so that they will not be affected by voltage surges or line transients consistent with UL standard 864.
- E. Field Wiring Terminal Blocks
1. For ease of service all panel I/O wiring terminal blocks shall be removable, plug-in types and have sufficient capacity for 18 to 12 AWG wire. Terminal blocks which are permanently fixed are not acceptable.
- F. Transponders
1. Transponders shall be listed under UL category UOJZ as an independent, local fire alarm control unit as well as being listed as a critical component in a multiplex fire alarm system. Transponders shall be located where shown on the plans.
 2. The transponder shall serve as the interface between initiating fire devices, controlled signaling devices, and each FACP node. The supervised multiplex communication port shall be an integral part of the transponder.
 3. Each transponder shall be powered from a local power supply, and shall provide all power necessary for its own operation, including standby power.
 4. Transponders shall communicate with, and be controlled by, the host FACP via a 2-wire communications loop. The communications loop shall operate as an NFPA Style 4, Style 6 or Style 7 loop.
 5. Transponders shall be used to house amplifiers, batteries and power supplies to allow true distributed processing and amplification.
 6. Each transponder shall have the following indicators and operator controls:
 - a. Alarm Acknowledge/Reset Switch
 - b. Power LED
 - c. System Alarm LED
 - d. System Trouble LED
 - e. Local Piezoelectric Signal
 - f. Red Alarm Per Initiating Device Circuit
 - g. Green On/Off LED Per Notification Appliance
 - h. Circuit or Relay

7. Each transponder shall be capable of expansion of up to 24 field circuits of the following types in any mix:
 - a. Initiating Device Circuits (IDC): IDCs may be added to the transponder in groups of 8 Style B (Class B), or 4 Style D (Class A) circuits. Each circuit shall be capable of monitoring up to 30 compatible 2-wire smoke detectors, and/or any number of contact type initiating devices.
 - b. Fire Fighter's Telephone Circuits: Firefighter's telephone circuits may be added to the transponder in groups of up to 8 circuits.
 - c. Fire alarm speaker circuits: Fire alarm speaker circuits may be added to the transponder in groups of up to 8 circuits. Each circuit shall be cable of supervising the field circuit, and of transmitting up to 30 watts of audio power.
 - d. Auxiliary Control Relay Outputs: Auxiliary relay outputs may be added to the transponder in groups of eight individually controlled single Form-C circuits, or four dual Form-C circuits. All Auxiliary circuits shall be rated 2 A. @ 30 VDC.

2.05 SYSTEM COMPONENTS - ADDRESSABLE DEVICES

- A. Addressable Devices - General
 1. Addressable devices shall use simple to install and maintain decade (numbered 1 to 16) type address switches.
 2. Addressable devices which use a binary address setting method, such as a Dip switch, are difficult to install and subject to installation error. This type of device is not an allowable substitute.
 3. Detectors shall be intelligent (analog) and addressable, and shall connect with two wires to the fire alarm control panel signaling line circuits.
 4. Addressable smoke and thermal detectors shall provide dual alarm and power/polling LEDs. Both LEDs shall flash under normal conditions, indicating that the detector is operational and in regular communication with the control panel, and both LEDs shall be placed into steady illumination by the control panel, indicating that an alarm condition has been detected. If required, the LED flash shall have the ability to be removed from the system program. An output connection shall also be provided in the base to connect an external remote alarm LED.
 5. Smoke detector sensitivity shall be set in the fire alarm control panel and shall be adjustable in the field through the field programming of the system. Sensitivity may be automatically adjusted by the panel on a time-of-day basis.
 6. Using software in the FACP, detectors shall automatically compensate for dust accumulation and other slow environmental changes that may affect their performance. The detectors shall be listed by UL as meeting the calibrated sensitivity test requirements of NFPA Standard 72, Chapter 7.
 7. The detectors shall be ceiling-mount and shall include a separate twist-lock base with tamper proof feature. Base shall include a sounder base with a built-in (local) sounder rated at 85 DBA minimum, a relay base and an isolator base designed for Style 7 applications.
 8. The detectors shall provide a test means whereby they will simulate an alarm condition and report that condition to the control panel. Such a test

may be initiated at the detector itself (by activating a magnetic switch) or initiated remotely on command from the control panel.

9. Detectors shall also store an internal identifying type code that the control panel shall use to identify the type of device (ION, PHOTO, THERMAL).
 10. Detectors will operate in an analog fashion, where the detector simply measures its designed environment variable and transmits an analog value to the FACP based on real-time measured values. The FACP software, not the detector, shall make the alarm/normal decision, thereby allowing the sensitivity of each detector to be set in the FACP program and allowing the system operator to view the current analog value of each detector.
 11. Detectors shall provide address-setting means using decimal switches and shall also store an internal identifying code that the control panel shall use to identify the type of device. LEDs shall be provided that shall flash under normal conditions, indicating that the device is operational and is in regular communication with the control panel.
 12. A magnetic test switch shall be provided to test each detector for 100% obscuration, reported to the FACP.
 13. Addressable devices shall provide address-setting means using decimal switches and shall also store an internal identifying code that the control panel shall use to identify the type of device. LED(s) shall be provided that shall flash under normal conditions, indicating that the device is operational and is in regular communication with the control panel.
 14. A magnetic test switch shall be provided to test detectors and modules. Detectors shall report an indication of an analog value reaching 100% of the alarm threshold.
- B. Addressable Manual Pull Box
1. Addressable pull boxes shall, on command from the control panel, send data to the panel representing the state of the manual switch and the addressable communication module status. They shall use a key operated test-reset lock, and shall be designed so that after actual emergency operation, they cannot be restored to normal use except by the use of a key.
 2. All operated stations shall have a positive, visual indication of operation and utilize a key type reset.
 3. Manual stations shall be constructed of Lexan with clearly visible operating instructions provided on the cover. The word FIRE shall appear on the front of the stations in raised letters, 1.75 inches or larger.
 4. Stations shall be suitable for surface mounting or semi-flush mounting as shown on the plans, and shall be installed not less than 42 inches, nor more than 48 inches above the finished floor.
- C. Intelligent Photoelectric Smoke Detector
1. The detectors shall use the photoelectric (light-scattering) principal to measure smoke density and shall, on command from the control panel, send data to the panel representing the analog level of smoke density.
- D. Intelligent Thermal Detectors

1. Thermal detectors shall be intelligent addressable devices rated at 135 degrees Fahrenheit (58 degrees Celsius) and have a rate-of-rise element rated at 15 degrees F (9.4 degrees C) per minute. It shall connect via two wires to the fire alarm control panel signaling line circuit. Up to 159 intelligent heat detectors may connect to one SLC loop.
- E. Intelligent Duct Smoke Detector
1. The in-duct smoke detector housing shall accommodate either an intelligent ionization detector or an intelligent photoelectric detector, of that provides continuous analog monitoring and alarm verification from the panel.
 2. When sufficient smoke is sensed, an alarm signal is initiated at the FACP, and appropriate action taken to change over air handling systems to help prevent the rapid distribution of toxic smoke and fire gases throughout the areas served by the duct system.
- F. Addressable Dry Contact Monitor Module
1. Addressable monitor modules shall be provided to connect one supervised IDC zone of conventional alarm initiating devices (any N.O. dry contact device) to one of the fire alarm control panel SLC loops.
 2. The monitor module shall mount in a 4-inch square, 2-1/8 inch deep electrical box.
 3. The IDC zone may be wired for Style D or Style B operation. An LED shall be provided that shall flash under normal conditions, indicating that the monitor module is operational and in regular communication with the control panel.
 4. For difficult to reach areas, the monitor module shall be available in a miniature package and shall be no larger than 2-3/4 inch x 1-1/4 inch x 1/2 inch. This version need not include Style D or an LED.
- G. Addressable Control Module
1. Addressable control modules shall be provided to supervise and control the operation of one conventional NACs of compatible, 24 VDC powered, polarized audio/visual notification appliances. For fan shutdown and other auxiliary control functions, the control module may be set to operate as a dry contract relay.
 2. The control module shall mount in a standard 4-inch square, 2-1/8 inch deep electrical box, or to a surface mounted backbox.
 3. The control module NAC may be wired for Style Z or Style Y (Class A/B) with up to 1 amp of inductive A/V signal, or 2 amps of resistive A/V signal operation, or as a dry contact (Form-C) relay. The relay coil shall be magnetically latched to reduce wiring connection requirements, and to insure that 100% of all auxiliary relay or NACs may be energized at the same time on the same pair of wires.
 4. Audio/visual power shall be provided by a separate supervised power loop from the main fire alarm control panel or from a supervised, UL listed remote power supply.
 5. The control module shall be suitable for pilot duty applications and rated for a minimum of .6 amps at 30 VDC.

- H. Magnetic Door Holders
 - 1. Provide 120 volt AC flush mount door holders as required.
 - I. Lexan Pull Station Guards
 - 1. Provide Stopper II Lexan guards with integral buzzer for all manual pull stations.
 - J. Panic Emergency Button
 - 1. Provide Stopper station, with bopper Stopper cover and customizable label by STI model #SS-2411.
 - K. Carbon Monoxide Detectors
 - 1. Provide carbon monoxide detector listed for connection to fire-alarm system.
 - a. Mounting: Adapter plate for outlet box mounting.
 - b. Testable by introducing test carbon monoxide into the sensing cell.
 - c. Detector shall provide alarm contacts and trouble contacts.
 - d. Detector shall send trouble alarm when nearing end-of-life, power supply problems, or internal faults.
 - e. Comply with UL 2075.
 - f. Locate, mount, and wire according to manufacturer's written instructions.
 - g. Provide means for addressable connection to fire-alarm system.
 - h. Test button simulates an alarm condition.
- 2.06 BATTERIES:
- A. The batteries shall be 55 amp-hour, 12 volt nominal (two required).
 - B. The battery shall have sufficient capacity to power the fire alarm system for not less than twenty-four hours plus 5 minutes of alarm upon a normal AC power failure.
 - C. The batteries are to be completely maintenance free. No liquids are required. Fluid level checks for refilling, spills, and leakage shall not be required.
 - D. If necessary to meet standby requirements, external battery cabinet and charger systems may be used.
- 2.07 UDACT
- A. Provide a universal digital alarm communicator/transmitter capable of annunciating all addressable devices to a centralized monitoring station.
 - B. The communicator shall annunciate all devices on an individual point basis. Communicator shall be UL listed for fire and include dual telephone line connections.

2.08 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Fire-alarm control unit and raceways shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
 - 1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified and the unit will be fully operational after the seismic event."

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine areas and conditions for compliance with requirements for ventilation, temperature, humidity, and other conditions affecting performance of the Work.
 - 1. Verify that manufacturer's written instructions for environmental conditions have been permanently established in spaces where equipment and wiring are installed, before installation begins.
- B. Examine roughing-in for electrical connections to verify actual locations of connections before installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 EQUIPMENT INSTALLATION

- A. Comply with NFPA 72, NFPA 101, and requirements of authorities having jurisdiction for installation and testing of fire-alarm equipment. Install all electrical wiring to comply with requirements in NFPA 70 including, but not limited to, Article 760, "Fire Alarm Systems."
 - 1. Devices placed in service before all other trades have completed cleanup shall be replaced.
 - 2. Devices installed but not yet placed in service shall be protected from construction dust, debris, dirt, moisture, and damage according to manufacturer's written storage instructions.
- B. Install wall-mounted equipment, with tops of cabinets not more than 78 inches (1980 mm) above the finished floor.
 - 1. Comply with requirements for seismic-restraint devices specified in Section 260548.16 "Seismic Controls for Electrical Systems."
- C. Manual Fire-Alarm Boxes:
 - 1. Install manual fire-alarm box in the normal path of egress within 60 inches (1520 mm) of the exit doorway.
 - 2. Mount manual fire-alarm box on a background of a contrasting color.
 - 3. The operable part of manual fire-alarm box shall be between 42 inches (1060 mm) and 48 inches (1220 mm) above floor level. All devices shall be mounted at the same height unless otherwise indicated.

- D. Smoke- or Heat-Detector Spacing:
1. Comply with the "Smoke-Sensing Fire Detectors" section in the "Initiating Devices" chapter in NFPA 72, for smoke-detector spacing.
 2. Comply with the "Heat-Sensing Fire Detectors" section in the "Initiating Devices" chapter in NFPA 72, for heat-detector spacing.
 3. Smooth ceiling spacing shall not exceed 30 feet (9 m).
 4. Spacing of detectors for irregular areas, for irregular ceiling construction, and for high ceiling areas shall be determined according to Annex A or Annex B in NFPA 72.
 5. HVAC: Locate detectors not closer than 36 inches ((910 mm)) from air-supply diffuser or return-air opening.
 6. Lighting Fixtures: Locate detectors not closer than 12 inches (300 mm) from any part of a lighting fixture and not directly above pendant mounted or indirect lighting.
- E. Install a cover on each smoke detector that is not placed in service during construction. Cover shall remain in place except during system testing. Remove cover prior to system turnover.
- F. Duct Smoke Detectors: Comply with NFPA 72 and NFPA 90A. Install sampling tubes so they extend the full width of duct. Tubes more than 36 inches (9100 mm) long shall be supported at both ends.
1. Do not install smoke detector in duct smoke-detector housing during construction. Install detector only during system testing and prior to system turnover.
- G. Elevator Shafts: Coordinate temperature rating and location with sprinkler rating and location.
- H. Remote Status and Alarm Indicators: Install in a visible location near each smoke detector, sprinkler water-flow switch, and valve-tamper switch that is not readily visible from normal viewing position.
- I. Audible Alarm-Indicating Devices: Install not less than 6 inches (150 mm) below the ceiling. Install bells and horns on flush-mounted back boxes with the device-operating mechanism concealed behind a grille. Install all devices at the same height unless otherwise indicated.
- J. Visible Alarm-Indicating Devices: Install adjacent to each alarm bell or alarm horn and at least 6 inches (150 mm) below the ceiling. Install all devices at the same height unless otherwise indicated.
- K. Device Location-Indicating Lights: Locate in public space near the device they monitor.
- L. Carbon Monoxide Detectors: Install per manufacturer's instructions, as remotely located from the fuel-burning heating appliances as possible. Install per NFPA 720, UL 2034, and UL 2075. Provide testing and maintenance per manufacturer's instructions and NFPA 720.

3.03 PATHWAYS

- A. Pathways above recessed ceilings and in nonaccessible locations may be routed exposed.
 - 1. Exposed pathways located less than 96 inches (2440 mm) above the floor shall be installed in EMT. Where subject to the public shall be Wiremold V700.
- B. Exposed EMT in non-public areas shall be painted red enamel.

3.04 CONNECTIONS

- A. For fire-protection systems related to doors in fire-rated walls and partitions and to doors in smoke partitions, comply with requirements in Section 087100 "Door Hardware." Connect hardware and devices to fire-alarm system.
 - 1. Verify that hardware and devices are listed for use with installed fire-alarm system before making connections.
- B. Make addressable connections with a supervised interface device to the following devices and systems. Install the interface device less than 36 inches (910 mm) from the device controlled. Make an addressable confirmation connection when such feedback is available at the device or system being controlled.
 - 1. Smoke dampers in air ducts of designated HVAC duct systems.
 - 2. Alarm-initiating connection to elevator recall system and components.
 - 3. Supervisory connections at valve supervisory switches.
 - 4. Supervisory connections at low-air-pressure switch of each dry-pipe sprinkler system.
 - 5. Supervisory connections at elevator shunt-trip breaker.
 - 6. Data communication circuits for connection to building management system.

3.05 IDENTIFICATION

- A. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 260553 "Identification for Electrical Systems."
- B. Install framed instructions in a location visible from fire-alarm control unit.

3.06 GROUNDING

- A. Ground fire-alarm control unit and associated circuits; comply with IEEE 1100. Install a ground wire from main service ground to fire-alarm control unit.
- B. Ground shielded cables at the control panel location only. Insulate shield at device location.

3.07 FIELD QUALITY CONTROL

- A. Field tests shall be witnessed by authorities having jurisdiction.

- B. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
 - C. Perform tests and inspections.
 - D. Perform the following tests and inspections with the assistance of a factory-authorized service representative:
 - 1. Visual Inspection: Conduct visual inspection prior to testing.
 - a. Inspection shall be based on completed record Drawings and system documentation that is required by the "Completion Documents, Preparation" table in the "Documentation" section of the "Fundamentals" chapter in NFPA 72.
 - b. Comply with the "Visual Inspection Frequencies" table in the "Inspection" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72; retain the "Initial/Reacceptance" column and list only the installed components.
 - 2. System Testing: Comply with the "Test Methods" table in the "Testing" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
 - 3. Test audible appliances for the public operating mode according to manufacturer's written instructions. Perform the test using a portable sound-level meter complying with Type 2 requirements in ANSI S1.4.
 - 4. Test visible appliances for the public operating mode according to manufacturer's written instructions.
 - 5. Factory-authorized service representative shall prepare the "Fire Alarm System Record of Completion" in the "Documentation" section of the "Fundamentals" chapter in NFPA 72 and the "Inspection and Testing Form" in the "Records" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
 - E. Reacceptance Testing: Perform reacceptance testing to verify the proper operation of added or replaced devices and appliances.
 - F. Fire-alarm system will be considered defective if it does not pass tests and inspections.
 - G. Prepare test and inspection reports.
 - H. Maintenance Test and Inspection: Perform tests and inspections listed for weekly, monthly, quarterly, and semiannual periods. Use forms developed for initial tests and inspections.
 - I. Annual Test and Inspection: One year after date of Substantial Completion, test fire-alarm system complying with visual and testing inspection requirements in NFPA 72. Use forms developed for initial tests and inspections.
- 3.08 MAINTENANCE SERVICE
- A. Initial Maintenance Service: Beginning at Substantial Completion, maintenance service shall include 12 months' full maintenance by skilled employees of

manufacturer's designated service organization. Include preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper operation. Parts and supplies shall be manufacturer's authorized replacement parts and supplies.

1. Include visual inspections according to the "Visual Inspection Frequencies" table in the "Testing" paragraph of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
2. Perform tests in the "Test Methods" table in the "Testing" paragraph of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
3. Perform tests per the "Testing Frequencies" table in the "Testing" paragraph of the "Inspection, Testing and Maintenance" chapter in NFPA 72.

3.09 SOFTWARE SERVICE AGREEMENT

- A. Comply with UL 864.
- B. Technical Support: Beginning at Substantial Completion, service agreement shall include software support for two years.
- C. Upgrade Service: At Substantial Completion, update software to latest version. Install and program software upgrades that become available within two years from date of Substantial Completion. Upgrading software shall include operating system and new or revised licenses for using software.
 1. Upgrade Notice: At least 30 days to allow Owner to schedule access to system and to upgrade computer equipment if necessary.

3.10 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain fire-alarm system.
- B. Training with owner staff shall be recorded on a high definition video recorder. Provide owner with (4) four DVD's of the staff training.

3.11 INSTRUCTION:

- A. Instruction shall be provided as required for operating the system. Hands-on demonstrations of the operation of all system components and the entire system including program changes and functions shall be provided.
- B. The contractor and/or the systems manufacturer's representatives shall provide a typewritten "Sequence of Operation" to the owner

END OF SECTION 28 31 11

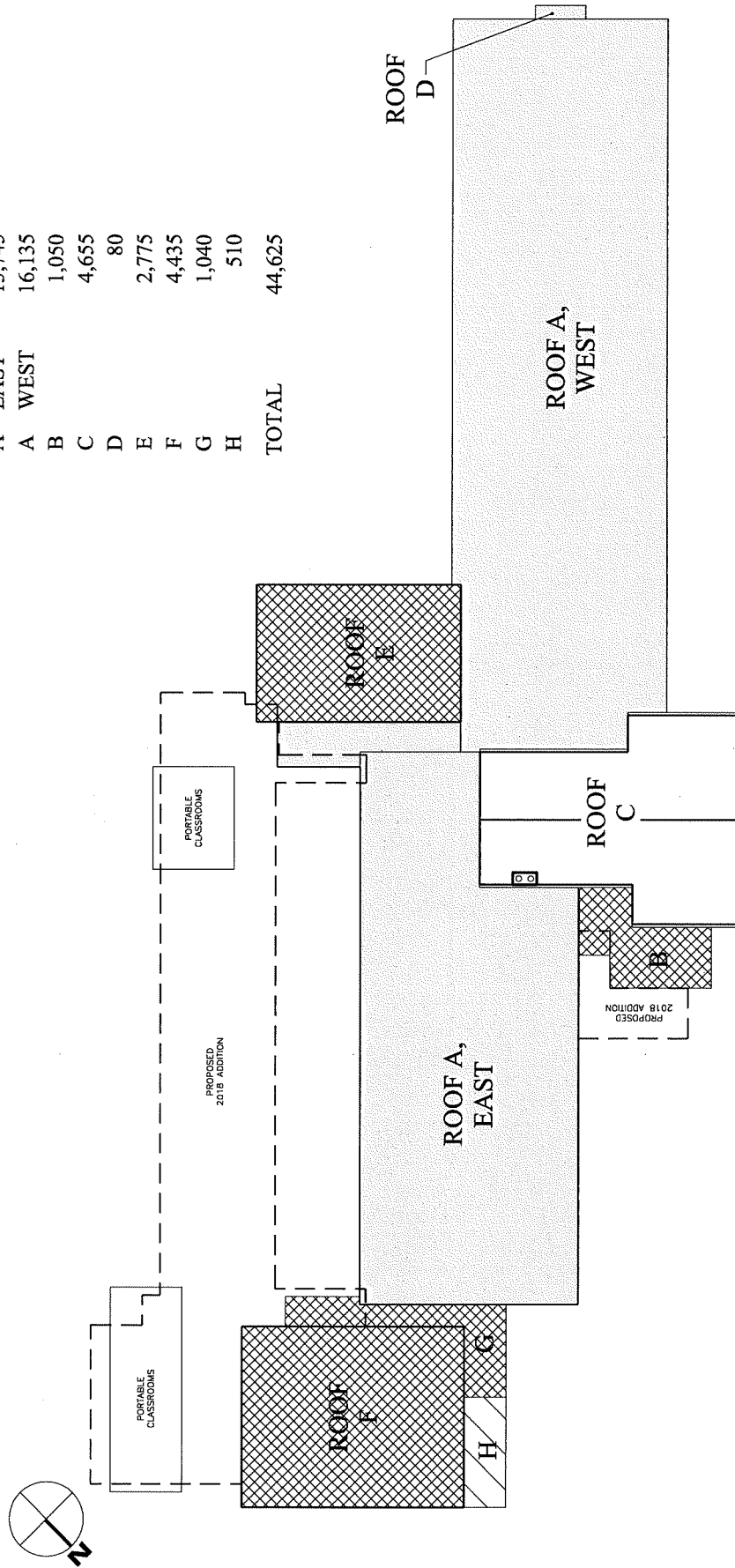
RFI NO. 67: THE PLAN IS PROVIDED TO SHOW AREAS OF EXISTING ROOF AND WARRANTY EXPIRATION DATES ONLY

Holland Hill Elementary School - 200 Meadowcroft Road, Fairfield, CT

Roof Documentation Summary

Roof Level Area Summary

A	EAST	13,745
A	WEST	16,135
B		1,050
C		4,655
D		80
E		2,775
F		4,435
G		1,040
H		510
TOTAL		44,625

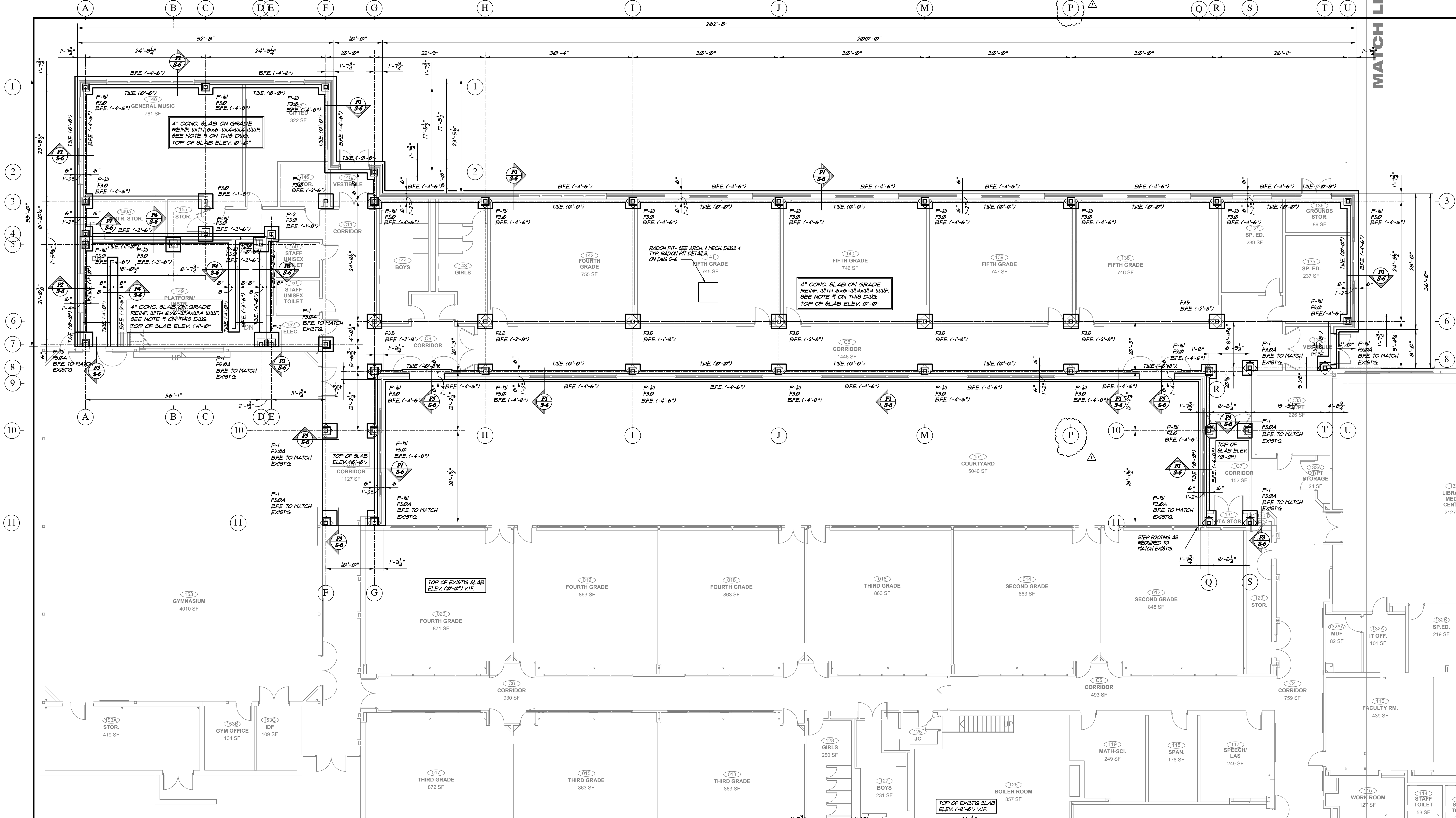


ROOF PLAN

NOT TO SCALE

KEY TO ROOFING:

KEY	AREA DESIGNATION	TYPE	AREA - SQ FT	DATE COMPLETE	WARRANTY EXPIRATION	MANUFACTURER/ ROOFING CONTRACTOR
[Pattern]	A, D	BUR	29,960	9/8/1999	9/8/2019	Manville/Barrett
[Pattern]	C	SHNGL	4,655	9/22/12	9/22/2042	Certaineed/Young Developers
[Pattern]	B, E, F & G	BUR	9,500	8/15/12	8/15/2022	Garland/Quality
[Pattern]	H	BUR	510	2001	-	Not Known/T. Christiano
			TOTAL	44,625		



FOUNDATION PLAN - PART A

- SCALE: 1/8" = 1'-0"
- NOTES:**
- FLOOR SLAB TO BE 4" CONCRETE SLAB, REINF. WITH 6x6" (W2) x (W2) CAST ON MINIMUM 10 MIL. VAPOR RETARDER OVER MINIMUM 12" LAYER OF COMPACTED STRUCTURAL FILL. REFER TO GEOTECHNICAL REPORT PREPARED BY TERRACON CONSULTANTS INC. DATED MARCH 13, 2011 FOR STRUCTURAL FILL, COMPACTION, GRADATION THICKNESS AND SITE PREPARATION.
 - FOR SITE PREPARATION, COMPACTION, FILL THICKNESS AND GRADATION REFER TO GEOTECHNICAL REPORT PREPARED BY TERRACON CONSULTANTS INC. DATED MARCH 13, 2011.
 - TOP OF SLAB TO BE AT ELEVATION 0'-0", TO MATCH EXISTING, UNLESS OTHERWISE NOTED.
 - TOP OF WALL TO BE AT ELEVATION 0'-0", UNLESS OTHERWISE NOTED THIS TIE... ALL ELEVATIONS ARE REFERENCED FROM DATUM ELEVATION 0'-0".
 - VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS IN THE FIELD PRIOR TO STARTING FABRICATION AND INSTALLATION OF ANY NEW MATERIALS. NOTIFY ARCHITECT AND ENGINEER OF ANY DISCREPANCIES FOR POSSIBLE FURTHER INSTRUCTIONS AS MAY BE REQUIRED.
 - BOTTOM OF FOOTING TO BE A MINIMUM 3'-6" BELOW FINISH GRADE, UNLESS OTHERWISE NOTED THIS B.F.E.
 - COORDINATE SLAB WITH MECHANICAL DRAWINGS FOR UNDERGROUND CONDUITS, UTILITIES AND MECHANICAL DUCTWORK. LOWER BOTTOM OF FOUNDATION WALL FOOTING ELEVATION AS REQUIRED TO ALLOW UTILITIES, PIPING, ETC. TO PENETRATE WALL AS REQUIRED.
 - PROVIDE 1'-6" DEEP x 2'-0" WIDE SLAB HAUNCH BELOW ALL INTERIOR MASONRY WALLS. REIN. SLAB HAUNCH WITH 3 - #5 CONTINUOUS BOTTOM BARS.
 - VERIFY BOTTOM OF EXISTING FOOTING ELEVATION PRIOR TO INSTALLATION OF NEW FOOTINGS. UNDERPIN EXISTING FOOTING AS MAY BE REQUIRED. SEE "TYPICAL UNDERPINNING DETAIL" ON DUG. 8-02.
 - LOWER TOP OF FOUNDATION WALL 8" BELOW TOP OF SLAB ELEVATION AT DOORWAYS AND HAUNCH SLAB ATOP WALL. PROVIDE #4 AT 12" O/C MAXIMUM VERTICAL DOUELS (2'-0" HORIZ. x 2'-0" VERT. LEGS) AT DOORWAYS.
 - REFER TO DRAWING 9-03 FOR TYPICAL FOUNDATION DETAILS.
 - FOOTINGS TO BEAR ON MINIMUM 8" LAYER OF COMPACTED MINUS 1/4" CRUSHED STONE ON BEDROCK. SEE GEOTECHNICAL REPORT.
 - PROVIDE #6 x 4'-6" VERTICAL DOUELS AT 32" O/C MAXIMUM AT MASONRY WALLS. EMBED DOUELS 1'-6" IN FOUNDATION.

CONCRETE PIER SCHEDULE

DESIGNATION	SIZE	REINFORCING		REMARKS
		VERTICAL	HORIZONTAL	
P-1	22" x 22"	10 - #1	#5 @ 12"	TOP 4 (2) - #5 HORIZ TIES @ 4" O/C MAX.
P-2	22" x 24"	12 - #1	#5 @ 12"	TOP 4 (2) - #5 HORIZ TIES @ 4" O/C MAX.

NOTES:

- ALL VERTICAL PIER REINFORCING SHALL BE DOUELED INTO FOOTING.
- ALL PIER SIZES INDICATED ARE MINIMUM EFFECTIVE PIER SIZES REQUIRED. FOR ACTUAL PIER SIZE REQUIRED - SEE ARCHITECTURAL DRAWINGS.
- SUFFIX "/ON" FOUNDATION PLAN INDICATES THAT PIER SHALL BE PLACED MONOLITHIC WITH FOUNDATION WALL.
- VERTICAL PIER REINFORCING SHALL BE LAPPED MINIMUM 30 x BAR DIAMETERS.

FOOTING SCHEDULE

MARK	SIZE	DEPTH (INCHES)	REINFORCEMENT BOTTOM
F3.0	3'-0" x 3'-0"	1'-0"	3 - #5 EACH WAY
F3.0A	3'-0" x 3'-0"	2'-0" MINIMUM	3 - #5 EACH WAY
F3.5	3'-6" x 3'-6"	1'-0"	4 - #6 EACH WAY
F3.5A	3'-6" x 3'-6"	2'-0" MINIMUM	4 - #6 EACH WAY
F3.0A	5'-0" x 3'-0"	2'-0" MINIMUM	3 - #5 LONG WAY 7 - #5 SHORT WAY

NOTES:

- ASSUMED SOIL BEARING PRESSURE IS 4,000 LBS. PER SQUARE FOOT.
- CONCRETE TO HAVE MINIMUM COMPRESSIVE STRENGTH OF 3,000 P.S.I. AT 28 DAYS.
- REBAR TO BE GRADE F_y = 60 KSI

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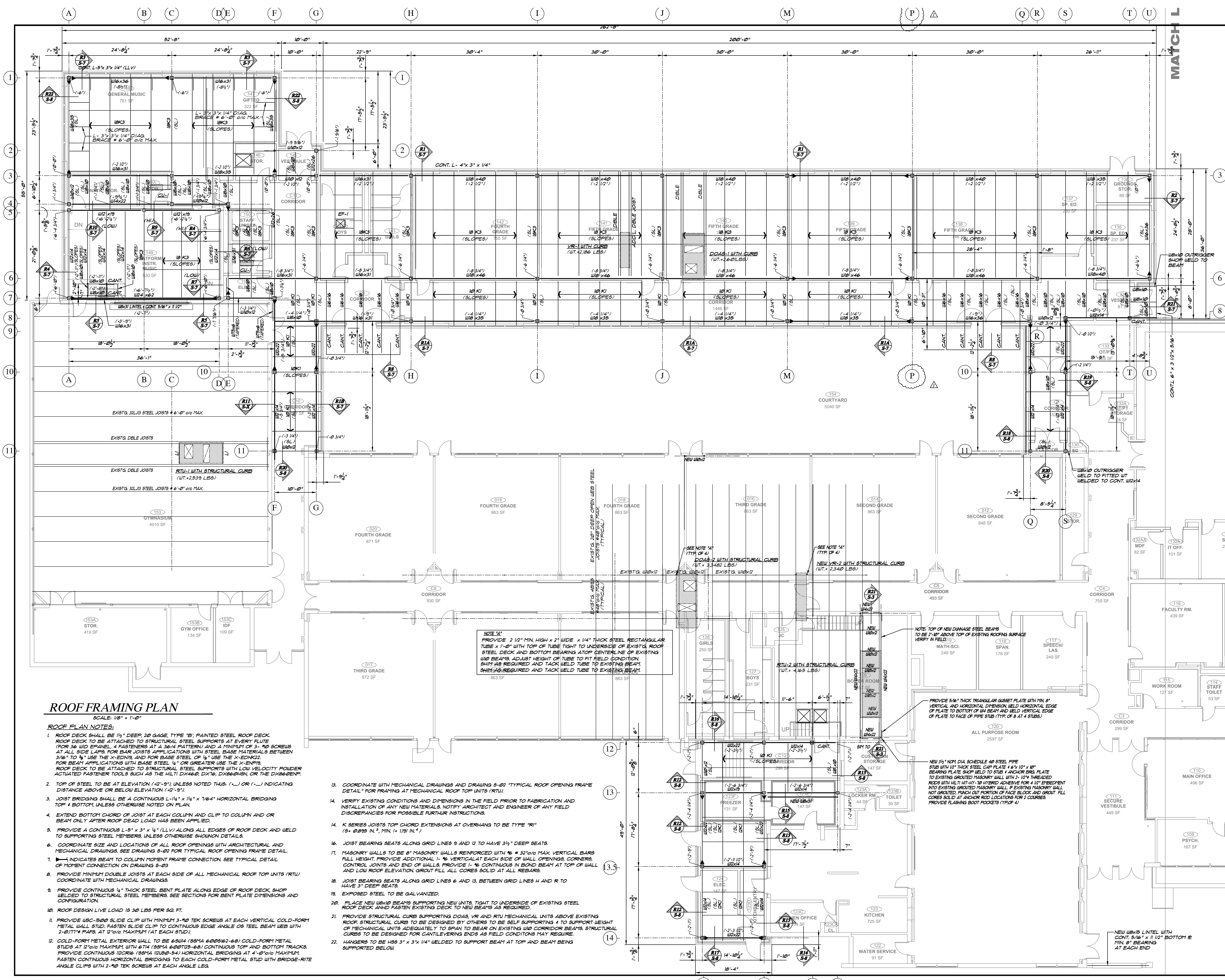
2/19/2018 RFI RESPONSE

NO.	DATE	REVISION

PROJECT NAME: PROPOSED ADDITIONS & ALTERATIONS TO HOLLAND HILL SCHOOL
 100% CONSTRUCTION DOCUMENTS SUBMISSION
 BUILDING NAME & ADDRESS: HOLLAND HILL SCHOOL, 105 HEDDINGWORTH ROAD, FAIRFIELD, CT 06824
 PROJECT NUMBER: 2016.007
 ISSUE NUMBER: 051-046 EA

FOUNDATION PLAN

SCALE	DRAWN BY
AS NOTED	S.A.L.
FILENAME	DATE
SD MODEL	SEPTEMBER 1, 2017
DRAWING NUMBER	S-1



ROOF FRAMING PLAN

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

ROOF PLAN NOTES:

- ROOF DECK SHALL BE 1/4" DEEP 30 GAGE, TYPE "B", PAINTED STEEL ROOF DECK. ROOF DECK TO BE ATTACHED TO STRUCTURAL STEEL SUPPORTS AT EVERY FLUTE (FOR 36" WID EPANEL, 4 FASTENERS AT A 36/4 PATTERN) AND A MINIMUM OF 3-10 SCREWS AT ALL SIDE LAPS. FOR BAR JOISTS APPLICATIONS WITH STEEL BASE MATERIALS BETWEEN 3/16" TO 1/2" USE THE X-EDN15, AND FOR BASE STEEL OR 1/4" USE THE X-EDN32. FOR BEAM APPLICATIONS WITH BASE STEEL 1/4" OR GREATER USE THE X-EN15. ROOF DECK TO BE ATTACHED TO STRUCTURAL STEEL SUPPORTS WITH LOW VELOCITY POWDER ACTUATED FASTENER TOOLS SUCH AS THE HLT1 DKA60, DKA16, DKA66/8H, OR THE DKA66/8P.
- TOP OF STEEL TO BE AT ELEVATION (+2'-9") UNLESS NOTED THUS: (---) OR (---) INDICATING DISTANCE ABOVE OR BELOW ELEVATION (+2'-9").
- JOIST BRIDGING SHALL BE A CONTINUOUS L-1/4" x 1/4" x 7/16" HORIZONTAL BRIDGING TOP & BOTTOM UNLESS OTHERWISE NOTED ON PLAN.
- EXTEND BOTTOM CHORD OF JOIST AT EACH COLUMN AND CLIP TO COLUMN AND OR BEAM ONLY AFTER ROOF DEAD LOAD HAS BEEN APPLIED.
- PROVIDE A CONTINUOUS L-5" x 3" x 1/4" (LLV) ALONG ALL EDGES OF ROOF DECK AND WELD TO SUPPORTING STEEL MEMBERS, UNLESS OTHERWISE SHOWN DETAILS.
- COORDINATE SIZE AND LOCATIONS OF ALL ROOF OPENINGS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. SEE DRAWING 5-02 FOR TYPICAL ROOF OPENING FRAME DETAIL.
- INDICATES BEAM TO COLUMN MOMENT FRAME CONNECTION. SEE TYPICAL DETAIL OF MOMENT CONNECTION ON DRAWING 5-03.
- PROVIDE MINIMUM DOUBLE JOISTS AT EACH SIDE OF ALL MECHANICAL ROOF TOP UNITS (RTU). COORDINATE WITH MECHANICAL DRAWINGS.
- PROVIDE CONTINUOUS 1/4" THICK STEEL BENT PLATE ALONG EDGE OF ROOF DECK SHOP WELDED TO STRUCTURAL STEEL MEMBERS. SEE SECTIONS FOR BENT PLATE DIMENSIONS AND CONFIGURATION.
- ROOF DESIGN LIVE LOAD IS 30 LBS PER SQ. FT.
- PROVIDE W8C-1500 SLIDE CLIP WITH MINIMUM 3-10 TEK SCREWS AT EACH VERTICAL COLD-FORM METAL WALL STUD. FASTEN SLIDE CLIP TO CONTINUOUS EDGE ANGLE OF STEEL BEAM WEB WITH 2-10#11 PARS AT 12" MAXIMUM (AT EACH STUD).
- COLD-FORM METAL EXTERIOR WALL TO BE 60#14 (58#14 60#16/17-68) COLD-FORM METAL STUDS AT 24" MAXIMUM WITH 6#14 (58#14 60#17/18-68) CONTINUOUS TOP AND BOTTOM TRACKS. PROVIDE CONTINUOUS 102#16 (58#14 102#16-54) HORIZONTAL BRIDGING AT 4'-0" MAXIMUM. FASTEN CONTINUOUS BRIDGING TO EACH COLD-FORM METAL STUD WITH BRIDGE-RITE ANGLE CLIPS WITH 2-10# TEK SCREWS AT EACH ANGLE LEG.

NOTE 'A'
 PROVIDE 2 1/2" MIN. HIGH x 2" WIDE x 1/4" THICK STEEL RECTANGULAR TUBE x 1'-0" WITH TOP OF TUBE TIGHT TO UNDERSIDE OF EXISTING ROOF STEEL DECK AND BOTTOM BEARING AT TOP CENTERLINE OF EXISTING WIP BEAMS. ADJUST HEIGHT OF TUBE TO FIT FIELD CONDITION. SHIM AS REQUIRED AND TACK WELD TUBE TO EXISTING BEAM. SHIMS AS REQUIRED AND TACK WELD TUBE TO EXISTING BEAM.

- COORDINATE WITH MECHANICAL DRAWINGS AND DRAWING 5-02 "TYPICAL ROOF OPENING FRAME DETAIL" FOR FRAMING AT MECHANICAL ROOF TOP UNITS (RTU).
- VERIFY EXISTING CONDITIONS AND DIMENSIONS IN THE FIELD PRIOR TO FABRICATION AND INSTALLATION OF ANY NEW MATERIALS. NOTIFY ARCHITECT AND ENGINEER OF ANY FIELD DISCREPANCIES FOR POSSIBLE FURTHER INSTRUCTIONS.
- K SERIES JOISTS TOP CHORD EXTENSIONS AT OVERHANGS TO BE TYPE "RI" (S = 0.289 IN.³, MIN. 1.191 IN.⁴).
- JOIST BEARING SEATS ALONG GRID LINES 9 AND 12 TO HAVE 3/4" DEEP SEATS.
- MASONRY WALLS TO BE 8" MASONRY WALLS REINFORCED WITH #6 @ 32" O/C MAX. VERTICAL BARS FULL HEIGHT. PROVIDE ADDITIONAL 1-#6 VERTICAL AT EACH SIDE OF WALL OPENINGS, CORNERS, CONTROL JOINTS AND END OF WALLS. PROVIDE 1-#6 CONTINUOUS IN BOND BEAM AT TOP OF WALL AND LOW ROOF ELEVATION. GROUT FILL ALL CORES SOLID AT ALL BEARS.
- JOIST BEARING SEATS ALONG GRID LINES 6 AND 13, BETWEEN GRID LINES H AND R TO HAVE 3" DEEP SEATS.
- EXPOSED STEEL TO BE GALVANIZED.
- PLACE NEW W8x10 BEAMS SUPPORTING NEW UNITS TIGHT TO UNDERSIDE OF EXISTING STEEL ROOF DECK AND FASTEN TO EXISTING DECK AS REQUIRED.
- PROVIDE STRUCTURAL CURB SUPPORTING DOAS, VR AND RTU MECHANICAL UNITS ABOVE EXISTING ROOF. STRUCTURAL CURB TO BE SPAN TO BE SELF SUPPORTING & TO SUPPORT WEIGHT OF MECHANICAL UNITS ADEQUATELY TO SPAN TO BEAR ON EXISTING WIP CORRIDOR BEAMS. STRUCTURAL CURBS TO BE DESIGNED FOR CANTILEVERING ENDS AS FIELD CONDITIONS MAY REQUIRE.
- HANGERS TO BE H89 3" x 3" x 1/4" WELDED TO SUPPORT BEAM AT TOP AND BEAM BEING SUPPORTED BELOW.

NOTE 'B'
 TOP OF NEW DAMAGED STEEL BEAMS TO BE 2'-10" ABOVE TOP OF EXISTING ROOFING SURFACE. VERIFY IN FIELD.

NOTE 'C'
 PROVIDE 5/16" THICK TRIANGULAR GUSSET PLATE WITH MIN. 8" VERTICAL AND HORIZONTAL DIMENSION. WELD HORIZONTAL EDGE OF PLATE TO BOTTOM OF WIP BEAM AND WELD VERTICAL EDGE OF PLATE TO FACE OF PIPE STUD (TYP. OF 8 AT 4 STUDS).

NOTE 'D'
 NEW 3/4" NOM. DIA. SCHEDULE 40 STEEL PIPE STUD WITH 1/2" THICK STEEL CAP PLATE 4 1/2" x 10" BEARING PLATE SHOP WELDED TO STUD & ANCHOR BRG. PLATE TO EXISTING GROUTED MASONRY WALL WITH 2-1/2" THREADED RODS WITH HLT1 HIT-HY-30 HYBRID ADHESIVE FOR 4" EMBEDMENT INTO EXISTING GROUTED MASONRY WALL. EXISTING MASONRY WALL NOT GROUTED. PUNCH OUT PORTION OF FACE BLOCK AND GROUT FILL CORES SOLID AT ANCHOR ROD LOCATIONS FOR 3 COURSES. PROVIDE FLASHING BOOT SOCKETS (TYP. OF 4).

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2/19/2018 RFI RESPONSE		
NO.	DATE	REVISION

PROJECT NAME
PROPOSED ADDITIONS & ALTERATIONS TO HOLLAND HILL SCHOOL

100% CONSTRUCTION DOCUMENTS SUBMISSION

BUILDING NAME & ADDRESS
 HOLLAND HILL SCHOOL
 105 HIGHLAND AVENUE
 FAIRFIELD, CT 06424

PROJECT NUMBER
 2016.007

SEE NUMBER
 051-046 EA

DRAWING TITLE
ROOF FRAMING PLAN

SCALE
 AS NOTED

DATE
 SEPTEMBER 1, 2017

DRAWING NUMBER
S-2

STEEL COLUMN SCHEDULE

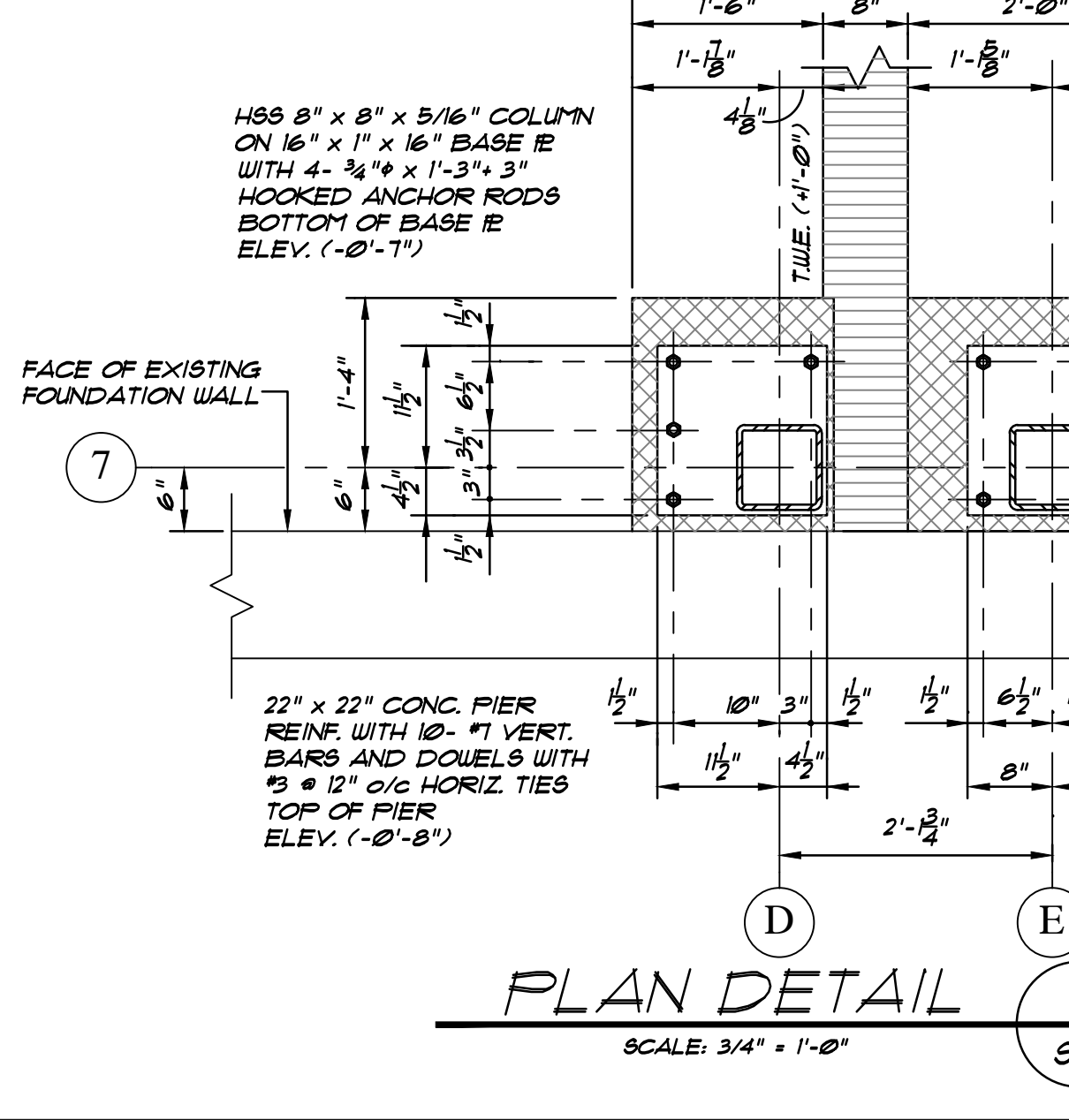
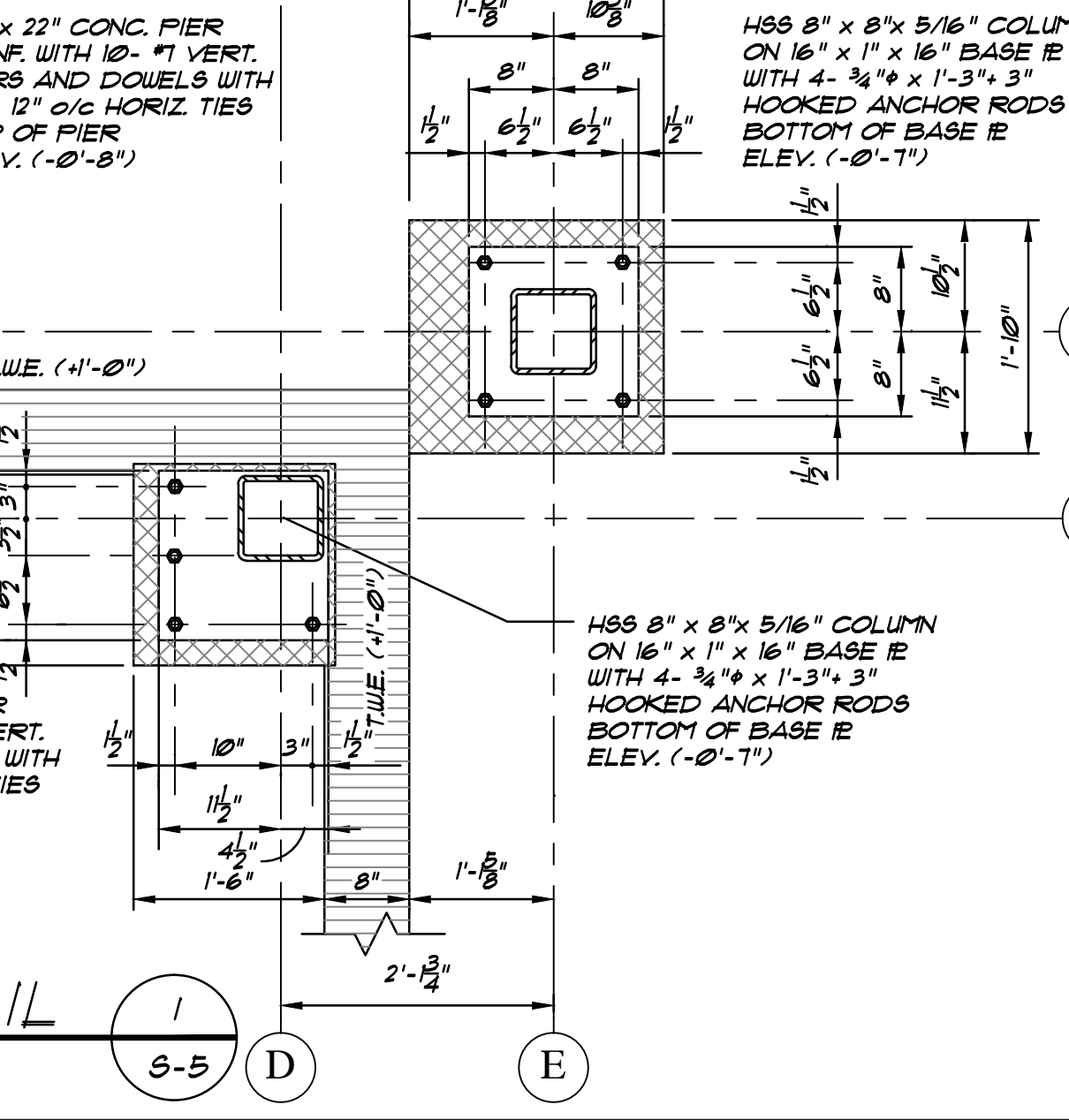
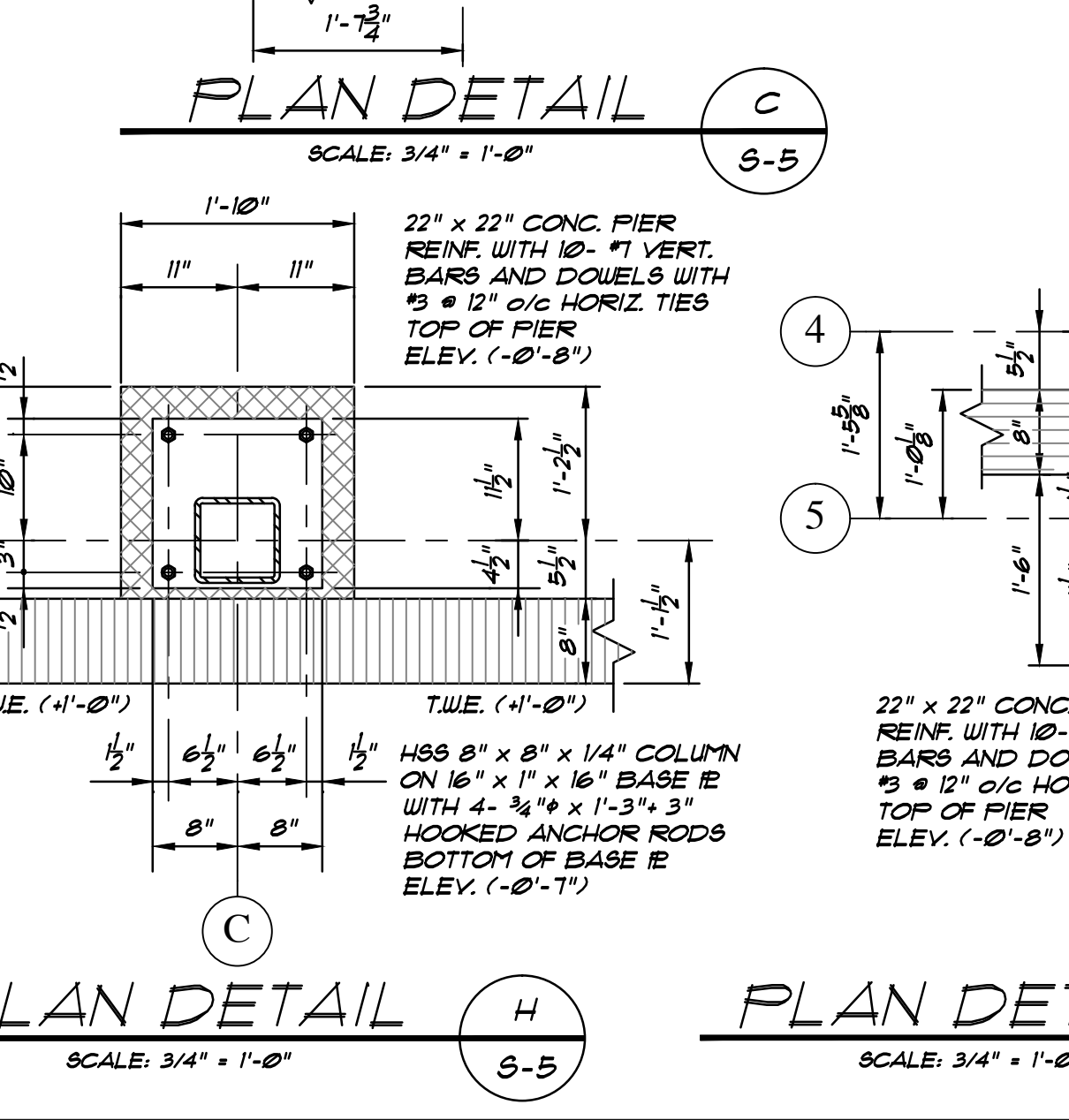
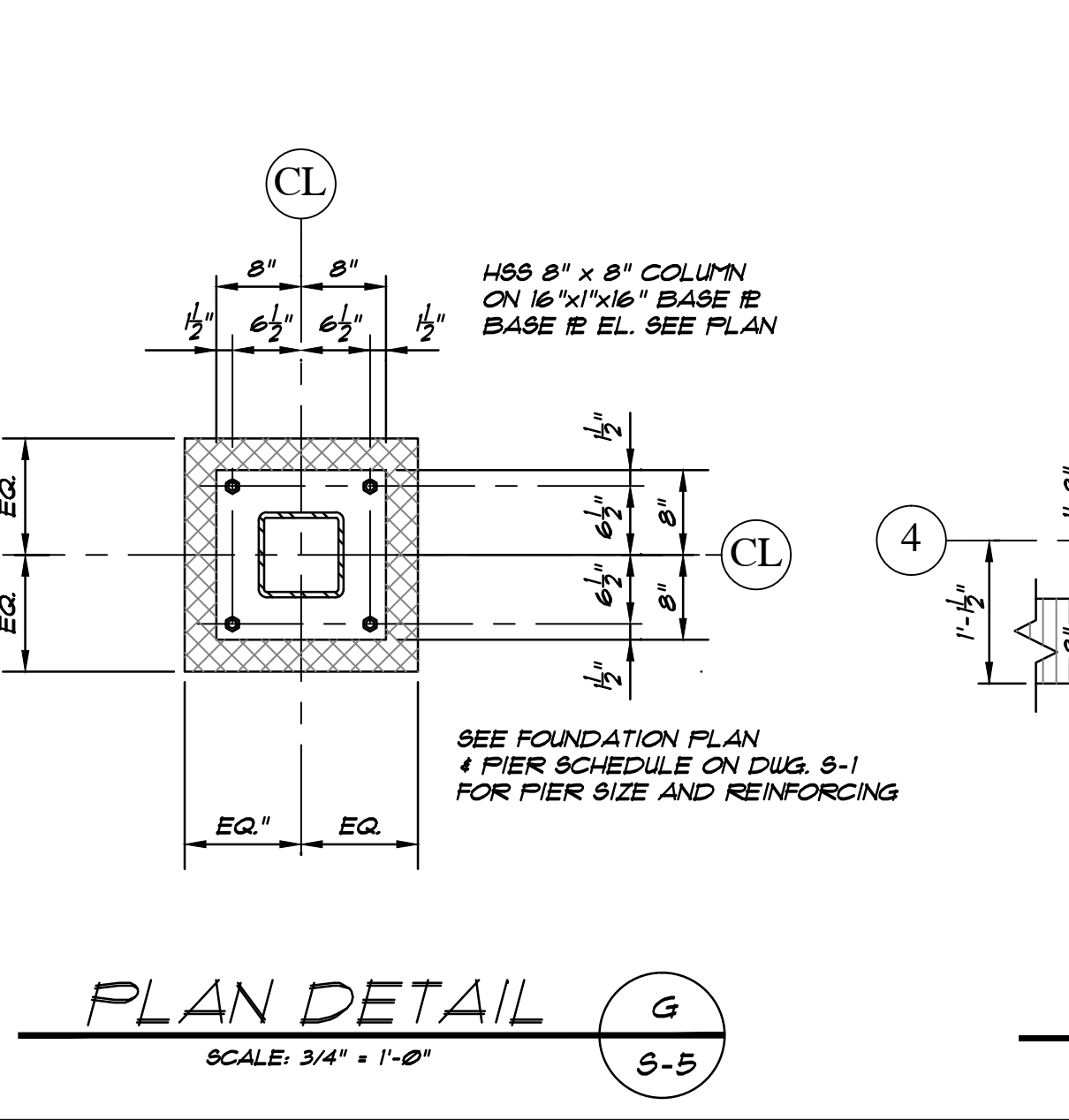
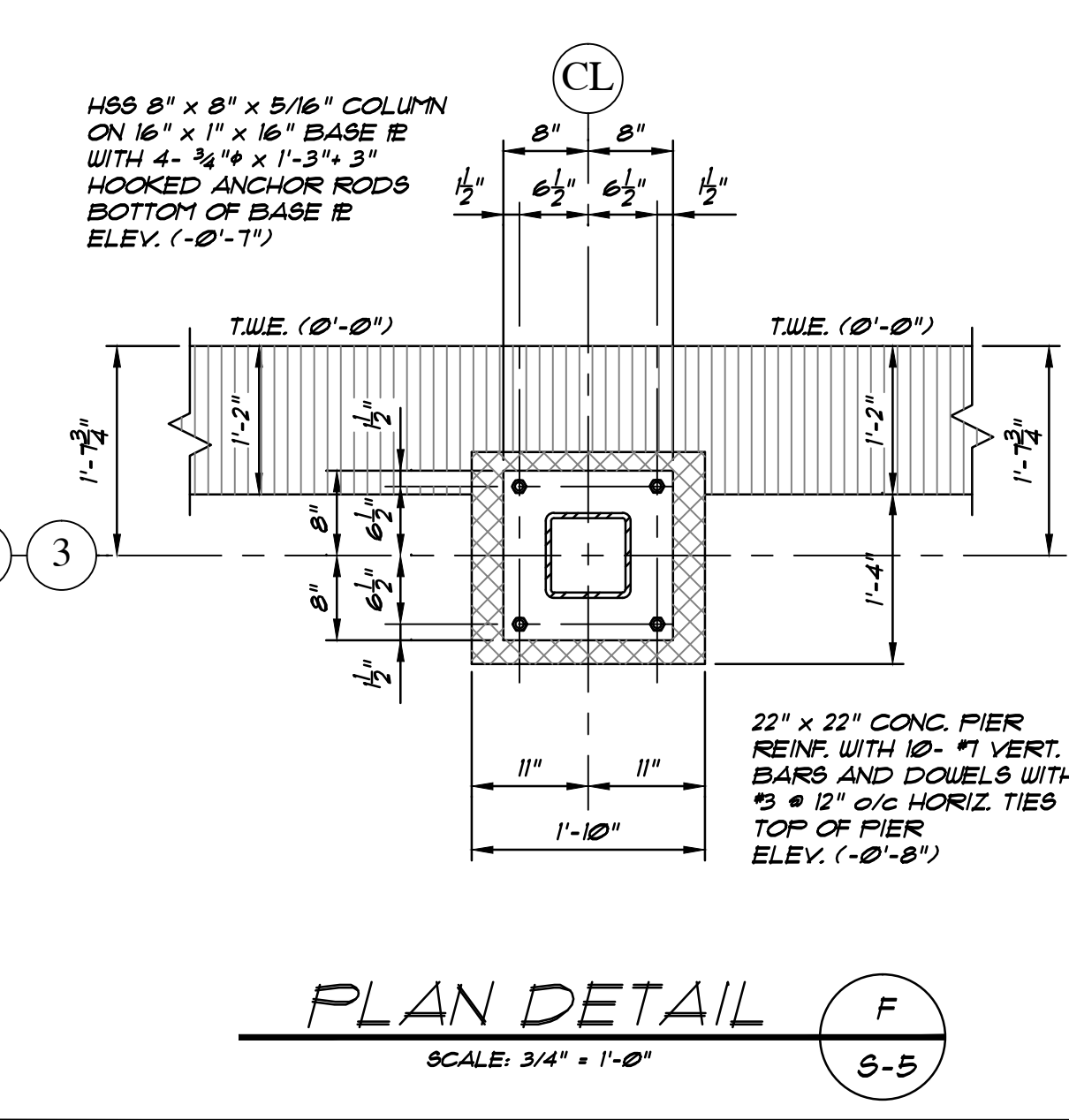
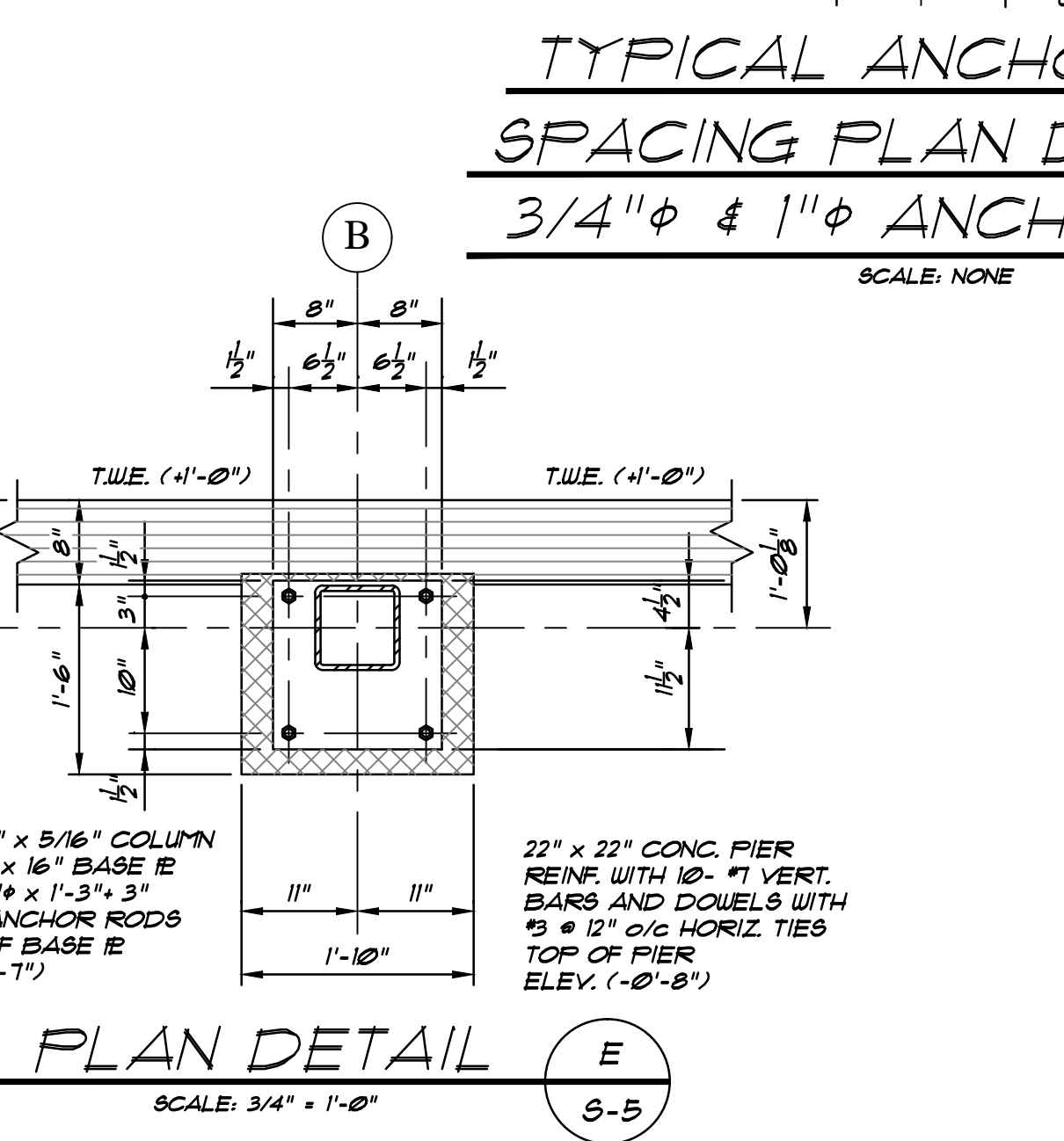
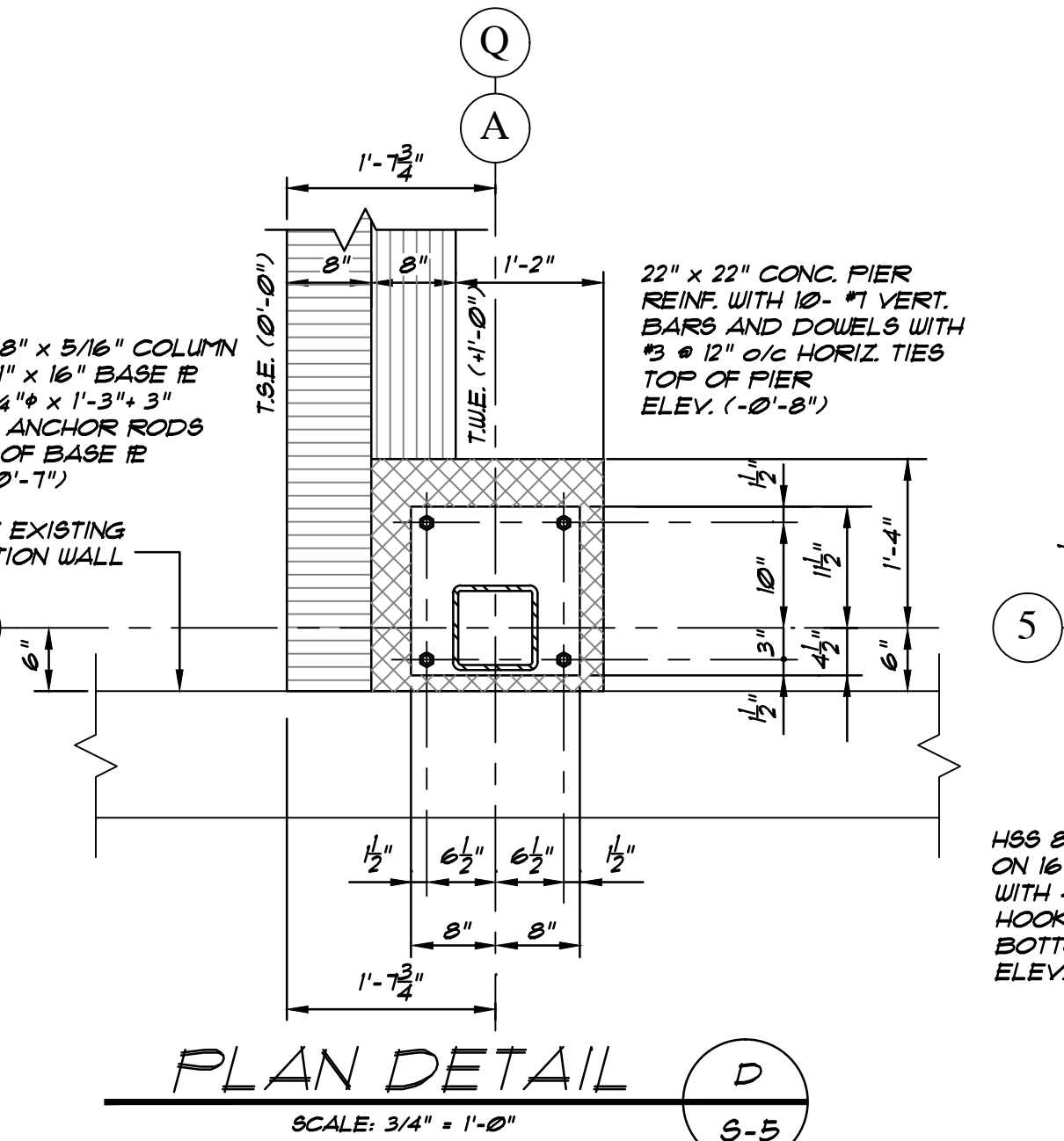
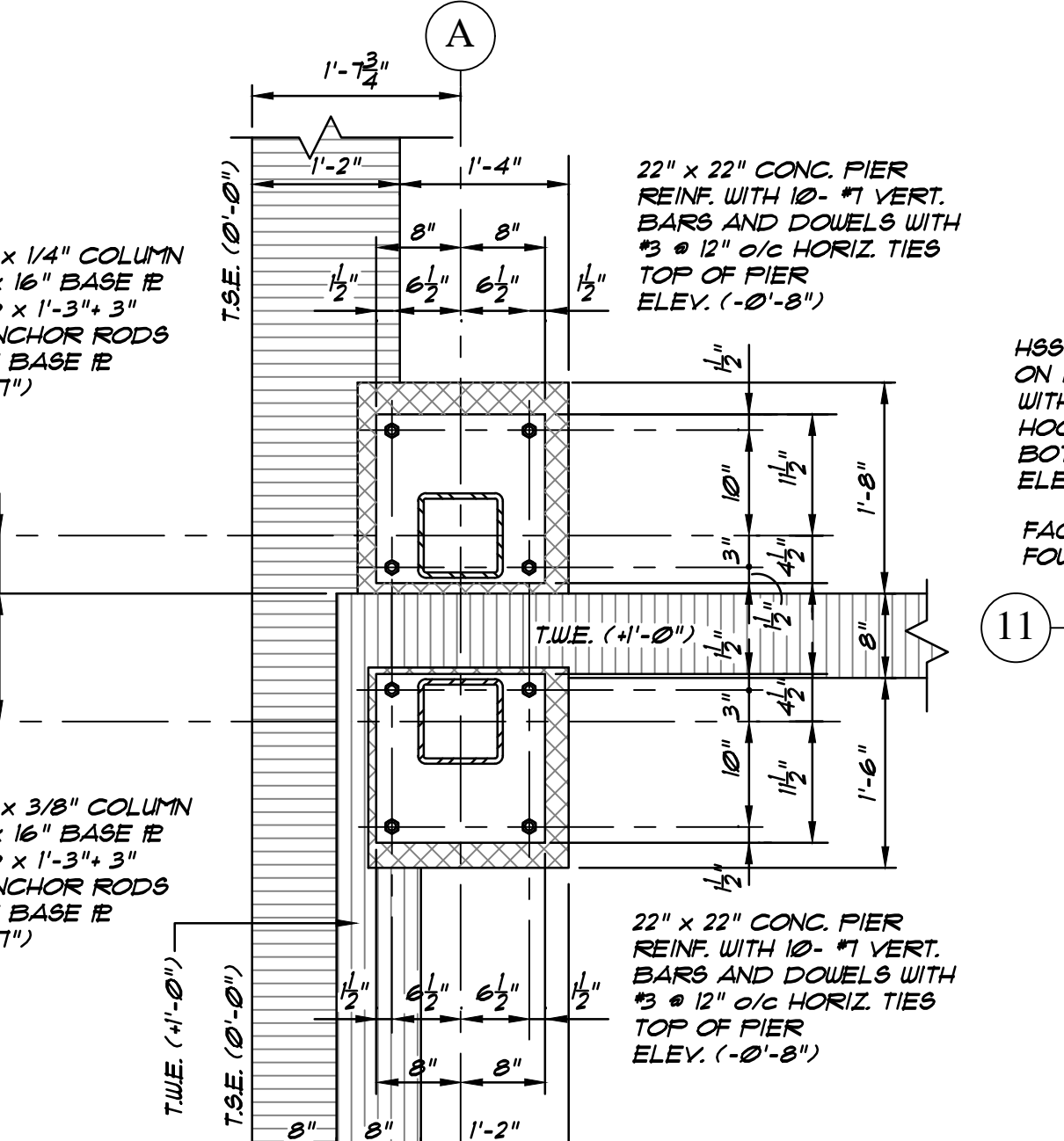
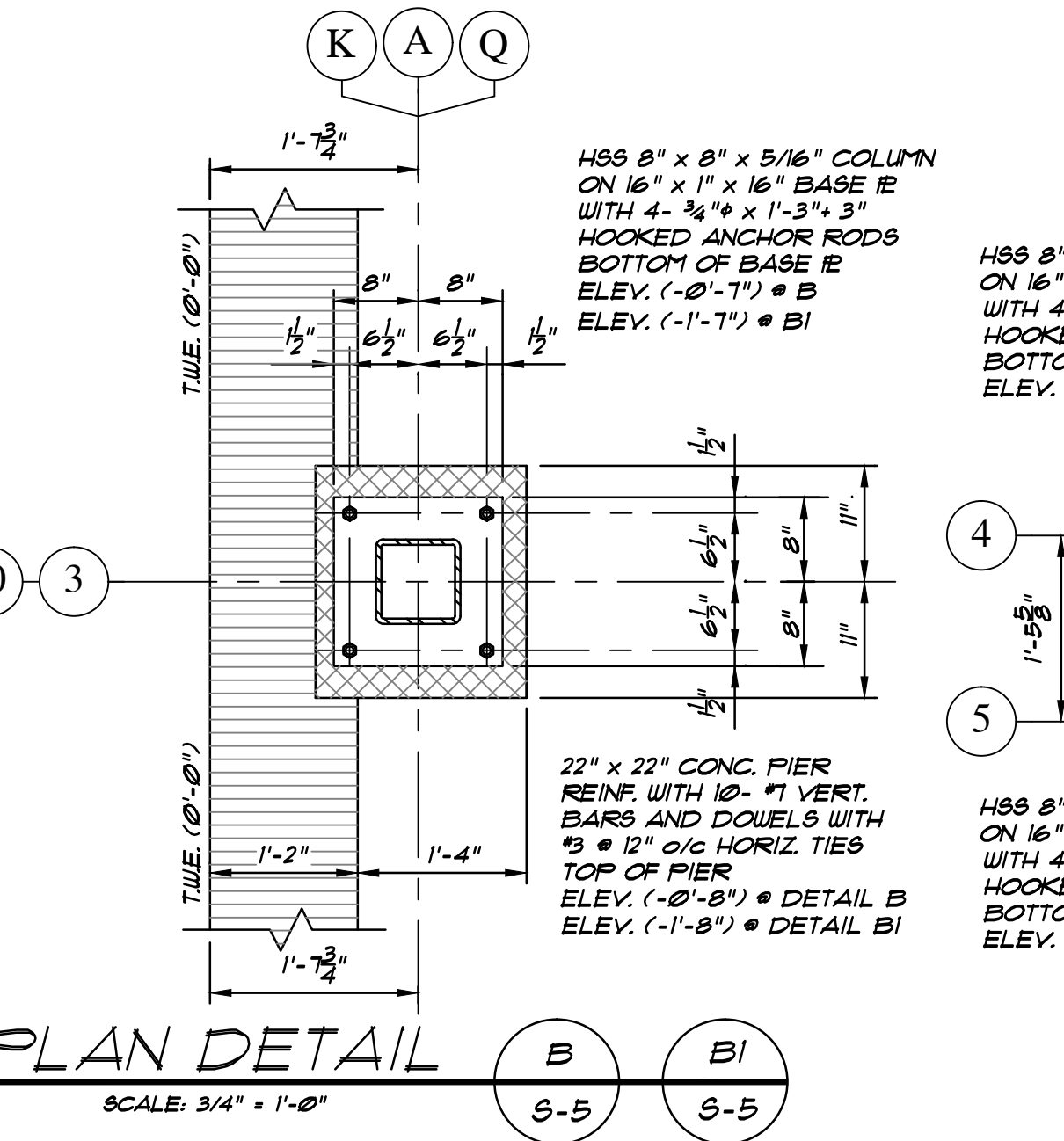
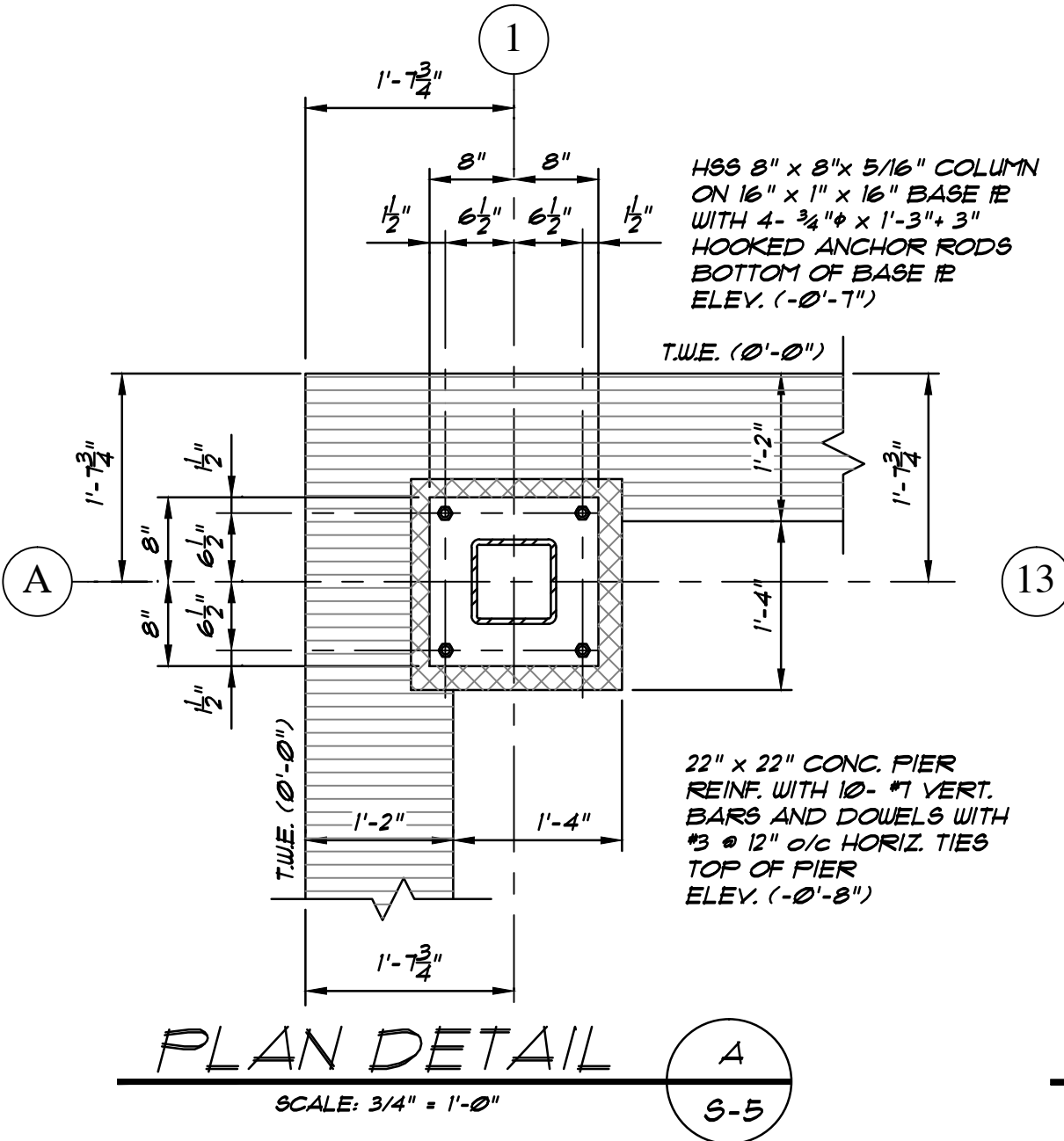
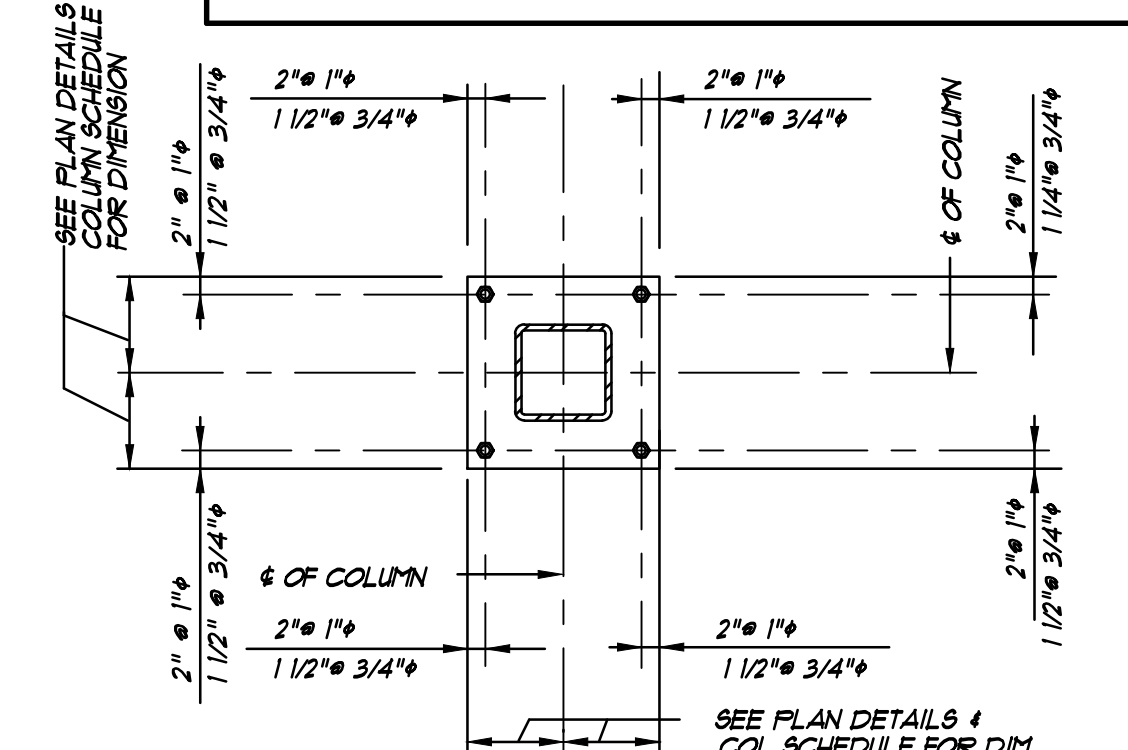
LEVEL	COL. NO.	A		B		C		D		E		F		G		H		I		J																			
		1	3	4	5	7	5	1	3	4	5	7	1	3	7	10	11	2	3	6	9	10	11	3	6	9	3	1	9	3	6								
TOP OF GYM ROOF STEEL - HIGH POINT ELEVATION																																							
TOP OF MAIN ROOF STEEL ELEVATION (42'-9")																																							
TOP OF FIRST FLOOR SLAB ELEVATION (0'-0")																																							
BASE IR SIZE "B" x "T" x "N"		16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"		
BASE IR DETAIL		SEE PLAN DET. A/3-4	SEE PLAN DET. B/3-4	SEE PLAN DET. C/3-4	SEE PLAN DET. D/3-4	SEE PLAN DET. E/3-4	SEE PLAN DET. F/3-4	SEE PLAN DET. G/3-4	SEE PLAN DET. H/3-4	SEE PLAN DET. I/3-4	SEE PLAN DET. J/3-4	SEE PLAN DET. K/3-4	SEE PLAN DET. L/3-4	SEE PLAN DET. M/3-4	SEE PLAN DET. N/3-4	SEE PLAN DET. O/3-4	SEE PLAN DET. P/3-4	SEE PLAN DET. Q/3-4	SEE PLAN DET. R/3-4	SEE PLAN DET. S/3-4	SEE PLAN DET. T/3-4	SEE PLAN DET. U/3-4	SEE PLAN DET. V/3-4	SEE PLAN DET. W/3-4	SEE PLAN DET. X/3-4	SEE PLAN DET. Y/3-4	SEE PLAN DET. Z/3-4	SEE PLAN DET. AA/3-4	SEE PLAN DET. AB/3-4	SEE PLAN DET. AC/3-4	SEE PLAN DET. AD/3-4	SEE PLAN DET. AE/3-4	SEE PLAN DET. AF/3-4	SEE PLAN DET. AG/3-4	SEE PLAN DET. AH/3-4	SEE PLAN DET. AI/3-4	SEE PLAN DET. AJ/3-4	SEE PLAN DET. AK/3-4	
ANCHOR BOLTS		4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ		

STEEL COLUMN SCHEDULE

LEVEL	COL. NO.	K		L		M		N		O		P		Q		R		S		T		U																			
		9	12	13	13.5	14	12	13	13.5	14	3	6	9	12	13	9	10	11	3	6	8	10	11	8	3	6															
TOP OF GYM ROOF STEEL - HIGH POINT ELEVATION																																									
TOP OF MAIN ROOF STEEL ELEVATION (42'-9")																																									
TOP OF FIRST FLOOR SLAB ELEVATION (0'-0")																																									
BASE IR SIZE "B" x "T" x "N"		16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"	16" x 1" x 16"			
BASE IR DETAIL		SEE DET. P/3-4 OFF. HAND	SEE PLAN DET. S/3-4	SEE PLAN DET. B/3-4	SEE PLAN DET. C/3-4	SEE PLAN DET. T/3-4	SEE PLAN DET. U/3-4	SEE PLAN DET. V/3-4	SEE PLAN DET. W/3-4	SEE PLAN DET. X/3-4	SEE PLAN DET. Y/3-4	SEE PLAN DET. Z/3-4	SEE PLAN DET. AA/3-4	SEE PLAN DET. AB/3-4	SEE PLAN DET. AC/3-4	SEE PLAN DET. AD/3-4	SEE PLAN DET. AE/3-4	SEE PLAN DET. AF/3-4	SEE PLAN DET. AG/3-4	SEE PLAN DET. AH/3-4	SEE PLAN DET. AI/3-4	SEE PLAN DET. AJ/3-4	SEE PLAN DET. AK/3-4	SEE PLAN DET. AL/3-4	SEE PLAN DET. AM/3-4	SEE PLAN DET. AN/3-4	SEE PLAN DET. AO/3-4	SEE PLAN DET. AP/3-4	SEE PLAN DET. AQ/3-4	SEE PLAN DET. AR/3-4	SEE PLAN DET. AS/3-4	SEE PLAN DET. AT/3-4	SEE PLAN DET. AU/3-4	SEE PLAN DET. AV/3-4	SEE PLAN DET. AW/3-4	SEE PLAN DET. AX/3-4	SEE PLAN DET. AY/3-4	SEE PLAN DET. AZ/3-4			
ANCHOR BOLTS		4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ	4 - 3/4" φ			

COLUMN SCHEDULE NOTES

1. AT EACH COLUMN PROVIDE A 1/4" THICK LEVELING PLATE (SAME SIZE AS BASE PLATE) ON MINIMUM OF 3/4" NON-SHUNK GROUT PAD & 4 ANCHOR BOLTS, UNLESS OTHERWISE NOTED.
2. ANCHOR BOLTS NOTED 3/4" SHALL BE 1"-6" LONG WITH 3" HOOK. ANCHOR BOLTS NOTED 1" & 1 1/4" SHALL BE 2'-0" LONG WITH 6" MINIMUM HOOK, UNLESS OTHERWISE NOTED.
3. ALL DIMENSIONS SHOWN ARE GIVEN TO TOP OF CAP PLATES AND TO BOTTOM OF BASE PLATES.
4. ALL NEW COLUMNS AND CONNECTIONS TO BE SPRAYED ON FIREPROOFING. SEE ARCHITECTURAL DRAWINGS.
5. * INDICATES TO PAINT PORTION OF STEEL COLUMN AND BASE PLATE BELOW SLAB WITH BITUMINOUS PAINT.



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2/19/2018 RFI RESPONSE

NO.	DATE	REVISION

DESIGNER/REVISION

PROPOSED ADDITIONS & ALTERATIONS TO HOLLAND HILL SCHOOL

100% CONSTRUCTION DOCUMENTS SUBMISSION

BUILDING NAME & ADDRESS
 HOLLAND HILL SCHOOL
 140 HEDDENBOROUGH ROAD
 FAIRFIELD, CT 06424

PROJECT NUMBER
 2016.007

SEE NUMBER
 051-046 EA

COLUMN SCHEDULE AND PLAN DETAILS

SCALE	DATE	DRAWN BY
AS NOTED		S.A.L.
FILENAME	DATE	
SD MODEL	SEPTEMBER 11, 2017	
DRAWING NUMBER		

S-4

**Request For Information Summary
Holland Hill School Additions & Alterations
2/23/2018 Rev 0**



**Holland Hill School Additions & Alterations - State Project No. 051-0146EA
Gilbane Project No. J072850.000**

RFI #	RFI Date	Discipline	Subject	Question	Answered by	Answer Date	Answer	Issued Supplement
1	2/6/2018	31A	Sitework	Item 26 of the scope of work on page 15 of 20 seems to be in conflict with Item 32 of the scope of work shown of page 16 of 20. Please clarify. 6 inches of crushed stone vs 4 Inches of process.	Gilbane - RK	2/13/2018	Correct Items 26 & 32 specific scope of work items to read 6" of process stone over filter fabric at site use / laydown areas shown on the phasing plan included in the project manual.	1
2	2/6/2018	31A	Sitework	Can you clarify Item 28 (flagger) of the scope of work on page 16 of 20 – what defines "active on the project". Is it that we have men on the site working, is it only when we have deliveries or trucking coming and going, or is it essentially the entire length of the project?	Gilbane - RK	2/13/2018	A flagger will be required whenever BP 31 has equipment and / or deliveries active on site and outside of the fenced in construction areas.	1
3	2/6/2018	31A	Sitework	Is there an as built drawing of the existing irrigation system that we are supposed to protect per item 25 of the scope of work?	KBA	2/13/2018	None found	1
4	2/6/2018	31A	Sitework	Item 20 on page 15 of the scope of work mentions damp-proofing but the specification is not referenced or listed – are we to included damp-proofing? Is damp-proofing required? If so, please provide specifications and details.	GBC - PJD	2/14/2018	Disregard reference to "Damproofing".	1
5	2/6/2018	31A	Sitework	Chain link fencing specification is listed in our package but I only see mention of the temporary fencing in the site scope of work. Are we also to price the permanent fencing?	Gilbane - RK	2/13/2018	Yes. BP 31A Scope of work shall include providing all permanent site fencing and gates in their entirety, inclusive of any excavation and concrete required for poles and gates.	1
6	2/6/2018	31A	Sitework	Item 43 of the scope mentions crushed stone egress path – is crushed stone considered a material usable for means of egress?	Gilbane - RK	2/13/2018	Bituminous pavement (minimum thickness of 2") shall be provided in addition to the crushed stone basement in order to ensure a suitable path of egress is provided. Path will need to be level and smooth (similar to a permanent bituminous sidewalk) in order to ensure ADA compliance.	1
7	2/6/2018	31A	Sitework	On Deduct Alternate Number 1 – should our price pertain only to the site work scope for the item?	Gilbane - RK	2/13/2018	Correct, price only the items of work pertaining to your scope.	1
8	2/6/2018	31A	Sitework	On Add Alternate Number 1 – should our price pertain only to the site work scope for the item?	Gilbane - RK	2/13/2018	Correct, price only the items of work pertaining to your scope.	1
9	2/6/2018	03A	Concrete	The specifications (Concrete Paving Spec 32 13 13 Page 2, 1.5.B.1) call out an exposed aggregate for the Special Finishes. Please confirm where these finishes are required on the site.	TBD		VOID - CONTRACTOR WITHDREW THE QUESTION	2
10	2/6/2018	08A	Glass / Glazing	1. Scope item #22 calls for a mock up please advise the extent required.	KBA	2/14/2018	There will be no mockups required or field testing.	2
11	2/6/2018	08A	Glass / Glazing	Who is responsible for final cleaning.	Gilbane - RK	2/13/2018	Contractors are responsible for removing all packaging and labeling from their material and equipment and turning over the same in a clean and neat manner. Final Cleaning of the construction area prior to occupancy will be by others.	1
12	2/6/2018	08A	Glass / Glazing	0	KBA	2/8/2018	Frame Type 6 should be ballistic since it is for door 110A that is ballistic. This frame needs to be mulled to ballistic window W8 to create one ballistic assembly at the secure vestibule that opens to the main office. Disregard keynote 32 on interior elevations 10/A7.06 and 10/A7.18 as this is a new ballistic window assembly and not an existing window system to remain. Keynote 32 should be disregarded similarly in interior elevation 9/A7.18 for the new W6 ballistic window system that will be mulled to W8.	1
13	2/6/2018	08A	Glass / Glazing	Section 088400 3.2. A1 & A2: Are these qualifications required (Have installed 1400 plastic panels similar to spec, and in a minimum of 4 schools? It is possible that this requirement will make the project unquotable.	KBA	2/8/2018	Specified qualifications are required.	1
14	2/6/2018	General	General	What Bid Bond form is required?	GBC - PJD	2/6/2018	Bidders may use an AIA A310, or the bid bond form issued by their surety.	1
15	2/7/2018	23A	HVAC	RFI-Is York an acceptable alternate for the VRF + Mini-Splits? Any questions please call Paul Cummiskey at Johnson Controls-860-982-6888	DTC - JEV	2/9/2018	Per the contract documents, acceptable manufacturers for VRF & mini-splits include Daikin, Mitsubishi, and Samsung. Other manufacturers are not acceptable.	1
16	2/7/2018	23A	HVAC	RFI-Is York JROA/JRMA Series an acceptable alternate for the RTU and DOAS units? Any questions please call Paul Cummiskey at Johnson Controls-860-982-6888	DTC - JEV			
17	2/7/2018	31A	Sitework	Earth Moving specification section 31 20 00 contradicts itself on pages 9 (unclassified) and page 10 (rock paid at unit prices)	GBC - PJD	2/14/2018	All excavation, with the exception of the excavation for the New Underground Primary Power service shown on ES1.01, and other drawings, shall be considered unclassified excavation in accordance with Section 31 20 00, 3.4, A. The trench excavation for the New Underground Primary Power service shown on ES1.01 shall be considered classified excavation in accordance with Section 31 20 00, 3.4, B. The bid proposal form will be re-issued via Supplement 2 to include the required unit prices.	1
18	2/7/2018	08A	Glass / Glazing	Drawing A8.30: please confirm that the lite of glass above the vents is type TIG.	KBA	2/8/2018	The lite of glass above the operable sashes in windows W1, W2, and W3 is TIG. The lite of glass above the operable sashes in windows W7, W9, W10, and W11 is BIG.	1
19	2/7/2018	08A	Glass / Glazing	Drawing A8.30: some glass shows both glass types BIG and TIG [Ex. W11, W12]. Please clarify.	KBA	2/8/2018	For all locations marked BIG/TIG, the intent is to provide ballistic glazing. Tag should read BIG only.	1
20	2/7/2018	08A	Glass / Glazing	Drawing A8.21: What is the top piece of glass in frame type 11?	KBA	2/8/2018	The 1'-9" tall lites in frame type 11 shall be TIG. The 2'-1" area of the top shall have insulated metal panels.	1

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Gilbane Project No. J072850.000

RFI #	RFI Date	Discipline	Subject	Question	Answered by	Answer Date	Answer	Issued Supplement
21	2/5/2018	08A	Glass / Glazing	RE: Section 08856.40 - Please advise which frames this refers to. It does not appear there are any curtainwall locations / details.	KBA	2/8/2018	There are no curtain wall assemblies, but storefront / pressure plate style frames will be used for most of the ballistic windows shown on drawing A8.30, as well as the ballistic assembly shown for C1 on drawing A8.40. Only window type W8 will use the baffle transaction window specifications (Section 08856.30).	1
22	2/5/2018	08A	Glass / Glazing	Please confirm Section 088400 is for the security panels at existing windows.	KBA	2/8/2018	Confirmed. Also includes existing door and sidelight glazing as shown on Dwg A5.01	1
23	2/5/2018	08A	Glass / Glazing	RE: Section 074223: Specified panels are not bullet resistant. Please confirm this is correct.	KBA	2/8/2018	This is correct. Bullet resistance is not required for these panels.	1
24	2/5/2018	08A	Glass / Glazing	Spec Section 08800 3.4 only show Viracom Glass are equal manufacturers acceptable per 2.1? Please confirm	KBA	2/8/2018	3.4 only shows a glazing unit makeup using Viracon information to show a basis of design. Equivalent systems by the manufacturers in 2.1 are acceptable with submission of formal substitution documentation.	1
25	2/5/2018	08A	Glass / Glazing	Section 084113 state aluminum storefronts 2.1.B is a curtainwall specification. Please advise on the curtainwall locations / details.	KBA	2/8/2018	There are no curtain wall assemblies in the project, but there are storefront assemblies. Provide equivalent products based on the 2" x 4.5" system shown in the drawings.	1
26	2/5/2018	08A	Glass / Glazing	Frame type W7 detail 17/A830 shows storefront. Detail 4 calls for window. Please clarify requirement.	KBA	2/8/2018	Detail 17/A8.30 should show a thermally broken aluminum window system similar to detail 16/A8.30 with the insulated metal panel instead of the 1" insulated glazing.	1
27	2/5/2018	08A	Glass / Glazing	Drawing A5.01 please provide a detail of how the 1/4" security panel is installed over existing windows.	KBA	2/8/2018	Security panel shall be mechanically fastened to the existing window / storefront frames per the manufacturer's instructions.	1
28	2/5/2018	08A	Glass / Glazing	Drawing A8.40 calls for an anodized finish. Section 084113 calls for a painted finish. Please confirm which is correct.	KBA	2/8/2018	Provide the PVDF finish called out in the specifications.	1
29	2/5/2018	08A	Glass / Glazing	Spec Section 084113 2.5 states doors are 1 3/4" thick. They also call for thermal construction. Thermal doors are 2" thick. Please confirm which is correct.	KBA	2/8/2018	Provide doors of the thickness required to meet the thermal requirements.	1
30	2/6/2018	08A	Glass / Glazing	Elevation 10 on A7.06 calls for existing interior window system (Note 32) to remain. Drawing A2.11 shows Type 8, which is a new frame. Please clarify	KBA	2/8/2018	Refer to response to RFI 12 above.	1
31	2/6/2018	08A	Glass / Glazing	The door schedule shows different hardware sets for the ballistic doors. Section 088856.10 2.2 shows a common hardware set for all doors. Please confirm which is correct?	KBA	2/8/2018	Different hardware sets are shown due to different operation and configurations of different doors. Provide hardware suitable for use in ballistic assemblies per specification section 087100.	1
32	2/6/2018	08A	Glass / Glazing	RE: Clarification for Add Alternate #2 - Alternate reads to change L3 Ballistic Glass to L4. Drawings do not indicate L3 Glass. Frames W1, W2, W3, and W9 show a type TIG glass, which is not ballistic. Please clarify the alternate requirement.	KBA	2/8/2018	Refer to detail 9/A5.01 for L3 base bid glazing and L4 add alterante glazing locations.	1
33	2/8/2018	08A	Glass / Glazing	A8.21 note states glass should be tempered laminated, yet frames 9 and 10 show ballistic. Please clarify	KBA	2/21/2018	Transom glass is laminated/tempered, Door glazing shall be ballistic	2
34	2/9/2018	21A	Fire Protection	Is extra fire pump material required per Spec Section 21 39 00 Para 1.10	DTC-JV	2/21/2018	Extra materials are clearly listed in Spec Section 21 39 00 Paragraph 1.10.	2
35	2/12/2018	31A	Sitework	How will the paving contractor gain access to the courtyard area that is to be paved once the addition is built?	Gilbane - RK	2/15/2018	Access will be through the NW corner of the addition (temporary egress path area). 6'-0" minimum access expected. Installation expected during Summer 2018	2
36	2/12/2018	26A	Electrical	Spec. Section 283111 Digital, Addressable Fire-Alarm System is missing from Volume 3 please advise.	KBA		See Addendum for referenced missing spec section	2
37	2/12/2018	26A	Electrical	Electrical Specific Items Item #54 says include Utility Company Charges in Base Bid. Do you have a contact person we may call to get the Utility Fee.	Gilbane - RK	2/15/2018	The proper contact at UI shall be Michael Crowley - 203.499.2284 michael.crowley@uinet.com. Per Supplement #2 utility charges shall be excluded from the base scope of work.	2
38	2/12/2018	23A	HVAC	Spec. Section 233113 – "Metal Ducts" – Paragraph 2.5- "Sheet Metal Materials" sub-paragraph – F- "Factory or Shop – Applied antimicrobial coating." Is this a requirement for this particular project?	DTC-JV	2/21/2018	Antimicrobial coating is not required for this project.	2
39	2/12/2018	23A	HVAC	Spec. Section 233113 – "Metal Ducts" Paragraph -2.6 "Duct liner" – subparagraph – C, Item#9 – perforated sheet metal inner duct. Does this apply to any of the lined rectangular duct of this particular project?	DTC-JV	2/21/2018	This applies to the external rectangular supply-air duct and return-air duct to/from RTU-2 located on the roof. It does not apply to any rectangular duct located inside the building for this project. However, all round exposed supply-air ducts require double-walled construction with perforated inner duct, including all supply-air ducts in Gymnasium #153 and all supply-air ducts in All Purpose Room #120.	2
40	2/12/2018	23A	HVAC	Do the new exhaust run outs from DOAS-3 to the designated toilet rooms in Deduct Alternate #1 get deleted or are they unaffected by Alternate#1?	DTC-JV	2/21/2018	Exhaust ducts are unaffected by Deduct Alternate #1, and must be installed whether or not this Alternate is chosen.	2
41	2/12/2018	05A	Steel	Dwg. (S-01) Structural Steel Note K. Is x-raying/ultra sounding of existing concrete required prior to installation of expansion or adhesive anchors? And if so which trade is responsible for x-ray/ultrasounding.	PZ-BP	2/21/2018	Non-destructive or destructive testing to determine reinforcing location is means and method responsibility of Contractor (bid package) performing the work.	2
42	2/12/2018	04A & 05A	Masonry & Steel	Please confirm Dur-O-Wall anchors at top of CMU wall per (S-02) are by-others and not part of Bid Package 05A.	Gilbane - RK	2/15/2018	Dur-o-Wall anchors will be provided by BP 04A. All other shear wall clips will be provided by BP 05A.	2
43	2/12/2018	05A	Steel	Dwg. (S-2) Note 21. Please confirm structural curbs are by others and not part of Bid Package 05A, as they are noted to be designed by-others.	KBA	2/21/2018	Gilbane Comment: KBA please confirm Note 21 shall be disregarded and that Note "A" on S-2 shall dictate for the DOAS, VR, and RTU Mechanical equipment curbs. KBA-GK: Note 21 shall be disregarded and note A shall prevail as described above.	2
44	2/12/2018	31A	Sitework	Re: Draw C102—Layout' There is an area of pavement adjacent to the handicap parking spaces located at the Northwest corner of the building with no designation for the type of pavement to be installed, see attached drawing. Please provide direction.	DTC	2/21/2018	The 6' wide area adjacent to the handicap parking spaces shall be bituminous concrete pavement (detail 2 on sheet C.200)	2
45	2/12/2018	05A	Steel	Plans show columns at col. lines L-3, L-6 & L-9 but the locations are not listed in the column schedule. Please clarify the sizes.	PZ-BP	2/21/2018	See revised Dwg.S-1, S-2 & Column Schedule on Dwg. S-4. Columns L/3, L/6 & L/9 become P/3, P/6 & P/9, with sizes same as J/3, J/6 & J/9	2
46	2/12/2018	31A	Sitework	Re: Drawing C102: The future playground located at the Southwest corner of the school is to be constructed at a later date according to the note on the plans. What is required under our scope of work specifically related to the playscape structures and playground surfacing, there is no direction included in the bid documents?	KBA	2/21/2018	Existing playground is to remain undisturbed. Stockpile store and protect existing mulch for future use (work provided by BP 31A). Spread and restore mulch areas after construction (work provided by BP 31A).	2
47	2/13/2018	09D	Acoustical Ceilings	In spec section 095100, 2.2, G it lists E.J. Davis sounds stop curtains. Please provide a location for these curtains.	KBA	2/21/2018	Sound stop curtains not required, delete para. 2.2G	2

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RFI #	RFI Date	Discipline	Subject	Question	Answered by	Answer Date	Answer	Issued Supplement
48	2/13/2018	09D	Acoustical Ceilings	In bid package 09D Acoustical Ceilings under specific items #19 no insulation is shown on the drawings, please provide a location	Gilbane - RK	2/15/2018	Disregard 09D scope note referencing insulation if no insulation is shown above the ACT or called for in the ceiling specifications.	2
49	2/13/2018	09D	Acoustical Ceilings	Drawing A4.11 shows Room 013 to have ceiling types CL-01 and CL-04 is the intent to use 2 different ceiling tiles in the same room? all other similar rooms only use CL-01.	KBA	2/21/2018	CL-01 shall be provided throughout classroom 013	2
50	2/13/2018	09D	Acoustical Ceilings	Drawing A4.11 indicates CL-01 ceiling tile is Armstrong 1811, Specifications section 095100 2.2 indicates ceiling type CL-01 is Armstrong 1714 please clarify which is correct.	KBA	2/21/2018	Provide as specified in section 095100	2
51	2/13/2018	09D	Acoustical Ceilings	Drawing A4.11 shows Rooms 150, 151 to have ceiling types CL-01 which is a 2'x4' tile, however the RCP shows a 2'x2' tile which is correct?	KBA	2/21/2018	Provide ceiling type CL-3.	2
52	2/13/2018	09D	Acoustical Ceilings	Drawing A4.12 shows room 106A to have a 2'x2' ceiling tile however it is labeled CL-01 which is a 2'x4' tile please clarify.	KBA	2/21/2018	Provide ceiling type CL-3.	2
53	2/13/2018	09D	Acoustical Ceilings	Specification Section 095100 2.2 F. indicates fabric wrap on the sound diffusers, please specify fabric.	KBA	2/21/2018	Base fabric as provided by manufacturer Gilford of Maine FR701 acoustic fabric, color as selected by architect	2
54	2/14/2018	31A	Sitework	Drawing SUP-2; Access Path Upgrade The requirements for this item are confusing. a. Bituminous concrete sidewalk, 1/C200 @ 6' wide...no problem. b. Handicap ramps, 4/C201—that is a detail for a handicap parking sign. c. Single swing gate, 1/C204, where is the gate to be located? Will there be any additional fencing or only the gate? d. The layout on the drawing appears to show ramp areas with landings and railings. If that is the intent Please provide a construction detail so it can be priced accordingly.	Gilbane / KBA	2/21/2018	Drawing SUP-2 is for sequencing of the work and phasing only, as well as temporary work required by phasing. See dwg C1.02 for current layout and construction detail callouts, and balance of all other "C" series drawings.	2
55	2/15/2018	03A / 31A	Sitework / Concrete	Scope of work item 20 states..."provide all mastic dampproofing and rigid insulation, both vertical and horizontal." Question..There is no specification listed for the dampproofing item. Please advise regarding scope requirements.	Gilbane - RK	2/15/2018	Reference RFI response #4 above - Disregard reference to "Dampproofing".	2
56	2/15/2018	09A & 31A	Drywall & Related Work, Sitework	Drawing SUP-4 shows a note for "Temporary Covered Walkway" at the northwest corner of the building. Question..Who is responsible for providing that item?	Gilbane - RK	2/15/2018	Temporary covered walkways shown on the Phasing and Site Use Plan will be provided by Bid Package 09A. Temporary fencing required is by Bp 31A. The addition courtyard covered walkway will be required for the entire addition construction phase (March 2018 - December 2018). The covered walkway and fencing will need to be temporarily removed and reinstalled during the Summer 2018 to allow for the courtyard paving. The Phase 4 covered walkway for the Northwest portables will be required prior to the start of Phase 4 (starts January 2019) and through the last day of school 2019.	2
57	2/15/2018	31A	Sitework	Building Information Modeling, spec section 00 85 00, page 16 & 17. Civil-Utilities and Civil-Site and Grading, first sentence. Question..Are we responsible for providing a deduct-alternate to remove modeling from our scope of work?	Gilbane-RK	2/21/2018	No. BIM modeling will not be required by BP 31A	2
58	2/15/2018	05A	Steel	Reference General Notes on Drawing S-01, Note P. Please advise if the designation for AISC Certified Erector can be waived.	PZ-BP	2/21/2018	Note P indicates 'And/Or' if Qualified Installer participates in a Quality Certification Program then doesn't necessarily need to be AISC certified installer	2
59	2/15/2018	07A	Roofing	Section 077200;2.4;C. states Hatch to be 2'6" x 8'0" while Detail 6/A9.71 indicates 3'-03/4"x2'-11 3/4" Frame opening size. Which is correct? Please advise.	KBA	2/21/2018	Hatch size shall be as shown on details.	2
60	2/15/2018	07A	Roofing	Is Bid Package 23A Plumbing and HVAC to Furnish and Install Mechanical Curbs and cut decking for their openings of new and existing work?	Gilbane - RK	2/23/2018	BP 07A shall install the curbs furnished by others and temporary protect the area to maintain watertightness. BP 07A wil work with BP 23A during the equipment installation as necessary to remove the temporary protection and properly flash for the new equipment. Roof penetrations inside the curb footprint will be provided by BP 23A.	2
61	2/15/2018	07A	Roofing	At the existing Roofing infills of the Demolished Roof Top Equipment, is BP 07A responsible for the New Roof Deck @ the infills?	Gilbane - RK	2/23/2018	New roof deck for existing opens shall be provided by BP 05A.	2
62	2/15/2018	07A	Roofing	Which BP is Responsible for the Demolition and disposal of the Existing Roof Top Equipment as shown on MD2.21 and MD2.22?	Gilbane - RK	2/23/2018	BP 23A decommissions / cut / caps /drops the rooftop equipment to the ground for disposal by BP 02A.	2
63	2/15/2018	05A	Steel	Please confirm if there are any existing roof penetrations that will require infills. If required please provide a detail.	PZ-BP	2/21/2018	Contractor verify in field. Provide 20 gauge steel roof deck to match existing deck profile, nested into existing deck flutes, span over supports at each end & lap minimum 2" & fasten new deck to structural steel supports at every flute with Hilti X-EDN19 or X-EDNK22 based on existing steel base material thickness & provide minimum 2-#10 Tek screws at all side laps.	2
64	2/15/2018	05A	Steel	Please confirm if additional roof frames will be required at new penetrations not shown on structural drawings.	PZ-BP	2/21/2018	Contractor to coordinate with Typical Details on Dwg. S-02 and Architectural & Mechanical Dwgs.	2
65	2/15/2018	23A	HVAC	Drawing M2.12 does not show motorized control dampers on the outside air to all FCU units. Please confirm these are required as shown on drawing M2.11.	DTC-JV	2/21/2018	Motorized control dampers are required for outside-air to FCU's only for DOAS-1 & DOAS-2 as shown on drawing M2.11. They are not required for DOAS-3 shown on drawing M2.12, as DOAS-3 will not vary outside-air airflows as this would affect toilet exhaust airflows.	2
66	2/15/2018	07A	Roofing	Have any Test Cuts been done on Existing Roofing to determine the Insulation Thickness for the Infill Areas and New Unit installs?	KBA	2/21/2018	No. Assume 5 1/4" depth in multiple plies	2
67	2/15/2018	07A	Roofing	Is the Current Roofing System under Warranty? If so who is the Manufacturer?	KBA	2/18/2018	Yes, see attached roof key plan	2
68	2/15/2018	23A	HVAC	Spec Section 233113, 2.2, F&G and 2.4, E&F: One paragraph calls for Fibrous Glass Liner for interstitial insulation and the other call for Flexible Elastomeric for interstitial insulation. Please clarify which should be provided.	DTC-JV	2/21/2018	Per paragraph 3.12 H, provide fibrous glass liner of the type listed in this paragraph.	2

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RFI #	RFI Date	Discipline	Subject	Question	Answered by	Answer Date	Answer	Issued Supplement
69	2/15/2018	23A	HVAC	Similar to RFI #39 above: Spec Section 233113, 2.6, C.9 calls for a perforated inner liner on acoustically lined duct. Is all acoustically lined duct to receive a perforated inner liner, making it double wall? If so, can this duct be shop fabricated in lieu of manufacturer purchased?	DTC-JV	2/21/2018	For rectangular duct, the double-wall duct applies to the external supply-air duct and return-air duct to/from RTU-2 located on the roof. It does not apply to any rectangular duct located inside the building for this project. However, all round exposed supply-air ducts require double-walled construction with perforated inner duct, including all supply-air ducts in Gymnasium #153 and all supply-air ducts in All Purpose Room #120. All double-walled duct, rectangular and round, must be manufacturer purchased, and may not be shop fabricated.	2
70	2/15/2018	22A/23A	Plumbing	On drawing P2.12, the five (5) Toilet Rooms are shown as Deduct Alternate in this detail they show ten (10) SK-HC sinks that we think will stay in Base Bid. Description of the Alternate states "New millwork and sinks shall be provided as shown in similar locations as existing; new hot and cold water piping to existing fixtures and new classroom sinks." To clarify, is the Deduct Alternate for the LAV-HC and WC-HC only?	DTC-JEV	2/23/2018	Yes.	2
71	2/15/2018	26A	Electrical	Reference Drawing T2.01, Telecommunication Notes. Does the Owner have, or will provide, a report that all the existing Data drops are to remain are currently working? Or will this have to be field verified by the Contractor?	DTC-JEV	2/23/2018	All existing data drops that remain must be field-verified by the Contractor to determine whether they are currently working.	2
72	2/15/2018	26A	Electrical	Reference Drawing SUP-1, Bid Package 26A - Specific Items Note #4. Where is this Temp service to be located? Where is it to be supplied from?	Gilbane	2/23/2018	Temporary construction power will be supplied from the existing MDP located in the Boiler Room. The temp panel will be located in the boiler Room to feed the sub panels required during each phase of construction. One subpanel will be required at each construction area to allow for the hand tools circuits required per Scope item #4. Assume a minimum of 4 hand tool circuits required per area.	2
73	2/15/2018	26A	Electrical	Reference Spec Section 26 05 19, Part #3 - 3.01. Please confirm Aluminum Conductors will be acceptable as noted in 3.01 A&B.	DTC-JEV	2/23/2018	All conductors to be copper.	2
74	2/15/2018	26A	Electrical	Reference Spec Section 26 05 26, Part #3 - 3.05 F & G. Please confirm this only applies to the new addition and not the existing building.	DTC-JEV	2/23/2018	Specification section refers to entire building	2
75	2/15/2018	26A	Electrical	Reference Bid Package 26A - Specific Items Note #6. Where are the 5 conduits noted for temp power coming from and going to?	DTC-JEV	2/23/2018	Refer to ET1.01 for temporary power	2
76	2/15/2018	26A	Electrical	Is there an allowance amount provided by the Utility Company for the Utility Fees that are supposed to be carried by BP 26A?	Gilbane	2/23/2018	Scope item clarified per Supplement #2 cover sheet	2
77	2/15/2018	26A	Electrical	Please confirm any Pre-Cast Utility Boxes or Transformer Pads will be provided by BP 31A.	Gilbane	2/23/2018	Per BP 26A Specific Scope Item #6, these items are to be provided by BP 26A.	2
78	2/15/2018	26A	Electrical	Please confirm that the Trade supplying the Equipment will supply any required Motor Starter and Disconnect for that equipment.	DTC-JEV	2/23/2018	Motor Starters and VFD's for Mechanical or Plumbing equipment are to be provided by the Mechanical or Plumbing Contractors, respectively, and installed by the Electrical Contractor. Disconnect switches are to be provided and installed by the Electrical Contractor, unless integral to provided equipment. Electrical Contractor to coordinate with other Contractors.	2
79	2/15/2018	09C	Flooring	Drawing A8.50 Finish Note #13 self-leveling underlayment at All Purpose Room what is the depth of the underlayment required?	KBA	2/23/2018	Assume a depth of 2".	2
80	2/15/2018	09C	Flooring	Spec Section 096900 Self Leveling Underlayment what is the average depth of the underlayment required throughout the school? Would an equal product from Ardex be acceptable?	KBA	2/23/2018	An Ardex cementitious based self leveling underlayment product would be acceptable. The multi-purpose room is the only space requiring this product.	2
81	2/15/2018	09C	Flooring	The Finish Schedule A8.50 lists VCT. Spec section 096517 Resilient Flooring does not have a VCT specified only a Vinyl Plank. Is the specified Vinyl Plank to be used where VCT is called out on the Finish schedule? If not a specification for the VCT needs to be provided and is the Vinyl Plank specified used on this project?	KBA	2/23/2018	Spec section 09 65 19: DELETE IN IT'S ENTIRETY, provide standard VCT tile products as shown in REVISED section 09 65 19 attached in addendum No. 1.	2
82	2/15/2018	09C	Flooring	In section 096519 Resilient Flooring line 2.3A asks for a Deduct Alternate finishes in corridor locations. This Alternate is not listed in Section 012300 Alternates. Is this an actual alternate? If so can a more detailed description be provided including room numbers of the corridors affected?	KBA	2/23/2018	Spec section 09 65 19: DELETE IN IT'S ENTIRETY, provide standard VCT tile products as shown in REVISED section 09 65 19 attached in addendum No. 1.	2
83	2/15/2018	09C	Flooring	Spec Section 096519 Resilient Flooring line 2.4 states Vinyl Tiles (SVT) – Reference Finish Key and Floor Pattern Drawings for Colors. SVT is not listed on Finish Schedule A8.50 is SVT being used on this project? It also makes reference to a Finish Key and Floor Pattern Drawings these drawings do not exist. Will a Finish Key and Floor Pattern Drawing be issued?	KBA	2/23/2018	Spec section 09 65 19: DELETE IN IT'S ENTIRETY, provide standard VCT tile products as shown in REVISED section 09 65 19 attached in addendum No. 1.	2
84	2/15/2018	09C	Flooring	Spec Section 096519 Resilient Flooring has 2 different types of Rubber Flooring listed. Line 2.3C Nora Satura and 2.7B Johnsonite Raised Disk. The Finish Schedule A8.50 does not show any Rubber Tile are either of these products used on this project? If so provide product type and locations required.	KBA	2/23/2018	Spec section 09 65 19: DELETE IN IT'S ENTIRETY, provide standard VCT tile products as shown in REVISED section 09 65 19 attached in addendum No. 1.	2
85	2/15/2018	09C	Flooring	Spec Section 096519 Resilient Flooring line 2.7A calls for a Johnsonite Rubber Stair Treads the Finish Schedule A8.50 does not show any Rubber Treads. Is this product being used on this project?	KBA	2/23/2018	Spec section 09 65 19: DELETE IN IT'S ENTIRETY, provide standard VCT tile products as shown in REVISED section 09 65 19 attached in addendum No. 1.	2
86	2/15/2018	09C	Flooring	A8.50 General Finish Note #28 states there is Ceramic, Quarry, and Porcelain tile required. Spec Section 093300 Quarry Tile covers the Quarry spec. Spec Section 093013 Ceramic Tile has a Spec for the Porcelain Tile. There is no spec listed for the Ceramic Floor Tile please provide? Also need specifications for the Base required at the Porcelain Tile areas as well as the Ceramic Floor areas?	KBA	2/23/2018	Spec section 09 30 13: DELETE IN IT'S ENTIRETY, Provide products as listed in REVISED section 09 30 13 attached in Addendum No. 1	2
87	2/15/2018	09A / 09C	Flooring / Drywall & Related Work	Spec Section 093013 Ceramic Tile line 3.3A mentions Cement Wall Board. Who is responsible to furnish and install the Cement Wall Board? Drywall Contractor?	Gilbane	2/23/2018	Cement wall board will be provided by BP 09A	2
88	2/15/2018	23A	HVAC	The refrigeration piping is not shown on the drawings. Is it permissible to install the hard copper piping (3 lines) from the 4 CU to the indoor BS distribution boxes primarily on the roof? This will lessen ceiling congestion considerably.	DTC-JEV	2/23/2018	No. Refrigerant piping from each CU must penetrate the roof in one location near each CU, and then distribute within the ceiling space of the building.	2
89	2/15/2018	23A	HVAC	The domestic hot water requires a 3" 7 series Symmons thermostatic mixing valve. The Rep nor the factory will quote this item without more information. They would either need to know the exact model number desired or "Max flow rate to be ___ GPM at ___ psi pressure differential" for example, the Symmons #7-400 has a max flow rate of 53 gpm @ 45 psi differential pressure. These valves are not sized by line size. Please provide the information needed to price accurately.	DTC-JEV	2/23/2018	Mixing valve on schedule sheet dwg. P4.01 lists a Lawler 805, use that model.	2
90	2/15/2018	23A	HVAC	Please provide a clarification on the material for the water heater flues shown on M2.11. The drawings that could clarify do not match up and it was not found in the specs.	DTC-JEV	2/23/2018	Water heater flues to be Category IV PVC or CPVC, or UL listed stainless steel. Combustion air to be PVC.	2

Holland Hill School Additions & Alterations - State Project No. 051-0146EA
Gilbane Project No. J072850.000

RFI #	RFI Date	Discipline	Subject	Question	Answered by	Answer Date	Answer	Issued Supplement
91	2/15/2018	23A	HVAC	Please reference drawings MP2.11 and MP2.12. There are approximately 40 pieces of existing radiation with valves shown. MP2.12 has 5 notes none of which call for ATC valve replacement. Please clarify the scope of work at these locations and any similar locations with existing heating equipment/devices.	DTC-JEV	2/23/2018	All existing radiation that is to remain (where control valves are called to be removed on Drawings MD2.11 & MD2.12) is to have new electronic control valves installed.	2
92	2/15/2018	23A	HVAC	Ref P2.12 Should the SK-HC in 2nd Grade #010 be in the deduct alternate?	DTC-JEV	2/23/2018	No.	2
93	2/15/2018	23A	HVAC	Ref P2.11 Please clarify which bid package is responsible for the piping in Courtyard #154.	DTC-JEV	2/23/2018	It states on the note: "Courtyard Piping by Division 22". Area drain furnished and installed by division 33."	2
94	2/16/2018	09C	Flooring	In spec section 096800 Carpet the design basis carpet is Mannington but there is no specific product listed. Please provide.	KBA	2/23/2018	See Addendum No.1 for revised section 09 68 00, carpet specifications	2
95	2/16/2018	09C	Flooring	In room #149 Platform/Music the main platform calls for wood flooring and the ramps call for a non-slip vct. What do the two entry landings nears doors 149B and 149C get for flooring?	KBA	2/23/2018	Landings at bottom of ramps receive VCT.	2
96	2/16/2018	09C	Flooring	At corridor C12 are rubber treads and risers required at the steps? The Finish Schedule A8.50 does not call for them.	KBA	2/23/2018	No, concrete treads shall be sealed, steel stair components shall be painted.	2
97	2/16/2018	09C	Flooring	Spec section 096466 Wood Athletic Flooring lists a sports floor by Action Floor Systems. Is the same wood flooring being used at both rooms 149 Platform and 153 Gym? Typically a stage receives a different type of floor than the gym. Also is there any other acceptable manufactures besides the Action Floor?	KBA	2/23/2018	The action floor was selected due to the shallow slab depression, other manufacturer's shall be considered. Stage wood flooring shall be the same.	2
98	2/16/2018	09C	Flooring	In spec section 093013 Ceramic Tile line 2.3A states full height wall tile at gang toilets and 48in wainscot at classroom toilets. The drawings show the gang toilets receiving a 48in wainscot and the classroom toilets are an Alternate and receive a 52in wainscot. Which is correct?	KBA	2/23/2018	Wainscott tile at gang toilets shown is correct; 52" high wainscott tile at single occupancy toilets is an add alternate.	2
99	2/16/2018	09C	Flooring	Sections 093300 Quarry Tile and 093013 Ceramic Tile are both very generic and unclear as to the tile installation instructions. Please provide complete installation instructions for the Quarry Tile areas, Porcelain areas, and Ceramic Tile areas include setting bed type thinset or mudset, grout type epoxy or standard and if waterproofing is required?	KBA	2/23/2018	Spec section 09 30 13: DE:LETE IN IT'S ENTIRETY, Provide products las listed in REVISED section 09 30 13 attached in Addendum No. 1	2
100	2/16/2018	09C	Flooring	Should Toilet rooms 003A and 005A be included in Deduct Alternate #1?	KBA	2/23/2018	No, they remain in the base bid work	2
101	2/16/2018	09C	Flooring	Where Toilet Rooms 003A, 004A, 005A, 006A, 007A, 008A, 009A, K1A, K2A are being expanded is there any work required in Classrooms 003, 004, 005, 006, 007, 008, 009, K1, K2? If so provide extent of work and flooring products required.	KBA	2/23/2018	Only to the extent of damage to existing VCT flooring.	2
102	2/15/2018	22A/23A	Plumbing	The sizes of the water piping coming out of the boiler room on drawing P2.11 are different from detail #3 on P3.03, the 3" reducing to 2" as is goes to kitchen then out to building, but it indicates 3" HW 140 into the MV and 3" HW 110 out to building, P2.11 has 1" out to the building and to the kitchen? The MV schedule indicates 3" inlet and outlet? Can you let me know if the sizes are correct?	DTC-JEV	2/23/2018	2" HW is to be used for main building and 1" HW 140 degrees for kitchen.	2
103	2/15/2018	22A/23A	Plumbing	P2.11 the HW comes out of the boiler room 1" as it turns to the left it changes to 1-1/2", please advise?	DTC-JEV	2/23/2018	2" HW is to be used.	2
104	2/16/2018	22A/23A	Plumbing	Drawing P3.01 detail #1, where is this indicated on the Drawings, P2.11 shows the 4" existing CW entering outside storage room 122. Is the PRV, BFP and WM required for this project? Please advise?	DTC-JEV	2/23/2018	Where existing water service comes in Storage Room #122, use detail 1/P3.01. Connect new 4" piping to existing. Use 4" valves, pipes and devices in lieu of 3" indicated.	2
105	2/16/2018	22A/23A	HVAC	FTRBB-1 I do not see any on the project, can you let me know if there's any?	DTC-JEV	2/23/2018	New finned tube baseboard radiation is not part of the project scope.	2
106	2/16/2018	22A/23A	HVAC	On drawing M2.11 in the girls room 143 there's a FCU-1-15, nothing indicated on MP2.11?	DTC-JEV	2/23/2018	FCU-1-15 is part of the project scope. Contractor to install 1" condensate drain line from FCU-1-15 to connect with 1-1/4" condensate drain from FCU-1-3.	2
107	2/16/2018	22A/23A	HVAC	Is the existing FTR to remain and getting new control valves steam or HW?	DTC-JEV	2/23/2018	All existing FTR is steam.	2
108	2/16/2018	09A	Drywall & Related Work	BP 09A 004226-09A page 12 of 19. "Millwork" is noted in specific item paragraph 1, please clarify what "millwork" is required by BP 09A, and clarify a spec section.	Gilbane	2/23/2018	All new millwork is to be provided as part of BP 09A. Specifications to be included in their entirety include 06 10 00 Rough Carpentry, 06 20 00 Finish Carpentry, 06 40 00 Architectural Woodwork, 06 41 16 Plastic Laminate Casework, and 06 61 16 Solid Surfacing Fabrications	2
109	2/16/2018	09A	Drywall & Related Work	BP 09A 004226-09A page 12 of 19. "Coiling Doors" is noted in specific item paragraph 1, please clarify if this is in the 09A scope, and clarify a spec section.	Gilbane	2/23/2018	Delete reference to Coiling Doors.	2
110	2/16/2018	09A	Drywall & Related Work	BP 09A 004226-09A page 12 of 19. "Cubical Curtains" is noted in specific item paragraph 1, but spec section is not assigned to bid package.	Gilbane	2/23/2018	Cubicle Curtains are assigned to BP 09D Acoustical Ceilings	2
111	2/16/2018	09A	Drywall & Related Work	BP 09A 004226-09A page 12 of 19. "Appliances" is noted in specific item paragraph 1, please clarify if this is in the 09A scope, and clarify a spec section	Gilbane	2/23/2018	Equipment specified under 11 06 30 and 11 40 00 are assigned to the Foodservice Equipment Bid Package	2
112	2/16/2018	09A	Drywall & Related Work	BP 09A 004226-09A page 12 of 19. "Casework" is noted in specific item paragraph 1, please clarify if this is in the 09A scope, and clarify a spec section	Gilbane	2/23/2018	Yes. See RFI 108 response above.	2
113	2/16/2018	09A	Drywall & Related Work	BP 09A 004226-09A page 15 of 19. Specific note #22 - Is any scaffolding required, and where?	Gilbane	2/23/2018	Scaffolding to access and provide items associated with BP 09A scope of work may be required. Scaffolding requirements (outside of use for the covered walkways shown on the phasing plans) for BP 09A is limited to means and methods.	2
114	2/16/2018	09A / 09D	Drywall & Related Work / Acoustical Ceilings	Specification section 09 84 13 2.1 A. please provide Fabric type and color.	KBA	2/23/2018	Fabric shall be Guilford of Maine, color to be determined	2
115	2/16/2018	09A / 09D	Drywall & Related Work / Acoustical Ceilings	Specification section 09 84 13 2.1 A. calls for "Owens-Corning Conwed Designscape, Respond A100 Series" however Drawings 10/A7.10 S-2000 Sound Seal Acoustical Panels please specify if both products are acceptable	KBA	2/23/2018	Provide as listed on drawing.	2
116	2/16/2018	09A / 09D	Drywall & Related Work / Acoustical Ceilings	Drawing A4.11 shows Room 013 to have ceiling types CL-01 and CL-04 is the intent to use 2 different ceiling tiles in the same room? all other similar rooms only use CL-01.	KBA	2/23/2018	CL-01 shall be provided throughout classroom 013	2
117	2/16/2018	09A / 09D	Drywall & Related Work / Acoustical Ceilings	Drawing A4.11 indicates CL-01 ceiling tile is Armstrong 1811, Specifications section 095100 2.2 indicates ceiling type CL-01 is Armstrong 1714 please clarify which is correct.	KBA	2/23/2018	See RFI #50 response.	2
118	2/16/2018	09A / 09D	Drywall & Related Work / Acoustical Ceilings	Drawing A4.11 shows Rooms 150, 151 to have ceiling types CL-01 which is a 2'x4' tile, however the RCP shows a 2'x2' tile which is correct?	KBA	2/23/2018	See RFI #51 response	2
119	2/16/2018	09A / 09D	Drywall & Related Work / Acoustical Ceilings	Drawing A4.12 shows room 106A to have a 2'x2' ceiling tile however it is labeled CL-01 which is a 2'x4' tile please clarify.	KBA	2/23/2018	See RFI #52 response.	2
120	2/16/2018	09A / 09D	Drywall & Related Work / Acoustical Ceilings	Specification Section 095100 2.2 F. indicates fabric wrap on the sound diffusers, please specify fabric.	KBA	2/23/2018	See RFI #53 response	2
121	2/16/2018	09A	Drywall & Related Work	Can you please specify the start and end for the second shift in phase 3?	Gilbane	2/23/2018	2nd Shift work to be reviewed and scheduled if it is shown to add value to the project, or as necessary for certain activities (MEP shutdowns) to avoid impacting school activities. A regularly scheduled 2nd shift work plan is not anticipated at this time.	2

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Gilbane Project No. J072850.000

RFI #	RFI Date	Discipline	Subject	Question	Answered by	Answer Date	Answer	Issued Supplement
122	2/15/2018	02A	Demo & Abatement	In reviewing Supplement #1, Item #1 says bid dated changed to 28 Feb. However, Item B states that the bid date is 22 Feb. Please verify the correct bid date.	Gilbane - PD	2/19/2018	Supplement 1 has no "Item B", therefore I am going to assume you are referring to the pre-bid meeting minutes. The prebid meeting minutes are dated February 8, and reflect what was said at the prebid meeting. At the meeting I stated the bid due date as shown paragraph B in the meeting minutes. Supplement 1, dated February 14, changed the bid date as stipulated in item 1 of the supplement. Please remember the document with the most recent date prevails. Supplement 1 changed the bid date, which was not know or discussed at the prebid meeting the prior week.	2
123	2/15/2018	02A	Demo & Abatement	Bid Package 02A includes Sections 078400 (Firestopping) and 079200 (Joint Sealants) as part of the scope. Item #2, page 12 of 19, states that the work in these Sections is the sole responsibility of this Trade Contractor. Is this really the case?	Gilbane - PD	2/19/2018	The package owns firestopping and joint sealants to the degree they are required by your work. The package does not own all firestopping and joint sealants for the project.	2
124	2/19/2018	09B	Ceiling	Section 098413 Fixed Sound-Absorptive Panel, Section 2.1, Letter G. Please provide a manufacturer and style type for the fabric as there are too many fabric options varying in pricing. Colors can be chosen later.	KBA	2/23/2018	See RFI #114 response.	2
125	2/19/2018	26A	Electrical	The spec section 28 31 11 - Digital, Addressable Fire-Alarm System is included on the TOC, but not in the spec volume. Please confirm this spec section shall be included in the bid set.	DTC-JEV	2/23/2018	Previously addressed.	2
126	2/15/2018	08A	Glass / Glazing	Please confirm that any door on the schedule marked existing requires no work.	KBA	2/23/2018	Correct, unless otherwise noted.	2
127	2/20/2018	03A	Concrete	Quantity breakdown in bid form shows "Cold Fluid Applied Waterproofing" is not listed in our scope. This is not in the specifications either. Please provide clarification.	Gilbane	2/23/2018	Delete Cold Fluid Applied Waterproofing for the quantity breakdown. Reference RFI 4 response above.	2
128	2/20/2018	03A	Concrete	Specific items listed section 072100 Building Insulation but rigid insulation was excluded per page 15 of 17 under "Description of Work Excluded". Please clarify.	Gilbane	2/23/2018	Delete reference in BP 03A to Spec Section 07 21 00 Building Insulation. Rigid insulation at the foundations will be provided by BP 31A	2
129	2/20/2018	02A 04A	Demolition / Masonry	The hazardous materials drawings and specs. state that the existing paint is assumed to be PCB containing. Toothing/ selective demolition is part of the masonry scope. Please clarify scope concerning toothing/selective demolition. Should the mason layout all toothing to be performed by demo/haz materials? Will toothing be required? A similar condition exists with the existing waterproofing in the brick cavity.	Gilbane	2/23/2018	Items identified as PCB paint will be removed and disposed of by BP 02A. BP 04A shall coordinate new work at selctive demo areas with BP 02A to ensure adequate removal of existing paint masonry	2
130	2/20/2018	26A	Electrical	BP 26A Electrical references an audio-visual system, but there is not an audio-visual spec listed. Please provide audio-visual requirements	DTC-JEV	2/23/2018	Requirements per Technology Drawings, and Division 27 & 28 specifications. Electrical Contractor to provide power for all A/V equipment, including conduit to devices requiring conduit.	2
131	2/20/2018	26A	Electrical	The Sight Light Fixture SL4 does not include the height of the pole in the specs and they cannot be found on the drawings. Please advise.	DTC-JEV	2/23/2018	Pole lights to be mounted at 20'-0" to bottom of fixture.	2
132	2/20/2018	08A	Glass / Glazing	Regarding the ballistic frames, the specified manufacturer cannot produce the windows with the operating window as drawn. Please advise.	KBA	2/23/2018	TSS will provide operable sash as AWNING units as opposed to HOPPERS, see REVISED specification section 08 88 56.40	2
133	2/21/2018	09A	Drywall	Spec section 122400 (2.2.A.1 & 2) calls for Type 1 with Shade Cloth B (Room Darkening) at all exterior windows, and Type 2 at Corridor windows onto courtyard with Shade Cloth A (Light-Filtering type). Para. 2.7A calls out Room darkening Side/Sill channels for Shade (type?) 2, which is not a normal practice. Is this instruction correct? Please advise.	KBA	2/23/2018	Side and sill channels shall not not be required.	2
134	2/21/2018	09A	Drywall	Spec section 122400 calls for shade Type 1 at all exterior windows, but the demolition plan notes indicate the existing shades and blinds are to be stored, cleaned, and re-installed. Please clarify how to determine what existing windows are to be provided with new shades.	KBA	2/23/2018	New shades provided at new woindows ONLY. New windows include units where existing windows are replaced. Please provide shades at eachnew window type.	2
135	2/21/2018	08A	Glass / Glazing	Please clarify which frames are to be TSS frames and which frames are to be the specified window/storefront? Anything with BIG or BG glass is a TSS frame? Does A8.30 Frame Type Notes Dictate?	KBA	2/23/2018	Yes, notes on A8.30 identify ballistic frame types for windows.	2
136	2/21/2018	09A	Drywall	Our Scope specific item number 4 indicates to furnish, install, and remove all temp partitions notes on plans. Looking at these drawings it is not real clear to me where these partitions are required. Also, do they need to be smoke tight?	Gilbane	2/23/2018	Scope clarified in the Supplement #2 cover sheet. Walls shall be insulated, along with firecaulked at top and jambs	2
137	2/21/2018	09A	Drywall	I see the covered emergence egress tunnel mentioned in item #5 scope on drawing ATE1.01 as well as one temp partition called out by Exist. Corr 340 blocking off Boys and Girls restrooms for Demo. I will assume this to be a smoke tight partition?	Gilbane	2/23/2018	Temporary partition to be insulated and fire caulked. See RFI responses 136 and 56 as well.	2
138	2/21/2018	09A	Drywall	There are no temp doors called out on the drawings. Please clarify where temp doors shall be located and how many will be needed.	Gilbane	2/23/2018	Assume 4 temporary doors will be required to be installed and removed each phase (total of 12 required for the project). The doors shall be lockable and will be installed in a temporary partition.	2
139	2/22/2018	31A	Sitework	Please provide details for "STM 4' DIA GPS-1" shown on sheet C.103. Is this a Separator? There is no mention in the specs nor is there a detail. Please advise.				2
140	2/22/2018	31A	Sitework	Plan sheet SUP-4 Phase 4 plan shows a "Covered Walkway" to the portable classrooms. Which bid package is responsible for this work?	Gilbane	2/23/2018	See RFI response 56 above	2
141	2/22/2018	31A	Sitework	Plan sheet C.102 has a note to install new playscape structures and playground surfacing after final completion of school building addition. Is this work part of this project or will it be performed by owner at later date? If it is part of this project please supply a plan with details and specs on the equipment and the makeup of the playground surfacing.	Gilbane	2/23/2018	New playscape structures and playground surfacing is by others, exclude from bid.	2
142	2/22/2018	31A	Sitework	Please confirm that BP 03A Concrete is responsible for the furnish and install of the vapor barrier as noted in BP 03A Concrete Specific scope items # 1 and #9 and that it is not part of BP 31A Sitework as answered in RFI #4	Gilbane	2/23/2018	Correct. BP 03A will provide the underslab vapor barrier specified per 03 33 00.	2
143	2/22/2018	31A	Sitework	Please clarify the limits of rigid insulation to be furnished and installed by BP 31A Sitework. Plan sheet S-03 has a detail for typical interior slabs that does not show rigid insulation under the slabs but plan sheets A6.10 thru A6.17 notes that rigid insulation is to be installed under floor slabs.	Gilbane	2/23/2018	Provide under slab insulation per the architectural details.	2
144	2/22/2018	31A	Sitework	Please clarify the makeup of the typical slab on grade. Plan sheet S-03 shows 4" of 3/8" crushed stone on granular fill but on plan sheet part A note #1 and the geotechnical report section 4.5.1 has concrete slabs placed on 12" of structural fill and no mention of 3/8" crushed stone.	Gilbane	2/23/2018	Provide per S-1 Foundation Plan Part A note #1	2
145	2/22/2018	31A	Sitework	Please verify the top of frame grades for storm structures MH DS-1, and MH 3 on plan sheet C.103				2

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Gilbane Project No. J072850.000

RFI #	RFI Date	Discipline	Subject	Question	Answered by	Answer Date	Answer	Issued Supplement
146	2/23/2018	23A	HVAC	The HVAC schedule M.4.02 and Specs 23 74 16, the Schedule & Specs are written around AAON equipment and yet I do not see them mentioned in the specs other than the Cambridgeport Roof Curb Submittals at the end of Spec Sec 237416 where it does mention AAON, for customer/ job name Aercon / Fairfield Holland hill. Will the engineers accept AAON for this project?	KBA	2/23/2018	Aaon has been omitted from named vendors at the request of FPS.	2
147	2/23/2018	08A	Glass / Glazing	Regarding the TSS frames, We know its all up to the owner but we just want to confirm that we all realize that the large light of glass above the operable vents is not ballistic glass. And when the vent is open that would allow someone to get through to the room. Which negates the ballistic part of all this.	KBA	2/22/2018	The owner's/police department request for ballistic glazing was up to 6'-0" above finished grade. In all cases the top of the lowest horizontal mullion will meet that standard. That is why only the lower glass panels are ballistic, the uppers are LIG. Type W10 and W11 have ballistic glass at lower and first panel above lower panel due to assembly occupancy.	2